



ANANTAM HIGHWAYS TRUST

(Registered in the Republic of India as an irrevocable trust set up under the Indian Trusts Act, 1882, on July 24, 2024 and registered as an infrastructure investment trust under the Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, on August 19, 2024 having registration number IN/InvIT/24-25/003f1)

Principal place of business and correspondence address: 33rd Floor, Sunshine Tower, Senapati Bapat Marg, Dadar West, Mumbai – 400 013

Tel: +022 6145 8900; **Compliance Officer:** Chandra Kant Sharma

E-mail: anantam.cs@alt-alpha.com; **Website:** www.anantamhighways.com

Sponsor Alpha Alternatives Fund Advisors LLP	Investment Manager Alpha Alternatives Fund-Infra Advisors Private Limited	Trustee Axis Trustee Services Limited

Anantam Highways Trust (the “Trust”) is issuing up to [●] Units (as defined below) for cash at a price of ₹[●] per Unit aggregating up to ₹4,000.00 million (the “Issue”)

INITIAL PUBLIC OFFER IN RELIANCE UPON REGULATION 14(4) OF THE SECURITIES AND EXCHANGE BOARD OF INDIA (INFRASTRUCTURE INVESTMENT TRUSTS) REGULATIONS, 2014, AS AMENDED.

The Units are proposed to be listed on the National Stock Exchange of India Limited (the “NSE”) and BSE Limited (the “BSE”, together with NSE, the “Stock Exchanges”). In-principle approval for listing of the Units has been received from BSE and NSE on [●] and [●], respectively. [●] is the Designated Stock Exchange. This Issue will constitute at least [●] % of the total outstanding Units on a post-Issue basis.

The Price Band and the Minimum Bid Size (as determined by the Investment Manager in consultation with the Lead Manager) will be announced on the websites of the Trust, the Sponsor, the Investment Manager and the Stock Exchanges, as well as advertised in all editions of Financial Express (a widely circulated English national daily newspaper), in all editions of Jansatta (a widely circulated Hindi national daily newspaper and Navshakti (a widely circulated Marathi daily newspaper, Marathi being the regional language of Maharashtra where the registered office of the Investment Manager is located) at least two Working Days prior to the Bid/Issue Opening Date. For further information, please see the section entitled “Basis for Issue Price” on page 111.

In case of any revision to the Price Band, the Bid/Issue Period will be extended by at least one Working Day, subject to the total Bid/ Issue Period not exceeding 30 days, provided that there shall not be more than two revisions to the Price Band during the Bid/ Issue Period. Any revision to the Price Band and the revised Bid/ Issue Period, if applicable, will be widely disseminated by notification to the Stock Exchanges during the Bid/ Issue Period and by indicating the change on the websites of the Trust, the Sponsor, the Investment Manager and Stock Exchanges.

In case of force majeure, banking strike or similar circumstances, the Bid/ Issue Period may, for reasons to be recorded in writing, be extended by a minimum period of three Working Days, subject to the total Bid/ Issue Period not exceeding 30 days.

This Issue is being made through the Book Building Process and in compliance with the InvIT Regulations, wherein not more than 75% of the Issue Size (excluding the Strategic Investor Portion) shall be available for allocation on a proportionate basis to Institutional Investors, provided that the Investment Manager may, in consultation with the Lead Manager, allocate up to 60% of the Institutional Investor Portion to Anchor Investors on a discretionary basis in accordance with the InvIT Regulations. Further, not less than 25% of the Issue Size (excluding the Strategic Investor Portion) shall be available for allocation on a proportionate basis to Non-Institutional Investors, in accordance with the InvIT Regulations, subject to valid Bids being received at or above the Issue Price. The Issue may also include participation by Strategic Investors which may invest not less than 5% and not more than 25% of the Issue Size (as defined hereafter). For details, please see the section entitled “Issue Information” on page 410.

The Units have not been and will not be registered under the United States Securities Act of 1933, as amended (the “Securities Act”) and may not be offered or sold within the United States except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act and applicable U.S. state securities laws. Accordingly, the Units are only being offered and sold outside the United States in “offshore transactions” as defined in and in reliance on Regulation S under the Securities Act (“Regulation S”) and the applicable law of the jurisdictions where such offers and sales are made.

RISKS IN RELATION TO THE ISSUE

This being the first issue of the Units of the Trust, there has been no formal market for the Units of the Trust. No assurance can be given regarding an active or sustained trading in the Units or regarding the price at which the Units will be traded after listing.

GENERAL RISKS

INVESTMENTS IN UNITS INVOLVE A DEGREE OF RISK AND BIDDERS SHOULD NOT INVEST ANY FUNDS IN THIS ISSUE UNLESS THEY CAN AFFORD TO TAKE THE RISK OF LOSING THEIR ENTIRE INVESTMENT. FOR TAKING AN INVESTMENT DECISION, BIDDERS MUST RELY ON THEIR OWN EXAMINATION OF THE TRUST, THE UNITS AND THIS ISSUE. BIDDERS ARE ADVISED TO CAREFULLY READ THE SECTION ENTITLED “RISK FACTORS” ON PAGE 66 BEFORE MAKING AN INVESTMENT DECISION RELATING TO THIS ISSUE. EACH PROSPECTIVE INVESTOR IS ADVISED TO CONSULT ITS OWN ADVISORS IN RESPECT OF THE CONSEQUENCES OF AN INVESTMENT IN THE UNITS BEING ISSUED PURSUANT TO THE OFFER DOCUMENT. THIS DRAFT OFFER DOCUMENT HAS BEEN PREPARED BY THE TRUST SOLELY FOR PROVIDING INFORMATION IN CONNECTION WITH THIS ISSUE. THE SECURITIES AND EXCHANGE BOARD OF INDIA (“SEBI”) AND THE STOCK EXCHANGES ASSUME NO RESPONSIBILITY FOR OR GUARANTEE THE CORRECTNESS OR ACCURACY OR ADEQUACY OF ANY STATEMENTS MADE, OPINIONS EXPRESSED OR REPORTS CONTAINED HEREIN. ADMISSION OF THE UNITS TO BE ISSUED PURSUANT TO THIS ISSUE FOR TRADING ON THE STOCK EXCHANGES SHOULD NOT BE TAKEN AS AN INDICATION OF THE MERITS OF THE TRUST OR OF THE UNITS.

INVESTMENT MANAGER'S AND SPONSOR'S ABSOLUTE RESPONSIBILITY

The Investment Manager and Sponsor, severally, having made all reasonable inquiries, accept responsibility for, and confirm that this Draft Offer Document contains all information with regard to the Trust and this Issue, which is material in the context of this Issue, that the information contained in this Draft Offer Document is true and correct in all material respects and is not misleading in any material respect, that the opinions and intentions expressed herein are honestly held and that there are no other facts, the omission of which makes this Draft Offer Document as a whole or any of such information or the expression of any such opinions or intentions misleading in any material respect.

LEAD MANAGER	REGISTRAR TO THE ISSUE
Nuvama Wealth Management Limited 801 - 804, Wing A, Building No 3, Inspire BKC, G Block Bandra Kurla Complex, Bandra East Mumbai, Maharashtra – 400 051 Tel: +91 22 4009 4400 E-mail: anantam@nuvama.com Investor Grievance E-mail: customerservice.mb@nuvama.com Website: www.nuvama.com Contact Person: Lokesh Shah SEBI Registration No.: INM000013004	KFin Technologies Limited Selenium Tower B, Plot No. 31 and 32, Financial District, Nanakramguda, Serilingampally, Hyderabad, Rangareddi 500 032, Telangana, India Tel: + 91 40 6716 2222 Fax: +91 4067161563 E-mail: anantam.invitipo@kfintech.com Investor Grievance E-mail: cinward.ris@kfintech.com Website: www.kfintech.com Contact Person: M. Murali Krishna SEBI Registration No.: INR000000221

BID ISSUE/PROGRAM

BID/ISSUE OPENS ON: [●]*	BID/ISSUE CLOSES ON: [●]**
--------------------------	----------------------------

*The Investment Manager may, in consultation with the Lead Manager, consider participation by Anchor Investors in accordance with the InvIT Regulations. The Anchor Investor Bidding Date shall be one Working Day prior to the Bid/Issue Opening Date.

**The Investment Manager may, in consultation with the Lead Manager, consider closing the Bid/ Issue Period for QIBs one Working Day prior to the Bid/ Issue Closing Date in accordance with the InvIT Regulations.

#The Issue may also include participation by Strategic Investors in accordance with the InvIT Regulations.

TABLE OF CONTENTS

NOTICE TO INVESTORS	1
DEFINITIONS AND ABBREVIATIONS	3
PRESENTATION OF FINANCIAL DATA AND OTHER INFORMATION.....	13
FORWARD-LOOKING STATEMENTS.....	16
THE ISSUE.....	18
OVERVIEW OF THE TRUST	20
FORMATION TRANSACTIONS IN RELATION TO THE TRUST	22
SUMMARY SPECIAL PURPOSE COMBINED FINANCIAL STATEMENTS.....	32
SUMMARY FINANCIAL INFORMATION OF THE SPONSOR.....	39
SUMMARY FINANCIAL INFORMATION OF THE INVESTMENT MANAGER.....	43
SUMMARY OF INDUSTRY	47
SUMMARY OF BUSINESS.....	59
RISK FACTORS.....	66
GENERAL INFORMATION	106
BASIS OF ISSUE PRICE.....	111
PARTIES TO THE TRUST	113
OTHER PARTIES INVOLVED IN THE TRUST.....	151
CORPORATE GOVERNANCE.....	156
INDUSTRY OVERVIEW	173
BUSINESS	258
SUMMARY OF CONCESSION AGREEMENTS.....	283
INFORMATION CONCERNING THE UNITS	332
USE OF PROCEEDS.....	334
FINANCIAL INDEBTEDNESS AND DEFERRED PAYMENTS.....	339
DISTRIBUTION	346
DISCUSSION AND ANALYSIS BY THE DIRECTORS OF THE INVESTMENT MANAGER OF THE FINANCIAL CONDITION, RESULTS OF OPERATIONS AND CASH FLOWS OF THE PROJECT SPVS OF THE TRUST ..	349
RELATED PARTY TRANSACTIONS	373
REGULATIONS AND POLICIES.....	381
REGULATORY APPROVALS.....	389
LEGAL AND OTHER INFORMATION	393
SECURITIES MARKET OF INDIA.....	401
RIGHTS OF UNITHOLDERS	403
DILUTION.....	406
ISSUE STRUCTURE.....	407
ISSUE INFORMATION.....	410
STATEMENT OF POSSIBLE SPECIAL TAX BENEFITS AVAILABLE TO ANANTAM HIGHWAYS TRUST AND ITS UNITHOLDERS UNDER THE APPLICABLE LAWS IN INDIA	432
LEGAL MATTERS	450
INDEPENDENT ACCOUNTANTS	451
MATERIAL CONTRACTS AND DOCUMENTS FOR INSPECTION	452
DECLARATION.....	454
ANNEXURE A - VALUATION REPORT	
ANNEXURE B - TECHNICAL REPORTS	
ANNEXURE C - SPECIAL PURPOSE COMBINED FINANCIAL STATEMENTS	
ANNEXURE D - PROJECTIONS OF REVENUE FROM OPERATIONS AND CASH FLOW FROM OPERATING ACTIVITIES	

NOTICE TO INVESTORS

The statements contained in this Draft Offer Document relating to the Trust and the Units are, in all material respects, true and accurate and not misleading, to enable the investors to make an informed decision. The opinions and intentions expressed in this Draft Offer Document with regard to the Trust and the Units are honestly held, have been reached after considering all relevant circumstances and are based on reasonable assumptions and information presently available with the Investment Manager, the Sponsor or both, the Investment Manager and the Sponsor, as applicable. There are no other facts in relation to the Trust and the Units, the omission of which would, in the context of the Issue, make any statement in this Draft Offer Document misleading in any material respect. Further, each of the Investment Manager and the Sponsor has made all reasonable enquiries to ascertain such facts and to verify the accuracy of all such information and statements disclosed in this Draft Offer Document in all material respects.

Bidders acknowledge that they have neither relied on the Lead Manager nor any of its shareholders, employees, counsel, officers, directors, representatives, agents or affiliates in connection with such person's investigation of the accuracy of such information or such person's investment decision, and each such person must rely on his/her own examination of the Trust and the merits and risks involved in investing in the Units. Bidders should not construe the contents of this Draft Offer Document as legal, business, tax, accounting or investment advice.

No person is authorized to give any information or to make any representation not contained in this Draft Offer Document and any information or representation not so contained must not be relied upon as having been authorized by or on behalf of the Trustor by or on behalf of the Lead Manager.

Certain U.S. Matters

The Units to be issued pursuant to the Issue have not been approved, disapproved or recommended by any regulatory authority in any jurisdiction, including the United States Securities and Exchange Commission, any other federal or state authorities in the United States, the securities authorities of any non-United States jurisdiction or any other United States or non-United States regulatory authority. No authority has passed on or endorsed the merits of the Issue or the accuracy or adequacy of this Draft Offer Document. Any representation to the contrary is a criminal offence in the United States and may be a criminal offence in other jurisdictions.

The Units have not been and will not be registered under the Securities Act or any other applicable state securities laws of the United States and, unless so registered, may not be offered or sold within the United States except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act and applicable state securities laws. Accordingly, the Units are being offered and sold in "offshore transactions" as defined in and in reliance on Regulation S under the Securities Act and the applicable laws of the jurisdictions where those offers and sales are made.

Notice to Investors in certain other jurisdictions

The distribution of this Draft Offer Document, the Offer Document and the Final Offer Document and the offer of the Units in certain jurisdictions may be restricted by law. As such, this Draft Offer Document, the Offer Document and the Final Offer Document do not constitute, and may not be used for, or in connection with, an offer or solicitation by anyone in any jurisdiction in which such offer or solicitation is not authorized or to any person to whom it is unlawful to make such offer or solicitation. In particular, no action has been taken by the Investment Manager or the Lead Manager which would permit an offer of the Units or distribution of this Draft Offer Document, the Offer Document and the Final Offer Document in any jurisdiction, other than India. Accordingly, the Units may not be offered or sold, directly or indirectly, and neither this Draft Offer Document, the Offer Document and the Final Offer Document nor any Issue materials in connection with the Units be distributed or published in or from any country or jurisdiction that would require registration of the Units in such country or jurisdiction.

Available Information

The Investment Manager agrees to comply with any undertakings given by it from time to time in connection with the Units and, without prejudice to the generality of foregoing, shall furnish to the Unitholders all such information as may be required under the InvIT Regulations.

Disclaimer

This Draft Offer Document does not, directly or indirectly, relate to any invitation, offer or sale of any securities, instruments or loans (including listed non-convertible debentures or bonds, if any) that may be issued by the Trust after the listing of the Units. Any person or entity investing in such issue or transaction by the Trust should consult its own advisors. Neither the Lead Manager, nor their associates or affiliates have any responsibility or liability for such issue or transaction by the Trust.

IMPORTANT NOTICE

THE VALUE OF UNITS AND THE INCOME DERIVED FROM THEM MAY FALL AS WELL AS RISE. UNITS ARE NOT OBLIGATIONS OF, DEPOSITS IN, OR GUARANTEED BY, THE TRUST, THE TRUSTEE, THE SPONSOR, THE INVESTMENT MANAGER, THE LEAD MANAGER OR ANY OF THEIR RESPECTIVE SHAREHOLDERS, EMPLOYEES, COUNSEL, OFFICERS, DIRECTORS, REPRESENTATIVES, AGENTS, ASSOCIATES OR AFFILIATES. AN INVESTMENT IN UNITS IS SUBJECT TO INVESTMENT RISKS, INCLUDING THE POSSIBLE LOSS OF THE PRINCIPAL AMOUNT INVESTED. FURTHER, LISTING OF THE UNITS ON THE STOCK EXCHANGES DOES NOT GUARANTEE A LIQUID MARKET FOR THE UNITS. INVESTORS HAVE NO RIGHT TO REQUEST THE TRUST, THE TRUSTEE, THE SPONSOR OR THE INVESTMENT MANAGER OR ANY OF THEIR RESPECTIVE SHAREHOLDERS, EMPLOYEES, COUNSEL, OFFICERS, DIRECTORS, REPRESENTATIVES, AGENTS, ASSOCIATES OR AFFILIATES TO REDEEM THEIR UNITS WHILE THE UNITS ARE LISTED, UNLESS OTHERWISE PERMITTED BY APPLICABLE LAW. THE PERFORMANCE OF ANY OF THE LISTED UNITS OF THE TRUST IS NOT NECESSARILY INDICATIVE OF THE FUTURE PERFORMANCE OF UNITS OF THE TRUST.

DEFINITIONS AND ABBREVIATIONS

This Draft Offer Document uses the definitions and abbreviations, which unless the context otherwise indicates or implies, shall have the meanings ascribed to such terms herein below which you should consider when reading the information contained herein.

References to any legislation, act, regulations, rules, guidelines, circulars, notifications, clarification or policies shall be to such legislation, act, regulations, rules, guidelines, circulars, notifications, clarification or policies as amended, supplemented, or re-enacted from time to time and any reference to a statutory provision shall include any subordinate legislation made under that provision.

The words and expressions used in this Draft Offer Document, but not defined herein shall have the meaning ascribed to such terms under the InvIT Regulations, the SEBI Act, the Depositories Act, and the rules and regulations made thereunder.

*Notwithstanding the foregoing, the terms not defined but used in the sections entitled “Special Purpose Combined Financial Statements” attached as **Annexure C**, “Projections of Revenue from Operations and Cash Flow from Operating Activities” attached as **Annexure D**, “Statement of Possible Special Tax Benefits available to Anantam Highways Trust and its unitholders under the applicable laws in India” and “Legal and other Information” on pages 432 and 393, respectively, shall have the meanings ascribed to such terms in those respective sections.*

In this Draft Offer Document, unless the context otherwise requires, a reference to “we”, “us” and “our” refers to the Trust and the Project SPVs on a combined basis.

Trust Related Terms

Term	Description
AAHPL	Unless the context specifies otherwise, shall mean Alpha Alternatives Holding Private Limited.
Associate	Associate shall have the meaning under Regulation 2(1)(b) of the InvIT Regulations.
Auditors	Mukund M Chitale & Co., Chartered Accountants, statutory auditors of the Trust
Audit Committee	The audit committee of the Investment Manager constituted by the board of directors of the Investment Manager pursuant to applicable law.
BMHL	Bangalore Malur Highways Limited
Capital Contribution	The total subscription amounts (either by way of cash or share swap or otherwise (including transfer of interest in the InvIT Assets by the Sponsor and any other entities)) received by the Trust from the Unitholders (including the Sponsor), for subscription of Units, in accordance with applicable law and the InvIT Documents.
Compliance Officer	The compliance officer of the Trust, i.e. Chandra Kant Sharma.
Concession Agreements	Collectively, the concession agreements entered into between the respective Project SPVs and NHAI. For details, please see the section entitled “ <i>Summary of Concession Agreements</i> ” on page 283.
CRISIL or CRISIL Intelligence	CRISIL Intelligence, a division of CRISIL Limited
CRISIL Report	The report titled “ <i>Assessment of the Indian roads sector</i> ”, dated March 2025 prepared by CRISIL
DBL or Dilip Buildcon Limited	Unless the context specifies otherwise, shall mean Dilip Buildcon Limited.
DBHL	Dhrol Bhadra Highways Limited
DHHL	Dodaballapur Hoskote Highways Limited
DPHPPL	DPJ Pollachi HAM Project Private Limited
DPHPPL Securities Purchase Agreement	Amended and restated securities purchase agreement dated March 25, 2025 entered into between AAHPL, DPHPPL and DP Jain And Co Infrastructure Private Limited
VHL	Viluppuram Highways Limited
Formation Transactions	The transactions pursuant to which the Trust will acquire the Project SPVs prior to the Allotment.

Term	Description
Holding Company/Holdco	A holding company, as defined under Regulation 2(1) (sb) of the InvIT Regulations.
IM Board	The board of directors of the Investment Manager.
Project SPVs	(i) Dodaballapur Hoskote Highways Limited; (ii) Repallewada Highways Limited; (iii) Dhrol Bhadra Highways Limited; (iv) Narenpur Purnea Highways Limited; (v) Viluppuram Highways Limited; (vi) Bangalore Malur Highways Limited; (vii) Malur Bangarpet Highways Limited; (viii) Poondiyankuppam Highways Limited and (ix) DPJ Pollachi HAM Project Private Limited.
Investment Management Agreement	The investment management agreement dated July 25, 2024 entered into between the Trustee, the Investment Manager and Dodaballapur Hoskote Highways Limited, Repallewada Highways Limited, Dhrol Bhadra Highways Limited, Narenpur Purnea Highways Limited, Viluppuram Highways Limited, Bangalore Malur Highways Limited, Malur Bangarpet Highways Limited and Poondiyankuppam Highways Limited and shall include any deed of adherence entered into by any Project SPV(s).
Investment Manager	Alpha Alternatives Fund-Infra Advisors Private Limited.
Investment Objectives	The investment objectives of the Trust, as provided under the section entitled “Overview of the Trust” on page 20.
InvIT Assets	InvIT assets as defined in Regulation 2(1)(zb) of the SEBI InvIT Regulations, in this case being the assets held by the Project SPVs.
InvIT Committee	The InvIT committee of the Investment Manager constituted by the board of directors of the Investment Manager through a resolution dated March 8, 2025.
InvIT Documents	The Trust Deed, the Investment Management Agreement, the Project Implementation and Management Agreement, Securities Purchase Agreements, policies adopted by the Investment Manager, any other document, letter or agreement entered into by the Investment Manager or Trustee on behalf of the Trust, with respect to the Trust or the Units or executed in connection with the Trust, the offer documents and such other documents in connection therewith, as originally executed and amended, modified, supplemented or restated from time to time, together with the respective annexures, schedules and exhibits, if any.
MBHL	Malur Bangarpet Highways Limited.
Nomination and Remuneration Committee	The nomination and remuneration committee of the Investment Manager constituted by the board of directors of the Investment Manager pursuant to applicable law through a resolution dated March 8, 2025.
NPHL	Narenpur Purnea Highways Limited.
O&M Contractor	In relation to the Project SPVs, O&M Contractor is or proposed to be DBL.
Parties to the Trust	Collectively, the Sponsor, the Sponsor Group, the Trustee, the Investment Manager and the Project Manager.
Project Implementation and Management Agreement	The project implementation and management agreement, to be entered into amongst the Trustee, the Project Manager, the Investment Manager and the relevant Project SPVs
Project Manager	Arsenio Strategies Private Limited
Projections of Revenue from Operations and Cash Flow from Operating Activities	Projections of revenue from operations and cash flow from operating activities of the Trust (consisting of the Trust and the Project SPVs) and the Project SPVs, individually, for the years ending March 31, 2026, March 31, 2027 and March 31, 2028 along with the basis of preparation and other explanatory information and significant assumptions
PHL	Poondiyankuppam Highways Limited
PHL Securities Purchase Agreement	The securities purchase agreement to be entered amongst the Trustee (acting on behalf of the Trust), the Investment Manager, DBL, DBL Infraventures Private Limited, Alpha Alternatives Financial Services Private Limited, Spectrum Edge LLP, Build India Infrastructure Fund and other shareholders of PHL, and PHL, in relation to acquisition of 49% of the issued, subscribed and paid-up share capital of PHL
RHL	Repallewada Highways Limited
Related Parties	Related parties, as defined under Regulation 2(1)(zv) of the InvIT Regulations.

Term	Description
Risk Management Committee	The risk management committee of the Investment Manager constituted by the board of directors of the Investment Manager pursuant to applicable law through a resolution dated March 8, 2025.
ROFO Assets	Eligible road infrastructure projects acquired and/or developed by the ROFO SPVs
ROFO SPVs	Special purpose vehicles (which hold the ROFO Assets) that are proposed to be acquired by the Trust by way of the ROFO Agreement
ROFO Agreement	Right of first offer agreement proposed to be entered into amongst the (i). Trustee, the Investment Manager, DBL and such other parties as may be required; and (ii). Trustee, the Investment Manager, Build India Infrastructure Fund and such other parties as may be required.
Securities Purchase Agreements or SPAs	<p>The respective securities purchase agreements to be entered into amongst the Trustee (acting on behalf of the Trust), the Investment Manager, the relevant Project SPVs, DBL, DBL Infraventures Private Limited, Alpha Alternatives Infrastructure Fund, Alpha Alternatives Financial Services Private Limited, Spectrum Edge LLP, Build India Infrastructure Fund, and other shareholders of the relevant Project SPVs.</p> <p>For details in relation to the other shareholders, please refer to the section entitled “<i>Formation Transactions in Relation to the Trust - Details of Arrangement pertaining to the Trust</i>” on page 22.</p>
Special Purpose Combined Financial Statements	The audited special purpose combined financial statements of Bangalore Malur Highways Limited, Viluppuram Highways Limited, Narenpur Purnea Highways Limited, Repallewada Highways Limited, Dodaballpur Hoskote Highways Limited, Dhrol Bhadra Highways Limited, Malur Bangarpet Highways Limited, Poondiyankuppam Highways Limited, and DPJ Pollachi HAM Project Private Limited which comprise the special purpose combined balance sheets as at December 31, 2024, March 31, 2024, March 31, 2023 and March 31, 2022, the special purpose combined statements of profit and loss (including other comprehensive income), the special purpose combined statement of changes in equity and the special purpose combined cash flow statements for the nine months period ended December 31, 2024 and for the years ended March 31, 2024, March 31, 2023 and March 31, 2022, the combined statement of net assets at fair value as at December 31, 2024, the combined statement of total returns at fair value for the period ended December 31, 2024 and the year ended March 31, 2024 and notes to the special purpose combined financial statements including a summary of material accounting policies and other explanatory information
Sponsor	Alpha Alternatives Fund Advisors LLP.
Sponsor Group	Collectively, the Sponsor, Build India Infrastructure Fund, Terrefert Green Growth LLP, Spectrum Edge LLP, Alpha Alternatives Infrastructure Fund and Alpha Alternatives Financial Services Private Limited.
SPV(s)	Special purpose vehicles, as defined under Regulation 2(l)(zy) of the InvIT Regulations and includes the Project SPVs.
Stakeholders Relationship Committee	The stakeholders relationship committee of the Investment Manager constituted by the board of directors of the Investment Manager pursuant to applicable law through a resolution dated March 8, 2025.
Technical Consultant(s)	RUKY Projects Private Limited and Infinite Civil Solutions Private Limited.
Technical Reports	Collectively, the technical reports, prepared by the Technical Consultants in relation to the Project SPVs
Trust	Anantam Highways Trust
Trust Deed	The trust deed of Anantam Highways Trust dated July 24, 2024 entered into between the Sponsor and the Trustee
Trust Loan Agreement	Trust loan agreements to be entered into between the Trustee (acting on behalf of the Trust), the Investment Manager and the Project SPVs
Trustee or Axis	Axis Trustee Services Limited.
Unit	An undivided beneficial interest in the Trust, and such units together represent the entire beneficial interest in the Trust.

Term	Description
Unitholder	Any Person or entity who holds Units of the Trust.
Valuation Report	The valuation report issued by the Valuer, which sets out its opinion as to the fair enterprise value of the Project SPVs as on December 31, 2024
Valuer	S. Sundararaman, a registered valuer

Issue Related Terms

Term	Description
Acknowledgement Slip	The slip or document issued by the Designated Intermediary to a Bidder as proof of registration of the Bid cum Application Form
Allocated/ Allocation	Allocation of Units, following the determination of the Issue Price by the Investment Manager, in consultation with the Lead Manager, to Bidders on the basis of the Application Form submitted by the Bidder
Allot/ Allotment/ Allotted	Unless the context otherwise requires, the issue and allotment of Units pursuant to the Issue
Allotment Advice	Note, advice or intimation of Allotment sent to the Bidders who have been or are to be Allotted Units after the Basis of Allotment has been approved by the Designated Stock Exchange
Allottees	Bidders to whom Units are Allotted
Anchor Investor	An Institutional Investor, making an application of a value of at least ₹ 100 million, applying under the Anchor Investor Portion in accordance with the requirements specified in the SEBI InvIT Regulations in terms of the Offer Document
Anchor Investor Allocation Price	Price at which Units will be allocated to Anchor Investors in terms of the Offer Document, as decided by the Investment Manager in consultation with the Lead Manager
Anchor Investor Application Form	The form used by an Anchor Investor to make a Bid in the Anchor Investor Portion and which will be considered as an application for Allotment in terms of the Offer Document
Anchor Investor Bidding Date	One Working Day prior to the Bid/Issue Opening Date, on which Bids by Anchor Investors are to be submitted and allocation to Anchor Investors shall be completed
Anchor Investor Portion	Not more than 60% of the Institutional Investor Portion, which may be allocated by the Investment Manager in consultation with the Lead Manager on a discretionary basis
Anchor Investor Issue Price	Final price at which Units will be Allotted to Anchor Investors in terms of the Offer Document and the Final Offer Document, which price will be equal to or higher than the Issue Price but not higher than the Cap Price. The Anchor Investor Issue Price will be decided by the Investment Manager in consultation with the Lead Manager.
Application Supported by Blocked Amount or ASBA	An application, whether physical or electronic, used by ASBA Bidders to make a Bid by authorizing an SCSB to block the Bid Amount in the ASBA Account
ASBA Account	A bank account maintained with an SCSB and specified in the ASBA Form for blocking the Bid Amount mentioned in the ASBA Form
ASBA Bid	A Bid made by an ASBA Bidder including all revisions and modifications thereto as permitted under the SEBI InvIT Regulations
ASBA Bidder	All Bidders other than Anchor Investors and Strategic Investors
ASBA Form	An application form, whether physical or electronic, used by ASBA Bidders which will be considered as the application for Allotment in terms of the Offer Document and the Final Offer Document
Basis of Allotment	The basis on which Units will be Allotted to successful Bidders under the Issue and which is described in 'Issue Information on page 410.
Bid	An indication to make an offer during the Bid/Issue Period by an ASBA Bidder pursuant to submission of the ASBA Form, or on the Anchor Investor Bidding Date by an Anchor Investor pursuant to submission of the Anchor Investor Application Form, to subscribe to or purchase Units of the Trust at a price within the Price Band, including all revisions and modifications thereto as permitted under the SEBI InvIT Regulations
Bid Amount	The highest value of optional Bids indicated in the Bid cum Application Form and payable by the Bidder or blocked in the ASBA Account of the ASBA Bidder, as the case may be, upon submission of the Bid in the Issue.

Term	Description
Bid cum Application Form	The Anchor Investor Application Form or the ASBA Form, as the context requires
Bid/Issue Closing Date	Except in relation to any Bids received from the Anchor Investors and Strategic Investors, the date after which the Designated Intermediaries will not accept any Bids, being [●] which will be published in editions of Financial Express (a widely circulated English national daily newspaper), in all editions of Jansatta (a widely circulated Hindi national daily newspaper and Navshakti (a widely circulated Marathi daily newspaper, Marathi being the regional language of Maharashtra where the registered office of the Investment Manager is located)
Bid/Issue Opening Date	Except in relation to any Bids received from the Anchor Investors and Strategic Investors, the date on which the Designated Intermediaries shall start accepting Bids, being [●] which will be published in all editions of Financial Express (a widely circulated English national daily newspaper), in all editions of Jansatta (a widely circulated Hindi national daily newspaper and Navshakti (a widely circulated Marathi daily newspaper, Marathi being the regional language of Maharashtra where the registered office of the Investment Manager is located)
Bid/Issue Period	Period between the Bid/Issue Opening Date and the Bid/ Issue Closing Date, inclusive of both days, during which Bidders, other than Anchor Investors and Strategic Investors can submit their Bids, including any revisions thereof
Bidder	Any prospective investor who makes a Bid pursuant to the terms of the Offer Document and the Bid cum Application Form and unless otherwise stated or implied, includes an Anchor Investor and a Strategic Investor
Bidding Centres	Centres at which the Designated Intermediaries shall accept ASBA Forms, i.e. Designated SCSB Branch for SCSBs, Specified Locations for Syndicate, Broker Centres for Registered Brokers, Designated RTA Locations for RTAs and Designated CDP Locations for CDPs
Book Building Process	The book building process, as provided in Part A of Schedule XIII of the SEBI ICDR Regulations
Body Corporate / Bodies Corporate	Body Corporate / Bodies corporate as defined in Regulation 2(1)(d) of the InvIT Regulations
Broker Centres	Broker centres notified by the Stock Exchanges where Bidders can submit the ASBA Forms to a Registered Broker. The details of such broker centres, along with the names and contact details of the Registered Brokers are available on the websites of the respective Stock Exchanges (www.bseindia.com and www.nseindia.com)
Business Day	Any day from Monday to Friday, excluding any public holiday
Cash Escrow Agreement	The cash escrow agreement to be entered into amongst the Trust (acting through the Trustee), the Trustee, the Sponsor, the Investment Manager, the Lead Manager and the Escrow Collection Bank for among others, collection of Bid Amounts and for remitting funds, if any, of the amounts collected to the Bidders
Cap Price	The higher end of the Price Band, being ₹ [●] per Unit, above which the Issue Price will not be finalized and above which no Bids will be accepted
Client ID	Client identification number maintained with one of the Depositories in relation to a demat account
Confirmation of Allocation Note or CAN	Notice or intimation of allocation of Units sent to Anchor Investors and Strategic Investors who have been allocated Units, after the Anchor Investor Bidding Date
Collecting Depository Participant or CDP	A depository participant as defined under the Depositories Act, registered with SEBI and who is eligible to procure Bids at the Designated CDP Locations in terms of circular no. CIR/CFD/POLICYCELL/11/2015 dated November 10, 2015 issued by SEBI
Closing Date	Date on which Allotment shall be made, i.e. on or about [●]
Demographic Details	Details of the Bidders, including the Bidder's address, investor status, occupation and bank account details, PAN, DP ID and Client ID
Depository Participant or DP	A depository participant as defined under the Depositories Act, 1996.
Designated Date	The date on which funds are transferred from the Escrow Accounts and the amounts blocked by the SCSBs are transferred from the ASBA Accounts, as the case may be, to the Public Offer Account or the Refund Account, as appropriate
Designated Intermediaries	Syndicate, sub-syndicate/agents, SCSBs, Registered Brokers, CDPs and RTAs, who are authorized to collect ASBA Forms from the ASBA Bidders, in relation to the Issue.

Term	Description
Designated RTA Locations	Such locations of the RTAs where Bidders can submit ASBA Forms to RTAs. The details of such Designated RTA Locations, along with names and contact details of the RTAs eligible to accept Bid cum Application Forms are available on the respective websites of the Stock Exchanges (www.bseindia.com and www.nseindia.com)
Designated SCSB Branches	Such branches of the SCSBs which shall collect the ASBA Forms, a list of which is available on the website of SEBI at https://www.sebi.gov.in/sebiweb/other/OtherAction.do?doRecognised=yes or at such other website as may be prescribed by SEBI from time to time
Designated Stock Exchange	[●]
DP ID	Depository Participant's Identification
Draft Offer Document	This draft offer document dated March 28, 2025, issued in accordance with the SEBI InvIT Regulations, which does not contain complete particulars of the price at which the Units will be Allotted and the size of the Issue, including any addenda or corrigenda thereto
Escrow Collection Bank	[●]
Final Offer Document	Final offer document to be filed with SEBI and the Stock Exchanges after the Pricing Date in accordance with the SEBI InvIT Regulations containing, amongst other things, the Issue Price that is determined at the end of the Book Building Process, the size of this Issue and certain other information, including any addenda or corrigenda thereto
First Bidder	Bidder whose name shall be mentioned first in the Bid cum Application Form or the Revision Form and in case of joint Bids, whose name shall also appear as the first holder of the beneficiary account held in joint names
Floor Price	The lower end of the Price Band, subject to any revision thereto, in this case being ₹ [●] at or above which the Issue Price and the Anchor Investor Issue Price and Strategic Investor Issue Price will be finalised and below which no Bids will be accepted
Institutional Investors	Institutional investor means (i) a Qualified Institutional Buyer, or (ii) a family trust or intermediaries registered with SEBI, each with net-worth of more than ₹ 5,000 million as per the last audited financial statements
Institutional Investor Portion	Portion of the Issue (including the Anchor Investor Portion) being not more than 75% of the Issue Size, comprising not more than [●] Units which shall be available for allocation to Institutional Investors (including Anchor Investors), subject to valid Bids being received at or above the Issue Price
Lead Manager	Nuvama Wealth Management Limited
Listing Agreement	Any listing agreement to be entered into with the Stock Exchanges by the Trust, in line with the format as specified under the Securities and Exchange Board of India circular number CIR/CFD/CMD/6/2015 dated October 13, 2015 on "Format of uniform Listing Agreement"
Listing Date	Date on which the Units will be listed on the Stock Exchange
Minimum Bid Size	₹ [●]
Mutual Funds	Mutual funds registered with SEBI under the Securities and Exchange Board of India (Mutual Funds) Regulations, 1996
Non – Institutional Investors	All Bidders, that are not Institutional Investors, who have Bid for Units in the Issue.
Non-Institutional Investor Portion	Portion of the Issue being not less than 25% of the Issue Size, comprising at least [●] Units, which shall be available for allocation on a proportionate basis to Non-Institutional Investors, subject to valid Bids being received at or above the Issue Price
Non-Resident Indian/ Non-Resident	An individual resident outside India who is a citizen or is an 'overseas citizen of India' cardholder within the meaning of Section 7A of the Citizenship Act, 1955 and includes a Non-Resident Indian, FVCIs, FIIs and FPIs
Issue	The issue of up to [●] Units (as defined below) for cash at a price of ₹ [●] per Unit aggregating up to ₹ 4,000.00 million.
Offer Document	The Offer Document dated [●], to be issued in accordance with the provisions of the SEBI InvIT Regulations, which will not have complete particulars of the Price Band and the Issue Price at which the Units will be offered and the size of this Issue including any addenda, corrigenda thereto. The Offer Document will be filed with SEBI and the Stock Exchanges and shall become the Final Offer Document which shall be filed with SEBI and the Stock Exchanges after the Pricing Date.

Term	Description
Issue Price	₹ [●] per Unit, being the final price at which Units will be Allotted to successful Bidders, other than Anchor Investors and Strategic Investors in terms of this Draft Offer Document. The Issue Price will be decided by the Investment Manager in consultation with the Lead Manager on the Pricing Date in accordance with the Book Building Process and in terms of the Offer Document and the Final Offer Document.
Issue Proceeds	The proceeds of the Issue that are available to the Trust. For further details about the use of the Issue Proceeds and the Issue Expenses, please see the section entitled 'Use of Proceeds' on page 334
Issue Size	[●] Units aggregating up to ₹ 4,000.00 million
Price Band	Price band between the minimum price of ₹ [●] per Unit (Floor Price) and the maximum price of ₹ [●] per Unit (Cap Price) including any revision thereof. The Price Band will be decided by the Investment Manager, in consultation with the Lead Manager, and will be announced at least two Working Days prior to the Bid/ Issue Opening Date, on the websites of the Trust, the Sponsor and the Investment Manager, and shall be made available to the Stock Exchanges for the purpose of uploading on their respective websites.
Pricing Date	The date on which the Investment Manager in consultation with the Lead Manager, finalizes the Issue Price in accordance with the Book Building Process and in terms of the Offer Document and the Final Offer Document.
Public Offer Account	'No-lien and 'non-interest bearing' bank account opened to receive monies from the Escrow Accounts and from the ASBA Accounts on the Designated Date.
Public Offer Account Bank	[●]
Qualified Institutional Buyers or QIB(s)	Qualified institutional buyers, as defined under Regulation 2(1)(ss) of the SEBI ICDR Regulations, which currently includes (i) a mutual fund, a VCF, an AIF and an FVCI registered with SEBI, (ii) an FPI, other than individuals, corporate bodies and family offices, (iii) a public financial institution as defined in section 2(72) of the Companies Act, 2013, (iv) a scheduled commercial bank, (v) a multilateral and bilateral development financial institution, (vi) a state industrial development corporation, (vii) an insurance company registered with the IRDAI, (viii) a provident fund with minimum corpus of ₹ 250 million, (ix) a pension fund with minimum corpus of ₹ 250 million, (x) National Investment Fund set up by resolution no. F. No. 2/3/2005-DDII dated November 23, 2005 of the GoI published in the Gazette of India, (xi) insurance funds set up and managed by army, navy or air force of the Union of India, (xii) insurance funds set up and managed by the Department of Posts, India, and (xiii) systemically important non-banking financial companies. For the avoidance of doubt, this term is not used herein as it is defined in Rule 144A
Refund Account(s)	'No-lien' and 'non-interest bearing' account(s) opened with the Refund Bank(s), from which refunds, if any, of the whole or part of the Bid Amount to Anchor Investors and Strategic Investors shall be made
Refund Bank	[●]
Registered Brokers	Stock brokers registered with the stock exchanges having nationwide terminals, other than Lead Manager and the Syndicate Member, eligible to procure Bids in terms of Circular No. CIR/CFD/14/2012 dated October 4, 2012 issued by SEBI
Registrar Agreement	The agreement dated March 28, 2025 entered into between the Trustee (on behalf of the Trust), the Investment Manager, and the Registrar to the Issue in relation to the responsibilities and obligations of the Registrar to the Issue pertaining to the Issue.
Registrar or Registrar to the Issue	KFin Technologies Limited
Revision Form	Form used by the Bidders to modify the quantity of Units or the Bid Amount in any of their ASBA Forms or any previous Revision Forms. Bidders are not allowed to withdraw or lower their Bids (in terms of number of Units or the Bid Amount) at any stage.
Self-Certified Syndicate Bank(s) or SCSB(s)	Banks registered with SEBI, offering services in relation to ASBA, a list of which is available on the website of SEBI at https://www.sebi.gov.in/sebiweb/other/OtherAction.do?doRecognisedFpi=yes&intmId=34 or https://www.sebi.gov.in/sebiweb/other/OtherAction.do?doRecognisedFpi=yes&intmId=35 .

Term	Description
	as applicable, or such other website as updated from time to time, and updated from time to time
Specified Locations	Bidding centres where the Syndicate shall accept ASBA Forms from Bidders
Sponsor Bank(s)	[●]
Strategic Investor	A strategic investor means,(i)an infrastructure finance company registered with RBI as a non-banking financial company,(ii)a scheduled commercial bank,(iii)a multilateral and/ or bilateral development financial institution,(iv)a systemically important non-banking financial company registered with RBI,(v)an FPI,(vi)an insurance company registered with the IRDAI, or(vii)a mutual fund, who invest, either jointly or severally, not less than five percent and not more than 25% of the total Issue Size or such other amount as may be specified by SEBI from time to time, subject to the compliance with the applicable provisions, if any, of the FEMA and the rules regulations or guidelines made thereunder
Strategic Investor Allocation Price	Price at which Units will be allocated to Strategic Investors in terms of the Offer Document and the relevant unit subscription agreement, decided by the Investment Manager in consultation with the Lead Manager
Strategic Investor Issue Price	Final price at which Units will be Allotted to Strategic Investors in terms of the Offer Document and the Final Offer Document, which price will be equal to or higher than the Issue Price. The Strategic Investor Issue Price will be decided by the Investment Manager in consultation with the Lead Manager
Strategic Investor Portion	Portion of the Issue being up to [●] Units aggregating up to ₹ [●] million, subject to a maximum of 25% of the Issue Size which shall be available for allocation to Strategic Investors
Strategic Investor Unit Subscription Agreement	Strategic Investor Unit Subscription Agreements as described in the section entitled “ <i>The Issue</i> ” beginning on page 18.
Syndicate Agreement	The agreement, to be entered into between the Trustee (on behalf of the Trust), the Investment Manager, the Lead Manager, the Syndicate Member and the Registrar to the Issue in relation to collection of Bid cum Application Forms by the Syndicate
Syndicate/ Members of the Syndicate	The Lead Manager and the Syndicate Member
Syndicate Member	Intermediaries, registered with SEBI who are permitted to carry out activities as an underwriter, being, [●].
Underwriters	[●]
Underwriting Agreement	The agreement, if any, to be entered into between the Trustee (on behalf of the Trust), the Underwriters, the Investment Manager, the Trustee and the Sponsor
UPI	Unified Payments Interface, which is an instant payment mechanism, developed by NPCI
UPI Bidder(s)	Individual Non-Institutional Investors with an application size of up to ₹ 500,000 in the Non-Institutional Category, and Bidding under the UPI Mechanism through ASBA Form(s) submitted with Syndicate Member, Registered Brokers, Collecting Depository Participants and Registrar and Share Transfer Agents
UPI ID	ID created on the UPI for single-window mobile payment system developed by the NPCI
UPI Mandate Request	A request (intimating the UPI Bidders, by way of a notification on the UPI linked mobile application and by way of an SMS directing the UPI Bidders to such UPI linked mobile application) to the UPI Bidders using the UPI Mechanism initiated by the Sponsor Bank(s) to authorise blocking of funds equivalent to the Bid Amount in the relevant ASBA Account through the UPI linked mobile application, and the subsequent debit of funds in case of Allotment
UPI Mechanism	The Bidding mechanism that may be used by UPI Bidders to make Bids in the Issue in accordance with the InvIT Regulations
Working Day	Working day, with reference to (a) announcement of Price Band; and (b) Bid/ Issue Period, shall mean all days, excluding Saturdays, Sundays and public holidays, on which commercial banks in Mumbai are open for business; and (c) the time period between the Bid/ Issue Closing Date and the listing of the Units on the Stock Exchanges, shall mean all trading days of Stock Exchanges, excluding Sundays and bank holidays

Technical and Industry Related Terms

Term	Description
ARR	Aggregate Revenue Requirement
BOO	Build, Own, Operate
BOOT	Build, Own, Operate and Transfer
BOT	Build, Operate and Transfer
BPC	Bid Project Cost
CAs	Concession Agreements
COD	Commercial Operations Date
CC	Completion Certificate
DISCOM	Distribution companies
EHS	Environment, Occupational Health and Safety
EPC	Engineering, Procuring and Construction
MCLR	Marginal cost of funds based on lending rate
MoEF	Ministry of Environment, Forest and Climate Change
MORTH	Ministry of Road Transport and Highways, Government of India
O&M	Operation and maintenance
PCOD	Provisional commercial operations date
PoC	Point of Connection

Abbreviations

Term	Description
AIF	Alternative Investment Fund as defined in and registered with SEBI under the SEBI AIF Regulations
BOCW Act	Building and Other Construction Workers (regulation of Employment and Conditions of Service) Act, 1996 Act
CAN	Confirmation of Allocation Note
CCEA	Cabinet Committee on Economic Affairs
CCI	Competition Commission of India
CDSL	Central Depository Services (India) Limited
CLRA Act	Contract Labour (Regulation & Abolition) Act, 1970
Companies Act	Companies Act, 1956 and/or the Companies Act, 2013, as applicable
Companies Act, 1956	erstwhile Companies Act, 1956, read with the rules and regulations thereunder
Companies Act, 2013	Companies Act, 2013, read with the rules and regulations thereunder, each as amended
Competition Act	Competition Act, 2002
CGST Act	Central Goods and Services Tax Act, 2017, as amended
Depositories Act	Depositories Act, 1996, as amended
Depository	A depository registered with SEBI under the Securities and Exchange Board of India (Depositories and Participants) Regulations, 2018, as amended
Depository Participant	A depository participant as defined under the Depositories Act
DIN	Director Identification Number
FEMA	Foreign Exchange Management Act, 1999, as amended, read with rules and regulations thereunder
FEMA Rules	Foreign Exchange Management (Non-debt Instruments) Rules, 2019
Financial Year or Fiscal Year or Fiscal	Period of 12 months ended March 31 of that particular year, unless otherwise stated
FVCI	Foreign venture capital investors, as defined under the SEBI FVCI Regulations
GAAR	General Anti-Avoidance Rules
GoI or Government	Government of India
ICAI	Institute of Chartered Accountants of India
Ind AS/Indian Accounting Standards	Indian Accounting Standards as defined in Rule 2(1)(a) of the Companies (Indian Accounting Standards) Rules, 2015 prescribed under Section 133 of the Companies Act, 2013, including any amendments or modifications thereto

Term	Description
Indian GAAP	Accounting standards notified under section 133 of the Companies Act, 2013, read with Companies (Accounting Standards) Rules, 2006, as amended and the Companies (Accounts) Rules, 2014, as amended
Indian GAAS	Generally Accepted Auditing Standards in India
InvIT	Infrastructure Investment Trust
InvIT Master Circular	SEBI Master Circular no. SEBI/HO/DDHS-PoD-2/P/CIR/2024/44 dated May 15, 2024, including any amendments or modifications thereto
InvIT Regulations\ SEBI InvIT Regulations	Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, and the SEBI Master Circular no. SEBI/HO/DDHS-PoD-2/P/CIR/2024/44 dated May 15, 2024, including any amendments or modifications, including any circulars, notifications, guidelines and clarifications issued thereunder
IRDAI	Insurance Regulatory and Development Authority of India
IRR	Internal Rate of Return
IT Act	Income tax Act, 1961
Kilometers	kms
Listing Regulations	Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015, as amended
MCA	Ministry of Corporate Affairs
MoEF	Ministry of Environment, Forest and Climate Change
NACH	National Automated Clearing House
NASD	National Association of Securities Dealers
NCDs	Non-convertible debentures
NEFT	National Electronic Funds Transfer
NSDL	National Securities Depository Limited
NSE	The National Stock Exchange of India Limited
OCDs	Optionally convertible debentures
PAN	Permanent Account Number
RBI	Reserve Bank of India
Regulation S	Regulation S under the Securities Act
ROFO	Right of First Offer
Rs./Rupees/INR/₹	Indian Rupees
RTGS	Real Time Gross Settlement
RTM	Regulated Tariff Mechanism
SCRA	Securities Contracts (Regulation) Act, 1956
SCR (SECC) Regulations	Securities Contract (Regulation) (Stock Exchanges and Clearing Corporations) Regulations, 2018
SEBI	Securities and Exchange Board of India
SEBI Act	The Securities and Exchange Board of India Act, 1992
SEBI AIF Regulations	Securities and Exchange Board of India (Alternative Investments Funds) Regulations, 2012
SEBI FPI Regulations	Securities and Exchange Board of India (Foreign Portfolio Investors) Regulations, 2019
SEBI FVCI Regulations	Securities and Exchange Board of India (Foreign Venture Capital Investors) Regulations, 2000
SEBI ICDR Regulations	Securities and Exchange Board of India (Issue of Capital and Disclosure Requirements) Regulations, 2018
SEBI Merchant Bankers Regulations	Securities and Exchange Board of India (Merchant Bankers) Regulations, 1992
SEBI VCF Regulations	Securities and Exchange Board of India (Venture Capital Funds) Regulations, 1996
Securities Act	U.S. Securities Act of 1933, as amended
Stock Exchanges	BSE and NSE
SPA(s)	Share Purchase Agreement(s)
U.S./USA/United States	United States of America
USD/US\$	United States Dollars
VCF	Venture capital funds as defined under the SEBI VCF Regulations

PRESENTATION OF FINANCIAL DATA AND OTHER INFORMATION

Certain Conventions

All references in this Draft Offer Document to “India” are to the Republic of India, all references to the “U.S.”, or the “United States” are to the United States of America.

Unless stated otherwise, all references to page numbers in this Draft Offer Document are to the page numbers of this Draft Offer Document.

Financial Data

The financial year for the Trust, the Sponsor, the Project SPVs and the Investment Manager commences on April 1 of the immediately preceding calendar year and ends on March 31 of that particular calendar year. Accordingly, all references to a particular financial year (unless stated otherwise) are to the 12-month period commencing on April 1 of the immediately preceding calendar year and ending on March 31 of that particular calendar year.

Unless stated otherwise or unless context requires otherwise, the financial information in this Draft Offer Document is derived from the Special Purpose Combined Financial Statements. Further, financial information for the nine month period ended December 31, 2024 are not indicative of full year results and are not comparable with annual financial information.

The Special Purpose Combined Financial Statements have been prepared in accordance with the Indian Accounting Standards as defined in Rule 2(1)(a) of the Companies (Indian Accounting Standards) Rules, 2015 prescribed under Section 133 of the Companies Act, 2013 read with the SEBI (Infrastructure Investment Trusts) Regulations, 2014 and the circulars issued thereunder and the Guidance Note on Combined and Carve-Out Financial Statements issued by the Institute of Chartered Accountants of India. For further details, please see the section entitled “*Special Purpose Combined Financial Statements*” attached as **Annexure C**.

Further, this Draft Offer Document includes projections of revenue from operations and cash flows from operating activities of the Trust and the Project SPVs on a combined basis and each of Project SPVs, individually, for the financial years ended March 31, 2026, March 31, 2027 and March 31, 2028, prepared in accordance with the basis of preparation as set out in Note 2 of projections of revenue from operations and cash flow from operating activities (the “**Projections of Revenue from Operations and Cash Flow from Operating Activities**”). For further details, please see the section entitled “*Projections of Revenue from Operations and Cash Flow from Operating Activities*” attached as **Annexure D**.

Further, this Draft Offer Document includes (i) summary financial statements of the Sponsor, as of and for the financial years ended March 31, 2024, March 31, 2023, March 31, 2022, prepared in accordance with applicable accounting standards and rules issued thereunder and (ii) summary financial statements of the Investment Manager for the period from February 8, 2024 to December 31, 2024 prepared in accordance with applicable accounting standards and rules issued thereunder. For further details, please see the sections entitled “*Summary Financial Information of the Sponsor*” and “*Summary Financial Information of the Investment Manager*” on pages 39 and 43, respectively.

The degree to which the financial information included in this Draft Offer Document will provide meaningful information is entirely dependent on the reader’s level of familiarity with Indian accounting policies and practices, the Companies Act, the Indian GAAP, Ind AS and the InvIT Regulations. The Investment Manager has not attempted to explain these differences or quantify their impact on the financial data included in this Draft Offer Document, and it is urged that you consult your own advisors regarding such differences and their impact on our financial data. Any reliance by persons not familiar with Indian accounting policies and practices on the financial disclosures presented in this Draft Offer Document should accordingly be limited.

In this Draft Offer Document, any discrepancies in any table between the total and the sums of the amounts listed are due to rounding off. All figures and percentage figures have been rounded off to two decimal places.

Non-GAAP Measures

EBITDA and EBITDA Margin (together, “**Non-GAAP Measures**”), presented in this Draft Offer Document are a supplemental measure of our performance and liquidity that is not required by, or presented in accordance with,

Ind AS or Indian GAAP. Further, these Non-GAAP Measures are not a measurement of our financial performance or liquidity under Ind AS or Indian GAAP and should not be considered in isolation or construed as an alternative to cash flows, profit/ (loss) for the years/ period or any other measure of financial performance or as an indicator of our operating performance, liquidity, profitability or cash flows generated by operating, investing or financing activities derived in accordance with Ind AS or Indian GAAP. In addition, EBITDA and EBITDA Margin are not standardised terms, hence a direct comparison of these Non-GAAP Measures between companies may not be possible. Other companies may calculate these Non-GAAP Measures differently from us, limiting its usefulness as a comparative measure. Although such Non-GAAP Measures are not a measure of performance calculated in accordance with applicable accounting standards, the Investment Manager believes that they are useful to an investor in evaluating us as they are widely used measures to evaluate our operating performance.

Currency and Units of Presentation

All references to:

- “Rupees” or “₹” or “INR” or “Rs.” are to Indian Rupees, the official currency of the Republic of India;
- “USD” or “US\$” or “\$” or “U.S. dollars” are to United States Dollars, the official currency of the United States; and

Except otherwise specified, certain numerical information in this Draft Offer Document has been presented in “million” units. (i) One million represents 1,000,000; (ii) one billion represents 1,000,000,000; and (iii) One lakh represents 1,00,000.

Unless the context requires otherwise, any percentage amounts, as set forth in this Draft Offer Document, have been calculated on the basis of the Special Purpose Combined Financial Statements.

Exchange Rates

This Draft Offer Document contains conversion of certain other currency amounts into Indian Rupees. These conversions should not be construed as a representation that these currency amounts could have been, or can be converted into Indian Rupees, at any particular rate.

The following table sets forth, for the periods indicated, information with respect to the exchange rate between the Rupee and the US\$:

Currency	(in ₹ per US\$)			
	As of December 31, 2024	As of March 31, 2024	As of March 31, 2023	As of March 31, 2022
1 US\$	85.62	83.37	82.22	75.81

Source: www.fbiil.org

Note: If the RBI reference rate is not available on a particular date due to a public holiday, exchange rates of the previous working day has been disclosed. The reference rates are rounded off to two decimal places.

Industry and Market Data

Unless stated otherwise, industry and market data used in this Draft Offer Document has been obtained or derived from the CRISIL Report as well as certain other publicly available sources. The Investment Manager has commissioned the CRISIL Report, to provide an independent estimation of the road sector, which is based on historical data and certain assumptions.

Industry publications as well as government publications generally state that the information contained in such publications has been obtained from various sources believed to be reliable but that their accuracy and completeness are not guaranteed and their reliability cannot be assured. Accordingly, no investment decisions should be based solely on such information. The data used in these sources may have been re-classified for the purposes of presentation. Data from these sources may also not be comparable. Such data involves risks, uncertainties and numerous assumptions and is subject to change based on various factors, including those disclosed in the section entitled “Risk Factors- The accuracy of statistical and other information with respect to the road infrastructure sector, the Industry Report and the Technical Report issued by the Technical Consultants

and commissioned by the Investment Manager for the Projects contained in this Draft Offer Document cannot be guaranteed” on page 71.

The extent to which the market and industry data used in this Draft Offer Document is meaningful depending on the reader’s familiarity with and understanding of the methodologies used in compiling such data. There are no standard data gathering methodologies in the industry in which the business of the Trust is conducted, and methodologies and assumptions may vary widely among different industry sources.

Disclaimer of Credit Rating Agency

Disclaimer of India Ratings and Research

“Users of India Ratings and Research Pvt Ltd (“India Ratings”) ratings should understand that neither an enhanced factual investigation nor any third-party verification can ensure that all of the information India Ratings relies on in connection with a rating will be accurate and complete. Ultimately, the issuer and its advisers are responsible for the accuracy of the information they provide to India Ratings and to the market in offering documents and other reports. In issuing its ratings India Ratings must rely on the work of experts, including independent auditors with respect to financial statements and attorneys with respect to legal and tax matters. Further, ratings are inherently forward-looking and embody assumptions and predictions about future events that by their nature cannot be verified as facts. As a result, despite any verification of current facts, ratings can be affected by future events or conditions that were not anticipated at the time a rating was issued or affirmed.

Ratings are not a recommendation or suggestion, directly or indirectly, to you or any other person, to buy, sell, make or hold any investment, loan or security or to undertake any investment strategy with respect to any investment, loan or security of any issuer. Ratings do not comment on the adequacy of market price, the suitability of any investment, loan or security for a particular investor (including without limitation, any accounting and/or regulatory treatment), or the tax-exempt nature or taxability of payments made in respect of any investment, loan or security. The Rating Agency shall neither construed to be nor acting under the capacity or nature of an 'expert' as defined under Section 2(38) of the Companies Act, 2013. India Ratings is not your advisor, nor is India Ratings providing to you or any other party any financial advice, or any legal, auditing, accounting, appraisal, valuation or actuarial services. A rating should not be viewed as a replacement for such advice or services. Investors may find our ratings to be important information, and India Ratings notes that you are responsible for communicating the contents of this letter, and any changes with respect to the rating, to investors.”

Disclaimer of CRISIL

Disclaimer of Crisil Intelligence

“Crisil Intelligence, a division of Crisil Limited, provides independent research, consulting, risk solutions, and data & analytics to its clients. Crisil Intelligence operates independently of Crisil’s other divisions and subsidiaries, including, Crisil Ratings Limited. Crisil Intelligence’s informed insights and opinions on the economy, industry, capital markets and companies drive impactful decisions for clients across diverse sectors and geographies. Crisil Intelligence’s strong benchmarking capabilities, granular grasp of sectors, proprietary analytical frameworks and risk management solutions backed by deep understanding of technology integration, makes it the partner of choice for public & private organisations, multi-lateral agencies, investors and governments for over three decades.

For the preparation of this report, Crisil Intelligence has relied on third party data and information obtained from sources which in its opinion are considered reliable. Any forward-looking statements contained in this report are based on certain assumptions, which in its opinion are true as on the date of this report and could fluctuate due to changes in factors underlying such assumptions or events that cannot be reasonably foreseen. This report does not consist of any investment advice and nothing contained in this report should be construed as a recommendation to invest/disinvest in any entity. The Investment Manager will be responsible for ensuring compliances and consequences of non-compliances for use of the Report or part thereof outside India.”

FORWARD-LOOKING STATEMENTS

Certain statements contained in this Draft Offer Document that are not statements of historical fact constitute “forward-looking statements”. Bidders can generally identify forward-looking statements by terminology such as “aim”, “anticipate”, “believe”, “continue”, “can”, “could”, “estimate”, “expect”, “intend”, “likely”, “may”, “objective”, “plan”, “potential”, “project”, “propose”, “pursue”, “seek”, “shall”, “should”, “will”, “would”, or other words or phrases of similar import. Similarly, statements that describe the strategies, objectives, plans or goals of the Trust, including the Trust’s business strategy, revenue and profitability (including, without limitation, any financial or operating projections or forecasts) and other matters discussed in this Draft Offer Document that are not historical facts, are also forward-looking statements. However, these are not the exclusive means of identifying forward-looking statements.

All statements regarding the Trust’s expected financial conditions, results of operations, business plans and prospects are forward-looking statements. These forward-looking statements include statements as to the Trust’s business strategy, planned projects, revenue and profitability (including, without limitation, any financial or operating projections or forecasts), new business and other matters discussed in this Draft Offer Document that are not historical facts. These forward-looking statements and any other projections contained in this Draft Offer Document (whether made by the Trustee, Investment Manager or any third party), are predictions and involve known and unknown risks, uncertainties, assumptions and other factors that may cause the Trust’s actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements or other projections. Further, this Draft Offer Document also includes the section entitled “*Projections of Revenue from Operating and Cash Flow from Operating Activities*”.

The Valuation Report included in this Draft Offer Document, is based on certain projections and accordingly, should be read together with assumptions and notes thereto. For further details, please see the “*Valuation Report*” attached as Annexure A. The Technical Reports include projections and estimates in relation to routine and periodic maintenance, including operation and maintenance, and accordingly, should be read in conjunction with the relevant notes and assumptions thereto. For further details, please see the “*Technical Reports*” attached as Annexure B.

All forward-looking statements and financial projections are subject to risks, uncertainties and assumptions. Actual results may differ materially from those suggested by forward-looking statements and financial projections due to certain known or unknown risks or uncertainties associated with the Investment Manager’s expectations with respect to, but not limited to, the actual growth in the infrastructure sector, the Investment Manager’s ability to successfully implement the strategy, growth and expansion plans, technological changes, cash flow projections, exposure to market risks, general economic and political conditions in India, monetary and fiscal policies of India, inflation, deflation, foreign exchange rates, performance of financial markets in India or globally, changes in domestic laws, regulations and taxes, changes in competition in the infrastructure sector, the outcome of any legal or regulatory proceedings and the future impact of new accounting standards. By their nature, certain of the market risk disclosures are only estimates and could be materially different from what actually occurs in the future. As a result, actual future gains, losses or impact on net income could materially differ from those that have been estimated.

Factors that could cause actual results, performance or achievements of the Trust to differ materially include, but are not limited to, those discussed under the sections entitled “*Risk Factors*”, “*Industry Overview*”, “*Business*” and “*Discussion and analysis by the Directors of the Investment Manager of the financial condition, results of operations and cash flows of the Project SPVs of the Trust*”, on pages 66, 173, 258 and 349, respectively. Some of the factors that could cause the Trust’s actual results, performance or achievements to differ materially from those in the forward-looking statements, financial projections and financial information include, but are not limited to, the following:

- The Trust is a newly settled trust and does not have an established operating history, which will make it difficult to accurately assess our future growth prospects;
- Consummation of the Formation Transactions pursuant to which we will acquire the Project SPVs is subject to certain conditions;

- In relation to the proposed acquisition of one of the Project SPVs, namely, DPHPPL, the Trust will acquire 100% of the issued, subscribed and paid-up equity share capital of DPHPPL from AAHPL (directly or indirectly through its affiliates) only once the acquisition of DPHPPL is completed by AAHPL (directly or indirectly through its affiliates) from DP Jain And Co Infrastructure Private Limited;
- The acquisition by the Trust of the Project SPVs (except DPHPPL) from DBL, DBL Infraventures Private Limited, Alpha Alternatives Infrastructure Fund, Alpha Alternatives Financial Services Private Limited, Spectrum Edge LLP, Build India Infrastructure Fund and other shareholders of the Project SPVs and acquisition of DPHPPL from AAHPL(directly or indirectly through its affiliates), or any other asset from third parties in the future, may be subject to certain risks, which may result in damages and losses. We may not be able to recover losses arising from the acquisition of such Project SPVs from the above-mentioned parties under relevant contractual arrangements;
- We intend to acquire 100% of the issued, subscribed and paid-up share capital of PHL pursuant to the PHL Securities Purchase Agreement and any failure to acquire such percentage of PHL could have a material adverse effect on our business, financial condition and results of operations.

The forward-looking statements, Projections of Revenue from Operations and Cash Flow from Operating Activities, Valuation Report and Technical Reports reflect current views as of the date of this Draft Offer Document and are not a guarantee of future performance or returns to Bidders. These statements and projections are based on certain beliefs and assumptions, which in turn are based on currently available information. Although the Investment Manager and the Sponsor believe that the expectations and the assumptions upon which such forward-looking statements are based, are reasonable at this time, none of the Investment Manager or the Sponsor can assure Bidders that such expectations will prove to be correct or accurate. Given these uncertainties, investors are cautioned not to place undue reliance on such forward-looking statements and not to regard such statements as a guarantee of future performance.

In accordance with the InvIT Regulations, the assumptions underlying the Projections of Revenue from Operations and Cash Flow from Operating Activities have been examined by the Auditors. The Projections of Revenue from Operations and Cash Flow from Operating Activities have been prepared for inclusion in this Draft Offer Document for the purposes of this Issue, using a set of assumptions that include hypothetical assumptions about future events and management's actions that are not necessarily expected to occur, and have been approved by the IM Board. Consequently, Bidders are cautioned that the Projections of Revenue from Operations and Cash Flow from Operating Activities may not be appropriate for purposes other than that described above. In any event, these statements speak only as of the date of this Draft Offer Document or the respective dates indicated in this Draft Offer Document.

The Trust, the Investment Manager, the Sponsor and the Lead Manager or any of their affiliates or advisors, undertake no obligation to update or revise any of statements reflecting circumstances arising after the date hereof or to reflect the occurrence of underlying events, whether as a result of new information, future events or otherwise after the date of this Draft Offer Document. If any of these risks and uncertainties materialize, or if any of the Investment Manager's underlying assumptions prove to be incorrect, the actual results of operations or financial condition or cash flow of the Trust could differ materially from that described herein as anticipated, believed, estimated or expected. All subsequent forward-looking statements attributable to the Trust are expressly qualified in their entirety by reference to these cautionary statements. Given these uncertainties, Bidders are cautioned not to place undue reliance on such forward-looking statements and financial projections, and not to regard such statements to be a guarantee or assurance of the Trust's future performance or returns to investors.

THE ISSUE

The following is a general summary of the terms of this Issue. This summary should be read in conjunction with, and is qualified in its entirety by, the detailed information appearing elsewhere in this Draft Offer Document:

Issue	Up to [●] Units aggregating up to ₹ 4,000.00 million.
Less	
Strategic Investor Portion [#]	Up to [●] Units aggregating up to ₹ [●] million, subject to a maximum of 25% of the Issue Size.
The Issue (excluding Strategic Investor Portion)	Up to [●] Units aggregating up to ₹ [●] million
<i>Of which</i>	
Institutional Investor Portion (not more than 75% of the Issue Size (excluding Strategic Investor Portion))*	Not more than [●] Units
Non-Institutional Investor Portion (not less than 25% of the Issue Size(excluding Strategic Investor Portion))	Not less than [●] Units
Floor Price	₹ [●]
Cap Price	₹ [●]
Issue Price	₹ [●]
Minimum Bid Size	₹ [●]
Bid/Issue Opening Date**	[●]
Bid/Issue Closing Date***	[●]
Sponsor	Alpha Alternatives Fund Advisors LLP
Trustee	Axis Trustee Services Limited
Investment Manager	Alpha Alternatives Fund – Infra Advisors Private Limited
Project Manager	Arsenio Strategies Private Limited
Authority for this Issue	This Issue was authorised and approved by the InvIT Committee of the IM Board on March 28, 2025.
Tenure of the Trust	The Trust shall remain in force perpetually until it is dissolved or terminated in accordance with the Trust Deed. For details, please see the section entitled “Parties to the Trust” on page 113
Units issued and outstanding as of the date of this Draft Offer Document	Nil
Units issued and outstanding immediately after this Issue	Up to [●] Units
Sponsor and Sponsor Group(s) Units	Up to [●] Units The Units to be held by the Sponsor and Sponsor Group shall rank <i>pari passu</i> with and have the same rights as the Units to be Allotted pursuant to this Issue. The Units to be held by the Sponsor and the Sponsor Group have been allotted to the Sponsor and Sponsor Group pursuant to the resolution of the IM Board dated [●]
Distribution	Please see the section entitled “Distribution” on page 346

Indian Taxation	Please see the section entitled “ <i>Statement of Possible Special Tax Benefits available to Anantam Highways Trust and its unitholders under the applicable laws in India</i> ” on page 432.
Use of Proceeds	Please see the section entitled “ <i>Use of Proceeds</i> ” on page 334
Listing	Prior to this Issue, there has been no market for the Units. The Units are proposed to be listed on the Stock Exchange. In-principle approval for listing of the Units have been received from NSE and BSE on [●] and [●], respectively. The Investment Manager shall apply to the Stock Exchanges for the final listing and trading approval, after the Allotment and the credit of the Units to the demat accounts of the Allottees
Designated Stock Exchange	[●]
Closing Date	The date on which Allotment of the Units pursuant to this Issue shall be made, i.e. on or about [●]
Ranking	The Units being issued shall rank <i>pari passu</i> in all respects, including rights in respect of distribution. Please see the section entitled “ <i>Rights of Unitholders</i> ” on page 403
Lock-in and Rights of Unitholders	For details, please see the sections entitled “ <i>Information Concerning the Units</i> ” and “ <i>Rights of Unitholders</i> ” on pages 332 and 403, respectively
Risk Factors	Prior to making an investment decision, Bidders should consider carefully the matters discussed in the section entitled “ <i>Risk Factors</i> ” on page 66

* *The Investment Manager may, in consultation with the Lead Manager, consider participation by Anchor Investors in this Issue for up to 60% of the Institutional Investor Portion in accordance with the InvIT Regulations.*

** *The Anchor Investor Bidding Date shall be one Working Day prior to the Bid/Issue Opening Date.*

*** *The Investment Manager may in consultation with the Lead Manager, consider closing the Bid/ Issue Period for QIBs one Working Day prior to the Bid/ Issue Closing Date, in accordance with the InvIT Regulations.*

The Investment Manager may, in consultation with the Lead Manager, consider participation by Strategic Investors in the Issue in accordance with the InvIT Regulation. Each Strategic Investor proposing to invest in the Issue shall enter into a strategic investor unit subscription agreement with the Investment Manager (on behalf of the Trust) prior to filing of the Offer Document with SEBI and the Stock Exchanges.

The Issue has been authorised by a resolution of the InvIT Committee of the IM Board dated March 28, 2025.

Allocation in all categories, except the Anchor Investor Portion and the Strategic Investor Portion, if any, shall be made on a proportionate basis. In case of under-subscription in any category, the unsubscribed portion in either category may be allotted to investors in the other category at the discretion of the Investment Manager, in consultation with the Lead Manager and the Designated Stock Exchange.

The Issue is being made through the Book Building Process, wherein not more than 75% of the Issue Size (excluding Strategic Investor Portion) shall be available for allocation to Institutional Investors on a proportionate basis, provided that the Investment Manager, in consultation with the Lead Manager, may allocate up to 60% of the Institutional Investor Portion to Anchor Investors on a discretionary basis in accordance with the InvIT Regulations. Further, not less than 25% of the Issue Size (excluding Strategic Investor Portion) shall be available for allocation on a proportionate basis to Non-Institutional Investors, subject to valid Bids being received at or above the Issue Price.

The Units, on Allotment, shall be traded only in the dematerialized segment of the Stock Exchanges.

In accordance with the InvIT Regulations, the Investment Manager undertakes that at any given time, there shall only be one denomination for the Units, and no Unitholder shall enjoy superior voting or any other rights over another Unitholder. Further, there shall not be multiple classes of Units.

For further details in relation to this Issue, including the method of application, please see the section entitled “*Issue Information*” on page 410.

OVERVIEW OF THE TRUST

The following overview is qualified in its entirety by, and is subject to, the more detailed information contained in, or referred to elsewhere, in this Draft Offer Document. The statements contained in this summary that are not historical facts may be forward-looking statements. Such statements are subject to certain risks, uncertainties and assumptions that could cause actual results of the Trust to differ materially from those forecasted or projected in this Draft Offer Document. Under no circumstances should the inclusion of such information herein be regarded as a representation, warranty or prediction of the accuracy of the underlying assumptions by the Trust, the Parties to the Trust or the Lead Manager or any other person or that these results will be achieved or are likely to be achieved. Investment in Units involves risks. Bidders are advised not to rely solely on this overview, however, should read this Draft Offer Document in its entirety and, in particular, the section entitled “Risk Factors” on page 66.

Structure and description of the Trust

Alpha Alternatives Fund Advisors LLP, the Sponsor (“**Settlor**”) set up the Trust on July 24, 2024, as a contributory, determinate, irrevocable trust under the provisions of the Indian Trusts Act, 1882 as the sponsor of the Trust, pursuant to the Trust Deed. The Trust was registered as an infrastructure investment trust with the SEBI under the InvIT Regulations on August 19, 2024 having registration number IN/InvIT/24-25/0031. The Settlor has settled the Trust for an initial sum of ₹ 10,000. The Sponsor shall not have any beneficial interest in such initial sum of the Trust and such sum shall not be distributed to the Sponsor under any circumstances. For details of the registered office and contact person of the Sponsor, please see the section entitled “*General Information- The Sponsor*” on page 106.

Further, Alpha Alternatives Fund-Infra Advisors Private Limited has been appointed as the Investment Manager pursuant to the Investment Manager Agreement, and Arsenio Strategies Private Limited has been appointed as the Project Manager to the Trust. For further details, please see the sections entitled “*Parties to the Trust- The Investment Manager - Alpha Alternatives Fund-Infra Advisors Private Limited*” and “*Parties to the Trust- The Project Manager – Arsenio Strategies Private Limited*” on pages 128 and 145 respectively.

Investment Objectives

In terms of the Trust Deed, the investment objectives of the Trust are to carry on the activities of, and to make investments as, an infrastructure investment trust, as permissible in terms of the InvIT Regulations. The investment of the Trust shall be in any manner permissible under, and in accordance with the InvIT Regulations and applicable law, including in such holding companies and/or special purpose vehicles and/or infrastructure projects and/or securities in India as permitted under the InvIT Regulations and in accordance with the investment strategy and/or policies as detailed in this Draft Offer Document.

The Trustee, through the Investment Manager shall ensure that the Capital Contribution and other InvIT Assets shall not be utilized for any activities prohibited under the InvIT Regulations. Further, the Trustee shall through the Investment Manager ensure that the Trust complies with any additional conditions as may be specified by SEBI or applicable law.

Fee and expenses

Annual Expenses

The expenses in relation to the Trust, other than such expenses incurred in relation to operations of the Project SPVs, would broadly include fee payable to: (i) the Trustee; (ii) the Investment Manager; (iii) the Project Manager; (iv) the Auditors, (v) the Valuer; and (vi) other intermediaries and consultants.

The estimated recurring expenses on an annual basis, including but not limited to, are as follows:

(₹ in million)	
Payable by the Trust	Estimated Expenses*
Fee payable to Trustee	Please see Note 1
Fee payable to the Investment Manager	Please see Note 2
Fee payable to the Project Manager	Please see Note 3
Fee payable to the Auditors	■

Payable by the Trust	Estimated Expenses*
Fee payable to the Valuer	[●]
Fee payable to the Registrar	[●]
Fee payable to the Stock Exchanges and Depositories	[●]
Fee payable to Credit Rating Agency	[●]

Note 1:

The Trustee will be entitled to an initial acceptance fee of ₹ 0.80 million and a fee of ₹ 0.80 million, which will be paid annually to the Trustee for the services rendered to the Trust (for 8 SPVs). In addition, the Trustee shall be entitled to a one-time fee of ₹ 0.02 million per SPV from 9th SPV till 18th SPV and a fee of ₹ 1.00 million, which will be paid annually to the Trustee for the services rendered to the Trust for the 9th SPV till the 18th SPV. In addition, the Trustee shall be entitled to recover from the InvIT (i) any legitimate out of expenses incurred by it in relation to its trusteeship of the InvIT, and (ii) any tax or duty including goods and services tax (other than income tax, including withholding tax, if any, under the Income-tax Act, 1961), which is, or may become, leviable under the applicable law on the fee payable, to the Trustee by the InvIT.

Note 2:

The fee will be payable by the Trust or the Project SPVs to the Investment Manager (“**Management Fee**”) in accordance with the Investment Management Agreement, from the funds of the Trust, or by any or all of the Project SPVs, in such proportion, as may be determined from time to time. The Management Fee will be up to (i) 2.20% of the revenue generated by the Trust during every financial quarter, payable at the end of every financial quarter; (ii) up to 1.50% of the revenue generated by the Trust during every financial quarter, which shall be utilised towards employee expenses such that the fees does not exceed ₹ 500 million, until the time the Trust’s asset under management is ₹ 7,50,000 million, payable at the end of every financial quarter. In the event the InvIT’s asset under management exceeds ₹ 7,50,000 million, the fee will be revised in accordance with the terms of the Investment Management Agreement; (iii) a one time fee of 0.50% of the enterprise value of assets acquired by the Trust other than (a) the Project SPVs and (b) any assets that are acquired by the Trust from DBL. Such fee is payable after completion of acquisition of the asset by the Trust.

Note 3:

The annual fee payable to the Project Manager (“**Fee**”) will be payable by the Trustee from the funds of the Trust and/or SPVs, either to the Project Manager or directly to any agent appointed in this regard, as the case may be. For the period beginning from the date of listing of the Units, the Project Manager and/or its agents, as the case may be, shall be paid a Fee equivalent to up to 1.60% of the revenue generated by the Trust during every financial quarter, payable at the end of every financial quarter in accordance with the Project Implementation and Management Agreement.

In the event the Project Manager is required to perform any service which is not covered within the scope set out in the Project Implementation and Management Agreement, the Project Manager shall provide such service on terms (including, in relation to costs) to be mutually agreed to between the Parties.

Set-up expenses

The expenses in relation to the setting up the Trust, being an aggregate of ₹ 1.10 million, have been borne by the Sponsor, on behalf of the Trust and shall be reimbursed by the Trust.

Issue Expenses

The total expenses of this Issue are estimated to be up to ₹ [●] million and the expenses incurred by the Sponsor or the Investment Manager (on behalf of the Trust) will be reimbursed by the Trust. For details in relation to the Issue expenses, please see the section entitled “*Use of Proceeds- Issue Expenses*” on page 337.

Details of credit ratings

Please see the section entitled “*General Information – Credit rating*” on page 110 in relation to the details of credit ratings.

FORMATION TRANSACTIONS IN RELATION TO THE TRUST

Details of arrangement pertaining to the Trust

The Trust's Project SPVs comprises nine SPVs to be acquired by the Trust pursuant to the completion of the actions as contemplated under the respective Securities Purchase Agreements and the Formation Transactions, namely (i) 100% of Dodaballapur Hoskote Highways Limited ("DHHL"); (ii) 100% of Repallewada Highways Limited ("RHL"); (iii) 100% of Dhrol Bhadra Highways Limited ("DBHL"); (iv) 100% of Narenpur Purnea Highways Limited ("NPHL"); (v) 100% of Viluppuram Highways Limited ("VHL"); (vi) 100% of Bangalore Malur Highways Limited ("BMHL"); (vii) 100% of Malur Bangarpet Highways Limited ("MBHL"), (viii) 100% of DPJ Pollachi HAM Project Private Limited ("DPHPPL") and (ix) 49% of Poondiyanuppam Highways Limited ("PHL").

The details of the Project SPVs as of the date of this Draft Offer Document are provided below:

1. Dodaballapur Hoskote Highways Limited ("DHHL")

DHHL was incorporated on September 25, 2020 under the Companies Act, 2013 (CIN: U45202MP2020PLC052999). DHHL was originally incorporated as Dodaballapur Hoskote Highways Private Limited and, upon conversion to a public limited company, the name was changed to Dodaballapur Hoskote Highways Limited pursuant to the certificate of incorporation dated July 12, 2023.

Its registered office is located at Plot No. 5, Inside Govind Narayan Singh Chuna Bhatti, Kolar Road, Bhopal, Madhya Pradesh, India, 462016.

The authorised capital of DHHL is ₹ 29,00,000 (divided into 2,90,000 equity shares of ₹10 each) and its issued subscribed and paid-up capital is ₹ 27,85,230 (divided into 2,78,523 equity shares of ₹10 each). The shareholding pattern of DHHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	1,41,997	50.98
2.	DBL Infraventures Private Limited	8,355	2.99
3.	Alpha Alternatives Infrastructure Fund	56,561	20.30
4.	Alpha Alternatives Financial Services Private Limited	5,942	2.14
5.	Build India Infrastructure Fund	35,891	12.89
6.	Spectrum Edge LLP	29,727	10.67
7.	Bharat Singh*	10	negligible
8.	Sandeep Chandrakant Deshpande*	10	negligible
9.	Pradeep Suryavanshi*	10	negligible
10.	Javed Khan*	10	negligible
11.	Pankaj Rai*	10	negligible
Total		2,78,523	100.00

*Shares held as nominee on behalf of Dilip Buildcon Limited

2. Repallewada Highways Limited ("RHL")

RHL was incorporated on October 13, 2020 under the Companies Act, 2013 (CIN: U45309MP2020PLC053246). RHL was originally incorporated as Repallewada Highways Private Limited and, upon conversion to a public limited company, the name Repallewada Highways Private Limited was changed to Repallewada Highways Limited pursuant to the certificate of incorporation dated March 24, 2022.

Its registered office is located at Plot No. 5, Inside Govind Narayan Singh Chuna Bhatti, Kolar Road, Bhopal, Madhya Pradesh, India, 462016.

The authorised capital of RHL is ₹ 80,00,000 (divided into 8,00,000 equity shares of ₹10 each) and its issued subscribed and paid-up capital is ₹ 78,57,510 (divided into 7,85,751 equity shares of ₹10 each). The shareholding pattern of RHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	4,00,684	50.98
2.	DBL Infraventures Private Limited	23,571	2.99
3.	Alpha Alternatives Infrastructure Fund	1,59,566	20.30
4.	Alpha Alternatives Financial Services Private Limited	16,764	2.14
5.	Build India Infrastructure Fund	1,01,253	12.89
6.	Spectrum Edge LLP	83,863	10.67
7.	Pankaj Rai*	10	negligible
8.	Dilip Suryavanshi*	10	negligible
9.	Bharat Singh*	10	negligible
10.	Sandeep Chandrakant Deshpande*	10	negligible
11.	Pradeep Suryavanshi*	10	negligible
Total		7,85,751	100.00

* Shares held as nominee on behalf of Dilip Buildcon Limited

3. Dhrol Bhadra Highways Limited ("DBHL")

DBHL was incorporated on December 29, 2020 under the Companies Act, 2013 (CIN: U45400MP2020PLC054328). DBHL was originally incorporated as Dhrol Bhadra Highways Private Limited and, upon conversion to a public limited company, the name Dhrol Bhadra Highways Private Limited was changed to Dhrol Bhadra Highways Limited pursuant to the certificate of incorporation dated March 24, 2022.

Its registered office is located at Plot No. 5, Inside Govind Narayan Singh Chuna Bhatti, Kolar Road, Bhopal, Madhya Pradesh, India, 462016.

The authorised capital of DBHL is ₹ 30,00,000 (divided into 3,00,000 equity shares of ₹10 each) and its issued subscribed and paid-up capital is ₹ 27,73,070 (divided into 2,77,307 equity shares of ₹10 each). The shareholding pattern of DBHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	1,41,377	50.98
2.	DBL Infraventures Private Limited	8,319	2.99
3.	Alpha Alternatives Infrastructure Fund	56,313	20.30
4.	Alpha Alternatives Financial Services Private Limited	5,917	2.14
5.	Build India Infrastructure Fund	35,734	12.89
6.	Spectrum Edge LLP	29,597	10.67
7.	Bharat Singh*	10	negligible
8.	Sandeep Chandrakant Deshpande*	10	negligible
9.	Pradeep Suryavanshi*	10	negligible
10.	Devendra Jain*	10	negligible
11.	Seema Suryavanshi*	10	negligible
Total		2,77,307	100.00

*Shares held as nominee on behalf of Dilip Buildcon Limited

4. Narenpur Purnea Highways Limited ("NPHL")

NPHL was incorporated on October 07, 2020 under the Companies Act, 2013 (CIN: U45203MP2020PLC053150). NPHL was originally incorporated as Narenpur Purnea Highways Private Limited and, upon conversion to a public limited company, the name Narenpur Purnea Highways Private Limited was changed to Narenpur Purnea Highways Limited pursuant to the certificate of incorporation dated July 12, 2023.

Its registered office is located at Plot No. 5, Inside Govind Narayan Singh Chuna Bhatti, Kolar Road, Bhopal, Madhya Pradesh, India, 462016.

The authorised capital of NPHL is ₹ 25,00,000 (divided into 2,50,000 equity shares of ₹10 each) and its issued subscribed and paid-up capital is ₹ 24,79,900 (divided into 2,47,990 equity shares of ₹10 each). The shareholding

pattern of NPHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	1,26,429	50.98
2.	DBL Infraventures Private Limited	7,439	2.99
3.	Alpha Alternatives Infrastructure Fund	50,360	20.30
4.	Alpha Alternatives Financial Services Private Limited	5,291	2.14
6.	Build India Infrastructure Fund	31,957	12.89
5.	Spectrum Edge LLP	26,468	10.67
7.	Pankaj Rai*	10	negligible
8.	Bharat Singh*	10	negligible
9.	Sandeep Chandrakant Deshpande*	10	negligible
10.	Pradeep Suryavanshi*	10	negligible
11.	Javed Khan*	6	negligible
Total		2,47,990	100.00

* Shares held as nominee on behalf of Dilip Buildcon Limited

5. Viluppuram Highways Limited ("VHL")

VHL was incorporated on April 01, 2021 under the Companies Act, 2013 (CIN: U45201MP2021PLC055629). VHL was originally incorporated as DBL Viluppuram Highways Private Limited and, upon conversion to a public limited company, the name was changed to DBL Viluppuram Highways Limited pursuant to the certificate of incorporation dated March 24, 2022 and subsequently to Viluppuram Highways Limited pursuant to the certificate of incorporation dated May 06, 2024.

Its registered office is located at Plot No. 5, Inside Govind Narayan Singh Chuna Bhatti, Kolar Road, Bhopal, Madhya Pradesh, India, 462016.

The authorised capital of VHL is ₹ 25,30,000 (divided into 2,53,000 equity shares of ₹10 each) and its issued subscribed and paid-up capital is ₹ 22,48,140 (divided into 2,24,814 equity shares of ₹10 each). The shareholding pattern of VHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	1,14,596	50.98
2.	DBL Infraventures Private Limited	6,743	2.99
3.	Alpha Alternatives Infrastructure Fund	45,654	20.30
4.	Alpha Alternatives Financial Services Private Limited	4,797	2.14
5.	Build India Infrastructure Fund	28,970	12.89
6.	Spectrum Edge LLP	23,994	10.67
7.	Bharat Singh*	10	negligible
8.	Sandeep Chandrakant Deshpande*	10	negligible
9.	Pradeep Suryavanshi*	10	negligible
10.	Seema Suryavanshi*	10	negligible
11.	Pankaj Rai*	10	negligible
12.	Devendra Jain*	10	negligible
Total		2,24,814	100.00

* Shares held as nominee on behalf of Dilip Buildcon Limited

6. Bangalore Malur Highways Limited ("BMHL")

BMHL was incorporated on March 22, 2021 under the Companies Act, 2013 (CIN: U45203MP2021PLC055478). BMHL was originally incorporated as Bangalore Malur Highways Private Limited and, upon conversion to a public limited company, the name was changed to Bangalore Malur Highways Limited pursuant to the certificate of incorporation dated March 24, 2022.

Its registered office is located at Plot No. 5, Inside Govind Narayan Singh Chuna Bhatti, Kolar Road, Bhopal, Madhya Pradesh, India, 462016.

The authorised capital of BMHL is ₹ 90,00,000 (divided into 9,00,000 equity shares of ₹10 each) and its issued subscribed and paid-up capital is ₹ 86,21,470 (divided into 8,62,147 equity shares of ₹10 each). The shareholding pattern of BMHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	4,39,635	50.98
2.	DBL Infraventures Private Limited	25,864	2.99
3.	Alpha Alternatives Infrastructure Fund	1,75,081	20.30
4.	Alpha Alternatives Financial Services Private Limited	18,392	2.14
5.	Spectrum Edge LLP	92,017	10.67
6.	Build India Infrastructure Fund	1,11,098	12.89
7.	Bharat Singh*	10	negligible
8.	Sandeep Chandrakant Deshpande*	10	negligible
9.	Pankaj Rai*	10	negligible
10.	Devendra Jain*	10	negligible
11.	Seema Suryavanshi*	10	negligible
12.	Pradeep Suryavanshi*	10	negligible
Total		8,62,147	100.00

* Shares held as nominee on behalf of Dilip Buildcon Limited

7. Malur Bangarpet Highways Limited ("MBHL")

MBHL was incorporated on March 23, 2021 under the Companies Act, 2013 (CIN: U45203MP2021PLC055489). MBHL was originally incorporated as Malur Bangarpet Highways Private Limited and, upon conversion to a public limited company, the name was changed to Malur Bangarpet Highways Limited pursuant to the certificate of incorporation dated March 24, 2022.

Its registered office is located at Plot No. 5, Inside Govind Narayan Singh Chuna Bhatti, Kolar Road, Bhopal, Madhya Pradesh, India, 462016.

The authorised capital of MBHL is ₹ 1,16,00,000 (divided into 11,60,000 equity shares of ₹10 each) and its issued subscribed and paid-up capital is ₹ 1,15,45,910 (divided into 11,54,591 equity shares of ₹10 each). The shareholding pattern of MBHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	5,88,782	50.98
2.	DBL Infraventures Private Limited	34,637	2.99
3.	Alpha Alternatives Infrastructure Fund	2,34,470	20.30
4.	Alpha Alternatives Financial Services Private Limited	24,631	2.14
5.	Spectrum Edge LLP	1,23,229	10.67
6.	Build India Infrastructure Fund	1,48,782	12.89
7.	Bharat Singh*	10	negligible
8.	Sandeep Chandrakant Deshpande*	10	negligible
9.	Pankaj Rai*	10	negligible
10.	Devendra Jain*	10	negligible
11.	Seema Suryavanshi*	10	negligible
12.	Pradeep Suryavanshi*	10	negligible
Total		11,54,591	100.00

* Shares held as nominee on behalf of Dilip Buildcon Limited

8. Poondiyankuppam Highways Limited (“PHL”)

PHL was incorporated on March 26, 2021 under the Companies Act, 2013 (CIN: U45309MP2021PLC055560). PHL was originally incorporated as DBL Poondiyankuppam Highways Private Limited and, upon conversion to a public limited company, the name was changed to DBL Poondiyankuppam Highways Limited pursuant to the certificate of incorporation dated March 24, 2022 and subsequently to Poondiyankuppam Highways Limited pursuant to the certificate of incorporation dated April 12, 2024.

Its registered office is located at Plot No. 5, Inside Govind Narayan Singh Gate, Chuna Bhatti, Kolar Road, Bhopal, Madhya Pradesh, India, 462016.

The authorised capital of PHL is ₹ 16,00,000 (divided into 1,60,000 equity shares of ₹10 each) and its issued subscribed and paid-up capital is ₹ 15,89,480 (divided into 1,58,948 equity shares of ₹10 each). The shareholding pattern of PHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	82,610	51.97
2.	DBL Infraventures Private Limited	36,557	23.00
3.	Alpha Alternatives Financial Services Private Limited	2,274	1.43
4.	Spectrum Edge LLP	16,965	10.67
5.	Build India Infrastructure Fund	20,482	12.89
6.	Bharat Singh*	10	negligible
7.	Sandeep Chandrakant Deshpande*	10	negligible
8.	Pankaj Rai*	10	negligible
9.	Devendra Jain*	10	negligible
10.	Seema Suryavanshi*	10	negligible
11.	Pradeep Suryavanshi*	10	negligible
Total		1,58,948	100.00

* Shares held as nominee on behalf of Dilip Buildcon Limited.

Note: As on the date of the Draft Offer Document, PHL is held 51.97% by Dilip Buildcon Limited, 23.00% by DBL Infraventures Private Limited, negligible % of shares by nominees of Dilip Buildcon Limited, 1.43% by Alpha Alternatives Financial Services Private Limited, 10.67% by Spectrum Edge LLP and 12.89% by Build India Infrastructure Fund (Collectively, 24.99% by Alpha Alternatives Financial Services Private Limited, Spectrum Edge LLP, and Build India Infrastructure Fund (“Alpha entities”). Prior to filing of the Offer Document, the Alpha entities will hold 26% in PHL. Thereafter, 49% of PHL is proposed to be transferred to the Trust, accordingly, the Trust is proposed to acquire 26% from AAHPL and/or its affiliates and 23% from DBL and/or its affiliates. For risks in relation to 49% of PHL being transferred to the Trust, please refer to the section entitled “Risk Factors – We intend to acquire 100% of the issued, subscribed and paid-up share capital of PHL pursuant to the PHL Securities Purchase Agreement and any failure to acquire such percentage of PHL could have a material adverse effect on our business, financial condition and results of operations” on page 69..

9. DPJ Pollachi HAM Project Private Limited (“DPHPPL”)

DPJ Pollachi HAM Project Private Limited was incorporated on March 25, 2019 under the Companies Act, 2013 (CIN: U45309MH2019PTC322963).

Its registered office is located at 17, Rajlaxmi B No. 6, Sujata Layout, Indraprastha Nagar, Nagpur, Nagpur, Maharashtra, India, 440022.

The authorised capital of DPHPPL is ₹ 73,00,00,000 (divided into 7,30,00,000 equity shares of ₹10 each) and its issued subscribed and paid-up capital is ₹ 72,41,00,000 (divided into 7,24,10,000 equity shares of ₹10 each). The shareholding pattern as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	D P Jain and Co Infrastructure Pvt Ltd	7,24,09,999	99.99
2.	Girish Jain*	1	negligible
Total		7,24,10,000	100.00

* Shares held as nominee on behalf of D P Jain and Co Infrastructure Pvt Ltd

Note: AAHPL (directly or indirectly through its affiliates) is in process of acquiring 100% stake in DPHPPL and thereafter DPHPPL will be transferred to the Trust. For risks in relation to acquisition of DPHPPL, please refer to the section entitled “Risk Factors – In relation to the

proposed acquisition of one of the Project SPVs, namely, DPHPL, the Trust will acquire 100% of the issued, subscribed and paid-up equity share capital of DPHPL from AAHPL (directly or indirectly through its affiliates) only once the acquisition of DPHPL is completed by AAHPL (directly or indirectly through its affiliates) from DP Jain And Co Infrastructure Private Limited” on page 68

Acquisition of the Project SPVs by the Trust

Prior to Allotment and pursuant to the respective Securities Purchase Agreements, the Trust acting through the Trustee proposes to acquire from the respective shareholders of the Project SPVs, which includes the Sponsor, Dilip Buildcon Limited and other shareholders (including any nominees) (“**Sellers**”) and the Sellers propose to transfer to the Trust in exchange for Units of the Trust, the entire issued and paid-up equity share capital of the Project SPVs (excluding PHL, wherein the Trust will initially only acquire 49%) (“**Sale Shares**”) and underlying NCDs, if any, issued by the respective Project SPVs, such that the Trust holds 100.00% shareholding in each of the Project SPVs (excluding PHL) and 49.00% shareholding in PHL (“**Proposed Transfer**”).

Accordingly, the Proposed Transfer shall be as set out below:

I. Equity Shareholding

Sr. No.	Name of the Project SPVs	Pre-Issue shareholding of the SPVs		Proposed post-Issue shareholding of the Trust (in %)
		Name of Entity*	Pre-Issue shareholding (in %)	
1.	DHHL	Dilip Buildcon Limited	50.98	100.00
		DBL Infraventures Private Limited	2.99	
		Alpha Alternatives Infrastructure Fund	20.30	
		Alpha Alternatives Financial Services Private Limited	2.14	
		Build India Infrastructure Fund	12.89	
		Spectrum Edge LLP	10.67	
		Bharat Singh*	negligible	
		Sandeep Chandrakant Deshpande*	negligible	
		Pradeep Suryavanshi*	negligible	
		Javed Khan*	negligible	
		Pankaj Rai*	negligible	
2.	DBHL	Dilip Buildcon Limited	50.98	100.00
		DBL Infraventures Private Limited	2.99	
		Alpha Alternatives Infrastructure Fund	20.30	
		Alpha Alternatives Financial Services Private Limited	2.14	
		Build India Infrastructure Fund	12.89	
		Spectrum Edge LLP	10.67	
		Bharat Singh*	negligible	
		Sandeep Chandrakant Deshpande*	negligible	
		Pradeep Suryavanshi*	negligible	
		Devendra Jain*	negligible	

Sr. No.	Name of the Project SPVs	Pre-Issue shareholding of the SPVs		Proposed post-Issue shareholding of the Trust (in %)
		Name of Entity*	Pre-Issue shareholding (in %)	
		Seema Suryavanshi*	negligible	
3.	VHL	Dilip Buildcon Limited	50.98	100.00
		DBL Infraventures Private Limited	2.99	
		Alpha Alternatives Infrastructure Fund	20.30	
		Alpha Alternatives Financial Services Private Limited	2.14	
		Build India Infrastructure Fund	12.89	
		Spectrum Edge LLP	10.67	
		Bharat Singh*	negligible	
		Sandeep Chandrakant Deshpande*	negligible	
		Pradeep Suryavanshi*	negligible	
		Seema Suryavanshi*	negligible	
		Pankaj Rai*	negligible	
		Devendra Jain*	negligible	
4.	RHL	Dilip Buildcon Limited	50.98	100.00
		DBL Infraventures Private Limited	2.99	
		Alpha Alternatives Infrastructure Fund	20.30	
		Alpha Alternatives Financial Services Private Limited	2.14	
		Build India Infrastructure Fund	12.89	
		Spectrum Edge LLP	10.67	
		Pankaj Rai*	negligible	
		Dilip Suryavanshi*	negligible	
		Bharat Singh*	negligible	
		Sandeep Chandrakant Deshpande*	negligible	
		Pradeep Suryavanshi*	negligible	
5.	NPHL	Dilip Buildcon Limited	50.98	100.00
		DBL Infraventures Private Limited	2.99	
		Alpha Alternatives Infrastructure Fund	20.30	
		Alpha Alternatives Financial Services Private Limited	2.14	
		Spectrum Edge LLP	10.67	
		Build India Infrastructure Fund	12.89	
		Pankaj Rai*	negligible	
		Bharat Singh*	negligible	

Sr. No.	Name of the Project SPVs	Pre-Issue shareholding of the SPVs		Proposed post-Issue shareholding of the Trust (in %)
		Name of Entity*	Pre-Issue shareholding (in %)	
		Sandeep Chandrakant Deshpande*	negligible	
		Pradeep Suryavanshi*	negligible	
		Javed Khan*	negligible	
6.	MBHL	Dilip Buildcon Limited	50.98	100.00
		DBL Infraventures Private Limited	2.99	
		Alpha Alternatives Infrastructure Fund	20.30	
		Alpha Alternatives Financial Services Private Limited	2.14	
		Spectrum Edge LLP	10.67	
		Build India Infrastructure Fund	12.89	
		Bharat Singh*	negligible	
		Sandeep Chandrakant Deshpande*	negligible	
		Pankaj Rai*	negligible	
		Devendra Jain*	negligible	
		Seema Suryavanshi*	negligible	
		Pradeep Suryavanshi*	negligible	
7.	BMHL	Dilip Buildcon Limited	50.98	100.00
		DBL Infraventures Private Limited	2.99	
		Alpha Alternatives Infrastructure Fund	20.30	
		Alpha Alternatives Financial Services Private Limited	2.14	
		Spectrum Edge LLP	10.67	
		Build India Infrastructure Fund	12.89	
		Bharat Singh*	negligible	
		Sandeep Chandrakant Deshpande*	negligible	
		Pankaj Rai*	negligible	
		Devendra Jain*	negligible	
		Seema Suryavanshi*	negligible	
		Pradeep Suryavanshi*	negligible	
8.	PHL***	Dilip Buildcon Limited	51.97	49.00
		DBL Infraventures Private Limited	23.00	
		Alpha Alternatives Financial Services Private Limited	1.43	
		Spectrum Edge LLP	10.67	
		Build India Infrastructure Fund	12.89	
		Bharat Singh*	negligible	

Sr. No.	Name of the Project SPVs	Pre-Issue shareholding of the SPVs		Proposed post-Issue shareholding of the Trust (in %)
		Name of Entity*	Pre-Issue shareholding (in %)	
		Sandeep Chandrakant Deshpande*	negligible	
		Pankaj Rai*	negligible	
		Devendra Jain*	negligible	
		Seema Suryavanshi*	negligible	
		Pradeep Suryavanshi*	negligible	
9.	DPHPPL****	D P Jain And Co Infrastructure Pvt Ltd	99.99	100.00
		Girish Jain****	negligible	

*Shares held as nominee on behalf of Dilip Buildcon Limited

** Shares held as nominee on behalf of D P Jain And Co Infrastructure Pvt Ltd

***As on the date of the Draft Offer Document, PHL is held 51.97% by Dilip Buildcon Limited, 23.00% by DBL Infraventures Private Limited, negligible % of shares by nominees of Dilip Buildcon Limited, 1.43% by Alpha Alternatives Financial Services Private Limited, 10.67% by Spectrum Edge LLP and 12.89 % of shares by Build India Infrastructure Fund (Collectively, 24.99% by Alpha Alternatives Holdings Private Limited, Spectrum Edge LLP, and Build India Infrastructure Fund ("Alpha entities")). Prior to filing of the Offer Document, the Alpha entities propose to hold 26% in PHL. Thereafter, 49% of PHL is proposed to be transferred to the Trust, accordingly, the Trust is proposed to acquire 26% from AAHPL and/or its affiliates and 23% from DBL and/or its affiliates. For risks in relation to 49% of PHL being transferred to the Trust, please refer to the section entitled "Risk Factors – The acquisition by the Trust of the Project SPVs (except DPHPPL) from DBL, DBL Infraventures Private Limited, Alpha Alternatives Infrastructure Fund, Alpha Alternatives Financial Services Private Limited, Spectrum Edge LLP, Build India Infrastructure Fund and other shareholders of the Project SPVs and acquisition of DPHPPL from AAHPL (directly or indirectly through its affiliates), or any other asset from third parties in the future, may be subject to certain risks, which may result in damages and losses. We may not be able to recover losses arising from the acquisition of such Project SPVs from the above-mentioned parties under relevant contractual arrangements" on page 68.

**** Shares held as nominee on behalf of D P Jain and Co Infrastructure Pvt Ltd

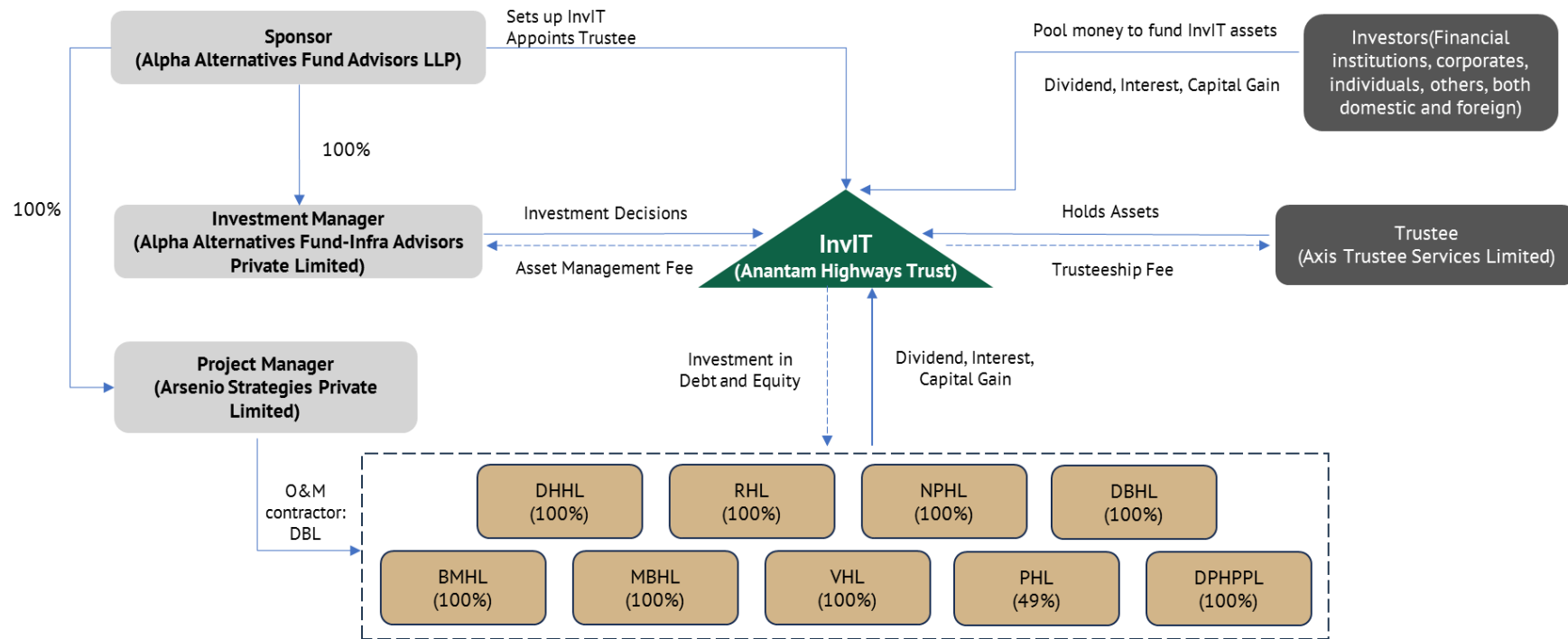
Note: AAHPL (directly or indirectly through its affiliates) is in process of acquiring 100% stake in DPHPPL and thereafter DPHPPL will be transferred to the Trust. For risks in relation to acquisition of DPHPPL, please refer to the section entitled "Risk Factors – In relation to the proposed acquisition of one of the Project SPVs, namely, DPHPPL, the Trust will acquire 100% of the issued, subscribed and paid-up equity share capital of DPHPPL from AAHPL (directly or indirectly through its affiliates) only once the acquisition of DPHPPL is completed by AAHPL (directly or indirectly through its affiliates) from DP Jain And Co Infrastructure Private Limited" on page 68.

Utilisation of Issue Proceeds and Trust Loan

Upon the Allotment and listing of the Units, the Trust shall utilize the Issue Proceeds towards (i) providing loans to the Project SPVs for repayment or pre-payment of debt, including any accrued interest; (ii) general purposes and (iii) Issue Expenses. For further details, please see the section entitled "Use of Proceeds" on page 334.

Proposed post-listing structure

The following structure illustrates the relationship between the Trust, the Trustee, the Sponsor, the Project Manager, the Investment Manager and the Unitholders as on the Listing Date:



DHHL: Dodaballapur Hoskote Highways Limited; RHL: Repallewada Highways Limited; NPHL: Narenpur Purnea Highways Limited; DBHL: Dhrol Bhadra Highways Limited; BMHL: Bangalore Malur Highways Limited; MBHL: Malur Bangarpet Highways Limited; VHL: Villupuram Highways Limited; PHL: Poondiyanuppam Highways Pvt. Ltd; DPHPPL: DPJ Pollachi HAM Projects Pvt. Ltd.

SUMMARY SPECIAL PURPOSE COMBINED FINANCIAL STATEMENTS

*The following tables set forth the summary special purpose combined financial information derived from the Special Purpose Combined Financial Statements. The Special Purpose Combined Financial Statements referred to above are presented under the section entitled “Special Purpose Combined Financial Statements” attached as **Annexure C**. The summary special purpose combined financial information presented below should be read in conjunction with these financial statements, the notes thereto and the sections entitled “Special Purpose Combined Financial Statements” attached as **Annexure C** and “Discussion and analysis by the Directors of the Investment Manager of the financial condition, results of operations and cash flows of the Project SPVs of the Trust” on page 349.*

(The remainder of this page is intentionally kept blank)

Summary Special Purpose Combined Balance Sheet

(in ₹ million)

Sr No	Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
	ASSETS				
(1)	Non-Current assets				
	(a) Property, plant and equipment	21.33	10.92	1.73	1.73
	(b) Capital work in progress	297.51	12,104.81	22,562.83	12,000.82
	(c) Financial assets				
	(i) Investment Accounted for using Equity Method	(349.43)	(183.49)	(67.89)	(31.45)
	(ii) Trade receivables	33,362.30	20,957.90	-	-
	(iii) Other Financial Assets	67.25	-	-	-
	(d) Deferred tax assets (Net)	22.40	-	-	-
	(e) Other non-current asset	371.83	-	-	2,167.00
	Total Non-Current assets	33,793.19	32,890.14	22,496.67	14,138.10
(2)	Current assets				
	(a) Financial assets				
	(i) Trade receivables	2,811.07	1,248.87	898.60	7.01
	(ii) Cash and cash equivalent	1,969.43	1,010.55	732.99	702.85
	(iii) Bank balance other than (ii) above	2,161.87			
	(iv) Other financial assets	-	-	10.65	-
	(b) Current Tax Assets (Net)	96.01	18.22	30.28	41.70
	(c) Other current assets	3,847.04	4,847.53	4,528.59	5,973.01
	Total Current assets	10,885.42	7,125.17	6,201.11	6,724.57
	TOTAL ASSETS	44,678.61	40,015.31	28,697.78	20,862.67
	EQUITY AND LIABILITIES				
	Equity				
	(a) Equity Share Capital	762.40	762.39	743.79	735.36
	(b) Other equity	3,481.36	737.92	809.61	907.26
	Total Equity	4,243.76	1,500.31	1553.40	1,642.62
	LIABILITIES				
(1)	Non-Current liabilities				
	(a) Financial liabilities				
	(i) Borrowings	37,727.68	32,377.29	19,893.21	9,704.90
	(ii) Trade payable	-	-	-	-

Sr No	Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
	(iii) Other financial liabilities	-	-	-	131.58
	(b) Provisions	458.98	90.69	120.89	0.04
	(c) Deferred tax liabilities (net)	-	444.81	224.40	35.05
	(d) Other non-current liabilities	61.82	-	347.84	1,937.62
	Total Non-Current liabilities	38,248.48	32,912.79	20,586.34	11,809.19
(2)	Current liabilities				
	(a) Financial liabilities				
	(i) Borrowings	1,448.60	4,198.94	3,860.29	2,502.78
	(ii) Trade payable				
	(a) Total outstanding dues of micro and small enterprises	-	0.38	-	-
	(b) Total outstanding dues of creditors other than micro and small enterprises	198.15	610.98	664.73	450.28
	(iii) Other financial liabilities	499.96	574.02	212.21	190.85
	(b) Other current liabilities	37.61	185.04	1,779.29	4,266.95
	(c) Provisions	2.05	32.85	41.52	-
	(d) Current tax liability (net)	-	-	-	-
	Total Current liabilities	2,186.37	5,602.21	6,558.04	7,410.86
	TOTAL LIABILITIES	40,434.85	38,515.00	27,144.38	19,220.05
	TOTAL EQUITY AND LIABILITIES	44,678.61	40,015.31	28,697.78	20,862.67

Summary Special Purpose Combined Statement of Profit and Loss
(in ₹ million)

Sr No	Particulars	For the nine month period ended 31 December 2024	For the year ended 31 March 2024	For the year ended 31 March 2023	For the year ended 31 March 2022
(I)	Revenue from Operations	7,410.85	27,185.05	27,687.01	21,891.56
(II)	Other income	80.14	14.11	18.29	41.53
(III)	Total Income (I+II)	7,490.99	27,199.16	27,705.30	21,933.09
(IV)	Expenses				
	Cost of construction	1,487.52	25,387.57	25,927.00	20,662.63
	Employee benefits expense	43.09	3.26	1,395.38	1,175.55
	Finance costs	2,645.54	2,559.47	1,655.09	663.48
	Depreciation expense	1.32	0.25	-	-
	Other expenses	597.27	82.38	82.20	77.99
	Total Expenses (IV)	4,774.74	28,032.93	29,059.67	22,579.65
(V)	Profit/(loss)before exceptional items and tax (III-IV)	2,716.25	(833.77)	(1,354.37)	(646.56)
(VI)	Exceptional items	-	-	-	-
(VII)	Profit / (loss) before share of Profit / (loss) of Poondiyankuppam Highways Limited (V) +/- (VI)	2,716.25	(833.77)	(1,354.37)	(646.56)
(VIII)	Share of Profit / (loss) of Poondiyankuppam Highways Limited (Refer Note 31)	(165.94)	(180.53)	(125.03)	(31.96)
(IX)	Profit / (Loss) before tax (VII + VIII)	2,550.31	(1,014.30)	(1,479.40)	(678.52)
(X)	Tax expenses				
	(1) Current tax	13.21	62.19	5.82	-
	(2) Deferred tax - Charge/(Credit)	(517.52)	165.04	149.51	(35.02)
	(3) Adjustment of Tax related to earlier years	(70.71)	4.08	1.14	-
(XI)	Profit / (Loss) for the period/year from continuing operations (IX - X)	3,125.33	(1,245.61)	(1,635.87)	(643.50)
(XII)	Other Comprehensive Income				
	(a) i) Items that will not be reclassified to profit or loss	87.76	64.40	(2.27)	-

Sr No	Particulars	For the nine month period ended 31 December 2024	For the year ended 31 March 2024	For the year ended 31 March 2023	For the year ended 31 March 2022
	ii) Income tax relating to items that will not be reclassified to profit or loss	(24.42)	(17.92)	0.63	-
	(b) i) Items that will be reclassified to profit or loss	-	-	-	-
	ii) Income tax relating to items that will be reclassified to profit or loss	-	-	-	-
(XIII)	Total Comprehensive Income for the period/year (XI+XII)	3,188.67	(1,199.13)	(1,637.51)	(643.50)

Summary Special Purpose Combined Statement of Cash Flow

(in ₹ million)

Sr No	Particulars	For the nine month period ended 31st December, 2024	For the Year ended 31st March, 2024	For the Year ended 31st March 2023	For the Year ended 31st March 2022
	<u>CASH FLOW FROM OPERATING ACTIVITIES:</u>				
	Net Profit/(loss) before tax as per Statement of Profit & Loss	2,716.25	(833.77)	(1,354.37)	(646.56)
	Adjustments for:				
	Interest Income	(74.48)	(363.20)	(2.66)	(37.90)
	Reversal of Excess Revenue Booking		(643.74)	-	-
	Other Comprehensive Income	9.16	64.40	(0.55)	-
	Depreciation and amortization expense	1.31	0.25	-	-
	Finance Cost	2,645.55	2,559.49	1,655.10	663.47
	Operating Profit before Working Capital Changes	5,297.79	783.43	297.52	(20.99)
	Adjusted for:				
	(Increase)/Decrease in Other Current Assets	(1,874.58)	2,212.32	(1,570.76)	(9,544.23)
	(Increase)/Decrease in Other Non-Current Assets	(7,452.09)	(3,743.96)	(1,366.60)	(4,019.37)
	(Increase)/Decrease in Trade Receivable	(6,039.69)	(17,814.95)	(891.58)	(4.92)
	Increase/(Decrease) in Trade payable	(415.88)	(53.59)	214.67	97.50
	Increase/(Decrease) in Deferred Asset	(823.09)	-	12.98	-
	Increase/(Decrease) in Other Current financial liabilities	39.39	382.24	(290.04)	340.02
	Increase/(Decrease) in Other Non Current financial liabilities	(9.08)	(104.20)	110.59	122.63
	Increase/(Decrease) in Other current liabilities	(85.00)	(1,688.46)	(2,635.15)	2,803.68
	Increase/(Decrease) in Other non current liabilities	-	(147.79)	(1,236.36)	1,013.15
	Increase/(Decrease) in non current Provisions	265.87	(31.15)	13.02	176.87
	Increase/(Decrease) in Provisions	43.72	(34.67)	9.87	34.69
		(11,052.64)	(20,240.78)	(7,331.84)	(9,000.98)
	Income tax (paid) / refund	824.94	(74.71)	32.39	87.21

Sr No	Particulars	For the nine month period ended 31st December, 2024	For the Year ended 31st March, 2024	For the Year ended 31st March 2023	For the Year ended 31st March 2022
A	Net Cash Used in Operating Activities (Total A)	(10,227.70)	(20,315.49)	(7,299.45)	(8,913.77)
	<u>CASH FLOW FROM INVESTING ACTIVITIES:</u>				
	(Increase)/ Decrease in Financial asset in progress	11,584.44	8,036.01	(4,192.69)	(3,451.65)
	Purchase of Investments	(10.72)	(4.68)	-	-
	Purchase of items of Property, Plant and Equipment	(1.01)	(4.77)	-	-
	Interest Income	78.65	13.16	2.66	37.90
B	Net Cash Generated from / (Used in) Investing Activities (Total B)	11,651.36	8,039.72	(4,190.03)	(3,413.75)
	<u>CASH FLOW FROM FINANCING ACTIVITIES:</u>				
	Proceeds form issue of shares including share premium	-	1,407.43	1,329.46	1,847.80
	Proceeds from Long Term Borrowings	5,481.68	12,939.43	10,468.12	10,101.51
	Proceeds from Short Term Borrowings	(2,760.71)	225.73	1,377.14	1,647.17
	Finance Cost	(2,645.53)	(2,559.49)	(1,655.10)	(663.51)
	Equity component of compound financial instruments	(540.22)	540.23	-	-
C	Net Cash (used in) /Generated from Financing Activities (Total C)	(464.78)	12,553.33	11,519.62	12,932.97
A+B+C	Net Increase / (Decrease) in Cash and Cash Equivalents	958.88	277.56	30.14	605.45
	Opening Balance of Cash and Cash Equivalents	1,010.55	732.99	702.85	97.40
	Closing Balance of Cash and Cash Equivalents	1,969.43	1,010.55	732.99	702.85

SUMMARY FINANCIAL INFORMATION OF THE SPONSOR

The following tables set forth the summary financial information derived from the audited financial statements of the Sponsor as of and for the financial years ended March 31, 2022, March 31, 2023 and March 31, 2024, which were prepared in accordance with applicable accounting standards and rules issued thereunder.

The Sponsor, being an LLP was not required to prepare consolidated financial statements for financial years ended March 31 2022, March 31, 2023 and March 31, 2024 in terms of applicable accounting standards and rules issue thereunder. Further, Companies (Accounting Standards) Rules, 2006 and Companies (Indian Accounting Standards) Rules, 2015, were not applicable to the Sponsor during the financial years ended March 31 2022, March 31, 2023 and March 31, 2024.

(This page has been left intentionally blank)

Alpha Alternatives Fund Advisors LLP

Summary of Balance Sheet

(Amount in Rs.)

Particulars	As at March 31, 2024	As at March 31, 2023	As at March 31, 2022
I			
Contribution & Liabilities			
1. Partners' Fund			
(a) Partners' Fixed Contribution	65,00,00,000	65,00,00,100	7,00,00,100
(b) Partners' Current Contribution	17,68,66,622	78,80,000	-
(c) Profit & Loss A/c	5,58,97,173	4,79,81,187	2,07,79,646
	88,27,63,795	70,58,61,287	9,07,79,746
2. Liabilities			
(a) Short Term Provisions	11,75,50,084	8,00,00,000	13,30,80,000
(b) Other Liabilities	3,78,40,486	2,81,71,952	4,32,60,991
	1,03,81,54,365	81,40,33,239	26,71,20,737
II) Assets			
(a) Fixed Assets	87,00,853	28,63,732	1,47,026
(b) Long Term Loans & Advances	7,87,105	8,52,105	2,19,150
(c) Non Current Investments	65,24,42,857	10,11,33,175	9,87,50,083
(d) Current Investments	-	54,71,85,418	-
(e) Trade Receivables	8,32,42,976	2,10,81,365	7,35,92,105
(f) Cash and Bank Balances	8,59,90,557	96,00,236	3,10,47,020
(g) Other current assets	20,69,90,017	13,13,17,208	6,33,65,353
	1,03,81,54,365	81,40,33,239	26,71,20,737

Alpha Alternatives Fund Advisors LLP

Summary of Profit and Loss Account

(Amount in Rs.)

Particulars	For the year ended March 31, 2024	For the year ended March 31, 2023	For the year ended March 31, 2022
I) Income			
Revenue from Operations	50,84,32,093	28,62,45,837	25,75,73,471
Other Income	5,12,47,792	1,05,69,484	1,38,84,063
Total Revenue	55,96,79,885	29,68,15,321	27,14,57,534
II) Expenditure			
Depreciation	40,38,973	7,14,708	46,500
Operating and Administrative Expenses	53,82,93,926	25,22,41,911	24,24,92,116
Total Expenses	54,23,32,899	25,29,56,619	24,25,38,616
III) Profit / (Loss) Before Tax (I - II)	1,73,46,986	4,38,58,702	2,89,18,918
IV) Income Tax Expense	94,31,000	1,66,57,161	66,81,720
Current Tax	94,31,000	46,00,000	66,78,712
(Excess)/short provision of earlier years	-	1,20,57,161	3,008
V) Profit / (Loss) After Tax (III - IV)	79,15,986	2,72,01,541	2,22,37,198
VI) Profit/(Loss) Carried To Balance Sheet	79,15,986	2,72,01,541	2,22,37,198

Alpha Alternatives Fund Advisors LLP

Summary of Cash Flow Statement

(Amount in Rs.)

	Particulars		For the year ended March 31, 2024	For the year ended March 31, 2023	For the year ended March 31, 2022
A)	Cash flow from operating activities				
	Net Profit / (Loss) before taxation		1,73,46,986	4,38,58,702	2,89,18,918
	<i>Adjustments for</i>				
	Depreciation		40,38,973	7,14,708	46,500
	Interest Income		(3,58,97,542)	(80,77,812)	(64,30,598)
	Income from AIF		(93,34,154)	(24,91,672)	(74,53,465)
	Operating cash flow before working capital changes		(2,38,45,737)	3,40,03,926	1,50,81,355
	<i>Adjustments for</i>				
	Net Changes in Current Assets		(10,59,28,394)	(2,43,95,740)	(6,55,43,932)
	Net Changes in Current Liabilities		4,72,18,618	(6,81,69,039)	16,19,90,516
	Cash used in operations		(8,25,55,513)	(5,85,60,853)	11,15,27,938
	Direct taxes paid		4,13,37,026	2,57,31,573	2,42,79,890
	Net Cash used in operating activities	(A)	(12,38,92,539)	(8,42,92,426)	8,72,48,048
B)	Cash flow from investing activities				
	Investment in AIF		(55,13,09,682)	(23,83,092)	(7,37,50,083)
	Income from AIF		93,34,154	24,91,672	74,53,465
	Investment in Bonds and Liquid Funds		54,71,85,418	(54,71,85,418)	-
	Deposits/ Loans and Advances		65,000	(6,32,955)	2,98,86,902
	Purchase of Fixed Assets		(98,76,094)	(34,31,414)	(1,54,550)
	Interest Income		3,58,97,542	80,77,812	64,30,598
	Net Cash generated from investing activities	(B)	3,12,96,338	(54,30,63,395)	(3,01,33,668)
C)	Cash flow from financing activities				
	Changes in Partners' Fund		16,89,86,522	60,59,09,037	(2,63,78,000)
	Net Cash generated from financing activities	(C)	16,89,86,522	60,59,09,037	(2,63,78,000)
	Net increase in cash and cash equivalents	(A+B+C)	7,63,90,321	(2,14,46,784)	3,07,36,380
	Cash and cash equivalent as at the beginning of the period				
	Cash in Hand		9,651	76,781	76,681
	Bank Balance		95,90,585	3,09,70,239	2,33,959
			96,00,236	3,10,47,020	3,10,640
	Cash and cash equivalent as at the end of the period				
	Cash in Hand		-	9,651	76,781
	Bank Balance		8,59,90,557	95,90,585	3,09,70,239
			8,59,90,557	96,00,236	3,10,47,020

SUMMARY FINANCIAL INFORMATION OF THE INVESTMENT MANAGER

Our Investment Manager is a newly incorporated company and has been incorporated on February 8, 2024, accordingly financial statements of the Investment Manager for the period February 8, 2024 to December 31, 2024 prepared in accordance with applicable accounting standards and rules issued thereunder, have been included in this Draft Offer Document.

(This page has been left intentionally blank)

Summary Condensed Balance Sheet as at December 31, 2024			
			(Amount in lakhs)
Particulars			As at December 31, 2024
Assets			
Non-current assets			
Financial assets			
Loans and Advances			876.65
			876.65
Current Assets			
Financial assets			
Trade receivables			216.48
Cash and cash equivalents			0.25
Other financial assets			60.25
Deferred Tax assets			25.19
			302.16
Total Assets			1,178.81
Equity and Liabilities			
Equity & Preference Share Capital			
Equity share capital			701.00
Preference share capital			500.00
Other equity			(74.88)
			1,126.12
Liabilities			
Non-Current Liabilities			
Financial Liabilities			
Borrowings			-
			-
Current Liabilities			
Financial Liabilities			
Trade payables			
Total outstanding dues of micro enterprises and small enterprises			-
Total outstanding dues of creditors other than micro enterprises and small enterprises			38.78
Other current liabilities			13.91
			52.69
Total Equity and Liabilities			1,178.81

Summary Condensed of Profit and Loss for the period from February 8, 2024 to December 31, 2024			
			(Amount in lakhs)
Particulars			For the Period From February 8, 2024 to December 31, 2024
Income			
Revenue from operations			-
Other income			
Interest income			60.25
Business support income			216.48
Total Revenue			276.73
Expenses			
Employee benefits expense			349.21
Finance costs			1.17
Other expenses			26.41
Total Expenses			376.79
Profit before tax			(100.06)
Tax Expenses			
Current tax			-
Deferred tax			(25.19)
			(25.19)
Profit for the period			(74.88)
Other Comprehensive Income			
A. Items that will not be reclassified to profit or loss:			
Fair valuation on Equity instrument			-
Remeasurement of the net defined benefit obligation gain / (loss)			-
Income tax on above			-
			-
B. Items that may be reclassified to profit or loss			
			-
Total Other Comprehensive Income for the period			-
Total Comprehensive Income for the period			(74.88)
Earnings Per Equity Share (face value of Rs.10/- each) (refer note 3)			
Basic (Rs.)			(2.17)
Diluted (Rs.)			(1.27)

Summary Condensed Cash Flow Statement for the period from February 08, 2024 to December 31, 2024		
		(Amount in lakhs)
Particulars		For the Period From February 8, 2024 to December 31, 2024
Cash Flow From Operating Activities		
Profit before tax		(100.06)
Adjustments to reconcile profit before tax to net cash flows :		
Interest Income		(60.25)
Operating Profit before working capital changes		(160.32)
Working capital changes :		
(Increase)/ Decrease Other financial assets		(60.25)
(Increase)/ Decrease in Trade Receivable		(216.48)
Increase / (Decrease) in Other current assets		13.91
Increase/ (Decrease) in Trade Payables		38.78
Cash generated from operations		(384.36)
Income tax paid (net of refunds)		-
Net cash flow from operating activities (A)		(384.36)
Cash Flow From Investing Activities		
Interest received		60.25
Loans given		(1,110.00)
Loans repaid		233.35
Net cash flows used in investing activities (B)		(816.40)
Cash Flow From Financing Activities		
Proceeds from Equity Share Capital		701.00
Proceeds from Preference Share Capital		500.00
Proceeds from Loan		89.85
Repayment of Loan		(89.85)
Net cash flow used in financing activities (C)		1,201.00
Net increase/(decrease) in cash and cash equivalents (A+B+C)		0.25
Cash and cash equivalents at the beginning of the period		-
Cash and cash equivalents at the end of the period		0.25

SUMMARY OF INDUSTRY

Macroeconomic overview of India

Review of India's GDP growth

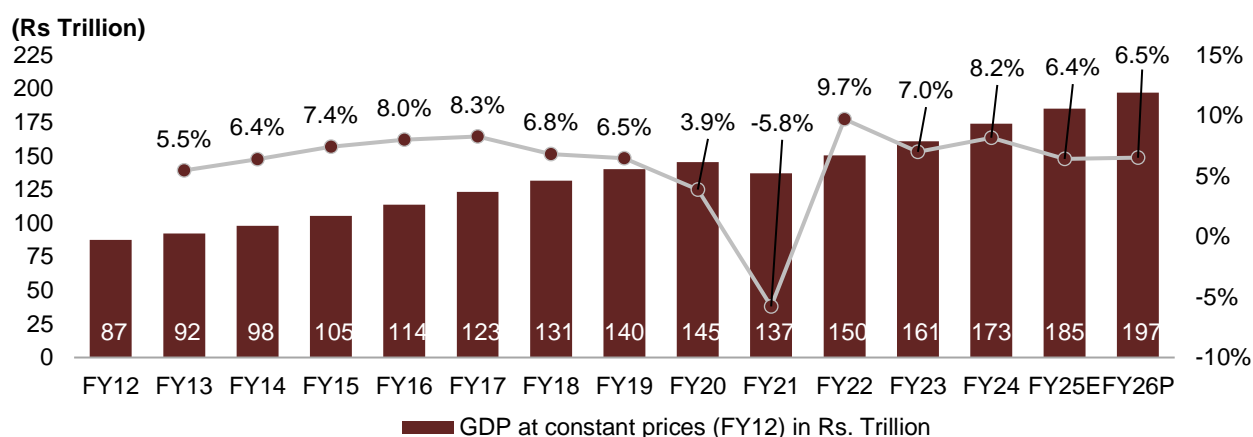
GDP logged 5.7% CAGR between fiscals 2012 and 2023

In 2015, the Ministry of Statistics and Programme Implementation changed the base year for calculating India's gross domestic product (GDP) to fiscal 2012 from fiscal 2005.

Based on the change, India's GDP clocked a compound annual growth rate (CAGR) of 5.7% between fiscals 2012 and 2023, with the country's overall GDP at Rs 160,714 billion in fiscal 2023 vs Rs 87,363 billion in fiscal 2012. The pace of growth was despite the stress inflicted by the pandemic that led to the GDP — which was already experiencing a slowdown and had grown 3.9% in fiscal 2020 — contracting 5.8% on-year in real terms in fiscal 2021 to Rs ~136,949 billion.

The economy bounced back in fiscal 2022 as the Covid-19 pandemic-related shocks subsided, which resulted in a growth of 9.7% on-year in real GDP to Rs ~150,218 billion.

Real GDP growth in India (new GDP series)



FRE-First Revised Estimate; PE- Provisional Estimate; P – Projected

Source: National Statistics Office (NSO), Advance estimates of national income 2020-24, Central Statistics Office, Ministry of Statistics and Programme Implementation (MoSPI), CRISIL MI&A Consulting

Review of real GDP growth over fiscals 2019-2024 and outlook for fiscals 2025-2030

India ranks as the world's 5th largest economy and is the fastest growing among major economies. The Indian economy logged 4.3% CAGR between fiscals 2019 and 2024. This was a sharp deceleration from a robust 6.7% CAGR between fiscals 2017 and 2019, which was driven by rising consumer aspiration, rapid urbanization, the government's focus on infrastructure investment and growth of the domestic manufacturing sector. Economic growth was supported by benign crude oil prices, soft interest rates and low current account deficit. The Indian government also undertook key reforms and initiatives, such as implementation of the Goods and Services Tax (GST), Insolvency and Bankruptcy Code, Make in India, financial inclusion initiatives, and gradual opening of sectors such as retail, e-commerce, defense, railways, and insurance for foreign direct investments (FDIs).

A large part of the lower growth between fiscals 2018 and 2023 was because of the economy contracting 5.8% in fiscal 2021 owing to the fallout of Covid-19. The pandemic's impact was more pronounced on contact-sensitive services and social distancing norms-affected services such as entertainment, travel, and tourism, with many industries in the manufacturing sector also facing issues with shortage of raw materials/components as lockdown in various parts of the world upended supply chains.

Over the period, India's economic growth was led by services, followed by the industrial sector, while in part impacted by demonetization, the non-banking financial company (NBFC) crisis, slower global economic growth, and the pandemic.

As lockdowns were gradually lifted, economic activity revived in the second half of fiscal 2021. After a steep contraction in the first half, owing to rising number of Covid-19 cases, gross domestic product (GDP) moved into positive territory towards the end of fiscal 2021. Subsequently, in fiscal 2022, India's real GDP grew 9.7% from the low base of fiscal 2021.

India's GDP exceeded expectations during all four quarters of fiscal 2024. However, growth slowed down in fourth quarter but stayed strong. According to the National Statistics Office's (NSO) provisional estimates, GDP growth slowed to 7.8% year-on-year in the fourth quarter of last fiscal from 8.6% of third quarter but was higher than 6.1% in the year-ago quarter. This prompted the NSO to revise upward the fiscal 2024 GDP growth estimate to 8.2% (which is the provisional estimate), from the earlier estimate of 7.6%.

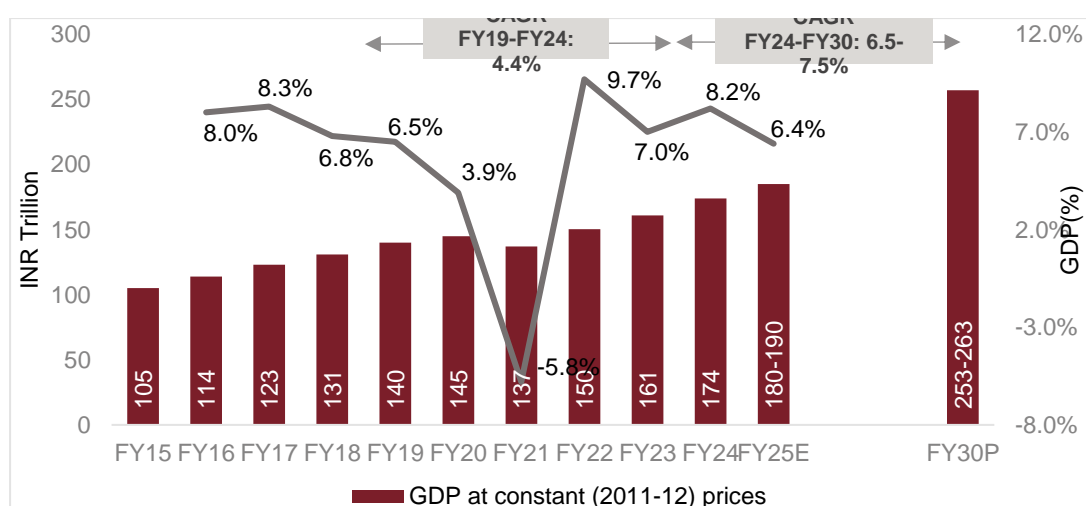
Growth surpassed forecasts in the fiscal 2024, driven by strong government spending and a sharp rise in manufacturing and construction growth. Globally, growth in major economies such as the US and China beat estimates and has contributed to better export earnings for India.

According to the National statistics Offices (NSO) first advance estimates (FAE) based on the data for three quarters for the fiscal 2025, India's real gross domestic product (GDP) growth is at 6.4%, significantly slower than the 8.2% in fiscal 2024. Weak investments amid reduced government capital expenditure (capex) are the primary reason for the deceleration. However, private consumption is expected to rise significantly compared to fiscal 2024's weak performance.

Based on FAE, GDP growth is expected to pick up in the second half of CY2025, registering a 6.8% rise compared with 6.0% in the first half. Consumption is expected to improve in the second half, but not investment.

Crisil Intelligence expects GDP growth to moderate to 6.4% in fiscal 2025 owing to slowing demand, particularly in United States and China, will weigh on global growth. Geopolitical tensions, particularly in the Middle East, remain a risk for trade flows and supply chain pressures for industry and along with the impact of high interest rates.

India's GDP growth trend and outlook



Note: P – projected

Source: National Statistical Office (NSO), IMF, Crisil Intelligence estimates

Key fiscal measures announced by the Centre to deal with pandemic fallout

Under the Atmanirbhar Bharat initiative, the government announced a series of fiscal measures to contain the human and economic challenges from the pandemic. Following are the details of key measures announced through three packages in May, October and November of fiscal 2021.

Fiscal stimulus 1.0

Through this fiscal stimulus package, the government announced measures worth Rs 11,000,000 million in five tranches. This was in addition to the earlier announced measures worth Rs 9,900,000 million, including liquidity support from the Reserve Bank of India (RBI), taking the total financial support amount to Rs 20,900,000 million. The government announced the package with the aim of reviving the economy by infusing liquidity and providing income support. The actual committed fiscal outgo was of Rs 1,000,000 million, translating into 9% of the Rs 11,000,000 million of measures outlined over the five tranches. The bulk of this direct support was through the Pradhan Mantri Garib Kisan Yojana. The government also ploughed in some earlier discussed structural reforms, especially in tranches 4 and 5, to help drive India's medium-term growth story. The announcements pertained especially to sectors such as mining, aviation, urban infrastructure, power and agriculture.

Further, the government increased the borrowing limit for state governments from 3% of their GDP to 5%. However, of this additional 2.0 percentage points, 1.5 percentage point was conditional upon states achieving certain targets.

For addressing near-term issues, apart from direct benefit transfers and additional spending through the Mahatma Gandhi National Rural Employment Guarantee Act, 2005, the government mobilised credit to micro, small and medium enterprises, agriculture, and the affordable housing sector. This included the 100% guarantee on loans worth Rs 30,000,000 million and one-year moratorium to help these units, which were typically strapped for working capital. It was also aimed at spurring credit growth for both banks and non-banks in fiscal 2021 and contain delinquencies in the segment, which would have increased otherwise.

Fiscal stimulus 2.0

The government measures targeted increasing demand in the economy. The government proposed a scheme where central government employees could spend their tax-exempt travel concessions on certain goods and services. It also made provisions for them to receive a part of their wages in advance to spend on their choice of festival before March-end 2021. The stimulus also included infrastructure spending of Rs 250,000 million and interest-free loan to states, which stood at Rs 120,000 million. The measures announced under this package amounted to Rs 700,000 million.

Fiscal stimulus 3.0

This Rs 2,650,000 million stimulus package was aimed at job creation, access to credit and farm support with. The key highlight of this stimulus was to provide production-linked incentives to 10 sectors, estimated at ~14,500,000 million. This was proposed to be spent over next 4-6 years, i.e. till fiscal 2028, to encourage domestic manufacturing across 10 sectors – namely, textiles, food, pharma, consumer durables, auto, telecom, specialty steel, solar, electronic, and battery. The stimulus package also provides Rs 650,000 million additional outlays for subsidy towards the fertilisers sector. The stimulus includes a Rs 180,000 million outlay for the housing for all plan, besides having a package of Rs 100,000 million to support the rural economy.

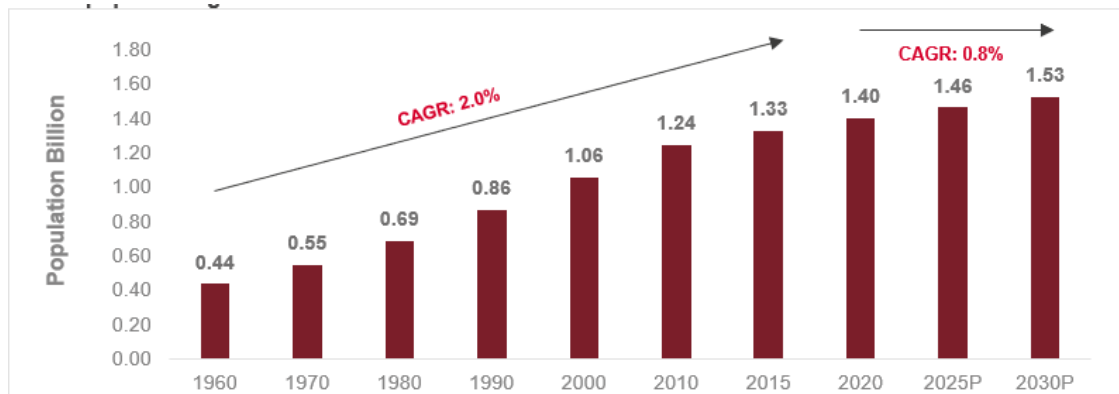
Review of population growth and urbanisation

India's population projected to touch 1,500 million by 2030

India's population clocked ~1.6% CAGR from 2001 to 2011, reaching ~1,200 million, and comprised nearly 246 million households, as per Census 2011.

According to the World Urbanization Prospects: The 2018 Revision by the United Nations, India and China – the top two countries in terms of population – accounted for nearly 37% of the world's population in 2015. India's population is expected to increase at 0.8% CAGR from 2020 to 1,525 million by 2030.

India's population growth



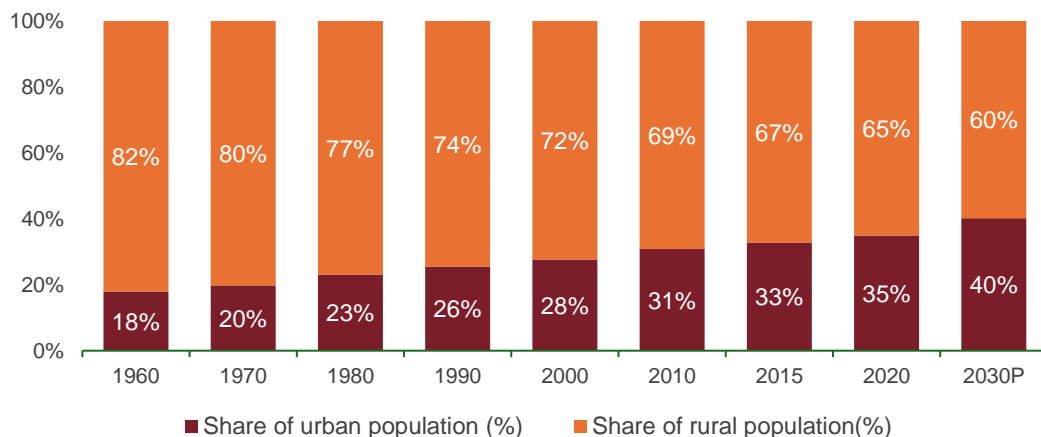
P: Projected

Source: United Nations, Department of Economic and Social Affairs, Population Division (2024); Probabilistic Population Projections Rev. 1 based on the World Population Prospects 2019 Rev. 1; CRISIL MI&A Consulting

Urbanisation likely to reach 40% by 2030

The share of the urban population in India's total population has been rising over the years and stood at ~31% in 2010. People from rural areas move to cities for better job opportunities, education and quality of life. The entire family or only a few individuals (generally an earning member or students) may migrate, while the rest of the family continues to live in the native, rural house. This trend is expected to continue, with a United Nations report projecting that nearly 40% of the country's population will live in urban areas by 2030.

India's urban versus rural population



P: Projected

Source: World Urbanization Prospects: The 2018 Revision, United Nations; CRISIL MI&A Consulting

Managing urban growth will play a key role in India becoming a developed nation by 2047. Since nearly 70-80% of the urban infrastructure needed by 2047 is yet to be built, sizeable investments will be required in housing, commercial spaces, and public infrastructure. By 2036, India will need to invest USD 840 billion in infrastructure. This infrastructure growth will have to be supported by enhanced public services, improved access to healthcare, efficient public transportation, steady water security and public safety. The increase in urbanization will also increase the need for improving air & water quality, which will in turn give impetus to clean / green / renewable energy initiatives and clean transportation. Today urbanization is not only confined to mega-cities but is also altering the landscape of Tier 2 and Tier 3 cities.

With the rapid rise in urbanization, the demand for personal mobility is growing and demands cleaner public transport solutions. India's transportation sector is undergoing a significant change, spurred by the government's strong push towards clean energy and zero emission vehicles. This is drawing government attention towards electric vehicles, hybrid vehicles and other non-emission technologies. Hence, there is

a growing adoption of electric vehicles in the public sector, which is backed by the establishment of a comprehensive charging infrastructure to ensure smooth transition towards electric mobility. Further government is incentivizing adoption of e-buses through various schemes offered to state governments and State Transport Undertaking (STUs). In August 2023, the Central Government unveiled the PM e-Bus Sewa Scheme, dedicating USD 2.4 billion to facilitate the deployment and operation of 10,000 electric buses in 169 eligible cities. The initiative aims to complete these deployments by 2026.

Metro Rail systems are also crucial in addressing the challenges in urban mobility as they support mass transit aiding the public transport system. During the last 10 years more than 725 km has been operationalized in the country and another 974 km of Metro network is under construction as of October 2024. India has made notable strides extending by becoming the third largest in the world in operational metro network length, operating in 11 states and 23 cities as of January 2025. These projects are growing globally, driven by the need for sustainable urban transportation. On January 5, multiple development projects worth over Rs 12,200 crore were laid in Delhi, including the inauguration of the 13 km stretch of the Delhi-Ghaziabad-Meerut Namo Bharat corridor, which will greatly ease travel between Delhi and Meerut.

Review of private final consumption growth

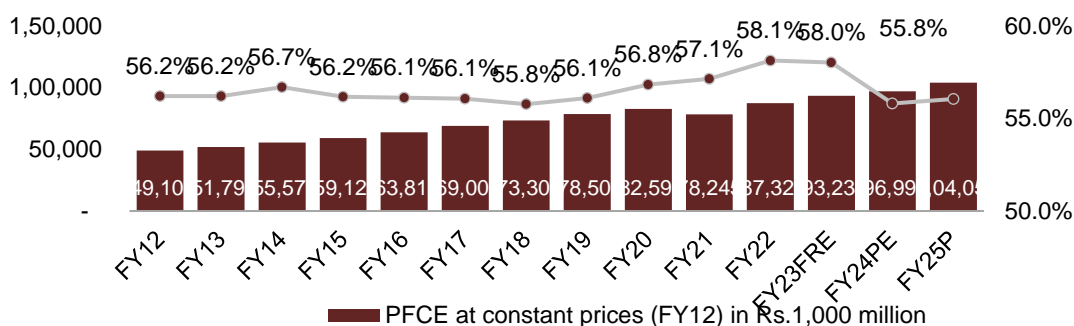
Private final consumption expenditure to maintain dominant share in GDP

Private final consumption expenditure (PFCE) reflects the overall consumption patterns and spending capacity of households within an economy. When PFCE increases it often translates to increased demand for various goods and services.

PFCE at constant prices clocked 6.0% CAGR between fiscals 2012 and 2023, maintaining its dominant share in the GDP pie, at 58.5% or Rs 93,587,000 million as of fiscal 2023. Factors contributing to the growth included good monsoons, wage revisions due to the implementation of the Pay Commission's recommendations, benign interest rates and low inflation.

That said, PFCE had declined to Rs 78,245,000 million in fiscal 2021 from Rs 82,597,000 million in fiscal 2020 on account of the pandemic, when consumption demand was impacted on account of strict lockdowns, employment loss, limited discretionary spending and disruption in demand-supply dynamics. PFCE increased 6.8% to Rs 93,238,000 million in fiscal 2023 but remained at 58.0% as a % of GDP. This was because the pandemic had an adverse impact on personal expenditure and government spending increased in an effort to boost the economy from the Covid-19-induced slump.

PFCE at constant prices



PE – Provisional Estimate

Source: Second Advance Estimates 2023-24, MoSPI, CRISIL MI&A Consulting

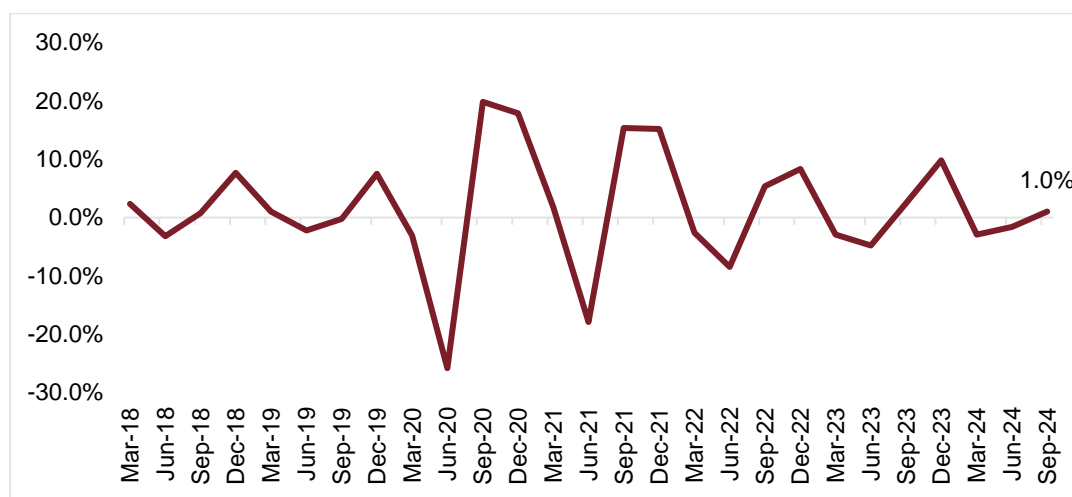
Private final consumption expenditure (PFCE) moderated to 6.0% year-on-year in the second quarter of fiscal 2025 from 7.4% in the previous quarter. High frequency indicators suggest weaker urban demand is likely to have led the slowdown. Elevated food inflation has been exerting a substantial strain on the finances of lower-income households in rural and urban areas. It has led to lower sales growth of discretionary items such as fast-moving consumer goods (FMCG). The urban economy faced a double whammy of high inflation and slowing credit growth. The latest Reserve Bank of India's (RBI) survey released in October indicated consumer confidence in urban areas moderated on average in the second quarter versus the previous one, with price levels being one reason. PLFS (Periodic Labour Force Survey)

data shows urban wage growth was becoming sluggish over fiscal 2024, particularly for non-salaried workers. Bank retail credit growth, which has a higher footprint in the urban economy, moderated in second quarter of current fiscal following a rise in lending rates.

In contrast, rural wage growth stayed healthy in Q2 of fiscal 2025. This, along with declining job demand under the National Rural Employment Guarantee Act (MGNREGA), indicates improvement in rural conditions in the second quarter. The better monsoon has augured well for agricultural activity. Commentary from key FMCG companies indicates demand in the second quarter was better from the rural economy compared with the urban.

Private consumption accounts for the largest share of GDP, at about 56%, and the rise in discretionary spending will keep private consumption healthy in the coming years.

PFCE quarterly trend for India



Source: Industry, CRISIL MI&A Research

Outlook on GDP growth

Near-term review and outlook on GDP

Services sector is the key growth driver

In fiscal 2020, the services sector accounted for 55.3% of India's GDP compared with 52.4% in fiscal 2015. However, its share dipped to 52.9% in fiscal 2021 owing to the pandemic.

The industrial sector, which is the second-largest contributor, maintained its share in GDP of ~31%, logging 7.0% CAGR between fiscals 2015 and 2019. Industrial contribution declined in fiscal 2020, with slowdown in economic development. Before overall economic activity slowed down in fiscal 2020, India's industrial sector output growth was supported by the Make in India initiative, rising domestic consumption and GST implementation. The initiatives improved India's position on the World Bank's Ease of Doing Business index to 63 in fiscal 2019 from 142 in fiscal 2014.

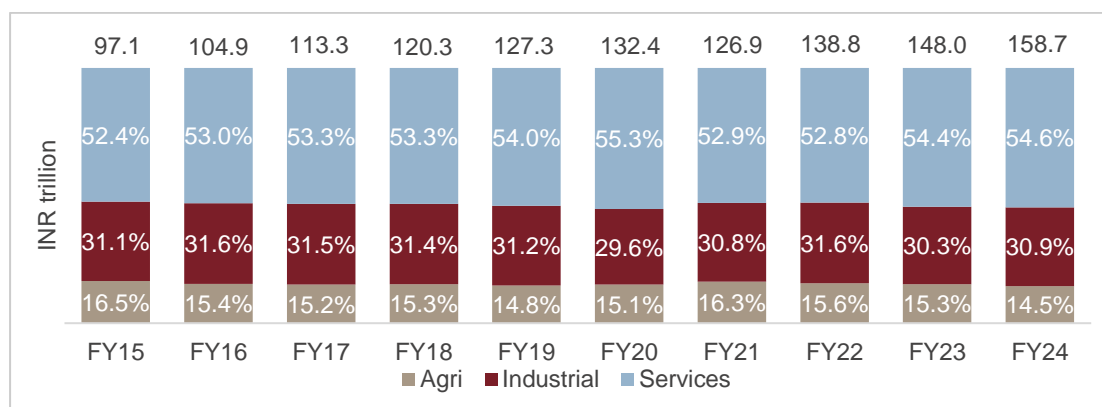
The pandemic and subsequent lockdown exacerbated the economic slowdown in fiscal 2021. The services segment was the worst affected and declined 8.4% year-on-year mainly due to the decline in Trade, Hotels, Transport, and Communication services (THTC) by 19.9% and decline in Public Administration, defense and other services by 7.6%, followed by industrial, which declined 0.4% year-on-year. Agriculture was the only sector that grew 4.0% year-on-year and restricted the fall in GDP.

In fiscal 2021, the agriculture and service sector's share in Gross Value Added (GVA) at constant prices expanded, while the share of the industrial sectors contracted.

In fiscal 2022, agriculture GVA grew at a rate of 4.6% and the industrial sector grew by 12.2% on a low base of fiscal 2021. Whereas the service sector grew by 9.2% year-on-year. This helped GDP to grow by 9.7%

Agriculture GVA continued to grow at a steady 4.7% in fiscal 2023. Faster GDP growth in fiscal 2023 saw the share of agriculture increase in the fiscal. The share of industrial sector in GDP grew 4.7% in fiscal 2023, strongly due to utility services and construction with 9.4% growth, which was higher than all other industrial sectors. Mining grew by 1.9%, while manufacturing saw a marginal drop from a high base of fiscal 2022. The high base of fiscal 2022 led to moderate growth of the industrial sector in fiscal 2023. The services sector grew 10.0% in fiscal 2023. Trade, hotels, transport, and communication services (THTC) saw strong year-on-year growth of 12% in fiscal 2023.

Share of sector in GVA at constant prices



Source: RBI; Crisil Intelligence

GVA growth for agriculture expected to be picked up 3.8% in the fiscal 2025 compared to 1.4% in the fiscal 2024 due to healthy kharif output on account of the normal monsoon. The FAE estimates kharif output to be 5.7% higher in fiscal 2025. Rabi sowing was up by 0.5% compared to fiscal 2024 as per the latest available data, as water reservoir levels remain healthy due to the good rains in fiscal 2025.

Industry is estimated to moderate substantially 6.2% in fiscal 2025 compared to 9.5% in fiscal 2024. Within industry, manufacturing is expected to clock the slowest growth in fiscal 2025 to 5.3% versus 9.9% in the previous year, weighed down by slowing government capex and rising input costs.

Construction GVA, the most labor-intensive sector, is expected to slow amid lower government capex in fiscal 2025 to 8.6% compared to 9.9% in FY2024. Utilities, too, are seen moderating to 6.8% in fiscal 2025 vs 7.5% in fiscal 2024.

Services is estimated to have seen a mild moderation in growth to 7.2% in fiscal 2025 vs 7.6% in fiscal 2024. Within services, financial, real estate and professional services are expected to decelerate 7.3% in fiscal 2025 vs 8.4% in fiscal 2024 on the back of elevated interest rates. Trade, hotels, transport, communication and services related to broadcasting — another labor-intensive sector, particularly in urban areas — are estimated to slow to 5.8% in fiscal 2025 vs 6.4% in fiscal 2024 with the gradual fading of post-pandemic pent-up demand. However, growth in public administration, defense and other services is estimated to have grown 9.1% in fiscal 2025 vs 7.8% in the previous year.

GVA growth is estimated to pick up for agriculture and allied to 4.9% in the second half fiscal 2025 vs 2.7% in the first half of fiscal 2025, and industry 6.4% in the second half of fiscal 2025 vs 6.0% in the second half of fiscal 2025. The former will be buoyed by a healthy rabi harvest, while the latter will benefit from improving domestic demand and exports. Services growth is also expected to pick up slightly led by professional services exports 7.3% in second half of fiscal 2025 vs 7.1% in the first half of fiscal 2025. On the other hand, construction is expected to slow 8.1% in the second half of fiscal 2025 vs 9.1% in the first half of fiscal 2024, on the back of lower investment growth.

Industry is expected to decelerate substantially to 6.2% in fiscal 2025 versus 9.5% in the previous fiscal; services is seen slowing slightly in fiscal 2025 to 7.2% compared 7.6% for the same period last year. In contrast, agriculture is expected to improve substantially to 3.8% in fiscal 2025 compared to 1.4% in the previous year.

On the demand-side, private consumption is expected to emerge as the primary driver of growth 7.3% in fiscal 2025 compared to 4.0% in the previous fiscal, spurred by a recovery in rural demand because of better agricultural prospects. As a result, private consumption's share in GDP is estimated at 56.3% this fiscal, compared with pre-pandemic decadal average of 56.1%, a normalization after the drop witnessed last fiscal.

Investments, as measured by gross fixed capital formation, are estimated to moderate 6.4% in fiscal 2025 vs 9.0% in fiscal 2024 because of weaker government capex and an insufficient pick-up in private investment.

Government consumption expenditure is also expected to be higher 4.1% in the fiscal 2025 vs 2.5% in the fiscal 2024.

Private consumption is estimated to grow better 7.9% in the second half of fiscal 2025 vs 6.7% in the first of fiscal 2025 as inflation eases, rural demand improves, and the festival and wedding season acts as a tailwind. Government consumption expenditure is also expected to increase considerably 6.1% in the second half of fiscal 2025 vs 2.1% in the first half of fiscal 2025. Investment growth is not expected to pick up 6.3% in the second half of fiscal 2025 vs 6.5% in the first half of fiscal 2025. Exports are expected to rise 6.0% in the second half of fiscal 2025 vs 5.8% in the first half of fiscal 2025, while imports are expected to contract in the second half -3.4% in the second half of fiscal 2025 vs 0.8% in the first of fiscal 2025.

Outlook on GDP

After a strong GDP growth in the past three fiscals, GDP growth is expected to moderate to 6.4% in fiscal 2025. Fiscal consolidation, elevated interest rates and prolonged high food inflation weighed down the economy in the CY2025. Investment faltered given lower government capex and subdued private investments. Consumption improved on a low base, as it had grown less than half the pace of GDP growth last fiscal. Growth became more balanced as rural areas likely fared better than urban areas. However, demand was constrained by tighter credit conditions and high food inflation, particularly in the urban areas.

The FAE indicates quicker growth in the second half. Agricultural growth is likely to accelerate as higher reservoir levels also indicate healthy for rabi output. This should provide stimulus to farm incomes and rural consumption. Higher agriculture production is likely to ease the pressure on food inflation in the remainder of this fiscal, which will boost discretionary consumption. The festival and wedding season is likely to increase consumption in the second half. However, investment's contribution is not expected to increase as private investment remains sluggish.

Crisil Intelligence expect GDP growth to improve to 6.7% in fiscal 2026 in the base case scenario. The Reserve Bank of India's (RBI) rate cuts, lower crude oil prices and a normal monsoon are expected to support growth. While government capex will remain supportive, continued fiscal consolidation implies that investment prospects hinge on a sustained revival in private capex.

Agricultural growth has risen and is likely to increase further due to expectations of a healthy kharif harvest on account of the monsoon being 8% above the Long Period Average at the season's end. Higher reservoir levels also bode well for rabi output. All these factors contribute to boosting agricultural incomes and rural consumption. Additionally, increased kharif arrivals into the market are likely to ease the pressure on food inflation, which has been elevated for several months, eroding the purchasing power of both rural and urban households.

While government capex has rebounded in the second quarter and is likely to pick up further as state capital expenditure revives, investment prospects largely hinge on a sustained pickup in private capex which, in turn, depends on the extent of increase in domestic demand.

Geopolitics will continue to be the key monitorable in the fiscal 2026, given the likely wide-ranging changes the Donald Trump administration is expected to bring about. Exports will have to navigate heightened uncertainties given the likelihood of the US tariffs.

Risks to Growth

Bank credit growth pick up

Bank credit growth rose in December 2024 to 11.5% from 10.6% in the previous month, though it remained significantly lower than the 15.3% growth at the beginning of fiscal 2025.

According to Sectoral data (available till November 2024) showed credit growth was the strongest in agriculture at 15.3%, but it has slowed from the 19.8% at the beginning of the fiscal 2025. Credit growth decline was sharper in personal loans 13.3% in November 2024 vs 17.4% in April 2024 and services 13% in November vs 19.2% in April.

Non-banking financial companies, a key component of services where the RBI has increased risk weights, saw a credit growth of 7.8% in November vs 15.3% in April. Industrial credit growth rose to 8% in November from 6.9% in April, primarily driven by improved growth in credit to large industries

CPI Inflation eases

The Consumer Price Index (CPI) inflation decelerates to 5.2% in December 2024 from 5.5% in November 2024. Food inflation declined to 8.4% in December from 9% in the previous month driven by sharp deceleration in vegetable inflation. Fuel inflation remains negative in December and core inflation was stable at 3.7% for the month of December 2024.

Food inflation, the driver of inflation in fiscal 2025, is expected to ease in the coming quarter as agricultural output has been robust in CY2025. Adequate reservoir levels augur well for rabi production. CPI-linked food inflation has softened in November and December 2024. Early data for January 2025 has indicated a drop in the prices of vegetables and foodgrains.

Bank lending rates above pre-pandemic levels

Most bank lending rates and deposit rates are above their pre-pandemic averages. In December, key rates such as auto averaged 9.74% and housing loan rates averaged 9.15%. Auto loan rates, the one-year marginal cost of funds-based lending rate (MCLR) and deposit rates averaging 9% in December were stable relative to November.

External drag on growth

Global growth is likely to slow down this year because of higher interest rates. Central banks in key advanced economies have maintained policy interest rates in their latest meetings. This, coupled with the improving inflation outlook, will allow the RBI to initiate rate cuts in fiscal 2025. Geopolitical tensions will continue to disrupt global trade.

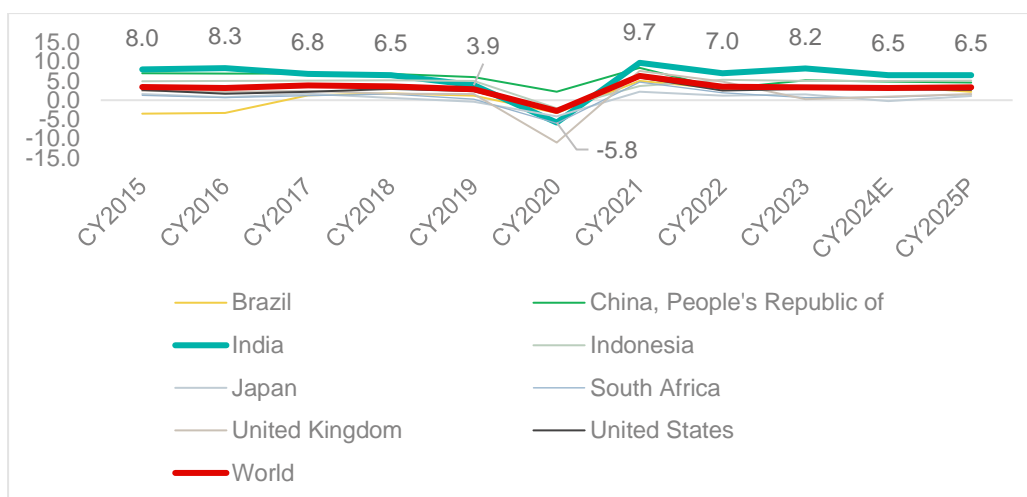
Impact of higher interest rates

The Monetary Policy Committee (MPC) of the Reserve Bank of India kept the repo rate unchanged at 6.5%, the standing deposit facility at 6.25% and the marginal standing facility at 6.75% for the 21st month in a row. The stance retained at 'neutral' during its December 2024 review meeting. The MPC took note of the sharp slowdown in economic growth at 5.4% during the second quarter of fiscal 2025, which is below the MPC's expectations, prompting a 60-bps reduction in its GDP growth forecast. The neutral stance gives it flexibility to change the repo rate in the upcoming monetary policy review, depending on economic data.

India to remain a growth outperformer globally

Despite slowdown in the near term, India's growth is expected to outperform over the medium run. Crisil Intelligence expects GDP growth to average 6.7% between fiscals 2025 and 2029, compared with 3.2% globally as estimated by the IMF.

India is one of the fastest growing emerging economies (GDP growth, % year-on-year)



E: estimated; P: projected

Note: GDP growth based on constant prices

Source: IMF (World Economic Outlook – January 2025 update), Crisil Intelligence

Drivers for India's Economic Growth

- Strong domestic demand is expected to drive India's growth over peers in the medium term.
- Medium-term growth is anticipated to be bolstered by increased capital spending on infrastructure and asset development projects, leading to enhanced growth multipliers.
- The government's future capital expenditures are expected to be supported by factors such as tax buoyancy, simplified tax structures with lower rates, tariff structure reassessment, and tax filing digitization.
- Investment prospects are optimistic, given the government's capex push, progress of Production-Linked Incentive (PLI) scheme, healthier corporate balance sheets, and a well-capitalised banking sector with low non-performing assets (NPAs).

Key factors in budget 2025-26 that can influence medium to long term growth:

- Stronger Consumption Support: Tax relief measures and enhanced allocations for welfare programs like PMAY, PMGSY and MGNREGS (Mahatma Gandhi National Rural Employment Guarantee Scheme) to boost demand and economic activity.
- Sustained Infrastructure Investment: Increased funding for roads, highways, railways, and urban development, driving long-term growth and job creation.
- Government-Led Capital Expenditure: Continued high Capex allocation supporting various industries.
- Employment & Skilling Initiatives: Allocations for new employee generation schemes, vocational training, and opening of 'centres of excellence' will enhance workforce productivity and helps in skilling the youth of the country.
- Push for Innovation & Industrial Growth: Increased R&D funding, incentives for EVs and electronics manufacturing, and export promotion to strengthen India's global competitiveness.

Near-term Review and Outlook on Inflation

Consumer Price Index (CPI) inflation softened sharply to 4.3% from 5.2% in December due to easing food inflation. Food inflation, dipped for the third straight month to a five-month low of 6% from 8.4%. Within food, the easing was led by vegetables inflation, which corrected to 11.3% (from 26.6%), and foodgrains inflation, which eased to 5.5% (from 5.9%).

Consumer Price Index (CPI) inflation softened sharply to 4.3% from 5.2% in December due to easing food inflation. Food inflation, dipped for the third straight month to a five-month low of 6% from 8.4%. Within food, the easing was led by vegetables inflation, which corrected to 11.3% (from 26.6%), and foodgrains inflation, which eased to 5.5% (from 5.9%). On the other hand, fruits and edible oils inflation rose. Edible oils have emerged as a pressure point recently, impacted by high global prices and import duties. In January, inflation in this category surged to 15.6%, a 33-month high. Since ~60% of edible oil is imported, a weakening currency also adversely impacts its price. Non-food inflation (fuel plus core) inched up to a 13-month high of 3.2% but remained in the comfort zone. Core inflation was up 10 basis points (bps) to 3.7%. Fuel inflation was broadly stable compared with December, remaining negative for the 17th straight month, primarily due to retail fuel price relaxations by the government in September 2023 and March 2024.

- Food inflation eased to 6% in January from 8.4% in December, led by softer inflation in vegetables, pulses and cereals. The CPI food price index eased sequentially for the third straight month on a seasonally adjusted basis. In January, food prices declined 1.8% on-month (seasonally adjusted), sharper than the 0.2% decline in December
- Vegetable inflation eased sharply to its lowest value since August 2024 (11.3% vs 26.6%). Sequentially, vegetable prices were down 6.1% (seasonally adjusted). Among the key TOP[1] vegetables, inflation eased to a five-month low of -7% in tomatoes (vs 31.4%) and a ten-month low in potatoes (49.6% vs 68.2%). On the other hand, inflation rose in onions (16.4% vs 10.9%). Non-TOP vegetable inflation eased to 5.6% (vs 22%), led by softer inflation in leafy vegetables (0.7% vs 17.1%), brinjal (-9.9% vs 13.6%), garlic (30.6% vs 58.3%), etc.
- Foodgrain inflation hit a 30-month low of 5.5% (vs 5.9%), as inflation eased in both pulses (2.6% vs 3.8%) and cereals (6.2% vs 6.5%)
 - On-year fall in prices of tur (-0.5% vs 1.5%), moong (-0.2% vs 0.2%) and masur (-0.6% in both January and December) pulled down pulses inflation
 - Cereals inflation was influenced by softer inflation in rice from non-public distribution system (PDS) sources, which eased to a 30-month low (5.8% vs 6.9%). That said, inflation rose in non-PDS wheat (8.8% vs 7.8%)
- Edible oil inflation rose to 15.6% from 14.6%. Within edible oils, the key drivers of higher inflation were refined oil (20.9% vs 19.4%) and mustard oil (19.1% vs 18.7%)
- Fruit inflation rose to 12.2% from 8.6%, driven by hardening inflation in apples (8% vs 3.1%) and bananas (8% vs 5.8%)
- Spices inflation picked up but remained negative at -6.8% (vs -7.4%) due to a waning supportive base effect even as prices fell on-month

Fuel inflation remains negative

- Fuel[2] prices recorded an on-year decline for the 17th straight month in January. Prices fell 1.4% on-year in January, similar to the 1.3% decline in December
- Liquified petroleum gas prices fell 9.3% on-year, unchanged from December
- Inflation in electricity inched up 10 bps to 5.2%
- The pace of deflation picked up in PDS kerosene (-7% vs -5.2%), while it slowed in non-PDS kerosene (-2.6% vs -3.1%)

Core inflation rises a tad

- Core inflation inched up to 3.7% from 3.6%

- Inflation in housing, which has the highest weight in core, rose to 2.8% from 2.7%. Among other essentials, inflation softened in education (3.8% vs 3.9%), while it remained steady in health (4%)
- Personal care and effects saw the sharpest rise in inflation to 10.6% from 9.8%. This category has primarily been influenced by swings in gold inflation in the fiscal. In January, gold inflation accelerated to 26.4% from 24.1%
- Transport and communication inflation rose 20 bps to 2.8%, led by rising inflation in diesel for vehicles (-2% vs -2.1%) and bus and tram fares (1.6% vs 0.9%)

Wholesale inflation eases marginally

Inflation based on the Wholesale Price Index (WPI) marginally eased to 2.3% in January from 2.4% in December, driven by softer food inflation.

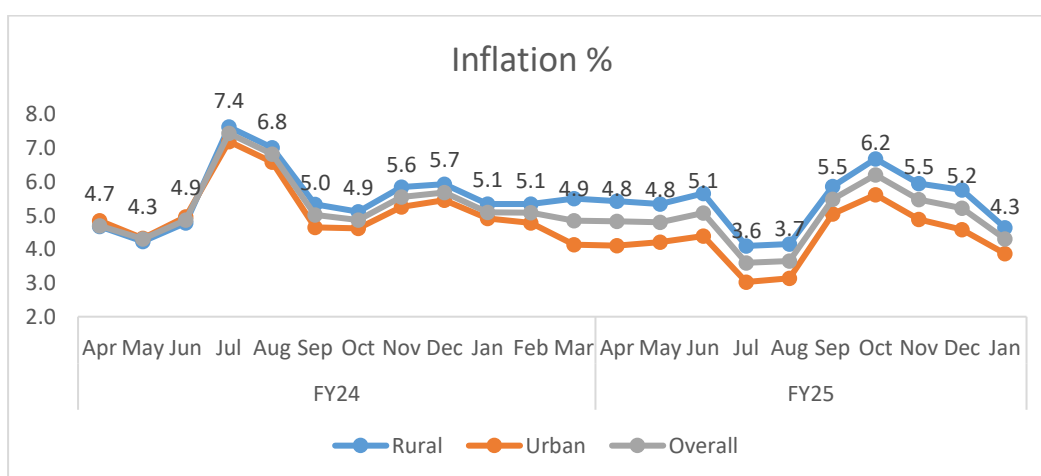
Wholesale food inflation, excluding manufactured foods, moderated to 5.9% from 8.5%. Vegetable inflation softened to 8.4% from 28.7%, led by deflation in tomatoes (-18.9% vs 5.3%), Cauliflower (-14.1% vs 11.6%), brinjal (-9% vs 22.2%) and lady's finger (-7.7% vs 3.8%). On the other hand, inflation in foodgrains rose to 6.9% (vs 6.5%), led by wheat prices, which were up 9.7%, compared with 7.6%. This was offset by non-food inflation turning positive for the first time since August 2024 to 0.2% from -0.3%. Inflation in manufactured products hardened to 2.5% from 2.1%, on account of higher inflation in manufactured foods (10.4% vs 9.7%) and chemicals (1% vs 0.5%). Fuel and power inflation remained negative but picked up from the previous month (-2.8% vs -3.8%). Inflation in coal (-0.4% vs -0.8%), mineral oils (-2.6% vs -3.8%) and electricity (-4.8% vs -5.7%) hardened. Inflation in crude petroleum accelerated (-0.8% vs -6.9%), tracking the rise in global prices.

Crisil's WPI input-output ratio reached a seven-month high of 0.97 in January from 0.95 in December amid easing output prices and rising input prices. Output prices declined 1.6%, driven by a sharp decline in vegetable prices, while input prices rose 0.5%, led by the increase in prices of crude petroleum and mineral oils. That said, excluding food, the input-output ratio was stable at 0.96.

Outlook on inflation

In fiscal 2026, food inflation is expected to ease further supported by a healthy rabi crop, assuming normal southwest monsoon that benefits the kharif crop and expectations of soft global food prices. A high base for food inflation this fiscal will also provide some relief. Non-food inflation could see some more hardening lifted by a low base this fiscal and some impact of a weaker rupee. A sharper-than-expected weakening in the rupee, price shock to global oil prices due to any geopolitical turmoil and risks from climate change could impose upside pressures on the forecast. Overall, we expect retail inflation to moderate to 4.4% in fiscal 2026 from an estimated 4.7% this fiscal.

Inflation %



Source: Ministry of Statistics and Programme Implementation (MOSPI), Crisil Intelligence Research

SUMMARY OF BUSINESS

Anantam Highways Trust (the “**Trust**”) is an Indian infrastructure investment trust which proposes to invest in road infrastructure assets. The Trust is sponsored by Alpha Alternatives Fund Advisors LLP (the “**Sponsor**”). The Sponsor established the Trust on July 24, 2024 and the Trust was registered with SEBI on August 19, 2024 as an InvIT in accordance with the InvIT Regulations.

The Sponsor is a multi-asset class multi-strategy asset management entity that creates investment solutions across various asset-classes, including but not limited to, infrastructure, credit, real estate, equities, commodities, and fixed income. As on date, the Sponsor is a subsidiary of Alpha Alternatives Holdings Private Limited. For further details in relation to the Sponsor, please see the section entitled “*Parties to the Trust- The Sponsor and Sponsor Group*” on page 113.

The Trust will have an initial portfolio consisting of the nine Project SPVs having an aggregate of 359.73 kms (1,434.86 lane kms), located across five states and one union territory in India. The Trust, subject to receipt of certain approvals, will directly or indirectly hold 100.00% equity interest in eight Project SPVs and 49.00% equity interest in one Project SPV (“**Projects**”).

Our Projects

Our initial portfolio of assets include the following nine Projects, which comprises national highways that are located in the states of Karnataka, Telangana, Gujarat, Bihar, Tamil Nadu and one union territory of Puducherry proposed to be acquired by way of 100% shareholding in eight Project SPVs and 49% shareholding in one Project SPV:

- The Dhrol Bhadra Highways Limited (“**DBHL**”) Project, a four lane highway with an aggregate length of 50.45 kms, comprising NH-151A* of Dhrol – Bhadra Patiya section (between Ex. km 5+700 to km 13+600 of SH-25) and Bhadra Patiya – Pipaliya section (between Ex. km 73+000 to km 44+800 and Ex. km 38+350 to km 24+000 of CSH-6) on hybrid annuity model in Gujarat, operated by the National Highways Authority of India (“**NHAI**”);
- The Dodaballapur Hoskote Highways Limited (“**DHHL**”) Project, a four lane highway with an aggregate length of 38.00 kms, comprising NH-648* from km 42.00 to km 80.00 of Dodaballapur Bypass to Hoskote section on Hybrid Annuity Mode in Karnataka, operated by NHAI;
- The Repallewada Highways Limited (“**RHL**”) Project, a four lane highway with an aggregate length of 52.60 kms, comprising NH-363* from km 42.00 (existing km 288.51) to km 94.60 (existing km 342.00) on the Repallewada to Telangana/Maharashtra Border on Hybrid Annuity Mode in Telangana, operated by NHAI;
- The Viluppuram Highways Limited (“**VHL**”) Project, a four lane highway with an aggregate length of 29.00 kms, comprising Viluppuram- Puducherry section of NH-45A (new NH-332*) from km 0.00 to km 29.00 under Bharatmala Priyोजना Phase I on Hybrid Annuity Mode in Tamil Nadu and Puducherry, operated by NHAI;
- The Narenpur Purnea Highways Limited (“**NPHL**”) Project, a four lane and two lane highway with an aggregate length of 47.40 kms, comprising NH-131A* of Narenpur - Purnea section comprising of 4 (four) lane standard between km 34.60 (design Ch. 6.00) to km 79.97 (design Ch. 53.00) and 2 (two) lane with paved shoulders standard between km 79.97 (design Ch. 53.00) to km 82.00 (design Ch. 55.00) on Hybrid Annuity Mode in Bihar, operated by NHAI; and
- The Bangalore Malur Highways Limited (“**BMHL**”) Project, a four lane highway with an aggregate length of 27.100 kms, comprising from km 0.000 to km 26.400 (along with 0.700 km approach towards NH 207 with interchange on NH4 at start point) of Bangalore to Malur section of Bangalore Chennai Expressway on Hybrid Annuity Mode under Bharatmala Pariyोजना, in the state of Karnataka (Phase-I Package-I), operated by NHAI;
- The Malur Bangarpet Highways Limited (“**MBHL**”) Project, a four lane highway with an aggregate length of 27.10 kms, comprising Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpet section of

Bangalore Chennai Expressway on Hybrid Annuity Mode under Bharatmala Pariyojana in the state of Karnataka (Phase I-Package II), operated by NHAI;

- The Poondiyankuppam Highways Limited (“**PHL**”) Project, a four lane highway with an aggregate length of 38.00 kms, comprising Puducherry-Poondiyankuppam section of NH-45A (new NH-332*) from Km 29.00 to Km 67.00 under Bharatmala Pariyojana Phase I on Hybrid Annuity Mode in Tamil Nadu and Puducherry, operated by NHAI;
- The DPJ Pollachi HAM Project Private Limited (“**DPHPPL**”) Project, a four lane highway with an aggregate length of 50.08 kms, comprising Madathukulam to Pollachi section of NH-209 (new NH-83*) from Km 74.38 to Km 116.95 under Bharatmala Pariyojana Phase I on Hybrid Annuity Mode in Tamil Nadu, operated by NHAI.

**Note: The NH numbers and chainages mentioned in this Draft Offer Document may be old NH numbers and chainages, as per the concession agreements. The actual NH numbers and chainages at site may differ based on subsequent changes.*

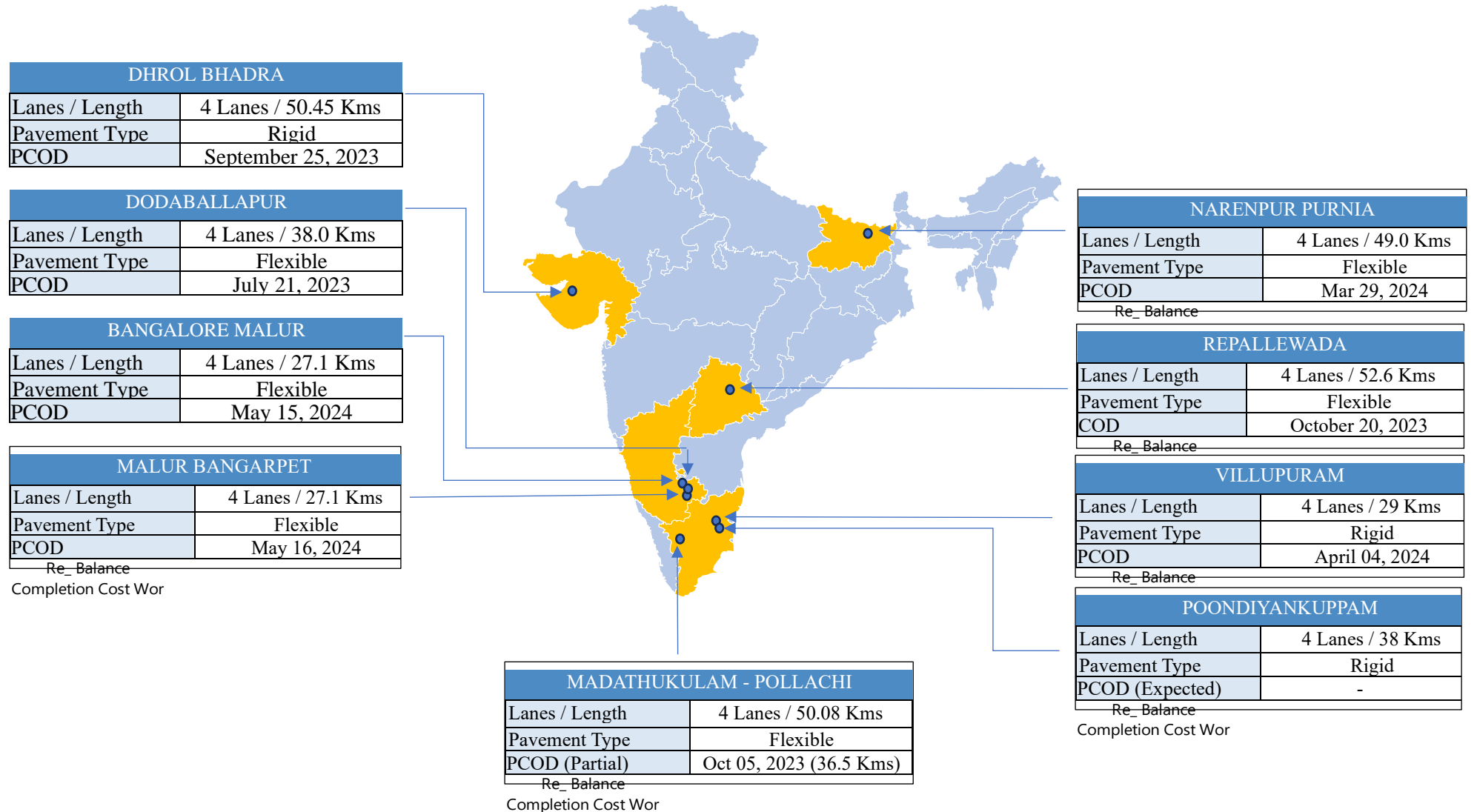
The revenue from operations of the Project SPVs for the nine month period ended December 31, 2024 was ₹ 7,410.85 million and Fiscals 2024, 2023, 2022 was ₹ 27,185.05 million, ₹ 27,687.01 million and ₹ 21,891.56 million, respectively.

The Projects are based on public private partnership (“**PPP**”) on a hybrid annuity mode (“**HAM**”). HAM was introduced in January 2016 by the Government with an intent to share the financial risk with the developers, given that infrastructure projects are capital intensive in nature. In a HAM project, the concessioning authority shares a portion of the total project cost during the construction phase. As a mix of EPC and annuity models, HAM reduces the financial burden of a concessionaire during the project construction phase and provides an assured revenue in form of annuities, interest on reducing balance of completion cost (BCC) and O&M payments both linked to inflation in the operational phase. Annuity payments eliminate the risk of income fluctuations resulting from changes in traffic volumes. The concessioning authority for all the Projects is NHAI.

For further details, please see the section entitled “*Industry Overview*” on page 173.

The map below illustrates the locations of the Projects:

Note: Please note that as on the date of this Draft Offer Document, PHL is yet to receive the PCOD certificate



Pursuant to the ‘right of first offer agreements’ to be entered into between the (i). Trustee (acting on behalf of the Trust), the Investment Manager, DBL, and such other parties as may be required (the “**DBL ROFO Agreement**”); and (ii). the Trustee (acting on behalf of the Trust), the Investment Manager, Build India Infrastructure Fund and such other funds managed by the Sponsor and other parties as may be required (the “**Alpha ROFO Agreement**”) (collectively, the “**ROFO Agreements**”), the Trust has a ‘right of first offer’ to acquire projects developed by DBL (including its affiliates) and Build India Infrastructure Fund and/or such other funds set up by the Sponsor and/or such other parties as maybe required for investing in eligible road infrastructure projects for a period starting from the Listing Date until five years from the Listing Date. For further details on the ROFO Agreement, please see sections entitled “*Related Party Transactions*” and “*Corporate Governance*” on pages 373 and 156.

For further details of the Sponsor, the Investment Manager, the Project Manager and the Trustee, please see the section entitled “*Parties to the Trust*” on page 113.

Strengths

The Investment Manager believes the following to be the key strengths of the Trust:

Attractive industry sector with strong underlying fundamentals and favourable government policies

Further development of the infrastructure sector, in particular road infrastructure, is a priority for the GoI and many state governments and has been the subject of enhanced investment from the public sector through traditional means of public investment and new channels such as PPPs. Roads have been the key focus area for budget allocations over the years. As per the Industry Report, the overall gross budgetary outlay for the Ministry of Road Transport and Highways doubled from ₹ 1.29 lakh crore in fiscal 2019 to ₹ 2.75 lakh crore in fiscal 2024. Overall road sector capex, comprising of National Highways, State Highways & rural roads is estimated to have grown at a CAGR of 14% between fiscals 2018 & 2023. This growth, driven by Bharatmala and increased state spends on roads has been achieved despite brief hiccups such as the pandemic and hampered construction due to elongated monsoons. The outlook of the sector also remains firm supported by higher awarding of previous fiscals, Bharatmala, NIP pipeline of DPR ready projects and steady state capex. Through the PPP model, among others, the Investment Manager believes that the Trust has acquired, and will continue to capture through further acquisitions, a sizeable share in the PPP format of the road infrastructure sector.

1. *Lower equity contribution requirement to increase private players’ ability to bid for projects:* With the government incurring 40% of the project cost, the HAM calls for lower equity contribution from developers (15% compared with 25% for BOT-toll projects). This is beneficial, given the current weak financial position of road developers. Further, with the NHAI’s equity stake in the project, banker comfort in lending to the project increases significantly. (Source: CRISIL Report)
2. *Low-risk model to provide moderate returns:* We expect low risk and lower capital requirements to attract private players. Hence, we believe developers would target returns of 11-13%, given the lower risk and assuming moderate competition. Lower competition is mainly on account of the stretched financials of many developers. (Source: CRISIL Report)
3. *Boost private investments in national highways over the next five years:* Because of delays in land acquisition and caution shown by lenders in the initial phases for lending to HAM projects, total awarding declined in fiscal 2019 to 2,222 km, compared with 7,397 km in fiscal 2018. Of the total awarding in fiscals 2018 and 2019, 2,884 and 977 km, respectively, were awarded through the HAM. The share of private investment has declined between fiscals 2018 and 2019 from 31% to 24%, respectively, mainly on account of EPC projects. Fiscal 2021 saw increased participation in awarding on account of changes to the HAM bid eligibility and MCA changes. A total of 6,306 km was awarded in fiscal 2022, of which, 3,468 km was under the HAM, compared with a total 4,818 km in fiscal 2021 (2,602 km under the HAM). (Source: CRISIL Report)

For further details on the market opportunity for the road infrastructure industry in India, please see the section entitled “*Industry Overview*” on page 173.

Sizeable portfolio of long-term, stable, revenue-generating assets

The Trust shall have a sizeable initial portfolio of completed and revenue-generating assets, comprising of nine Projects with an aggregate length of over 1,434.86 lane kilometers, located across five states and one union territory in India, covering key geographies such as Karnataka, Telangana, Gujarat, Bihar, Tamil Nadu and Puducherry. Each Project SPV has entered into a long-term concession agreement with the concessioning authority, being NHAI, having concession periods of 17 years comprising of two years of construction and operational periods of 15 years, with each such concession period commencing from the appointed date of the relevant Project. Project SPVs are comprising of 9 road stretches. On a collective basis, the Projects have a residual concession period ranging from 13.56 years to 14.38 years, as of December 31, 2024. The Projects are well positioned to provide long-term cash flows to the Trust.

We believe that the sizable portfolio of assets will provide us with steady cash flow during the course of the year. Majority of our revenue from operations received in cash in the period ended December 31, 2024 came from annuities paid by NHAI. Our hybrid annuity-based Project SPVs have predictable cash flows and are well positioned to bring stable income to the Trust. The hybrid annuity mode shifts the traffic risk to the NHAI from the concessionaires, with developers being provided fixed annuities based on predetermined schedules.

Strong support from the Sponsor, Dilip Buildcon Limited, Project Manager and Investment Manager

We intend to leverage the experience and expertise of the Sponsor, Project Manager, Investment Manager and its affiliates, within the asset management industry focusing on infrastructure sectors, including the road infrastructure industry. Our Sponsor is engaged in investment management activities primarily with an objective of generating stable returns and earning long term capital appreciation. Our Sponsor is affiliated with funds, vehicles and/or entities managed and/or advised by Sponsor and its affiliates.

Further, we intend to leverage the experience and expertise of DBL, seller of the eight project SPVs and one of the largest players in the Indian road construction sector in terms of scale of operations and order book size with well diversified EPC infrastructure. DBL is also engaged in various other sectors such as metros, irrigation, water supply, special bridge, urban developments, airports, tunnels and coal miner developer and operator. DBL has demonstrated strong execution capability over the past few years. DBL bids for projects after factoring synergetic benefits arising from clustering of projects and stretches with relatively lower hurdles of land acquisition and clearances.

Growth opportunities and rights to expand portfolio of assets

The Sponsor and its associates, have significant experience in the infrastructure space which the Trust can utilise to negotiate acquisitions, which may generate profit and create growth opportunities for the Trust.

Through the ROFO Agreements, we will have a right of first offer to acquire certain assets of DBL (and/or its affiliates), including the projects currently owned by DBL (and/or its affiliates), or which may be acquired or developed by DBL, the Sponsor and Build India Infrastructure Fund along with their respective affiliates. We believe that this access to future road assets of DBL, the Sponsor and Build India Infrastructure Fund along with their respective affiliates will be an important source of growth of the InvIT in the future.

Skilled and experienced management team with a focus on corporate governance

We have a skilled management team with several years of experience in the infrastructure sector providing us an ability to pursue our growth strategies in a seamless manner. We draw on the knowledge of our Board of Directors and key personnel, who bring us expertise in the areas of risk management, business strategy and operational and financial capabilities, amongst others. We believe this will be key to the execution of our growth strategies. Our Board comprises of six directors, as on the date of this Draft Offer Document with extensive experience in management, finance and infrastructure. For further details on the experience of the management team of the investment manager in the infrastructure sector in India, please see the section entitled “Parties to the Trust- The Investment Manager – Alpha Alternatives Fund-Infra Advisors Private Limited” on page 128.

We believe that the experience of our management team (Investment Manager and Project Manager) in the infrastructure sector will ensure that the Project SPVs and the Trust are operated and managed in an efficient manner. The team is supported by other qualified operational personnel, through appropriate contractual arrangements, who have an in-depth understanding of the sector in which we operate. We have entered into contracts with a significant number of qualified personnel (including the experienced contractors and service

provider identified by the Investment Manager and the Project Manager) who are engaged in operating and managing our projects as on the date of this Draft Offer Document.

With the aim of enshrining principles of good corporate governance and effective management and operations of the Trust, the Investment Manager has constituted various committees and adopted policies such as whistle-blower and vigil mechanism policy, risk management policy, policy on code of conduct for Board of Directors and Senior Management Personnel, policy to promote diversity of Board of Directors, amongst others, to manage the activities of the Trust. The Investment Manager has further created separate risk management committee for managing the decision-making process for the Trust. In accordance with the InvIT Regulations, the Investment Manager has also adopted the (a) distributions policy pursuant to which distributions are required to be made to the Unitholders after Allotment and (b) borrowing policy which aims to outline the borrowing thresholds and process in relation to the Trust.

Further, the Investment Manager has also adopted appointment of auditor and valuer policy which aims at formulating a structure for ensuring compliance by the Trust in appointment of its auditor and the auditing standards followed and the appointment of its valuer, in accordance with applicable law including the InvIT Regulations and has adopted a code of conduct policy which aims at formulating a framework for ensuring interest of the Unitholders and proper conduct in carrying out the business and affairs of the Trust in accordance with InvIT Regulations. For details in relation to the corporate governance framework of the Investment Manager, please see the section entitled “*Corporate Governance*” on page 156.

We believe that our governance process will ensure adherence and enforcement of principles of sound corporate governance with the objectives of fairness, transparency, professionalism, trusteeship and accountability, while facilitating effective management of the businesses and efficiency in operations.

Strong O&M Support and favorable O&M structure

Pursuant to the O&M Agreements, DBL has been or is proposed to be appointed as the O&M contractor in respect of the Project SPVs (the “**O&M Contractor**”). DBL was the original bidder for the Project SPVs (except DPHPL) and was also the EPC contractor for the construction and development of each of such Projects.

DBL, being a leading Indian construction and infrastructure development company specializes in engineering, procurement, and construction. DBL operates across various sectors, including roads and highways, bridges, tunnels, mining, irrigation, and urban development. With a robust presence spanning multiple states in India, DBL has successfully completed numerous projects that has enhanced the nation’s infrastructure. The portfolio includes, 15 completed Roads and Highways projects, 2 completed airport projects, 3 ongoing rail projects and 3 ongoing tunnel projects. Pursuant to the terms of the O&M Agreements, DBL will be responsible for discharging all the O&M responsibilities required to be discharged under the concession agreements by the Project SPVs. For further details, please see the section entitled “*Business*” on page 258. The Investment Manager believes that the Trust will benefit from DBL’s engagement as the O&M Contractor for the Project SPVs, given that DBL was the original owner and developer of such Projects (except DPHPL) and has extensive experience in the road infrastructure sector.

Hedge against adverse interest rate movements

The HAM Projects have a natural hedge against the risk of adverse interest rate movement. In addition to the annuity payments due under such concession agreements during the operations period, the relevant concession agreements for HAM Projects require the relevant concessioning authority to pay interest on the reducing balance of the completion cost throughout the operation period at the rate of either 3% above the prevailing bank rate or 1.25% over the average one-year MCLR of top 5 schedule commercial banks and published by NHA on regular basis, depending on the time during which concession was awarded. Accordingly, any increase in operating and financing costs is likely to be offset by the increased revenues earned by us on such HAM Projects.

Business Strategies

The Investment Manager believes the following to be the key strategies of the Trust:

Continue to pursue accretive growth by expanding the portfolio of road infrastructure assets

The Investment Manager intends to be selective with respect to any projects it acquires in the future and will consider factors such as access to important locations in the vicinity, connecting roads, remaining life of the assets, total costs of the projects, their O&M and MMR obligations, ports, availability of the relevant approvals, presence of counter-parties and, ease of complying with laws.

The Investment Manager believes that it will be able to leverage the Sponsor's and DBL's established network of relationships and contacts, extensive knowledge and experience in the roads sector in India to implement its acquisition strategy where by the Investment Manager shall be responsible for overseeing loans and investments of the Trust, including, considering any proposal for acquisition of assets and such other acts as may be required for implementation of the investment strategy of the Trust. The Investment Manager intends to expand the portfolio of road projects without compromising on the returns on investment from the Projects while providing attractive cash flows and yields, and opportunities for future income and capital growth.

In addition, the Investment Manager believes that due to trends in the industry, a number of acquisition opportunities may be available. These trends include the potential divestment of assets by highly leveraged private companies and by financial and private equity investors seeking to exit their investments. The Investment Manager hopes to take advantage of these opportunities by actively sourcing and acquiring quality assets from such third parties and the Government on a case-by-case basis.

Maintain optimum capital structure to maximise distributions to Unitholders

We focus on achieving an optimal capital structure for our projects and will continue to draw upon the experience, relationship and expertise of our Sponsor, Investment Manager and its affiliates in sourcing funds from multiple sources, both from domestic and international markets. The Trust's total outstanding consolidated net debt after full utilization of the Issue Proceeds, will be within the regulatory requirement upon completion of the Issue (net of cash and cash equivalents) as specified under the InvIT Regulations.

We also intend to optimise our leverage to retain enough flexibility to provide sustainable and predictable cash flows while also evaluating potential acquisition opportunities in the future. After the completion of the Issue, we believe that we will have sufficient equity capital and ability to add additional debt to support acquisition of additional assets while maintaining an optimum capital structure. We will seek to employ appropriate financing policies and also diversify our funding sources with an objective of minimising our overall cost of capital.

We will seek to optimise our debt and equity mix in such a manner that the aggregate consolidated borrowings and deferred payments of the Trust, net of cash and cash equivalents does not exceed the regulatory requirements at any time subject to the approval of the Unitholders as provided in accordance with the InvIT Regulations. Further, any additional debt beyond 25 % of the value of the Trust Assets will be raised only upon compliance with the conditions set out in the InvIT Regulations. If it is in the interests of the Unitholders, the Investment Manager may also pursue growth opportunities that require raising additional capital through the issuance of new Units.

Continue to ensure efficient and active operation and management of our projects

We intend to continue to manage our road assets through the services of the Project Manager and the O&M Contractor with guidance from the Investment Manager. The Project Manager and the O&M Contractor will be responsible for providing routine O&M services pursuant to the provisions of the Project Implementation and Management Agreements and O&M Agreements. For further details in respect of our O&M arrangements, please see the section entitled "*Business – Key O&M Agreements*" on page 281.

RISK FACTORS

An investment in the Units involves risks. Before investing in the Units, prospective investors should pay particular attention to the fact that the Trust, the Parties to the Trust, each of the Project SPVs and each of their activities are governed by the legal, regulatory and business environment in India, which differs from that which prevails in other countries. Prospective investors should carefully consider the risks and uncertainties described below and all the information in this Draft Offer Document, before making an investment in the Units. If any of the risks described below occurs, our business, cash flows, financial condition and prospects could be materially and adversely affected. The risks and uncertainties described in this section may not be the only risks and uncertainties the Trust currently faces. Additional risks and uncertainties not presently known to the Trustee, the Sponsor or the Investment Manager, or that the Trustee, the Sponsor or the Investment Manager currently deem immaterial, may arise or may adversely affect our business, prospects, financial condition, cash flows, results of operations of the Trust and as a result, the returns on investments of the Unitholders. Unless otherwise stated in the relevant risk factors set forth below, the Trustee, the Sponsor and the Investment Manager are not in a position to specify or quantify the financial or other risks mentioned herein.

*This Draft Offer Document also contains forward-looking statements, including the financial projections (the “**Projections**”), that involve risks, uncertainties and assumptions. The actual results of the Trust and Project SPVs could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the considerations described below and elsewhere in the Draft Offer Document.*

*In making an investment decision, prospective investors must rely upon their own examinations and the terms of the Issue, including the merits and the risks involved. To obtain a complete understanding, prospective investors should read this section in conjunction with the sections entitled “Business”, and “Discussion and analysis by the Directors of the Investment Manager of the financial condition, results of operations and cash flows of the Project SPVs of the Trust” on pages 258 and 349, respectively, and the “Special Purpose Combined Financial Statements” attached as **Annexure C** as well as all other information contained in the Draft Offer Document. Prospective investors should consult their tax, financial and legal advisors about the particular consequences of investing in the Issue.*

In making an investment decision, prospective investors must rely upon their own examinations and the terms of the Issue, including the merits and the risks involved. The prospective investors should consult their tax, financial and legal advisors about the particular consequences of investing in the Issue.

In this section, unless specified otherwise, references to “we”, “us” and “our” are to the Trust and Project SPVs, on a consolidated basis. Furthermore, unless the context otherwise require, the financial information used in this section is derived from the Special Purpose Combined Financial Statements prepared under Ind AS.

RISKS RELATING TO THE TRUST’S BUSINESS AND INDUSTRY

1. *The Trust is a newly settled trust and does not have an established operating history, which will make it difficult to accurately assess our future growth prospects.*

The Trust was set up on July 24, 2024 under the provisions of the Indian Trust Act, 1882 and it is registered as an infrastructure investment trust with SEBI in accordance with the InvIT Regulations. Subject to receipt of requisite approvals, the Trust proposes to acquire 100% of the total issued and paid-up equity share capital of eight Project SPVs (namely, Dodaballapur Hoskote Highways Limited, Repallewada Highways Limited, Dhrol Bhadra Highways Limited, Narenpur Purnea Highways Limited, Viluppuram Highways Limited, Bangalore Malur Highways Limited, Malur Bangarpet Highways Limited and DPJ Pollachi HAM Project Private Limited) and 49% of the total issued and paid up equity share capital of one Project SPV (namely, Poondiyankuppam Highways Limited) pursuant to the Securities Purchase Agreements, executed immediately prior to the Closing Date from Dilip Buildcon Limited, DBL Infraventures Private Limited, Alpha Alternatives Infrastructure Fund, Alpha Alternatives Financial Services Private Limited, Spectrum Edge LLP, Build India Infrastructure Fund and certain other shareholders of the Project SPVs except DPHPPL, which be acquired from AAHPL (directly or indirectly through its affiliates). For further details, please see the section entitled “*Formation Transactions in Relation to the Trust*” on page 22. The Trust does not have any operating history or its own historical financial information by which its past performance may be assessed. This could make it difficult for investors to assess the future performance of the Trust. Further, growth prospects, day to day operations and financial performance as an infrastructure investment trust can be

affected by a wide variety of factors, including, inability to raise funds required for our operations, adverse developments in tax regulations affecting our Unitholders, operational performance, distribution, and acquiring new assets. Any inability to meet these challenges could cause disruptions to our operations and could be detrimental to our long-term business outlook. There can be no assurance that the Project SPVs will be able to generate sufficient cash flows from the operations of the InvIT Assets to make distributions to Unitholders or that such distributions will be as anticipated with those set out in the section titled “*Projections of Revenue and Operating Cash Flow*” attached as Annexure D. Additionally, the historical financial information of the Project SPVs on a combined basis has been included in this Draft Offer Document in the section entitled “*Special Purpose Combined Financial Statements*” attached as Annexure C. There can be no assurance that our future performance will be consistent with the historical financial information on a combined basis included in this Draft Offer Document

2. *DPJ Pollachi HAM Project Private Limited (“DPHPPL”) had received a cure period notice from the concessioning authority, NHAI, on account of, inter alia, delay in completion of the project, non-completion of punch list items and breach of certain covenants under its Concession Agreement.*

NHAI, vide its letter dated June 11, 2024 has issued a notice to DPHPPL due to delay in completion of project milestone and certain defaults as set out in the said letter. Pursuant to meetings held at NHAI headquarters, DPHPPL requested for withdrawal of the notice abovementioned on account of its submission of work programme for completion of gaps. NHAI and DPHPPL, through conciliation entered into a settlement agreement dated July 11, 2024. NHAI agreed to drop the notice if DPHPPL completes the whole work by November 30, 2024, however, the same was not completed within the mentioned timeline. However, pursuant to the Settlement Agreement, if the entire project was not completed by DPHPPL by November 30, 2024, then an intention to terminate notice under clause 31.1.2 of the Concession Agreement would be issued to DPHPPL and further action for termination would be taken against DPHPPL including levying of damages as per the Concession Agreement. A review meeting was held with the NHAI chairman and representatives of DPHPPL, wherein NHAI agreed to give an additional extension for completion of the project milestone till March 15, 2025 and to keep the intention to terminate in abeyance. DPHPPL vide its letter dated March 15, 2025 has sought another with NHAI till May 31, 2025 for completion of balance works in the project.

However, considering untimely monsoon which led to corollary issues such as soil availability, DPHPPL has sought a further extension by way of its letter to the independent engineer dated March 15, 2025. There can be no assurance whether an extension will be granted pursuant to the foregoing letter. Further, any failure to complete the project and cure the underlying defaults within the stipulated timelines, including any revised timelines directed by NHAI, or at all, may result in termination of the Concession Agreement, levy of damages and any other action against DPHPPL in accordance with applicable laws.

3. *Consummation of the Formation Transactions pursuant to which we will acquire the Project SPVs is subject to certain conditions.*

In accordance with the Concession Agreements, each of the Project SPVs require prior consents from NHAI (the “**Concessioning Authority**”) for amongst others, (i) undertaking or permitting any change in ownership of the Project SPVs from national security and public interest perspective, (ii) the creation of any encumbrance or security interest over, or transfer of rights and benefits of the Project SPVs under, the Concession Agreements or any project agreements, (iii) refinancing of a certain portion of the outstanding indebtedness of the Project SPVs and/or (iv) review, amendment, modification or replacement by the Project SPV of any project agreements (including financing agreements) relating to the operation of the InvIT Assets to which the Project SPV is a party if the amendment, modification or replacement of such agreement increases or imposes any financial liability or obligation on the NHAI/concessioning authority, amongst other things. In accordance with these consent requirements, the Project SPVs (except PHL and DPHPPL) have applied for change of control and refinancing approvals from the Concessioning Authority pursuant to letters dated September 3, 2024 (in relation to DBHL, DHHL and RHL), November 30, 2024 (in relation to BMHL and MBHL), October 24, 2024 (in relation to NPHL) November 16, 2024 (in relation to VHL). Application for change of control and refinancing approvals from the Concessioning Authority, (i). for PHL will be made post receipt of the PCOD; and (ii). for DPHPPL will be made post completion of acquisition of DPHPPL by AAHPL (directly or indirectly through its affiliates), pursuant to DPHPPL Securities Purchase Agreement. The

consent, as and if provided by the Concessing Authority, might be subject to certain conditions and we cannot assure you that we will be able to comply with all the conditions provided under the approvals given by the Concessing Authorities, which may adversely impact our ability to acquire the Project SPVs and complete the Formation Transactions and the Issue within the anticipated time frame or at all.

Further, the lenders of the respective Project SPVs have created certain charges over the InvIT Assets which includes pledge over the equity shares of the Project SPVs. The security that has been created in favor of the lenders will be required to be released within an agreed period of time in order to consummate the Formation Transactions. If such security is not released by the lenders within the contemplated timeline or at all, we may not be able to consummate the Formation Transaction in a timely manner or at all. Additionally, any delay in the completion of the Formation Transactions will require us to repledge such securities with the lenders.

4. ***In relation to the proposed acquisition of one of the Project SPVs, namely, DPHPPL, the Trust will acquire 100% of the issued, subscribed and paid-up equity share capital of DPHPPL from AAHPL (directly or indirectly through its affiliates) only once the acquisition of DPHPPL is completed by AAHPL (directly or indirectly through its affiliates) from DP Jain And Co Infrastructure Private Limited***

The consummation of the DPHPPL Securities Purchase Agreement is subject to satisfaction of various conditions precedents including receipt of necessary regulatory and statutory approvals and accordingly, until completion of the acquisition matters of DPHPPL will be subject to on-going diligence. There can be no assurance that AAHPL (directly or indirectly through its affiliates) will be successfully able to acquire 100% of the the issued, subscribed and paid-up equity share capital of DPHPPL from DP Jain And Co Infrastructure Private Limited in a timely manner or at all. Consequently, the Trust may not be able to acquire 100% of the the issued, subscribed and paid-up equity share capital of DPHPPL from AAHPL (directly or indirectly through its affiliates). This could have a material adverse impact on our business, financial condition and results of operations.

5. ***The acquisition by the Trust of the Project SPVs (except DPHPPL) from DBL, DBL Infrastructures Private Limited, Alpha Alternatives Infrastructure Fund, Alpha Alternatives Financial Services Private Limited, Spectrum Edge LLP, Build India Infrastructure Fund and other shareholders of the Project SPVs and acquisition of DPHPPL from AAHPL (directly or indirectly through its affiliates) , or any other asset from third parties in the future, may be subject to certain risks, which may result in damages and losses. We may not be able to recover losses arising from the acquisition of such Project SPVs from the above-mentioned parties under relevant contractual arrangements.***

The Project SPVs were not originally owned by Alpha Alternatives Infrastructure Fund, Alpha Alternatives Financial Services Private Limited, Spectrum Edge LLP, Build India Infrastructure Fund, they acquired and collectively hold 46.00% stake in seven Project SPVs (except DPHPPL) (please refer to the section entitled *Formation Transactions in relation to the Trust – The details of the Project SPVs as of the date of this Draft Offer Document* on page 22) and 24.99% in PHL from DBL and DBL Infrastructures Private Limited (“**Original Sellers 1**”) pursuant to various securities purchase agreements entered into in this regard (“**Alpha Acquisition SPAs**”). Further, DPHPPL is in the process of being acquired by AAHPL (directly or indirectly through its affiliates) from DP Jain and Co Infrastructure Private Limited (“**Original Seller 2**” and along with Original Sellers 1 referred to as the “**Original Sellers**”), in relation to which an amended and restated securities purchase agreement dated March 25, 2025 has been entered into between AAHPL, DPHPPL and DP Jain And Co Infrastructure Private Limited (“**DPHPPL Securities Purchase Agreement**”) and thereafter DPHPPL proposed to be acquired from AAHPL (directly or indirectly through its affiliates) by the Trust as a part of the Formation Transactions. Accordingly, we will rely on certain information and management representations provided by the Original Sellers until the date of acquisition of the Project SPVs and accordingly any adverse impact pursuant to such information or representations may affect the Trust’s earnings and cash flows. While the Alpha Acquisition SPAs and DPHPPL Securities Purchase Agreement may be assigned to the Trust, there is no assurance of enforcement and recovery of any losses arising on account of defects or deficiencies or any other issues in the Projects SPVs from the Original Sellers. Further, the Original Sellers may not provide any representations in relation to the Project SPVs for the time period between the date of acquisition of the Project SPVs by AAHPL and its affiliates and the date of acquisition of the Project SPVs by the Trust. There is no assurance that in

the event any of defects or deficiencies in the Project SPVs, we will be able to raise any claim or recover any losses from the Original Sellers or AAHPL, in a timely manner, or at all.

Further, there can be no assurance that the Project SPVs or the Projects will not have defects or deficiencies that are unknown or unquantified and that may require additional capital expenditure or obligations to third parties, including to the relevant concessioning and statutory authorities, which may have an adverse effect on the Trust's earnings and cash flows and the distributions to the Unitholders, upon acquisition. Further, AAHPL does not have an extended history of operating the Project SPVs and despite pre-acquisition due diligence, we do not believe that it is possible to fully understand an asset before it is owned and operated for an extended time. Accordingly, the acquisition of the Project SPVs from Original Sellers may entail integration and management of these future assets to realize economies of scale and control costs, as well as other risks, including diversion of management resources otherwise available for ongoing development of our business. The acquisition may cause disruptions to our operations and divert management's attention away from day-to-day operations. Newly acquired assets may require significant management attention that would otherwise be devoted to our ongoing business.

The Project SPVs may be subject to unknown or contingent liabilities for which the Trust may have limited or no recourse against the Original Seller. Such unknown or contingent liabilities may also include tax liabilities and other liabilities whether incurred in the ordinary course of business or otherwise. Further, certain of the Project SPVs may be subject to construction related risks including time and costs, over run and delays.

Seven Project SPVs have applied to the concessioning authority for their consent in relation to, amongst others, the transfer of the Project SPVs to the Trust. There can be no assurance that the concessioning authority will grant such consent, or that while granting such consent, the concessioning authority will not impose any conditions in relation to such transfer. For two Project SPV, namely, for PHL, the application to the concessioning authority will be made only post receipt of PCOD and for DPHPPL, the application to the concessioning authority will be made post completion of transfer pursuant to DPHPPL Securities Purchase Agreement. Further, the Project SPVs have availed certain borrowings from banks and other institutions accordingly will obtain certain no-objection certificates or lender consents from certain lenders for purposes of transfer of the Project SPVs to the Trust. As on the date of this Draft Offer Document, the Project SPVs have received certain lender consents and applied for additional required lender consents. If such consents are not received, conditions are not fulfilled, or in the event of a dispute with the lenders in relation to such debt financing, the Trust may not be able to acquire all of the Project SPVs from the Sponsor which could have an adverse effect on the Trust's business and results of operations. Additionally, the Project SPVs may require consents from other third parties (including regulatory authorities) in relation to the transfer. If such consents are not received, the Trust may not be able to acquire all of the Project SPVs from the Sponsor which could have an adverse effect on the Trust's business and results of operations.

6. *We intend to acquire 100% of the issued, subscribed and paid-up share capital of PHL pursuant to the PHL Securities Purchase Agreement and any failure to acquire such percentage of PHL could have a material adverse effect on our business, financial condition and results of operations.*

We intend to acquire 100% of the issued, subscribed and paid-up equity share capital of PHL. However, at the Formation Transactions stage only 49.00% of the issued, subscribed and paid-up equity share capital of PHL is proposed to be acquired. Out of the 49.00% as on date of the Draft Offer Document PHL is held 24.99% by AAHPL and/or its affiliates and 23.00% by DBL and/or its affiliates, and is proposed to be held 26.00% by AAHPL and/or its affiliates and 23.00% by DBL and/or its affiliates, pursuant to the PHL Securities Purchase Agreement ("**49% Acquisition**"). For completion of the 49% Acquisition, there are certain approvals, including lender and regulatory approvals and satisfaction of various conditions precedents under the PHL Securities Purchase Agreement, that are required to be completed. If we are unable to obtain any such approvals or satisfy the conditions precedent in a timely manner, we may not be able to complete the 49% Acquisition. Further, there can be no assurance that the PCOD certificate of PHL will be achieved in a timely manner or achieved at all. Additionally, there can be no assurance that 51.00% of the issued, subscribed and paid-up equity share capital of PHL will be transferred in a timely manner or transferred at all to the Trust. This could have a material adverse

impact on our business, financial condition and results of operations.

7. *Our failure and inability to identify and acquire new infrastructure assets that generate comparable revenue, profits or cash flows may have an adverse effect on our business, financial condition, cash flows and results of operations and our ability to make distributions.*

The InvIT Assets will comprise nine road assets, all operating on a hybrid annuity model in the states of Karnataka, Telangana, Gujarat, Bihar, Tamil Nadu and one union territory of Puducherry that the Project SPVs operate and maintain pursuant to concessions granted by the NHAI. The Concession Agreements of the Project SPVs stipulate a limited concession period at the end of which the operation of the relevant project will be transferred to NHAI. On a collective basis, the Projects have a residual concession period ranging from 13.56 years to 14.38 years, as of December 31, 2024. For further details on the residual concession period of each of the InvIT Assets, please see the section entitled “*Summary of Concession Agreements*” on page 283.

Our growth strategy in the future may involve strategic acquisitions of infrastructure assets. We may not be able to conclude appropriate or viable acquisitions in a timely manner. The success of our initial acquisitions and any future acquisitions will depend upon several factors, including:

- our ability to finance and acquire operational roads and other infrastructure assets on a cost-effective basis;
- our ability to integrate acquired personnel, operations and technologies into our organization effectively;
- unanticipated problems or legal liabilities of the acquired businesses; and
- tax or accounting issues relating to the acquired businesses.

We cannot assure you that we will be able to acquire new infrastructure assets upon the expiry of the term of the Project SPVs’ existing Concession Agreements or at any time thereafter. Accordingly, the number of assets forming part of our portfolio and the revenue generated by them may vary. Further, even if new infrastructure assets are added to our portfolio, we cannot assure you that such infrastructure assets will be able to generate comparable cash flows, revenues and profits. If we are unable to acquire new road assets that generate comparable cash flows, revenue or profits, our business, financial condition, cash flows and results of operations and our ability to make distributions to Unitholders may be adversely affected. For further details on the terms of each of the Concession Agreements, please see the section entitled “*Summary of Concession Agreements*” on page 283.

Further, we cannot assure you that we will be able to achieve the strategic purpose of such acquisitions or operational integration or an acceptable return on such investments, which may adversely affect our profits, financial condition and distributions. The concession agreements for future road projects may also contain terms and conditions that are more restrictive than those under the existing Concession Agreements for the InvIT Assets. These restrictions may restrict our flexibility in managing our business or projects and could in turn adversely affect our business prospects, financial condition and results of operation. Further, if the operating periods of InvIT Assets are shortened or disrupted or the Project SPVs right to operate the InvIT Assets is terminated before the expiration of the concessions, the business, financial condition, cash flows and results of operations of the InvIT may be adversely affected.

There are risks associated with the potential acquisition of the ROFO Assets by the InvIT pursuant to the ROFO Agreement. Further, Build India Infrastructure Fund and DBL propose to enter into a ROFO Agreement with the Trust, pursuant to which Build India Infrastructure Fund and DBL propose to grant a right of first offer to the Trust to acquire the ROFO SPVs. As certain of these projects are currently under different phases of construction, such projects are subject to (i) various construction related risks, including time and cost overruns and delays, (ii) regulatory approvals, (iii) restrictive covenants under the relevant concession agreements. Accordingly, the ROFO SPVs might not be free from defects or

be subject to approval requirements and other restrictions when they are offered to the Trust under the ROFO Agreement and the Trust may decide not to acquire any of the ROFO SPVs.

8. *Our Auditor has included a matter of emphasis relating to the Special Purpose Combined Financial Statements of the Trust. We cannot assure you whether such matter of emphasis will not arise in the future*

Our Auditor has included a matters of emphasis relating to the Special Purpose Combined Financial Statements, which is included as follows:

“During the period ended December 31, 2024, the DPJ Pollachi HAM Project Private Limited carried out work for road construction services; however, no bill was raised as the required Compliances in term and specifications of the EPC agreement were not fully met. Upon completion of the above compliances, DPJ Pollachi HAM Project Private Limited raised a bill of Rs.9.45 Crores (Inclusive GST) on 09.01.2025, which covers only the portion of the construction work where the terms, conditions, and specifications of the EPC agreement were met up until December 31, 2024. The remaining balance for EPC costs will be billed upon the completion of the road construction work. Additionally, the DPJ Pollachi HAM Project Private Limited raised an O&M invoice on 09.01.2025 for Rs.8.37 Crores (Inclusive GST), covering the O&M work completed during the current financial year.”

We cannot assure you whether such matter of emphasis will not arise in the future.

9. *The accuracy of statistical and other information with respect to the road infrastructure sector, the Industry Report and the Technical Report issued by the Technical Consultants and commissioned by the Investment Manager for the Projects contained in this Draft Offer Document cannot be guaranteed.*

The information in the section entitled ‘*Industry Overview*’ on page 173 and in certain other sections in this Draft Offer Document is based on the report titled “*Assessment of Indian Roads Sector*”, dated March 2025, prepared by CRISIL. The Investment Manager commissioned this report for the purpose of inclusion of industry information in this Draft Offer Document. Neither we, the Trustee, the Sponsor, the Lead Manager to the Issue, the Investment Manager, the Project Manager or any other person connected with the Issue has verified the information in the report. Further, the report has been prepared based on information as of specific dates and may no longer be current or reflect current trends.

Statistical and other information in this Draft Offer Document relating to India, the Indian economy or the road infrastructure sector have been derived from various government publications, research reports from reputable institutions and communications with various Indian government agencies that are believed to be reliable. However, there can be no guarantee as to the quality or reliability of such information.

While reasonable care has been taken in the reproduction of the information, no assurance can be made as to the accuracy of such facts and statistics, which may not be consistent with other information compiled within or outside India. Due to possibly inconsistent or ineffective collection methods or discrepancies between published information and market practice, the statistics contained in the Technical Reports may be inaccurate or may not be comparable to statistics produced for other economies and should not be unduly relied upon. Further, there is no assurance that the statistics are stated or compiled on the same basis or with the same degree of accuracy as may be the case with information from elsewhere.

Further, the Technical Consultants have prepared the Technical Reports concerning the Project SPVs which are contained in this Draft Offer Document. We commissioned the Technical Reports for the purposes of conducting an assessment of the Project SPVs. Further, the Technical Reports have been prepared based on information as of specific dates and may no longer be current or reflect current trends. Opinions in the Technical Reports based on estimates, projections, forecasts and assumptions may prove to be incorrect. The Technical Reports are subject to various limitations and are based upon certain bases, estimates and assumptions that are subjective in nature and that are based, in part, on information provided by and discussions with or on behalf of us and the Investment Manager. There

can be no assurance that the bases, estimates and assumptions adopted by the consultants for the purposes of preparing the Technical Reports will prove to be accurate. Future reports for the Project SPVs could be materially different from those that are set forth in the Technical Reports and this Draft Offer Document. The Technical Reports are not a recommendation to invest or disinvest in the Project SPVs. Prospective investors are advised not to unduly rely on the Technical Reports when making their investment decision.

10. *The Special Purpose Combined Financial Statements and Projections of Revenue from Operations and Cash Flow from Operating Activities presented in this Draft Offer Document may not be indicative of the future financial condition and results of operations of the Trust.*

The Special Purpose Combined Financial Statements included in this Draft Offer Document are prepared by combining the historical financial data of the Project SPVs, as required under the InvIT Regulations and have been prepared on the assumption that all the Project SPVs will be acquired pursuant to the Securities Purchase Agreement. The Financial Statements of the Project SPVs for December 31, 2024, March 31, 2024, March 31, 2023, March 31, 2022 constitute a different presentation of information and may not necessarily reflect the consolidated financial position, results of operations or cash flows of the Trust, and nor will they necessarily give an indication of the financial position, results of operations or cash flows of the Trust or the Project SPVs in the future.

After the Listing, there may be certain changes to the Trust's cost structure, levels of indebtedness and operations, and these could differ materially from the historical combined cost structure and levels of indebtedness presented in the Financial Statements. For example, there are certain costs, such as the Investment Manager's fee, the Project Manager's fee and other costs relating to the Trust, that will be incurred by the Trust and the Project SPVs going forward, some of which were not incurred by them historically. For details of recurring expenses, please see the section titled "Overview of the Trust" on page 20.

The financial projections contained in this Draft Offer Document are based on historical financial information and certain estimates and assumptions. There can be no assurance that the Project SPVs will be able to generate sufficient cash from the operations of the Projects for the Trust to make distributions to Unitholders or that such distributions will be in line with those set out in the section titled "Projections of Revenue from Operations and Cash Flow from Operating Activities" attached as Annexure D. The future financial performance of the Trust could vary materially from the financial projections and some of such projections' underlying assumptions might change or not materialise as expected. Unfavourable events or circumstances not anticipated may also arise. There can be no assurance that the assumptions will be realised, or actual distributions will be as anticipated.

11. *The Valuation Report by S. Sundararaman (the "Valuer") is not an opinion on the commercial merits and structure of the Issue nor is it an opinion, express or implied, as to the future trading price of Units or the financial condition of the Trust upon the Listing, and the valuation of the Project SPVs contained in such Valuation Report may not be indicative of the true value of the Project SPVs.*

S. Sundararaman was appointed as the independent valuer (the "Valuer") to undertake independent appraisals of the Project SPVs. The Valuer issued a letter, and a report appended to it (together, the "Valuation Report"), which sets out its opinion as to the fair enterprise value of the Project SPVs as of December 31, 2024. The Valuation Report is based on various assumptions with respect to the Project SPVs, including, amongst others, their revenue cash flows, O&M expenses, macroeconomic conditions, prevalent discount rates, major maintenance and repairs costs, depreciation and amortization, capital expenditure and working capital. Such assumptions are based on the information provided by, and discussions with, the Investment Manager. Further, the Valuation Report is based on estimates of future financial performance or opinions, which represent reasonable expectations at a particular point of time, but such information, estimates or opinions are not offered as predictions or as assurances that a particular level of income or profit will be achieved, a particular event will occur or that a particular price will be offered or accepted.

The Valuation Report is neither an opinion on the commercial merits and structure of the Issue, nor is it an opinion, express or implied, as to the future trading price of Units or the financial condition of the Trust upon Listing. The Valuation Report does not purport to contain all the information that may be necessary or desirable to fully evaluate the commercial or investment merits of the Issue or the Trust.

The Valuation Report does not confer rights or remedies upon investors or any other person and does not constitute and should not be construed as any form of assurance as to the financial condition or future performance of the Trust or the Project SPVs. Further, we cannot assure you that the valuation prepared by the Valuer reflects the true value of the net future cash flows of the Project SPVs or that other valuers would arrive at the same valuation. Accordingly, the valuation contained therein may not be indicative of the true value of the Project SPVs. The Valuation Report has not been updated since the date of its issue, does not take into account any subsequent developments and should not be considered as a recommendation by the Trust, the Trustee, the Investment Manager, the Sponsor, the Lead Manager or the Project Manager or any other party that any person should take any action based on the Valuation Report. For details, please see the Valuation Report in Annexure A.

12. *Our revenues from our Project SPVs are dependent on receiving consistent annuity income and interest on annuity income from NHAI.*

All of our Project SPVs are operated on hybrid annuity basis. Pursuant to the relevant Concession Agreements, a fixed amount along with interest at a rate as prescribed under the Concession Agreement, is paid bi-annually as annuity by NHAI. Any reduction or non-receipt of annuity income from NHAI may adversely affect our distributions. Further, as per the Projections of Revenue from Operations and Cash Flow from Operating Activities, the revenue from operations for March 31 2026, 2027 and 2028 arising from the nine Project SPVs is projected to be ₹ 10,065.14 million, ₹ 9,828.67 million and ₹ 9,465.28 million, respectively. In compliance with the InvIT Regulations, this Draft Offer Document includes certain forward-looking statements, such as the Projections of Revenue from Operations and Cash Flows from Operating Activities, expectations, plans and analysis of the Projections, see the section entitled “*Risk Factors –The Special Purpose Combined Financial Statements and Projections of Revenue from Operations and Cash Flow from Operating Activities presented in this Draft Offer Document may not be indicative of the future financial condition, cash flows and results of operations of the Trust*” and “*Projections of Revenue from Operations and Cash Flow from Operating Activities*” on page 72 and Annexure D, respectively. Further, any new taxation law applicable to the Trust may also have impact on the revenue of the Project SPVs. Any adverse impact on the revenue from operations of the Project SPVs will have an adverse impact on the business, cashflows and revenue from operations of the Trust.

13. *We may be subject to inflation/deflation and interest rate risks.*

In some of our concession agreements, our income from operation and maintenance is linked with the movements of inflation indices in a relevant period and income from interest on the balance completion cost is linked with RBI Bank Rate/average of MCLR declared by top 5 banks. However, there are no specific provisions in our concession agreements protecting us against increases in interest rates or cost of raw materials except to the limited extent of rates linked to inflation and the RBI Bank Rate. Our lenders may have the right to periodically adjust our interest rates and our applicable interest rates may increase based on their review of our credit profile and perceived risks in our operations. Our operational costs may also increase substantially if the O&M Contractor fails to perform its duties as per the O&M Agreements. Many factors causing such adverse changes are beyond our control and we are usually not able to demand matching increases in our annuities. Even if we invoke the inflation adjustment clauses in some of our concession agreements, the increase may not be adequate to offset the negative impact of increases in interest rates or O&M costs.

14. *The Project SPVs may be subject to penalties and claims from the concessioning authorities and third parties during the course of operations of the Projects and may not be able to recover all operational losses from the Project Manager and/ or other contractors providing operations and maintenance services to the Projects.*

The Project SPVs may, from time to time, receive letters and notices from the concessioning authorities or other third parties imposing penalties and seeking claims for any deficiencies or non-compliance with the terms of the concession agreement or other project agreements or a claim or compensation under the terms of the concession agreements. The Project SPVs may contest such claims or invoke any indemnification provided by the Project Manager and/ or any O&M Contractor it has appointed or may appoint. However, there would be an adverse effect on the Project SPV’s operations and financial condition if a claim is decided against such Project SPV. Ongoing claims by the Project SPVs against the concessioning authorities, if any, have been disclosed in the section titled “*Legal and other*

information” on page 393. Further, the maximum aggregate liability of the Project Manager for any breach of any of the terms of the Project Management Agreement by the Project Manager in a particular year, shall be limited to one year’s fee payable to the Project Manager for that financial year, unless the loss or damage caused is due to gross negligence, fraud or wilful default of the Project Manager. Accordingly claims exceeding the amount limits, which are not the liability of the Project Manager, would have an adverse effect on the Project SPVs’ financial performance.

15. *The terms of the Project Implementation and Management Agreements, O&M Agreements, may change subject to comments that may be provided by the Concessioneering Authority.*

Pursuant to the terms of the respective concession agreements, the Project SPVs are required to submit to their respective concessioneering authorities, drafts of all project agreements or any amendments or replacements, pursuant to which the relevant concessioneering authorities have the right to review and provide comments within specified time periods. Accordingly, the Project SPVs have submitted drafts of the Project Implementation and Management Agreements and the O&M Agreements to the relevant concessioneering authorities for their review and comments prior to filing of this Draft Offer Document with SEBI, except for PHL and DPHPPL. The drafts of the Project Implementation and Management Agreements and the O&M Agreements may be required to be amended subject to any comments or observations received from the concessioneering authority.

16. *Our operating expenses are dependent on the routine and periodic major maintenance obligations contained in the O&M agreement and are subject to fluctuations.*

The Project SPVs are required to operate and maintain the Projects in accordance with the respective concession agreements. Accordingly, the Project SPVs prepare a maintenance manual and a maintenance program in consultation with an independent engineer appointed by the NHAI or other concessioneering authority for each Project, and are required to abide by the same. The Project SPVs’ maintenance obligations are primarily to operate and maintain the Projects in order to permit the safe, smooth and uninterrupted flow of traffic and the related work and maintenance that they are required to undertake in order to fulfil such obligations. Such maintenance obligations include the repair of wear and tear of roads including overlaying the surface of the roads, among other things. Please see the section titled “*Summary of Concession Agreements*” on page 283 for details on the Project SPVs’ O&M obligations.

Routine and periodic major maintenance costs mainly comprise costs of raw materials and other items including fuel, equipment costs and labour expenses, besides maintenance and replacement of hardware, software and equipment. The prices and supply of raw materials depend upon factors that are beyond our control, including, but not limited to, general economic conditions, transportation costs, global and domestic market prices, competition, production levels and import duties, which could be cyclical in nature. Unanticipated increases in the price of materials, fuel costs, labour or other inputs will affect the results of operations of the Project SPVs, especially if the wear and tear on the relevant Project requires major work. The Project SPVs’ ability to absorb increases in the purchase price of materials, fuel and other inputs is limited.

Further, our operational costs may also increase substantially, if the relevant O&M Contractors fail to perform their duties as per the O&M Agreements.

Unanticipated increase in material and labour costs, traffic volume or environmental stress leading to more extensive or more frequent heavy repairs or maintenance costs; the Project SPVs being required to restore their project roads in the event of any landslides, floods, road subsidence, other natural disasters, accidents or other events causing structural damage or compromising safety; changes to the laws and regulations relating to insurance in India which results in an increase in the insurance premiums payable by the Project SPVs; an increase in minimum wages or other operating costs; the introduction of a levy on the usage of water for maintenance of the roads and highways; unforeseen legal, tax and accounting liabilities relating to assets; increase in electricity or fuel costs resulting in an increase in the cost of energy; implementation of stringent environment laws by NHAI pursuant to impact of global warming and carbon emissions norms; adoption of new technology or upgrade in technology used by the NHAI for maintenance of Initial Portfolio Assets resulting in an increase in cost

of O&M; higher interest costs in relation to our borrowings; or any other unforeseen operational and maintenance costs

17. *The operation and maintenance costs of our projects may increase due to factors beyond our control.*

The contracts for our road projects typically specify certain operation and maintenance standards and specifications to be met by us while undertaking our operation and maintenance activities and develop a maintenance manual. These specifications and standards require us to incur operation and maintenance costs on a regular basis. The operation and maintenance costs of our projects may increase due to factors beyond our control, including but not limited to:

- standards of maintenance or road safety applicable to our projects prescribed by the relevant regulatory authorities;
- requirement for restoration of our projects in the event of any landslides, floods, road subsidence, other natural disasters accidents or other events causing structural damage or compromising safety;
- unanticipated increases in material and labour costs, higher axle loading, traffic volume or environmental stress leading to more extensive or more frequent heavy repairs or maintenance costs. The cost of major repairs may be substantial and difficult to ascertain and may adversely affect traffic flows;
- increase in electricity or fuel costs resulting in an increase in the cost of energy; or
- other unforeseen operational and maintenance costs.

Any failure by a Project SPV to maintain the relevant Project according to the terms of the concession agreement will entitle the concessioning authority to terminate the concession agreement or take remedial actions at the risk and cost of the Project SPV and recover such cost and damages from the Project SPV from the escrow account as if such costs and damages were O&M expenses.

18. *The Project SPVs have entered into concession agreements which contain certain onerous provisions and any failure to comply with such concession agreements could result in adverse consequences including penalties and the substitution of the concessionaire. The Project SPVs may incur additional costs due to change in law/ change in scope under the Concession Agreements. NHAI may not compensate the respective Project SPVs in a timely manner or at all which may have material adverse effect on our financial conditions, results of operations and cash flows.*

The Project SPVs have entered into concession agreements with their respective concessioning authorities with which the Project SPVs have a limited ability to negotiate the terms of the concession agreements. As a result, the concession agreements contain terms that may be onerous to the Project SPVs in relation to, among other things, compliance with and monitoring of O&M requirements. The O&M requirements include, among other things, permitting the safe, smooth and uninterrupted use of the Project SPVs, undertaking routine maintenance, including prompt repairs of potholes, cracks, joints, drains, embankments, structures, markings, lighting and signage, undertaking major maintenance in accordance with the relevant concession agreement, including but not limited to resurfacing, repairs to structures, and repairs and refurbishment of system and other equipment and protection of the environment and provision of equipment. Failure to comply with these requirements could result in adverse consequences, including the Project SPVs being liable for compensating the relevant concessioning authorities for such breach or termination.

There are terms in the concession agreements which require the relevant concessioning authority's prior written approval before a Project SPV can create encumbrance or security interest over, or transfer its rights and benefits under, the respective concession agreement. The terms of the concession agreements limit the creation of security interest to secure the loans taken by the Project SPVs to finance the project cost of the respective project only. There is no assurance that a concessioning authority will approve the actions of any Project SPV in time or at all. Even if approval from a concessioning authority is obtained, there is no assurance that the transfer of the rights and benefits under the respective concession agreement would have no adverse effect on the Unitholders. The restrictions and uncertainties impose constraints on the flexibility of the Trust to conduct its business and its financial conditions and results

of operations may be adversely affected.

In addition, the concession agreements also contain clauses which will allow a concessioning authority to step in, in place of a Project SPV, in the event of a suspension or termination of the concession agreement. Further, the concessioning authorities, on the request of the lenders of such Projects, may substitute the Project SPV in the event that the Project SPV is in “financial default”; that is, for example, if the concessioning authorities or the lenders of such Project have a reason to believe that a Project SPV is likely to face financial distress and is in default in its obligations under the terms of the relevant concession agreement. The concessioning authorities may also impose a penalty on the defaulting Project SPV or can also terminate the concession agreements, in case the substitution is not feasible or accepted by the concessioning authority.

The concession agreements also require the Project SPVs to indemnify the concessioning authorities, including for losses arising out of, or with respect to, the failure of the concessionaire to comply with applicable laws and permits, payment of taxes payable by the concessionaire or the non-payment of amounts arising out of materials or services provided to the relevant Project SPV, among others.

In the event that any change in law under a Project’s concession agreement imposes a financial burden on the affected Project SPV, the Project SPV may be entitled to approach the relevant concessioning authority to amend its concession agreement or seek compensation such that the Project SPV is placed in its former financial condition. The Project SPV have, in the past, raised claims for compensation against the concessioning authorities, under the concession agreement, some of which are still pending. The claims raised by the Project SPVs include, amongst others, claims in relation to change of scope, change of law and force majeure claims. If compensation is sought under such provisions in the concession agreements, there is no assurance that the affected Project SPV will receive such compensation from the relevant concessioning authority in the amounts claimed, in a timely manner, or at all. This could have an adverse effect on the Trust’s financial performance. Further, the adverse settlement of any claims raised by the concessioning authorities, including the payment of damages, fines or other penalties by the Project SPVs could adversely affect the business, prospects, financial condition and results of operations of the Project SPVs.

The form of the concession agreement has evolved in the previous decade and there is limited guidance available on the interpretation of the terms and conditions contained in such concession agreements. In addition, certain terms of the concession agreements are ambiguous and untested and accordingly, their interpretation by the relevant concessioning authorities may differ from that of the Project SPVs. In the event that the interpretation of the concession agreements is unfavourable to the Project SPVs, their business, financial condition and results of operations may be adversely affected.

19. *The concession agreements may be terminated prematurely under certain circumstances.*

Under the terms of concession agreements entered into by the Project SPVs, we have obligations to maintain our road projects in good working order and undertake major maintenance activity of the roads periodically. Our road projects require repair or maintenance due to regular wear and tear, natural disasters, accidents and other factors beyond our control. The concessioning authority will periodically carry out tests through one or more engineering firms to assess the quality of roads and their maintenance. If we fail to maintain the roads to the standards set forth in the relevant concession agreements, the concessioning authority may impose penalties, withhold annuity payments and demand remedies within cure periods. If we fail to cure our defaults in a timely manner within such time as may be prescribed under the concession agreement, our concession agreements may be terminated.

If a concession agreement is terminated by the concessioning authority due to a default by a Project SPV, the Project SPV may be exposed to additional liability as it is obliged to repair or rectify, at its own cost, any defects or deficiencies identified by the independent engineer of the Project for a period specified in the concession agreement upon such termination. In addition, the termination payment by the concessioning authority due to a default by a Project SPV, will be calculated according to the terms of the concession agreement, which may be less than the actual cost incurred by a Project SPV on its Project.

Consequently, not only would the Project SPV recover less than the costs incurred, but such an occurrence would also have an adverse effect on the Trust’s financial performance. In addition, our operations may be adversely affected by interruptions or failures in the technology and infrastructure

systems that we use to support our operations, including traffic measurement systems. Furthermore, accidents and natural disasters may also disrupt the construction, operation or maintenance of our projects and concessions. Any significant increase in operations and maintenance costs beyond our budget and any failure by us to meet quality standards may reduce our profits and could expose us to regulatory penalties and could adversely affect our business, financial condition and results of operations.

If a concession agreement is terminated by the concessioning authority due to a default by a Project SPV, or by the Project SPV due to a default by the concessioning authorities, such Project SPV is entitled to termination payments or otherwise from the concessioning authorities in accordance with the terms of the relevant concession agreement. There can also be no assurance that the concessioning authority will pay the termination payments promptly or at all or that any termination payments will be adequate to enable us to recover our investments or returns in the relevant Project SPVs.

If any concession agreement is terminated prematurely, the business, financial condition and results of operations of the relevant Project SPV could be adversely affected. Please see the section titled “Summary of Concession Agreements” on page 283. Please also see, the section entitled *Risk Factors - DPJ Pollachi HAM Project Private Limited (“DPHPPL”) had received a cure period notice from the concessioning authority, NHAI, on account of, inter alia, delay in completion of the project, non-completion of punch list items and breach of certain covenants under its Concession Agreement* on page 67.

- 20. *The DINs of two of the directors of the Investment Manager were revoked in the past due to non-compliance of Companies Act, 2013, by certain companies with which they were associated.***

The DINs of two directors of the Investment Manager, namely, Jignesh Shah and Abhishek Dalmia, were revoked in the past by the Ministry of Corporate Affairs, due to non-compliance of certain provisions of the Companies Act, 2013, by certain companies with which they were associated. However, these revocations were subsequently uplifted and the DINs were re-activated upon the requisite compliances being done.

- 21. *The Project SPVs have a limited period to operate the Projects as the concession periods granted to the Project SPVs are fixed.***

Each of the concession agreements entered into by the Project SPVs provides for a fixed term concession, subject to some variations and extension as permitted under the concession agreements or as may be granted by the concessioning authorities, at the end of which the operation of the relevant Project will be transferred to the relevant concessioning authority. On a collective basis, the Project SPVs have a residual concession period ranging from 13.56 years to 14.38 years, as of December 31, 2024. For details of the concession periods of the Project SPVs, please see the section titled “Business” on page 258. In addition, there can be no assurance that the Trust will be able to successfully acquire new assets to replenish its portfolio once the existing concession agreements expire. Further, if the operating periods of the Projects are shortened or disrupted or the Project SPVs’ rights to operate the Projects are terminated before the expiration of the concessions, the business, financial condition and results of operations of the Trust may be adversely affected.

- 22. *The Project SPVs, which are responsible for the operation and maintenance of the Projects under the respective concession agreements, may be directed by the relevant concessioning authority to undertake, and the Project SPVs will be obliged to perform, additional construction work.***

Under the terms of the concession agreements, the Project SPVs are responsible for the operation and maintenance of the Projects during the applicable concession periods. A concessioning authority may require a Project SPV to provide additional work and services not included in the original scope of the concession agreement. While we believe that the concessionaire can apply for reimbursement for change of scope works, there is no assurance that the money spent on complying with change of scope orders will be reimbursed in a timely or complete manner by the concessioning authority.

- 23. *The Project SPVs depend on the O&M Contractors to operate and maintain the Projects. Any delay, default or unsatisfactory performance by the O&M Contractors could adversely affect the Project SPVs’ ability to effectively operate or maintain the Projects.***

The Project SPVs are obligated to maintain the Projects according to standards specified in the concession agreements. In this regard, the Project SPVs have entered into the O&M Agreements with the O&M Contractors. Under such O&M Agreements, the O&M Contractors are required to discharge the obligations of the Project SPVs under the concession agreements relating to operation and maintenance. The Project SPVs may have limited control over the timing or quality of services, equipment or supplies provided by the O&M Contractors. Inefficiencies or operational failures on the part of the Project SPVs or the O&M Contractors, as a result of defects in design, quality of construction or maintenance, could result in the Project SPVs incurring increased costs, loss of revenue and penalties, thereby causing adverse impact on the financial position of the Project SPVs.

The Project SPVs may also be exposed to risks relating to inability of the O&M Contractors or other subcontractors to obtain requisite approvals for operation and maintenance activities, as well as risks relating to the quality of their services, equipment and supplies. The O&M Agreements only provide for damages in case of default by the O&M Contractor in performance of its obligations and do not provide for any kind of security/guarantee from the O&M Contractors. Further, the aggregate liability from such claims is limited under each contract.

In addition, under certain of the concession agreements, the consent of the concessioning authority is required for any selection or replacement of an operation and maintenance contractor. Any delay, default or unsatisfactory performance by the O&M Contractors or other sub-contractors could adversely affect the ability of the Project SPVs to effectively operate or maintain the Projects. This may result in increased costs as well as losses of revenue for the Project SPVs and thereby have an adverse effect on the financial condition and results of operations of the Trust.

24. *The ability of the Trust to make or maintain consistency in distributions to Unitholders depends on the financial performance of the Project SPVs and their profitability.*

The amount of future distributions, if any, will depend upon various factors including future earnings, financial condition, cash flows, working capital requirements and capital expenditures of the Project SPVs and the dividends, interest payments and repayments of indebtedness that are distributed to the Trust. The income earned from the Projects depends on, among other things, the amount of income generated from annuities and the level of operating and other expenses incurred. If the Projects do not generate sufficient operating profit, the income of the Trust, cash flows and ability to make distributions or level of distributions made to Unitholders will be adversely affected.

The ability of the Project SPVs to make dividend payments is subject to, among other things, applicable laws and regulations in India and other contractual restrictions that they may be bound by. Under the terms of the InvIT Regulations, in the event any assets are sold by the Trust, the Holding Companies or any Project SPV or if the equity shareholding or interest in any Holding Company or Project SPV is disposed of by the Trust and the proceeds of such sale are proposed to be reinvested in another infrastructure asset, then the Trust is not obligated to make any distributions from such proceeds to the Unitholders.

In addition, the InvIT Regulations provide that the Trust must distribute not less than 90% of net distributable cash flows of each Project SPV in proportion of its holding in each of the Project SPV subject to the applicable provisions of the Companies Act, 2013. Further, a Holding Company must distribute 100% of the net distributable cash flows received from the underlying Project SPVs and must distribute 90% of the net distributable cash flows generated by the Holding Company. The distributions to the Unitholders must be declared and made not less than once every six months and within five working days from the record date, being two working days from the date of such declarations, excluding the date of declaration and the record date. There is no assurance that the Trust will be able to make distributions to the Unitholders or that such distributions will be consistent across various periods.

Further, the method of calculating the net distributable cash flows of a Project SPV is subject to change and any change in the applicable laws in India or elsewhere may limit the Trust's ability to pay or maintain consistency in distributions to Unitholders. There is also no assurance that the expansion of the Trust's portfolio of infrastructure assets will increase the Trust's cash flows and thereby result in an increase in the level of distributions to Unitholders over time.

25. *An inability to obtain, renew or maintain the required statutory and regulatory permits and approvals or to comply with the applicable laws may have an adverse effect on the business of the Project SPVs.*

The Project SPVs require certain approvals, licenses, registrations and permissions under regulations, guidelines, circulars and statutes regulated by the Indian regulatory and government authorities to be obtained at various stages and by a number of parties. There can be no assurance that the relevant authorities will issue these approvals or licenses, or renewals thereof, in a timely matter, or at all. In addition, the Project SPVs are required to comply with a wide variety of Indian laws and regulations. There can be no assurance that the Project SPVs are in compliance with such laws and regulations or as requested by the regulatory authorities, have obtained all necessary approvals or that they will continue to obtain the necessary approvals or have been and will continue to be in compliance with all applicable laws and regulations. In the event of any failure to obtain or renew the approvals or if there is a delay in the obtaining of such approvals, the business and financial condition of the Project SPVs could be adversely affected. Further, these permits, licenses and approvals could be subject to several conditions, and the Trust cannot assure investors that the Project SPVs have complied with all such conditions and will be able to continuously meet such conditions or be able to prove compliance with such conditions to the authorities. Any non-compliance may lead to cancellation, revocation or suspension of relevant permits, licenses or approvals, which may result in the interruption of the operations of the Project SPVs and may adversely affect the business, financial condition and results of operations of the Project SPVs.

Further, certain terms and conditions in the Project SPVs' concession agreements, financing agreements, and our other approvals require the concessioning authorities' prior written approval to be obtained for one or more of the following actions, among others:

- amendment, modification, or replacement by the Project SPV of any project agreements (including financing agreements) relating to the operation of the road asset to which the Project SPV is a party if the amendment, modification, or replacement of such agreement increases or imposes any financial liability or obligation on the concessioning authorities;
- the creation of any encumbrance or security interest over, or transfer of rights and benefits of the Project SPVs under, the concession agreements or any project agreements; and
- the selection or replacement of any engineering, procurement and construction contract, operation and maintenance contractor and execution of the engineering, procurement and construction agreements and the operation and maintenance agreements.

Additionally, one of the Project SPVs, namely DPHPPL, has received PCOD only for 36.50 kms out of 50.08 kms. There can be no assurance that the PCOD for the remaining kms will be achieved in a timely manner or achieved at all.

The concession agreements of the Project SPVs also require the submission to the concessioning authorities, for its review and comments, all project agreements (including, financing agreements, O&M contracts) to which a Project SPV is a party prior to entry, amendment, or replacement of such agreements, even if such agreements do not affect the financial liability or obligations of the concessioning authorities.

Further, as on the date of this Draft Offer Document, there are certain approvals required to be obtained by the Trust and the Project SPVs, for which applications are yet to be made. For further details, see the section titled "*Regulatory Approvals – Approvals for which applications are yet to be made*" on page 392.

The restrictions described above may impose constraints on our flexibility to conduct our business. Further, if as a result of these restrictions, we are unable to pursue a favourable course of action or to respond to an unfavourable event, condition, or circumstance, then our business, financial condition and results of operations may be materially and adversely affected.

26. *The flexibility of the Trust and the Project SPVs to utilise available funds may be restricted by the escrow arrangements they are required to maintain under the concession agreements.*

Under the terms of the concession agreements, the Project SPVs are required to establish escrow

accounts. The Project SPVs are required to deposit all their cash inflows and receipts into the escrow accounts, including, among other things, any payments (including termination payments) by the concessioning authorities. The funds in such escrow accounts are to be utilised only in the manner prescribed in the escrow agreements and the concession agreements. The escrow arrangements typically prioritise the payment of all taxes due and payable by the Project SPV, followed by the payment of expenses in connection with, amongst others, (i) the construction of the Projects, (ii) O&M expenses and other costs and expenses incurred by the Project SPVs or the relevant concessioning authority, (iii) any payments and dues payable to the relevant concessioning authority, and (v) debt servicing of the project lenders. The balance, if any, will be in accordance with the instructions of the Project SPVs.

Any withdrawals from the escrow accounts by the Project SPVs during the concession periods must be made strictly in accordance with the terms of the concession agreements, debt documentation and escrow agreements, thereby limiting the flexibility of the Project SPVs in utilising available funds to plan for, or react to, changes in their business needs, which could have an adverse effect on their business, financial condition and results of operations.

With respect to withdrawals on termination of the concession agreements, the escrow arrangements typically prioritize the payment of all taxes due, followed by, amongst other things, the payment of outstanding concession fee, payment due to the concessioning authorities, the payment of damages in relation to the concession, retentions and payments arising out of liability for any defects, accrued debt service payment and accrued O&M expenses and any other payment required to be made under the concession agreements. The loans/advances by the shareholders will be classified as subordinated debt and equity under the concession agreements, unless the same is otherwise approved by the concessioning authorities.

Accordingly, the ability of the Trust to access such termination payments will be subordinated to the payment of, among other things, any outstanding concession fees, outstanding dues of the senior lenders and damages. Any shortfall in the termination payments received from the concessioning authorities may prevent us from recovering our investments or returns in the relevant Project SPVs adequately or at all. Also, on termination of the concession agreements and/or default under the financing documents executed with the project lenders, the payments/withdrawals from the escrow accounts of the respective Project SPVs may be entirely controlled by the discretion of the concessioning authorities and/or the project lenders.

27. ***The Project SPV's financing agreements entail interest at variable rates, and any increase in interest rates may adversely affect our results of operations, financial condition and cash flows. Further, the Project SPVs are subject to restrictive covenants under their financing agreements that could limit our flexibility in managing our business or to use cash or other assets.***

We expect that certain financing arrangements of the Project SPVs will remain in place after the allotment of the Units. Please see the section titled “*Use of Proceeds*” on page 334 for details. These financing agreements entail interest at variable rates with a provision for the periodic reset of interest rates. Under the Project SPVs’ financing agreements, the lenders may be entitled to change the applicable rate of interest on any date and accordingly, the Project SPVs are susceptible to changes in interest rates and the risks arising therefrom. Any increase in interest rates may have an adverse effect on our results of operations, financial condition and cash flows.

Further, the financing agreements entered into by the Project SPVs with certain banks and financial institutions contain certain restrictive covenants and cross default provisions. The financing agreements restrict the Project SPVs from, amongst other things, (i) make any change or reduction in the shareholding of the Project SPVs, without prior consent of the lender; (ii) make any change in capital structure including any change in the shareholding pattern without prior consent of the lenders; (iii) any change in controlling interest or any drastic change in management set up without prior consent of the lenders; (iv) enter into amalgamation, demerger, merger or reconstruction without prior consent of the lenders; and (v) alter or augment or expand scope of project without prior consent of the lenders. In addition, these restrictive covenants may also affect some of the Trust’s rights as the shareholder of the relevant Project SPV and the Project SPV’s ability to pay dividends if it is in breach of its obligations under the applicable financing agreement. Such financing agreements also require us to maintain certain financial ratios. These may restrict our ability to conduct business, and any breach thereof may adversely affect our results of operations and financial condition. In the event of any breach of any

covenant contained in these financing agreements, apart from other consequences, the security trustee may enforce the security under the financing agreements which may adversely affect our business, financial condition and results of operations. We may also be required to immediately repay our borrowings either in whole or in part, together with any related costs or penalties as required under the financing agreements.

While the Project SPVs (except PHL and DPHPPL) have received certain consents from their lenders, the application to lenders pursuant to foregoing restrictive covenants under the relevant financing agreement, (i). for PHL will be made post receipt of the PCOD; and (ii). for DPHPPL will be made post completion of acquisition of DPHPPL by AAHPL. We cannot assure you if PHL and DPHPPL will be able to obtain such consents in a timely manner from or at all.

Furthermore, if the Project SPV is suspended under the relevant Concession Agreements in relation to any default by such Project SPV, at any time during such suspension, NHAI has the right to trigger the substitution process and require the lenders of such Project SPV to exercise their rights to substitute the concessionaire in accordance with the agreement with senior lenders. Also, on occurrence of a financial default by the Project SPV, the lenders to that Project SPV have the right to trigger the substitution process in terms of the substitution agreement.

In addition, our ability to meet the debt service obligations and repay the outstanding borrowings of the Project SPVs will depend primarily on the cash generated by our business. We cannot assure you that we will generate sufficient cash to service existing or proposed borrowings or fund other liquidity needs, which could have an adverse effect on our business, cash flows and results of operations. We may be required to refinance our outstanding borrowings in the future. There is no assurance that we will be able to obtain such financing, on favourable terms, or at all, which may have a material adverse effect on our business, financial condition and results of operations. For further details in relation to the financing arrangements entered into by the Project SPVs, please see the section titled “*Financial Indebtedness and Deferred Payments*” on page 339.

28. *We may face limitations and risks associated with debt financing, refinancing and restrictions on investment, which may adversely affect our operations and our ability to make distributions to Unitholders.*

We are subject to regulatory restrictions in relation to our debt financing and refinancing. We may from time to time require debt financing and refinancing to carry out the Investment Manager’s investment strategy. In the event that we undertake debt financing or refinancing, we may be limited by Indian law as to the nature of financing or refinancing that we may undertake. Under the InvIT Regulations, the aggregate consolidated borrowings and deferred payments of the Trust, net of cash and cash equivalents shall not exceed 70% of the value of the InvIT Assets and any borrowings above 25% of the value of the InvIT Assets, up to 49%, shall be subject to certain conditions, including Unitholder approval and credit rating from a credit rating agency. For further borrowings exceeding 49% of the value of the InvIT Assets, the funds are permitted to be utilized only for acquisition or development of infrastructure projects, the prescribed credit rating and threshold of unitholder approval are required to be obtained and the Trust is required to have a track record of at least six distributions on a continuous basis post listing in the years preceding the financial year in which the enhanced borrowings are proposed to be made. There is no assurance that the relevant approval can be obtained in a timely manner, or at all. Further, there is no assurance that the current levels of debt allowed under the InvIT Regulations shall remain unchanged and these can be made further stringent wherein the ability of the Trust to raise incremental debt financing may be curtailed.

Restrictions imposed by the Reserve Bank of India may limit the Trust’s ability to borrow overseas for projects under development and hence could constrain its ability to obtain financing on competitive terms and refinance existing indebtedness. In addition, there can be no assurance that any required regulatory approvals or borrowing in foreign currencies will be granted to the Trust without onerous conditions, or at all.

Debt financing to fund the acquisition of a project may not be available on short notice or may not be available on acceptable terms or at all. Since the timing and size of acquisitions cannot be readily predicted, the Trust may need to be able to obtain funding on short notice to benefit fully from opportunities. Also, as a trust, we may be unable to access certain debt capital available to companies.

Debt raised by us may be subject to regulatory restrictions. Additionally, debt to be raised by any of the Project SPVs will be subject to their credit rating.

In the event that we undertake new debt financing or refinance existing debt, we may also be subject to risks associated with debt financing and refinancing, including prior consent or intimation to lenders required to carry out certain actions and the risk that our cash flows may be insufficient to meet required periodic payments of principal and interest under such arrangements and to make distributions to the Unitholders. Our ability to generate sufficient cash to satisfy our debt obligations will depend on our future operating performance, which may be affected by prevailing economic conditions and financial, business and other factors beyond our control. There is no assurance that we will be able to generate sufficient cash flow to meet all of our debt obligations. If we are unable to make payments due under our debt facilities, the lenders may be able to declare an event of default and initiate enforcement proceedings relating to any security provided in respect of the loan facilities, and/or call upon any guarantees, and this may materially and adversely affect our ability to make distributions to the Unitholders. Furthermore, a lender may, in accordance with the terms and conditions of applicable documentation and applicable law, seek recourse to, and enforce security interest, if any, against the Project SPVs, by initiating proceedings against the Trustee and/or the Investment Manager (acting on behalf of the Trust); provided that on initiation of the proceedings against the Trust or the Project SPVs, the Trustee shall not be personally liable and the Trustee's assets shall not be utilized towards recovery of such debt. The

Project SPVs, which remain after any such recovery by the lenders, shall remain the property of the Trust, to be utilized in accordance with the Trust documents and applicable law. Further, borrowings availed by the Project SPVs and/or the Trust are subject to the applicable law, regulations, rules issued by governmental and regulatory bodies. These applicable law, regulations and rules are subject to amendments in future and onerous provisions may be imposed which may result in non-compliance by the Project SPV and/or the Trust.

Furthermore, restrictions in relation to external commercial borrowings may limit the Trust's ability to borrow overseas for projects under development and hence could constrain its ability to obtain financing on competitive terms and refinance existing indebtedness. In addition, there can be no assurance that any required regulatory approvals or borrowing in foreign currencies will be granted to the Trust without onerous conditions, or at all.

29. *Lower than expected returns on our investment in our Projects may adversely affect our financial results.*

Our Projects are predominantly hybrid annuity-based projects, where the revenue depends on the fixed amounts paid to us semi-annually by our government clients, as adjusted for WPI and CPI. The amount of annuity is not necessarily linked to investment and will only be calculated according to the relevant clauses of the concession agreements and the bid project cost.

There are no provisions in our concession agreements protecting us against increases in interest rates or cost of raw materials. Our lenders may have the right to periodically adjust our interest rates and our applicable interest rates may increase based on their review of our credit profile and perceived risks in our operations. Our operational costs may also increase substantially due to shortage of raw materials or substantial increases in prices of raw materials required for operation and maintenance beyond the permitted scope of adjustment due to occurrence of certain events under the relevant provisions of the concession agreements. Many factors causing such adverse changes are beyond our control and we are usually not able to demand matching increases in our interest rates and other costs over and above certain fixed increases, in accordance with the concession agreements.

Under the relevant concession agreements, our Project SPVs have rights to operate the road projects exclusively for fixed periods of time and we receive annuities, for the use of our roads. As our Projects often require significant capital investment with potential returns spread over a long period of time, inadequate annuities collected from our projects may result in a low return or even loss on our investment, which may adversely affect our liquidity, business, financial condition and results of operation. Further, any reduction or non-receipt of annuity income from NHAI may adversely affect our distributions.

30. ***The lenders of the Project SPVs may not release the pledge of shares or waive the obligations under non-disposal undertakings of certain Project SPVs, that has been created pursuant to loan agreements that have been entered into between the Project SPVs and their lenders.***

The shares of certain Project SPVs are pledged or fall under certain non-disposal undertakings with their lenders as part of the security for borrowings availed by them from their respective lenders. If such security is not released by the lenders in a timely manner as required for the completion of the Formation Transactions, it could have an adverse effect on the ability of the Trust to acquire shareholding in such Project SPVs in a timely manner or at all.

31. ***Failure to comply with and changes in, safety, health and environmental laws and regulations in India may adversely affect the business, prospects, financial condition and results of operations of the Project SPVs.***

The Project SPVs are required to adhere to various environmental, health and safety laws and regulations and various labour, workplace and related laws and regulations in India as per the requirements of the concession agreements they have entered into. Please see the section titled “Regulations and Policies” on page 381. If any of the Project SPVs fail to meet environmental, health or safety requirements, they may also be subject to administrative, civil and criminal proceedings by government authorities, as well as civil proceedings by environmental groups and other individuals, which could result in substantial fines and penalties against the Project SPVs as well as orders that could limit or halt the operations of the Project SPVs. The Trust cannot assure investors that the Project SPVs have been and will continue to be in compliance with all environmental, health and safety and labour laws and regulations.

Further, any changes in, or amendments to, these standards or laws and regulations could further regulate the operations of the Projects and could require the Project SPVs to incur additional, unanticipated expenses in order to comply with these changed standards. The scope and extent of any new environmental, health and safety regulations, including their effect on the operations of the Projects and the cash flows of the Project SPVs, cannot be predicted with certainty. The costs and management time required to comply with these requirements could be significant. The measures taken in order to comply with these new laws and regulations may not be deemed sufficient by government authorities and compliance costs may significantly exceed estimates.

There can be no assurance that the Project SPVs will not become involved in future litigation or other proceedings or be held responsible in any such future litigation or proceedings relating to safety, health and environmental matters in the future. Clean-up and remediation costs, as well as damages, payment of fines or other penalties, other liabilities and related litigation, could adversely affect the business, prospects, financial condition and results of operations of the Project SPVs.

32. ***Failure of insurance policies to provide adequate protection against all possible risks. There can be no assurance that all risks associated with the Project SPVs are adequately insured against.***

Road infrastructure development project contracts are subject to various risks including:

- political, regulatory and legal actions that may adversely affect a project’s viability;
- changes in government and regulatory policies;
- design and engineering defects;
- breakdown, failure or substandard performance of equipment;
- improper installation or operation of equipment;
- labour disturbances;
- terrorism and acts of war;
- inclement weather and natural disasters, including earthquakes, flooding, tsunamis and landslides and pandemics; and

- adverse developments in the overall economic and capital financing environment in India.

The Project SPVs maintain project-specific insurance coverage with various insurers in India. Some of the major risks covered in their all-risk policies for their assets, include, the risk of fire and natural calamities, machinery breakdown, electronic equipment cover etc. For further details, please see the section titled “*Business*” on page 258. However, there can be no assurance that all risks are adequately insured against or that the Project SPVs will be able to procure adequate insurance coverage at commercially reasonable rates in the future. Natural disasters in the future may disrupt traffic, thereby causing significant disruption to the operations of the Projects, and causing damage to the Projects and the environment that could have an adverse impact on the business and operations of the Project SPVs. In addition, not all of the above risks may be insurable on commercially reasonable terms, or at all. For example, the Project SPVs are required, under the concession agreements, to maintain the quality of the roads and to repair the roads in the event of damage to the roads. Accordingly, there may be significant expenditure incurred by a Project SPVs to repair damaged roads and maintain the Projects in good condition, particularly if the damage is major, unanticipated or uninsured. The insurance obtained in relation to the Project SPVs may not provide adequate coverage in certain circumstances and is subject to certain deductibles, exclusions and limits on coverage. In addition, these insurance policies are subject to annual review by insurers, and there can be no assurance that they will be renewed on similar or otherwise acceptable terms, if at all. To the extent that the Project SPVs suffer any damage or loss which is not covered by insurance, or exceeds the insurance coverage, the loss would have to be borne by the Project SPVs. Further, the Project SPVs have, from time to time, insurance claims pending, with respect to its insurance policies. The proceeds of any insurance claim may also be insufficient to cover rebuilding costs as a result of inflation, changes in regulations regarding infrastructure projects, environmental and other factors. The resulting costs could have an adverse effect on the Trust’s business, prospects, financial condition or results of operations and no assurance can be given that losses in excess of insurance proceeds will not occur in the future.

- 33. *The cost of repairing and refurbishing existing equipment for operating, maintaining and monitoring the Projects could be significant and could adversely affect the results of operations, cash flows and financial condition of the Project SPVs.***

Some of the equipment used by the Project SPVs at the Projects have pre-determined useful lives and the Project SPVs are required to repair or refurbish such equipment at periodical intervals, pursuant to the terms of the concession agreements. These obligations may be undertaken by the O&M Contractors pursuant to O&M Agreements. There can be no assurance that such replacement or refurbishment will be undertaken in a timely or efficient manner by such O&M Contractors, and any increased costs to the Project SPVs as a result of such replacement or refurbishment by the O&M Contractors will not affect the profit margins of the Project SPVs and adversely affect their cash flows.

- 34. *The cost of implementing new technologies for monitoring our Projects could materially and adversely affect our business, financial condition and results of operations.***

The future success of the Project SPVs will depend, in part, on our ability to respond to technological advances and emerging standards and practices on a cost effective and timely basis. In addition, rapid and frequent technology and market demand changes can often render existing technologies and equipment obsolete, requiring substantial new capital expenditures or write-down of assets. The concessioning authority may also require the Project SPVs to implement and adhere to certain technologies in connection with the Projects in the future and there can be no assurance that we would be able to do so in a timely manner, or at all. Failure to successfully adopt such technologies in a cost effective and a timely manner could increase the costs of operating the Projects. There is no guarantee that the cost of implementing new technologies for the Projects will be fully reimbursed by the concessioning authority and any such cost may therefore have an adverse effect on our business, results of operations and financial condition.

- 35. *The business and financial performance of the Trust, the operations of the projects and any future projects that the Trust may acquire, are significantly dependent on the policies of, and relationships with, various government entities in India and could be affected if there are adverse changes in such policies or relationships.***

The operations of the projects and any future projects that the Trust may acquire, are and will be significantly dependent on various central and state government entities, in terms of policies, incentives,

budgetary allocations and other resources provided by these entities for the surface transportation industry, as well as the terms of the contractual arrangements, concessions and other incentives available from these government entities for the projects. Sustained increases in budgetary allocations by the GoI and various state governments for investments in the infrastructure sector, the development of structured and comprehensive infrastructure policies that encourage greater private sector participation and increased funding by international and multilateral development financial institutions in infrastructure projects in India have resulted in, and are expected to continue to result in, an increase in the amount of transportation infrastructure projects undertaken in India. Any adverse change in the focus or policy framework regarding infrastructure development or the surface transportation industry, of or change in the Trust's relationships with the NHAI, GoI or various government entities in India, could adversely affect the Projects, the opportunities for the Trust to secure new projects and the business, financial condition and results of operations of the Trust. For more details, please see the section titled "*Regulations and Policies*" on page 381.

In addition, the projects in which government entities participate may be subject to delays, extensive internal processes, policy changes, changes due to local, national and internal political pressures and changes in governmental or external budgetary allocation and insufficiency of funds. Since government entities are responsible for awarding concessions and are parties to the development and operations of projects, projects are directly and significantly dependent on their support. Any withdrawal of support or adverse changes in their policies may lead to the agreements being renegotiated and could also adversely affect the financing, capital expenditure, revenues, development or operations relating to the Projects.

- 36. *The Project SPVs and the various projects undertaken by them may be subject to legal or regulatory action and the Trust may be required to incur substantial expenses in defending any such actions and there is no assurance that the Project SPVs will be successful in defending such actions.***

Certain Project SPVs are involved in legal proceedings which are pending at different levels of adjudication before various courts, tribunals and regulatory authorities. In addition, arbitration and litigation proceedings can be time consuming and the Project SPVs may have to incur costs and devote considerable resources towards defending the outstanding legal proceedings. There is no assurance that the legal proceedings will be decided in favour of the relevant Project SPVs. The legal proceedings may be decided against the relevant Project SPV or changes in the relevant laws and regulations may adversely affect the outcome of such legal proceedings. For more details, please see the section titled "*Legal and other information*" on page 393.

Under the Project Implementation and Management Agreement, the Project Manager will indemnify the Trust against certain identified matters. Further, under the O&M Agreements, the O&M Contractors will provide indemnities to the Project SPVs. However, the aggregate liability from such claims is limited under each contract. Further, there can be no assurance that the Trust will be able to successfully bring a claim and invoke the indemnity obligations against the Project Manager or the O&M Contractors. Any substantial costs incurred by the relevant Project SPV towards defending the outstanding legal proceedings or any unfavourable outcome in relation to such proceedings could have an adverse effect on the Trust's business, financial condition, results of operations and prospects.

- 37. *The Trust, Sponsor, Investment Manager, Project Manager and/or their respective associates, the Project SPVs, Sponsor Group and the Trustee are or may in the future, from time to time, be involved in legal proceedings, which if determined against such parties, may have an adverse effect on the reputation, business and results of operations of the Trust.***

The Trust, Sponsor, Investment Manager, Project Manager and/or their respective associates, the Project SPVs, Sponsor Group and the Trustee are or may in the future, from time to time, be involved in certain legal proceedings, including in relation to criminal matters, tax matters, civil and arbitration proceedings, which are or may be pending at different levels of adjudication before various courts, tribunals and appellate authorities. There is no assurance that these legal proceedings and regulatory matters will be decided in favour of the respective entities. Decisions in any of the aforesaid proceedings adverse to the Trust's or the Project SPVs' interests may have an adverse effect on our business, future financial performance and results of operations. For more details, please see the section titled "*Legal and other information*" on page 393.

38. ***The Trust does not own the trademark “Anantam Highways Trust” and the associated logo to be used by it for its business and its ability to use the trademark may be impaired.***

The Investment Manager has made an application for the use of the trademark “Anantam Highways Trust” and the associated logo. The Investment Manager and the Trust’s ability to use the trademark and the associated logo may be impaired if such application is rejected. Consequently, the Trust could be required to cease using “Anantam Highways Trust” and the associated logo, which may have an adverse effect on its operations.

39. ***The Investment Manager and the Sponsor do not own the trademark “Alpha Alternatives” and the associated logo to be used by it for their business and its ability to use the trademark may be impaired.***

Alpha Alternatives Holdings Private Limited has made an application for the use of the trademark “Alpha Alternatives” and the associated logo. Further, Alpha Alternatives Holdings Private Limited has not entered into an agreement licensing the usage of this trademark to the Investment Manager and the Sponsor on the date of this Draft Offer Document for the use of the trademark “Alpha Alternatives” and the associated logo. While a trademark license agreement with respect to usage of the trademark “Alpha Alternatives” and the associated logo will be entered before the filing of the Offer Document, the Investment Manager’s and the Sponsor’s ability to use the trademark and the associated logo may be impaired if such application is rejected. Consequently, the Investment Manager and the Sponsor could be required to cease using the associated logo, which may have an adverse effect on its operations.

40. ***The Project SPVs may be held liable for the payment of wages to the contract labourers engaged indirectly in the operations of the Trust.***

The Project SPVs or the O&M Contractors may appoint independent contractors who, in turn, engage onsite contract labour to perform certain operations. Some of the Project SPVs have obtained the relevant registrations under the Contract Labour (Regulation and Abolition) Act, 1970 (the “**Contract Labour Act**”) for certain locations where workmen are employed through contractors or agencies licensed under the Contract Labour Act. Although the Project SPVs do not engage the labourers directly, in the event of default by any independent contractor, the relevant Project SPV may be held responsible for any wage payments and other statutory benefits due to the labourers of such contractor. Any violation of the provisions of the Contract Labour Act by a Project SPV may result in penalties pursuant to the provisions of the Contract Labour Act. If any of the Project SPVs are required to pay the wages of contracted workmen and subjected to other penalties under the Contract Labour Act, the reputation, results of operations, cash flows and financial condition of the Trust could be adversely affected.

41. ***The results of operations of the Project SPVs could be adversely affected by strikes, work stoppages or increased wage demands by the employees of the Project SPV, O&M Contractors or other sub-contractors.***

Under the O&M Agreements, the Project SPVs have engaged the O&M Contractors to conduct all O&M activities required under the respective concession agreements. In the event of any strikes or work stoppages by employees of the Project SPV itself, the O&M Contractors or other sub-contractors due to increased wage demands or the inability of the Project SPV, O&M Contractors or other sub-contractors to either retain or recruit employees and sub-contractors with suitable credentials, the ability of the Project SPVs to maintain and operate the Projects will be adversely affected. In addition, any disruption to the services provided by the employees of the Project SPV, the O&M Contractors or other sub-contractors will have an adverse effect on the operations of the Project SPVs. There can be no assurance that future disruptions will not be experienced due to disputes or other problems with the work force, which may adversely affect the business and results of operations of the Project SPVs.

42. ***We have entered into material related party transactions and may continue to do so in the future, which may potentially involve conflict of interests with the Unitholders.***

The transactions resulting from the Project Implementation and Management Agreement, the Investment Management Agreement, and the Securities Purchase Agreement are related party transactions and their terms though negotiated at arm’s length basis, could still not be deemed as favourable to us as if they had been negotiated solely amongst unaffiliated third parties. Furthermore, it is likely that we will enter into additional related party transactions in the ordinary course of our

business. The terms of such transactions may not be as favourable to us as those negotiated solely amongst unaffiliated third parties and may involve conflicts of interest. Such transactions, individually or in the aggregate, could have a material adverse effect on our business, prospects, financial condition, results of operations and cash flows. For additional details, please see the sections titled “*Related Party Transactions*”, “*Formation Transactions in Relation to the Trust*” and “*Parties to the Trust*” on pages 373, 22 and 113, respectively.

43. *The actual performance of the Trust is subject to significant business, regulatory, and tax risks, uncertainties and contingencies that could cause actual results to differ materially from the forward-looking statements in this Draft Offer Document.*

This Draft Offer Document contains forward-looking statements including the Projections of Revenue from Operations and Cash Flow from Operating Activities. These forward-looking statements are based on a number of assumptions, many of which are outside the control of the Trust. The assumptions underlying the Projections of Revenue from Operations and Cash Flow from Operating Activities are inherently uncertain and are subject to significant business, regulatory, and tax risks, uncertainties and contingencies that could cause actual results to differ materially from the forecast results. In addition, the revenue of the Trust is dependent on a number of factors, including receipt of annuities from the Projects, which may decrease for a number of reasons. This may adversely affect the ability of the Trust to achieve the landmarks set out in the Projections of Revenue from Operations and Cash Flow from Operating Activities as some or all of the events and circumstances assumed may not occur as expected, or events and circumstances, which are not currently anticipated, may arise. While the Trust currently expects to meet the Projections of Revenue from Operations and Cash Flow from Operating Activities based on the assumptions set out in the section titled “*Projections of Revenue from Operations and Cash Flow from Operating Activities*” attached as Annexure D, no assurance can be given that the assumptions will remain true or relevant and that the actual profit and cash flow will be achieved as forecasted or projected.

The Projections of Revenue from Operations and Cash Flow from Operating Activities should be reviewed in conjunction with the description of the business of the Project SPVs, the section titled “*Discussion and analysis by the Directors of the Investment Manager of the financial condition, results of operations and cash flows of the Project SPVs of the Trust*” on page 349 and other information contained in this Draft Offer Document, including the information set forth in section entitled “*Risk Factors*” on page 66.

The Investment Manager does not intend to provide any updated or otherwise revised profit and cash flow forecast or profit and cash flow projection in the event that any assumptions differ from actual results.

44. *It may be difficult for the Trust to dispose of its non-performing assets.*

The Projects may be illiquid as a result of the current market condition or the limited residual life of the Projects, among other things. In the event that the Projects are performing poorly, the Trust may experience difficulty in realising, selling or disposing its shareholding in a Project at the appropriate time or at all or at an attractive price, and this may have an adverse effect on the business, prospects, financial condition and results of operations of the Trust.

45. *We have received provisional credit ratings from credit rating agencies.*

The Trust has been given an issuer rating of (i) ‘Provisional IND AAA/Stable (Assigned)’ by India Ratings and Research Private Limited by the way of its letter dated March 25, 2025, for proposed rupee term loan aggregating to ₹ 33,000 million and (ii) ‘Provisional [ICRA] AAA(Stable)’ by ICRA Limited by way of its letter dated March 25, 2025, for proposed bank facilities aggregating to ₹ 33,000 million. The rating issued by ICRA is subject to listing of the InvIT and transfer of shareholder of Project SPVs to the InvIT and refinancing of the existing debt at underlying SPVs with proposed debt at InvIT level and review of final documentation pertaining to the Trust. The rating issued by India Rating and Research is subject to execution of certain document and occurrence of certain steps. There is no assurance that ICRA and India Rating and Research will continue to provide a positive credit rating to the Trust or that the agencies will provide a rating without covenants. A negative or lower rating may adversely affect our ability to raise additional financing, and the interest rates and other terms at which

such additional financing is available. This in turn could in turn materially and adversely affect our business, prospects, financial condition, results of operations and cash flows.

RISKS RELATING TO OUR ORGANISATION AND STRUCTURE

46. *The Sponsor and its associates may be engaged in various other businesses.*

The Sponsor of the Trust is a limited liability partnership incorporated in India under the Limited Liability Partnership Act, 2008. The Sponsor was incorporated as a multi-asset class multi strategy asset management entity that creates investment solutions across various asset-classes, such as, infrastructure, credit, real estate, equities, commodities, and fixed income. The Sponsor is also registered as an investment advisor, portfolio manager and investment manager to alternative investment funds with SEBI. The Sponsor and its associates provide fund and asset management services to its clients and makes investment in various companies engaged in, amongst others, the infrastructure sector. Any activities impacting the other businesses of the Sponsor and its associates in a detrimental manner or any major changes occurring in the functioning of these other businesses could have an impact on the functioning of the InvIT. Further, any impact or change in the constitution of the promoters, directors or employees of the Sponsor due to their involvement in the other businesses of the Sponsor could affect the InvIT. Accordingly, we cannot ensure that any impact on the various other businesses of the Sponsor and its associates will not have a detrimental impact on the functioning of the InvIT.

47. *The Trust must maintain certain investment ratios which may pose additional risks.*

Pursuant to the SEBI InvIT Regulations, we are required to invest not less than 80% of the value of our assets proportionate to our holding in completed and revenue generating infrastructure projects subject to conditions specified in the SEBI InvIT Regulations. In addition, we must not invest more than 20% of the value of our assets in under-construction infrastructure projects and certain financial instruments subject to the thresholds specified in the InvIT Regulations. If these conditions are not fulfilled or breached on account of market movements of the price of the underlying assets or securities, the Investment Manager must inform the Trustee and ensure that these conditions are satisfied within six months of such breach (or within one year with Unitholder approval in accordance with InvIT Regulations). Failure to comply with these conditions may present additional risks to us, including divestment of some or all of our assets, delisting of the units from the stock exchanges and other penalties, which could have a material adverse effect on our business, financial condition, cash flows and results of operations.

48. *We depend on the Investment Manager, the Project Manager and the Trustee to manage our business and assets, and our financial condition, results of operations and cash flows and our ability to make distributions may be harmed if the Investment Manager, Project Manager or the Trustee fail to perform satisfactorily. The rights of the Trust and the rights of the Unitholders to recover claims against the Project Manager, the Investment Manager or the Trustee may be limited.*

The success of our business and growth strategy and the operational success of our assets will depend significantly upon the managers' satisfactory performance of these services. Our recourse against the Project Manager, the Trustee and Investment Manager is limited.

The aggregate maximum liability of the Project Manager under the Project Implementation and Management Agreement in each financial year will be limited to the service fees payable to the Project Manager in such financial year in accordance with the terms of the Project Implementation and Management Agreement except in the event that such liability arises out of any gross negligence, wilful default or fraud on the part of the Project Manager.

If the Trustee is required by the InvIT Regulations or any applicable law to provide information regarding the Trust or the Sponsor or the Sponsor Group or the Unitholders, the investments made by the Trust and income therefrom and provisions of such presents, and complies with such request in good faith, whether or not it was in fact enforceable, the Trustee shall not be liable to the Unitholders or to any other party as a result of such compliance or in connection with such compliance. The Trustee is also not liable on account of anything done or omitted to be done or suffered by the Trustee in good faith in accordance with, or in pursuance of any request or advice of the Investment Manager. Further, the Trustee is not liable for any act or omission which may result in a loss to a Unitholder (by reason

of any depletion in the value of the fund of the Trust or otherwise), except in the event that such depletion is a result of fraud, gross negligence or misconduct on the part of the Trustee or results from a breach by the Trustee of the Trust Deed, as determined by a court of competent jurisdiction. The liability of the Trustee shall be limited to the extent of the fees received by it, in all circumstances whatsoever except, amongst others, in case of any negligence or misconduct or fraud on the part of the Trustee as may be determined by a court of competent jurisdiction.

The Investment Manager's liability to Trustee, its directors, employees and officers for breach of its obligations under the Investment Management Agreement in each financial year is limited to the aggregate fees paid to the Investment Manager for that financial year under the agreement.

Accordingly, the Unitholders may not be able to recover claims against the Project Manager, the Trustee or the Investment Manager.

If the management agreements were to be terminated or if their terms were to be altered, our business could be adversely affected, as the Trustee may not be able to immediately replace such services, and even if replacement services were immediately available, the terms offered or obtained with the new managers could be less favourable than the ones currently offered by the Investment Manager and the Project Manager.

49. *Our success depends in large part upon the Investment Manager and Project Manager, the management and personnel that they employ, and their ability to attract and retain such persons.*

Our ability to make consistent distributions to our Unitholders depends on the continued service of management teams and personnel of the Investment Manager and Project Manager. Each of the Investment Manager and Project Manager may face challenges in recruiting and retaining a sufficient number of suitably skilled personnel. Generally, there is significant competition for management and other skilled personnel in our industry in India, and it may be difficult to attract and retain the skilled personnel that the Investment Manager and Project Manager need for our operations. Furthermore, the Investment Manager and Project Manager may not be able to adequately re-deploy and re-train their employees to keep pace with evolving industry standards and changing customer preferences. The loss of key personnel of either of the Investment Manager or the Project Manager, may have a material adverse effect on our business, prospects, financial condition, results of operations and cash flows of the Trust.

50. *The Investment Manager has limited experience in investment management activities for an InvIT and may not be able to successfully implement its investment strategy for and Investment Objectives of the Trust or to manage the Trust's growth effectively.*

The Investment Manager and its directors and employees, while having sufficient experience in the infrastructure sector, have limited experience in investment management activities for an InvIT.

Further, there can be no assurance that the Investment Manager will be able to implement its investment strategy or Investment Objectives successfully or that it will be able to expand the portfolio of the Trust at all, or at any specified rate or to any specified size or make distributions as projected. The results of the operations of the Trust will depend on many factors, including but not limited to, its ability to operate and manage the Projects efficiently, changes in the regulatory framework, competition for assets or macro-economic condition. These factors will, in turn, affect the availability of further opportunities for the acquisition of road assets and the availability of finance to achieve leverage. The Trust will be relying on external sources of funding to expand its asset portfolio, which may not be available on favourable terms, or at all. Even if the Trust is able to successfully acquire additional road assets, portfolio growth and expansion could place significant demands on the management and administrative resources of the Investment Manager and the capital resources of the Trust and there can be no assurance that the Trust will be able to efficiently manage such assets and achieve its intended return on such acquisitions.

The Investment Manager can also stop acting as the Investment Manager by providing notice under the Investment Management Agreement or the Trust may replace the Investment Manager in accordance with the terms of the Trust Deed. There is no assurance that the financial performance of the Trust would not be affected upon the appointment of a new investment manager.

51. ***We will depend on certain directors and key employees of the Investment Manager, the Project Manager and the Project SPVs, and such entities may be unable to retain such personnel or to replace them with similarly qualified personnel, which could have a material, adverse effect on the business, financial condition, cash flows, results of operations and prospects of the Trust and the Project SPVs.***

Our performance will depend, in part, upon the continued service and performance of certain directors, executive officers and key employees of the Investment Manager, the Project Manager and the Project SPVs. The continued operations and growth of our business will be dependent upon the Investment Manager, the Project Manager and the Project SPVs being able to attract and retain personnel who have the necessary and required experience and expertise. Competition for qualified personnel with relevant industry expertise in India is intense due to the scarcity of qualified individuals in the roads business, and the aforesaid entities may not be able to retain their key employees or attract and retain fresh talent in the future. Any inability by the Investment Manager, the Project Manager and the Project SPVs to retain their respective directors and key employees, or the inability to replace such individuals with similarly qualified personnel, could have a material, adverse effect on the business, financial condition, cash flows, results of operations and prospects of the Trust and the Project SPVs.

52. ***Upon completion of the Issue, the Sponsor may be able to exercise significant influence over activities of the Trust on which Unitholders are entitled to vote. The Sponsor's interests may be different from Unitholders.***

Under the InvIT Regulations, upon completion of the Issue, the Sponsor and Sponsor Group, collectively, must continue to own all of its Units for one year and must own 15% of the outstanding Units for three years from the date of listing of the Units, subject to the conditions specified in the InvIT Regulations. Although the Unitholder(s), holding not less than 10% of the total outstanding Units, either individually or collectively, will be entitled to nominate one director on the board of directors of the Investment Manager, the Sponsor, may nonetheless be able to control the outcome of matters on which Unitholders are entitled to vote and for which the Sponsor is not prohibited from voting due to a conflict of interest. The interests of the Sponsor may be different from those of the Unitholders.

53. ***The Investment Manager is required to comply with certain ongoing reporting and management obligations in relation to the Trust. We cannot assure you that the Investment Manager will be able to comply with such requirements.***

The Investment Manager is required to comply with certain ongoing reporting and management obligations in relation to the Trust in accordance with the InvIT Regulations. These requirements include, amongst other things, (a) making investment decisions with respect to the underlying assets or projects of the Trust, (b) overseeing the activities of the Project Manager, (c) investing and declaring distributions in accordance with the InvIT Regulations, (d) submitting reports to the Trustee and (e) ensuring the audit of the Trust's accounts. We cannot assure you that the Investment Manager will be able to comply with such requirements in a timely manner or at all, which could subject the Investment Manager, the other parties to the Trust, the Trust or any person involved in the activity of the Trust to applicable penalties under the InvIT Regulations, the SEBI Intermediaries Regulations and/or the SEBI Act. Any such failure to comply or the imposition of any penalty could have an adverse effect on our business, financial condition and results of operations. Under the InvIT Regulations, the SEBI also has the right to inspect documents, accounts and records relating to the activity of the Trust, Project SPVs or Parties to the Trust and may issue directions in the nature of, inter-alia, (i) requiring the Trust to surrender its certificate of registration; (ii) requiring the Trust to wind-up; (iii) requiring the Trust to sell its assets; (iv) requiring the Trust or Parties to the Trust to take such action as may be in the interest of investors; or (v) prohibiting the Trust or Parties to the Trust from operating in the capital markets or from accessing the capital markets for a specified period.

54. ***The Trust may be dissolved, and the proceeds from the dissolution thereof may be less than the amount invested by the Unitholders.***

The Trust is an irrevocable trust registered under the Indian Registration Act, 1908 and it may only be extinguished: (i) if it is impossible to continue with the Trust or if the Trustee, on the advice of the Investment Manager, deems it impracticable to continue; (ii) on the written recommendation of the Investment Manager and upon obtaining the prior written consent of such number of the Unitholders as is required under the InvIT Regulations; (iii) if our Units are delisted from the Stock Exchanges; (iv)

if the SEBI passes a direction to wind up the Trust or the delisting of the Units; or (v) in the event our activities are rendered illegal. Should the Trust be dissolved, depending on the circumstances and the terms upon which our assets are disposed of, there is no assurance that our Unitholder will recover all or any part of its investment.

If a default is triggered under the financing documents the Trust is a party to, the Trustee will take steps to cure such default and/or to repay the affected lender by appropriate means, including divesting or liquidating the assets of the Trust or raising additional financing, in accordance with such financing documents and applicable laws. If such default is not cured, and the affected lender initiates proceedings against the Trust, the Trust will be terminated immediately in accordance with applicable laws. In the event of a termination of the Trust, the net assets which will be paid to the Unitholders will take into account the debt, liabilities and obligations of the Trust. There is no assurance that Unitholders will recover all or any part of their investments.

- 55. *As a proposed shareholder of the Project SPVs, the Trust's rights are subordinated to the rights of creditors, debt holders and other parties specified under Indian law in the event of insolvency or liquidation of the Project SPVs.***

In the event of liquidation of any of the Project SPVs, the secured and unsecured creditors of the relevant Project SPV will be entitled to payment from the liquidation proceeds in priority to us in our capacity as an equity shareholder of the Project SPV. Under the Insolvency and Bankruptcy Code, 2016, in the event of winding-up of any Project SPV, workmen's dues and debts due to secured creditors which rank pari passu are required to be paid in priority over all other outstanding debt, followed by wages and salaries of employees, debts due to unsecured creditors, any amounts due to the central or state government, any other debts, preference shareholders and equity shareholders. Further, amounts payable to us in respect of any unsecured debt issued by the Project SPV will be subordinated in the manner set forth above. Further, should the Trust be dissolved, depending on the circumstances and the terms upon which our assets are disposed of, there is no assurance that a Unitholder will recover all or any part of its investment. There may also be uncertainty around the interpretation and implementation of certain provisions in relation to insolvency of a trust under the Insolvency and Bankruptcy Code, 2016.

- 56. *Information and the other rights of Unitholders under Indian law may differ from such rights available to equity shareholders of an Indian company or under the laws of other jurisdictions.***

The Trust Deed and various provisions of Indian law govern the Trust's affairs. Legal principles relating to these matters and the validity of procedures, fiduciary duties and liabilities, and Unitholders' rights may differ from those that would apply to a company in India or a trust in another jurisdiction. Unitholders' rights and disclosure standards under Indian law may also differ from the laws of other countries or jurisdictions. For details, please see the section titled "Rights of Unitholders" on page 403.

- 57. *Parties to the Trust are required to satisfy the eligibility conditions specified under Regulation 4 of the InvIT Regulations on an ongoing basis. We may not be able to ensure such ongoing compliance by the Sponsor, the Investment Manager, the Project Manager and the Trustee, which could result in the cancellation of the registration of the Trust.***

Each of the Parties to the Trust is required to satisfy the eligibility conditions specified in the InvIT Regulations on an ongoing basis. These eligibility conditions include, among other things, that: (a) the Sponsor, Investment Manager and Trustee are separate entities; (b) the Sponsor has net tangible assets of not less than ₹ 1,000 million and has a sound track record in the development of infrastructure or fund management in the infrastructure sector; (c) the Investment Manager has a net worth of not less than ₹ 100 million and has not less than five years' experience in fund management or advisory services or development in the infrastructure sector or the combined experience of the directors, partners and employees of the Investment Manager in fund management or advisory services or development in the infrastructure sector is not less than 30 years; (d) the Trustee is registered with the SEBI under Securities and Exchange Board of India (Debt Trustees) Regulations, 1993 and is not an Associate of the Sponsor or Investment Manager; and (e) each of the Sponsor, Investment Manager, Project Manager and Trustee are "fit and proper persons" as defined under Schedule II of the Securities and Exchange Board of India (Intermediaries) Regulations, 2008 on an ongoing basis. We may not be able to ensure such ongoing compliance by the Sponsor, the Investment Manager, the Project Manager and the Trustee, which could result in the cancellation of the

registration of the Trust.

58. ***We are governed by the provisions of, amongst others, the InvIT Regulations and the Securities Contracts (Regulation) Act, 1956 (“SCRA”), the implementation and interpretation of which, is evolving. The evolving regulatory framework governing infrastructure investment trusts in India may have a material adverse effect on the ability of certain categories of investors to invest in the Units, our business, financial condition and results of operations and our ability to make distributions to the Unitholders.***

The Trust has been constituted under the InvIT Regulations which were issued in 2014, as amended and supplemented with additional guidelines and circulars.

As the regulatory framework governing infrastructure investment trusts in India comprises a separate set of regulations, interpretation and enforcement by regulators and courts involves uncertainties. Furthermore, regulations and processes with respect to certain aspects of infrastructure investment trusts, including, but not limited to, follow-on public offers and bonus issues, the liabilities of the Unitholders, and the procedure for dissolution of infrastructure investment trusts have not yet been issued. For example, and infrastructure investment trusts are not “companies” or “bodies corporate” within the meaning of the Companies Act, 2013 and various SEBI regulations, including the Securities and Exchange Board of India (Buy-back of Securities) Regulations, 2018 and the Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 2011.

The InvIT Regulations and other corresponding changes to applicable law, are largely untested in their implementation. Uncertainty in applicability, interpretation or implementation of any amendment to, or change in, law, regulation or policy, including due to an absence, or a limited body, of administrative or judicial precedent may be time consuming and costly for us to resolve and may impact the viability of our current business or restrict our ability to grow our business in the future and consequently, our ability to make distributions to the Unitholders. Changes to our organizational structure, changes to our agreements, cost increases, fines, legal fees or business interruptions may result from changes to regulations, from new regulations, from new interpretations by courts or regulators of existing regulations or from stricter enforcement practices by regulatory authorities of existing regulations. In addition, new costs may arise from audit, certification and/or self-assessment standards required to maintain compliance with new and existing InvIT Regulations, which may render it economically unviable to continue conducting business as an infrastructure investment trust or otherwise have a material, adverse effect on our business, financial condition, results of operations and cash flows.

Further, SEBI has the right to, with or without prior notice, order inspection of the books of accounts, records and other documents pertaining to our operations, either on its own or, upon receipt of complaint. Upon review of the inspection report, SEBI is entitled to, if it so deems appropriate (in the interest of the securities markets or our investors) (a) to require us to surrender our certificate of registration; (b) to wind-up our operations; (c) to sell our assets; (d) direct us to not operate or access the capital markets for a specified period; or (e) direct us to not do such things as SEBI may deem appropriate in the interest of our investors. Any such occurrence may have a material adverse effect on our business, result of operations, financial conditions and cash flows.

Additionally, with effect from April 1, 2021, units and other instruments issued by an InvIT have been included in the definition of ‘securities’ under section 2(h) of the SCRA. Such amendments have come into effect on April 1, 2021 and consequently, the implementation and interpretation of these amendments is untested and evolving. Accordingly, the applicability of several regulations (including regulations relating to intermediaries, underwriters, merchant bankers, takeover, insider trading and fraudulent and unfair trade practices) to the Trust is unclear and subject to the interpretation and clarifications issued by regulatory bodies such as SEBI.

There can be no assurance that the legal framework for infrastructure trusts will not impose additional regulations and policies which could impact our operations and it is difficult to forecast how any new laws, regulations or standards or future amendments to the InvIT Regulations, the SCRA and other applicable law will affect infrastructure trusts and the infrastructure sector in India. Such changes may adversely affect our business, results of operations and prospects, to the extent that we are unable to suitably respond to and comply with any such changes in applicable law and policy. We may incur increased costs and other burdens relating to compliance with such new regulations, which may also require significant time and other resources, and any failure to comply with these changes may

adversely affect our business, results of operations and prospects.

- 59. *The reporting requirements and other obligations of infrastructure investment trusts post-listing are still evolving. Accordingly, the level of ongoing disclosures made to, and the protection granted to our Unitholders may be more limited than those made to or available to shareholders of a company that has listed its equity shares upon a recognised stock exchanges in India.***

The reporting requirements and other obligations of infrastructure investment trusts post-listing are still evolving. Accordingly, the level of ongoing disclosures made to and the protection granted to our Unitholders may be more limited than those made to or available to shareholders of a company that has listed its equity shares upon a recognised stock exchanges in India.

The InvIT Regulations, along with the guidelines and circulars issued by the SEBI from time to time, govern the infrastructure investment trusts in India. However, as compared with the statutory and regulatory framework governing companies that have listed their equity shares or debt securities on recognised stock exchanges in India, the regulatory framework applicable to infrastructure investment trusts is relatively nascent and thus, still evolving.

Accordingly, the ongoing disclosures made to our Unitholders under the InvIT Regulations may differ from those made to shareholders of a company that has listed its equity shares on a recognised stock exchanges in India in accordance with the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015. Further, the rights of our Unitholders may not be as extensive as the rights of shareholders of a company that has listed its equity shares on a recognised stock exchanges in India, and accordingly, the protection available to our Unitholders may be more limited than those available to such shareholders.

- 60. *It may be difficult for the Unitholders to remove the Trustee or the Investment Manager.***

Under the InvIT Regulations, the Trustee or the Investment Manager cannot be removed without the prior approval of Unitholders where the votes cast in favour of the resolution shall not be less than one and a half times the votes cast against such resolution. Accordingly, the Unitholders may face difficulties in removing and replacing the Trustee or the Investment Manager. Further, under the InvIT Regulations, prior approval of SEBI is required for change in the Investment Manager of the Trust.

- 61. *Unitholders will have no vote in the election or removal of Directors in the Investment Manager and will be able to remove the Investment Manager and Trustee only pursuant to a majority resolution.***

The Investment Manager has the responsibility of managing the Trust.

Unitholders have no vote in the election or removal of Directors in the Investment Manager except for Unitholders, holding not less than 10% of the total outstanding Units, either individually or collectively, have a right to nominate one director on the board of directors of the Investment Manager. Unitholders' recourse is the removal of the Investment Manager by way of a resolution where Unitholders holding at least 60% of the Units must vote in favour of the resolution. In comparison, the Companies Act, 2013 requires the removal of a director of a public company to be by way of an ordinary resolution approved by a simple majority.

Similarly, Unitholders may remove the Trustee only if they believe that the acts of the Trustee are detrimental to the interests of the Unitholders and by way of a resolution where the votes cast in favour of the resolution must meet the required percentage as set out in the InvIT Regulations. Further, the Investment Manager and the Trustee cannot be discharged until a suitable replacement is appointed in their place, and there can be no guarantees that a suitable replacement will be appointed, or that appointment will take place in a timely manner, or at all. Accordingly, as opposed to shareholders removing a director of a public company, it may not be possible for Unitholders to remove the Investment Manager or the Trustee.

RISKS RELATING TO INDIA

- 62. *Our results may be adversely affected by future unforeseen events, such as adverse weather conditions, natural disasters, terrorist attacks or threats, future epidemics or pandemics or other catastrophic events.***

Unforeseen events, such as adverse epidemics, pandemics, weather conditions, natural disasters, threatened or actual armed conflicts, terrorist attacks, efforts to combat terrorism or other catastrophic events can adversely impact our business. We cannot predict the affect any such events will have on our business, prospects, financial condition, results of operations, cash flows, future operations and performance; however, they could be material.

63. *We are exposed to risks associated with the road sector in India.*

We derive and expect to continue to derive in the foreseeable future, most of our revenues and operating profits from India. Changes in macroeconomic conditions, the policies adopted by regulatory authorities including Ministry of Road Transport and Highways generally impact the road industry and could negatively impact our business. Accordingly, our business is highly dependent on the state of development of the Indian economy and the macroeconomic environment prevailing in India. Since the use of our Projects, our expansion plans and future projects depend or will depend on macroeconomic factors that may negatively impact the demand of development of road infrastructure projects in India, or the timely commencement of their operations could in turn have a material adverse effect on our growth prospects, business and cash flows. In addition, access to financing may be more expensive or not available on commercially acceptable terms during economic downturns. Any of these factors and other factors beyond our control could have a material adverse effect on our business, prospects, financial condition, results of operations and cash flows.

64. *Our performance and growth are dependent on the factors affecting the Indian economy.*

Our performance and the growth are dependent on the performance of the Indian economy, which, in turn, depends on various factors. The Indian economy has been affected by the recent global economic uncertainties, volatility in interest rates, currency exchange rates, commodity and electricity prices, adverse conditions affecting agriculture and various other macroeconomic factors.

Conditions outside India, such as a slowdown or recession in the economic growth of other major countries and regions, especially in U.S., Europe and China, have an impact on the growth of the Indian economy, and GoI policy may change in response to such conditions. While recent Indian governments have been focused on encouraging private participation in the industrial sector, any adverse change in policy could result in a further slowdown of the Indian economy. The rate of economic liberalisation could decrease, and specific laws and policies affecting foreign investment, currency exchange rates and other matters affecting investment in India could change as well. In the road sector, there can be no assurance that the GoI's engagement with and outreach to private sector operators, including the Trust, will continue in the future. A significant change in India's economic liberalisation and deregulation policies, in particular, those relating to the road sector, could disrupt business and economic conditions in India generally and our business in particular. In addition, adverse developments in the Indian economy could also impact companies and banks that provide services to us. For example, on March 5, 2020 and November 17, 2020, respectively, the GoI, in consultation with RBI, placed Yes Bank Limited and Lakshmi Vilas Bank under moratorium, imposed limitations on their operations as well as on withdrawals by depositors and payments to creditors over certain specified amounts for a limited period of time from the date of such moratorium coming into effect. The limitations on operations and the moratorium were subsequently lifted in both cases. The occurrence of any such development in the future may impact our banking channels, and we may or may not be able to recover our deposits, in part or in full. This could result in potential write-offs on our books of accounts, and materially and adversely affect the business, prospects, financial condition, results of operations and cash flows.

Additionally, an increase in trade deficit or a decline in India's foreign exchange reserves could negatively impact interest rates and liquidity, which could adversely impact the Indian economy and our business. Any downturn in the macroeconomic environment in India could materially and adversely affect the business, prospects, financial condition, results of operations and cash flows.

65. *Changing laws, rules and regulations, including changes in legislation or the rules relating to tax regimes, legal uncertainties and the political situation in India may adversely affect our business, financial condition, results of operations and ability to make distributions to our Unitholders.*

Our business, financial condition and results of operations could be adversely affected by any change in laws or interpretations of existing, or the promulgation of new, laws, rules and regulations applicable

to us and our business. We cannot assure you that the Government or the state governments will not implement new regulations and policies which will require the Trust and Project SPVs to obtain additional approvals and licenses from governmental and other regulatory bodies or impose onerous requirements and conditions on our operations. Regulatory changes in India, particularly in respect of the InvIT Regulations and other taxation legislations such as the Finance Act, 2024, could expose us to greater tax liability than what our financial projections assume. The application of various Indian sales, value-added and other tax laws, rules and regulations to our services, currently or in the future, may be subject to differing or stricter interpretation by applicable authorities, which could result in an increase in our tax payments (prospectively or retrospectively) and/or subject us to penalties, which could affect our business operations and affect our ability to make distributions to our Unitholders. For further details, please see section titled “*Risk Factors - Changes in legislation or the rules relating to tax regimes could materially and adversely affect our business, prospects and results of operations*” and “*Regulations and Policies*” on pages 98 and 381, respectively.

66. *We may be exposed to variations in foreign exchange rates. Fluctuations in the exchange rate of the Indian Rupee with respect to the U.S. Dollar or other currencies could affect the foreign currency equivalent of the value of the Units and any distributions.*

Our revenues are in Indian rupees, and currently there are no interest payments and loan repayments in foreign currency in relation to debt availed for utilisation at the Project SPVs. The Indian rupee has depreciated in recent years, and in the future may continue to depreciate, against the U.S. dollar, leading to increases in the Indian rupee cost for us to service and repay foreign currency borrowings. In addition, in the event of disputes under any of our foreign currency borrowings, if we raise foreign currency debt in future, we may be required by the terms of those borrowings to defend ourselves in foreign courts or arbitration proceedings, which could result in additional costs. A depreciation of the Indian rupee would also increase the costs of imports and may have a material adverse effect on our business, prospects, financial condition, results of operations and cash flows.

Fluctuations in the exchange rates between the Indian Rupee and other currencies could also affect the foreign currency equivalent of the Indian Rupee price of the Units. The fluctuations could also affect the amount that Unitholders will receive in foreign currency upon conversion of any cash distributions or other distributions paid in Indian Rupees by the Trust on the Units, and any proceeds paid in Indian Rupees from any sale of the Units in the secondary trading market.

67. *A decline in India’s foreign exchange reserves may reduce liquidity and increase interest rates in India, which could have an adverse impact on us.*

Flows to foreign exchange reserves can be volatile, and past declines have adversely affected the valuation of the Indian rupee. During the first half of 2014, emerging markets including India, witnessed significant capital outflows due to concerns regarding the withdrawal of quantitative easing in the U.S. and other structural factors in India such as high current account deficits and lower growth outlook. As a result, the Indian rupee depreciated significantly. To manage the volatility in the exchange rate, the RBI took several measures including increasing the marginal standing facility rate by 200 basis points and reducing domestic liquidity. The RBI also subsequently announced measures to attract capital flows, particularly targeting the non-resident Indian community. The RBI intervened again in February 2016 as a result of increased volatility of the exchange rate. Depreciation of the Indian rupee in 2018 led to RBI further intervening and increasing the interest rates. Any increased intervention in the foreign exchange market or other measures by the RBI to control the volatility of the exchange rate may result in a decline in India’s foreign exchange reserves, reduced liquidity and higher interest rates in the Indian economy, which could adversely affect our ability to obtain financing on adequate terms or at all, which in turn could affect our business and future financial performance.

68. *Social, economic and political conditions and natural disasters could have a negative effect on our business.*

Each of the Project SPVs is incorporated in India and they derive all of their revenue from India. In addition, all of our assets are located in India. Consequently, our business and the trading price of our Units may be adversely affected by the social, economic and political conditions in India and its neighbouring countries. Specific risks, such as the following could adversely influence the Indian economy, thereby having a material adverse effect on our business, financial condition, results of operations and cash flows:

- political instability, riots or other forms of civil disturbance or violence;
- war, terrorism, invasion, rebellion or revolution;
- Government interventions, including expropriation or nationalisation of assets, increased protectionism and the introduction of tariffs or subsidies;
- changing regulatory regimes;
- underdeveloped industrial and economic infrastructure;
- changes in exchange rates and controls, interest rates, government policies, taxation and economic and political developments;
- changes in policies such as, the fiscal and economic policy, industrial policy, direct and indirect taxes and the export-import policy; and
- changes in state specific regulation and conditions;

Pandemics, such as the outbreak of the COVID-19, and natural disasters such as floods, earthquakes or famines, events and conditions linked to climate change have in the past had a negative impact on the Indian economy. Potential effects may include damage to infrastructure and the loss of business continuity and business information. If our facilities are affected by any of these events, our operations may be significantly interrupted, which could materially and adversely affect our business, prospects, financial condition, results of operations and cash flows.

69. *Any downgrading of India's debt rating by rating agencies could have a negative impact on our business.*

Our borrowing costs and our access to the debt capital markets depend significantly on the credit ratings of India. India's sovereign rating has been affirmed to Baa3 with a "stable" outlook by Moody's and BBB with a "stable" outlook (Fitch); and BBB (low) "stable" by Dominion Bond Rating Service. India's sovereign ratings from S&P is BBB-with a "stable" outlook. Any adverse revisions to India's credit ratings by rating agencies may adversely affect our ability to raise additional financing, and the interest rates and other terms at which such additional financing is available. This could materially and adversely affect our ability to obtain financing for capital expenditure, which could in turn materially and adversely affect our business, prospects, financial condition, results of operations and cash flows.

70. *Financial instability in other countries may cause increased volatility in Indian financial markets.*

The Indian market and the Indian economy are influenced by economic and market conditions in other countries, including conditions in the United States, Europe and certain emerging economies in Asia. Financial turmoil in Asia, Russia and elsewhere in the world in recent years has adversely affected the Indian economy. Any such financial instability may cause increased volatility in the Indian financial markets and, directly or indirectly, adversely affect the Indian economy and financial sector and us.

Although economic conditions vary across markets, loss of investor confidence in one economy may cause increased volatility across other economies, including India. Financial instability in other parts of the world could have a global influence and thereby negatively impact the Indian economy. Financial disruptions could materially and adversely affect our business, prospects, financial condition, results of operations and cash flows.

The global credit and equity markets have experienced substantial dislocations, liquidity disruptions and market corrections. The dislocation of the sub-prime mortgage loan market in the United States since September 2008, and the more recent European sovereign debt crisis, has led to increased liquidity and credit concerns and volatility in the global credit and financial markets. These and other related events have had a significant adverse impact on the global credit and financial markets as a whole, including reduced liquidity, greater volatility, widening of credit spreads and a lack of price transparency in the global credit and financial markets. Further, economic developments globally can have a significant impact on our principal markets. Following the United Kingdom's exit from the European Union ("Brexit"), there remains significant uncertainty around the terms of their future

relationship with the European Union and, more generally, as to the impact of Brexit on the general economic conditions in the United Kingdom and the European Union and any consequential impact on global financial markets. For example, Brexit could give rise to increased volatility in foreign exchange rate movements and the value of equity and debt investments.

In addition, China is one of India's major trading partners and there are rising concerns of a possible slowdown in the Chinese economy as well as a strained relationship with India, which could have an adverse impact on the trade relations between the two countries. In response to such developments, legislators and financial regulators in the United States and other jurisdictions, including India, implemented a number of policy measures designed to add stability to the financial markets. However, the overall long-term effect of these and other legislative and regulatory efforts on the global financial markets is uncertain, and they may not have the intended stabilizing effects. Any significant financial disruption could have a material adverse effect on our business, financial condition, results of operation, and cash flows. These developments, or the perception that any of them could occur, have had and may continue to have a material adverse effect on global economic conditions and the stability of global financial markets, and may significantly reduce global market liquidity, restrict the ability of key market participants to operate in certain financial markets or restrict our access to capital. This could have a material adverse effect on our business, financial condition, results of operations, and cash flows, and reduce the price of the Units.

71. *If inflation rises in India, increased costs may result in a decline in profits.*

Inflation rates in India have been volatile in recent years, and such volatility may continue. Increasing inflation in India could cause a rise in the price of transportation, wages, raw materials and other expenses. There can be no assurance that increased annuities will sufficiently offset our increased costs due to inflation which could have a material adverse effect on our business, prospects, financial condition, results of operations and cash flows. Inflation may also have an impact on interest rates, which can affect our profitability.

72. *Significant differences exist between Ind AS and other accounting principles, such as IFRS, Indian GAAP and U.S. GAAP, which may be material to investors' assessments of our financial condition, result of operations and cash flows.*

The Special Purpose Combined Financial Statements included in this Draft Offer Document are prepared and presented in conformity with Ind AS, consistently applied during the periods stated in those reports, except as otherwise provided therein, and no attempt has been made to reconcile any of the information given in this Draft Offer Document to any other principles or to base the information on any other standards. Ind AS differs from other accounting principles with which prospective investors may be familiar in, such as IFRS, Indian GAAP and U.S. GAAP. In addition, as the mandated transition to Ind AS is very recent, there is no significant body of established practice from which we can draw on in forming judgments regarding the implementation and application of Ind AS, as compared to established IFRS or Indian GAAP generally, or in respect of specific industries. Accordingly, the degree to which the Special Purpose Combined Financial Statements included in this Draft Offer Document will provide meaningful information is entirely dependent on the reader's level of familiarity with Indian accounting practices. Persons not familiar with Indian accounting practices should limit their reliance on the financial disclosures presented in this Draft Offer Document.

73. *Unitholders may not be able to enforce a judgment of a foreign court against the Trust or the Investment Manager.*

The enforcement of civil liabilities by overseas investors in the Units, including the ability to effect service of process and to enforce judgments obtained in courts outside of India, may be adversely affected by the fact that (i) the Trust is constituted under the laws of the Republic of India, (ii) the Investment Manager is a private limited company incorporated under the laws of the Republic of India, (iii) the Sponsor is a limited liability partnership incorporated under the laws of the Republic of India, (iv) the directors and key personnel of the Investment Manager reside in India and (v) all of the assets of the Trust and the Investment Manager are located in India. All of the assets of the Trust, the Project SPVs and the Investment Manager are also located in India. As a result, it may be difficult to serve process upon the Trust, the Investment Manager or any of these persons outside of India or to enforce in India judgments obtained against such persons in courts outside of India.

There may be considerable delays in the disposal of suits by Indian courts. It may be unlikely that a court in India would award damages on the same basis as a foreign court if an action is brought in India. Furthermore, it may be unlikely that an Indian court would enforce foreign judgments if it viewed the amount of damages awarded as excessive or inconsistent with the public policy in India. A party seeking to enforce a foreign judgment in India is required to obtain prior approval from the RBI to repatriate any amount recovered pursuant to execution and any such amount may be subject to income tax in accordance with applicable laws. Any judgment or award in a foreign currency would be converted into Indian Rupees on the date of the judgment or award and not on the date of the payment which could be subject to foreign exchange risk. Generally, there are considerable delays in the processing of legal actions to enforce a civil liability in India, and therefore it is uncertain whether a suit brought in an Indian court will be disposed of in a timely manner or subject to considerable delays.

74. *We may be affected by competition law in India and any adverse application or interpretation of the Competition Act, 2002 ("Competition Act") could adversely affect our business.*

The Competition Act regulates practices having an appreciable adverse effect on competition in the relevant market in India. Under the Competition Act, any formal or informal arrangement, understanding or action in concert, which causes or is likely to cause an appreciable adverse effect on competition, is considered void and results in the imposition of substantial monetary penalties. Further, any agreement among competitors which, directly or indirectly, involves the determination of purchase or sale prices, limits or controls production, supply, markets, technical development, investment or provision of services, shares the market or source of production or provision of services by way of allocation of geographical area, type of goods or services or number of customers in the relevant market or, directly or indirectly, results in bid-rigging or collusive bidding, is presumed to have an appreciable adverse effect on competition. The Competition Act also prohibits abuse of a dominant position by any enterprise. The Competition Commission of India ("CCI") has extra-territorial powers and can investigate any agreements, abusive conduct or combination occurring outside India if such agreement, conduct or combination has an appreciable adverse effect on competition in India. Further, future acquisitions by the Trust may also require approval from CCI if such acquisition is beyond the thresholds permitted for combinations under the Competition Act and its relevant regulations. There can be no assurance as to the impact of the provisions of the Competition Act on the agreements that the Project SPVs have entered into. We are not currently party to any outstanding proceedings, nor have we received notice in relation to non-compliance with the Competition Act or the agreements they have entered into. However, if we are affected, directly or indirectly, by the application or interpretation of any provision of the Competition Act, or any enforcement proceedings initiated by the CCI, or any adverse publicity that may be generated due to scrutiny or prosecution by the CCI, or if any prohibition or substantial penalties are levied under the Competition Act, it could materially and adversely affect our business, prospects, financial condition, results of operations and cash flows.

Further, while, pursuant to our analysis, we may determine that no applications to the CCI for relevant approvals in relation to such transactions are required to be made, we cannot assure you that the CCI will not take a different view. In the event such applications are not made, or such approvals are not granted, in a timely manner or at all, it may result in, amongst other things, penalties being imposed against the Trust. Any penalties levied under the Competition Act or adverse orders issued could materially and adversely affect our financial condition and results of operations. Any adverse impact on our financial condition or operations due to the Competition Act may have a material adverse impact on our business, financial condition, results of operations and prospects and our ability to make distributions to the Unitholders.

RISKS RELATING TO TAXATION

75. *Changes in legislation or the rules relating to tax regimes could materially and adversely affect our business, prospects and results of operations.*

Tax and other levies imposed by the Government and state governments may include: (i) income tax (including withholding tax and tax collection at source); (ii) goods and service tax; (iii) stamp duty; and (iv) other special taxes and surcharges that are introduced on a temporary or permanent basis from time to time. In some cases, these taxes and other levies may be changed from year to year and the Indian courts which interpret tax legislation may apply such interpretations with retroactive effect. Also, the Government in certain situations has the authority to change tax laws retrospectively.

The GoI *vide* Finance Act, 2021, amongst others, amended the Securities Contracts (Regulation) Act, 1956 (“**SCRA**”) to recognise pooled investment vehicles and recognise the units, debentures, other marketable securities and other instruments issued by InvITs as “*securities*”. The Finance Act exempted the payment of tax deducted at source on dividends paid to InvITs. For further details, please see the sections titled “*Risk Factors – Investors may be subject to Indian taxes arising out of capital gains on the sale of Units and on any dividend or interest component or any other repayment of capital on Units*” and “*Risk Factors – We are governed by the provisions of, amongst others, the InvIT Regulations and the Securities Contracts (Regulation) Act, 1956 (“SCRA”), the implementation and interpretation of which, is evolving. The evolving regulatory framework governing infrastructure investment trusts in India may have a material adverse effect on the ability of certain categories of investors to invest in the Units, our business, financial condition and results of operations and our ability to make distributions to the Unitholders*” on pages 100 and 91, respectively.

There have been two major reforms in Indian tax laws, namely the introduction of the Goods and Services Tax (“**GST**”) and provisions relating to general anti-avoidance rules (“**GAAR**”).

The GST regime came into effect on July 1, 2017, combining taxes and levies by the Government and State Governments into a unified rate structure. Given the limited availability of information in the public domain concerning the GST, we cannot assure you as to the tax regime following implementation of the GST. Further, any application of existing law or future amendments may affect our overall tax efficiency and may result in significant additional taxes becoming payable.

Additionally, there is limited clarity on the availability of input tax credit, and any unfavourable orders in this regard may have a material adverse impact on our financial position and cash flows. Further, any application of existing law or future amendments may affect our overall tax efficiency and may result in significant additional taxes becoming payable.

The GAAR regime came into effect on April 1, 2017. For the GAAR to apply to any arrangement, the transaction should meet any one of the following specified tests, amongst others: (i) creates rights, or obligations, which are not ordinarily created between persons dealing at arm’s length; (ii) results, directly or indirectly, in the misuse, or abuse, of the provisions of the IT Act; (iii) lacks commercial substance or is deemed to lack commercial substance as prescribed under the IT Act in whole or in part; and (iv) is entered into, or carried out, by means which are, or in a manner which is, not ordinarily employed for bona fide purposes. Such transactions are declared as impermissible avoidance arrangements. The tax consequences of the GAAR provisions being applied to an arrangement could result in denial of tax benefit, amongst other consequences, including on the interest paid by the Project SPVs on the debt from the Trust or claim of any benefit under a tax treaty. In the absence of any precedents on the subject, the application of these provisions is uncertain. If the GAAR provisions are made applicable to the Trust or any member of the Trust, it may have a material adverse tax impact on the Trust.

The rules notified with respect to GAAR prescribe that these shall not be applicable to Foreign Institutional Investors in accordance with the SEBI (Foreign Portfolio Investors) Regulations, 2019 subject to the fulfilment of certain conditions. GAAR may have a material adverse tax impact on the Trust, the Sponsor and the Unitholders.

Further, it has been proposed by way of the Finance Act, 2022, to extend the applicability of section 94(7) of the IT Act to the units of business trust (with effect from Financial Year 2022-23), which provides that where:

- 1) any person buys or acquires any securities or unit within a period of three months prior to the record date in relation to the dividend;
- 2) such person sells or transfers such securities within three months after such record date or such units within a period of nine months after such record date; and
- 3) the dividend or income on such securities or unit received or receivable by such person is exempt,

then, the loss, if any, arising from the sale and purchase of securities and units to the extent of dividend or income received or receivable on such securities or unit, shall be ignored for computing income chargeable to tax.

The Finance Act, 2022, has also extended the applicability of section 94(8) of the IT Act (commonly known as bonus stripping) to the units of business trusts (with effect from Financial Year 2022-23), which provides that where:

- 1) any person buys or acquires any units within a period of three months prior to the record date;
- 2) such person is allotted additional units without any payment on the basis of holding of such units on such record date;
- 3) such person sells or transfers all or any of the units referred to in clause (1) above within a period of nine months after the record date, while continuing to hold all or any of the additional units referred in clause (2) above,

then, the loss, if any, arising from the sale and purchase of all or any of the units shall be ignored for computing income chargeable to tax and notwithstanding anything contained in any other provision of the IT Act, the amount of loss so ignored shall be deemed to be the cost of purchase or acquisition of such additional units referred to in clause (2) above as are held on the date of such sale or transfer.

The Investment Manager has not determined the impact of such existing or proposed legislations on our business. We may incur increased costs relating to compliance with any new requirements, which may also require management time and other resources, and any failure to comply may adversely affect our business, results of operations and prospects. Uncertainty in the applicability, interpretation or implementation of any amendment to, or change in, governing law, regulation or policy, including by reason of an absence, or a limited body, of administrative or judicial precedent may be time consuming as well as costly for us to resolve, and may impact the viability of our current business or restrict our ability to grow our business in the future.

76. *Investors may be subject to Indian taxes arising out of capital gains on the sale of Units and on any dividend or interest component of any returns from the Units.*

Under current Indian tax laws, units of a business trust held for more than 12 months are considered as long-term capital assets. In case of sale of such units through a recognised stock exchanges in India and subject to payment of securities transaction tax ("STT"), any gain arising in excess of ₹ 0.125 million is subject to long term capital gains tax at a concessional rate of 12.5%.

In case the units are held for less than or up to 12 months, the same shall be regarded as short-term capital asset. Any gain arising in case of sale of such units through a recognised stock exchanges in India and subject to payment of STT, is subject to short-term capital gains tax at a concessional rate of 20% (plus applicable surcharge and cess). However, if the said units are sold in any other manner, the same shall be subject to short-term capital gains tax at applicable tax rates of the holder (plus applicable surcharge and cess). In case any sum (not in the nature of interest or dividend or any other income taxable in our hands) is distributed to the Unitholders which is in excess of the cost of the Units issued to Unitholders, such sum is taxable as income from other sources in the hands of the Unitholders.

The aforesaid taxability in India is subject to tax treaty benefits in the case of a non-resident holder. Further, the applicable taxes on the sale of Units and on any dividend or interest component of any returns from the Unit will also be subject to the category of investor holding or selling the Units.

The Finance Act, 2020 amended the Income Tax Act to abolish the dividend distribution tax regime and shift the incidence of taxation of dividend (declared or distributed on or after April 1, 2020) to the shareholder. Under the Finance Act, 2020, a distribution made by a business trust (which includes an infrastructure investment trust), being in nature dividend income received from a special purpose vehicle, will not be subject to tax in the hands of a unitholder, so long as the special purpose vehicle has not opted to pay corporate tax under the beneficial regime introduced under Section 115BAA of the Income Tax Act. Similarly, a business trust (which includes an infrastructure investment trust) will not be required to withhold tax on any distributions which are in the nature of dividend income received from a special purpose vehicle, so long as such special purpose vehicle has not opted to pay corporate

tax under the beneficial regime introduced under Section 115BAA of the Income Tax Act. However, where the special purpose vehicle opts to pay tax under Section 115BAA of the Income Tax Act, dividend income distributed by the business trust would be taxed in the hands of a non-resident unitholder at 20% (plus applicable surcharge and cess) or the applicable treaty rate, whichever is beneficial, and at the ordinary rate for a resident unitholder. Further, the business trust would be required to withhold tax on such distributions made from dividend received from the special purpose vehicle. Thus, the taxability of dividends distributed by the Trust will depend on the taxation regime opted by the Project SPVs. It may also be noted that in terms of Section 194LBA (1) of the IT Act, any distributable income in the nature of interest income and dividend income (where the SPV has opted to pay corporate tax under the beneficial regime introduced under Section 115BAA of the IT Act) in the hands of a resident investor is subject to deduction of tax at the rate of 10%. Similarly, in terms of Section 194LBA (2) of the IT Act, any distributable income in the nature of interest income and dividend income (where the SPV has opted to pay corporate tax under the beneficial regime introduced under Section 115BAA of the IT Act) in the hands of a non-resident is subject to deduction of tax at the rate of 5% (plus applicable surcharge and cess) and 10% (plus applicable surcharge and cess) respectively. The final tax rate for the resident/ non-resident unit holder may also depend on other considerations.

Further, the Finance Act, has included a definition of “pooled investment vehicle” which comprises business trusts as defined under the IT Act. The IT Act defines business trusts as trusts registered with SEBI as an InvIT. This amendment has come into effect from April 1, 2021. The Finance Act recognises units, debentures and other instruments issued by infrastructure investment trusts as “securities” under the Securities Contracts (Regulation) Act, 1956. This may have further implications under various regulations issued by SEBI, governing securities, including under the Securities and Exchange Board of India (Listing Obligations and Disclosure Requirements) Regulations, 2015 and the Securities and Exchange Board of India (Prohibition of Insider Trading) Regulations, 2015. As announced in previous budgets, the dividend distribution tax applicable on InvITs was abolished and replaced with dividend withholding tax. The Finance Act has also exempted payment of tax deducted at source on dividend paid to InvITs, with effect from April 1, 2020.

Furthermore, the Trust might not be able to pay or maintain the levels of distributions or ensure that the level of distributions will increase over time, or that future acquisitions will increase the Trust’s distributable free cash flow to the Unitholders. Any reduction in, or elimination or taxation of, payments of distributions could materially and adversely affect the market price of the Units.

77. *Tax laws are subject to changes and differing interpretations, which may adversely affect our operations.*

Tax laws and regulations are subject to differing interpretations by tax authorities. Differing interpretations of tax and other fiscal laws and regulations may exist within governmental ministries, including tax administrations and appellate authorities, thus creating uncertainty and potential unexpected results. The degree of uncertainty in tax laws and regulations, combined with significant penalties for default and a risk of aggressive action, including by retrospective legislation, by the governmental or tax authorities, may result in tax risks in the jurisdictions in which we operate being significantly higher than expected. These events may result in a material, adverse effect on our business, financial condition, results of operations and prospects. Tax authorities in India may also introduce additional or new regulations applicable to our business which could adversely affect our business and profitability.

The Investment Manager intends to take measures to ensure that it is in compliance with all relevant tax laws. However, the tax authorities might take a position that differs from the position taken by us with regard to our tax treatment of various items. For instance, our Project SPVs are subject to tax assessments and notices from time to time which if determined against us may result in an adverse impact on our financial position and prospects. For details of such actions, please see the section titled “Legal and Other Information - Taxation Proceedings” on page 400.

78. *The Trust and the Project SPVs may be subject to certain tax related risks under the provisions of the IT Act.*

Shortfall in the determination of fair market value of the securities at the time of transfer of the Project SPVs to the Trust may be subject to taxation in the hands of the acquirer. The securities of the Project

SPVs are proposed to be transferred to the Trust. Under the provisions of section 56(2)(x) of the IT Act, where a purchase of securities is undertaken at a value which is lower than the fair market value of the shares, such shortfall in value is subject to be taxed as income from other sources in the hands of the acquirer. The manner of determination of fair market value as provided under the Income Tax Rules, 1962, includes the value determined by net asset method, subject to the prescribed adjustments.

The Trust is under an obligation to distribute to the Unitholders, the surplus of the income earned from receipt of cash flows from the interest and dividend received from the Project SPVs, after the deduction of the various expenses incurred in connection with earning such income and general-purpose expenses. The provisions of the IT Act provide that the Trust should disclose the nature of the amount distributed to the Unitholders, i.e., whether from dividends received from the Project SPVs, interest income earned, etc. However, there is lack of clarity on the method to be adopted by the Trust for the allocation of various expenses incurred towards earning each specific stream of income by the Trust.

79. *The income of the Trust in relation to which pass through status is not granted under the IT Act may be chargeable to Indian taxes.*

Under the provisions of the IT Act, the total income of the Trust other than capital gains under section 111A & section 112 of the IT Act, interest and dividend income from the Project SPVs would be taxable at the maximum marginal rate (“MMR”). MMR is defined under the provisions of the IT Act to mean the rate of income-tax (including surcharge on income-tax, if any) applicable in relation to the highest slab of income. Further, capital gains under section 111A and section 112A of the IT Act shall be taxable in the hands of the Trust at the rates mentioned in the respective sections.

In accordance with section 115UA of the IT Act, the MMR applicable to the Trust, a separately assessable resident entity, is 30% (plus applicable surcharge and cess). However, the relevant authorities may view the Trust as a “pass through” entity and the applicable tax rate will be the MMR applicable to its beneficiaries. If any beneficiary is chargeable to MMR at a rate higher than the rate applicable to other beneficiaries, the income of the Trust attributable to the share of such beneficiary will be taxed at a higher applicable rate.

As there are two divergent views, there is a possibility that the matter may be litigated if the latter view is taken up by the tax authorities of India.

RISKS RELATING TO THE UNITS

80. *The sale or possible sale of a substantial number of Units by the Sponsor or Sponsor Group (if applicable) in the public market following the end of its lock-in requirement as prescribed under the InvIT Regulations could adversely affect the price of the Units.*

Under the InvIT Regulations, the Sponsor and Sponsor Group are required to, collectively, hold a minimum of 15% of our Units for a minimum period of three years from the date of listing pursuant to the initial offer and the balance of their unitholding in the Trust is required to be locked in for a period of not less than one year from the date of listing of the Units.

Further, in accordance with the InvIT Regulations, the Sponsor and the Sponsor Group are required to lock-in our Units as follows:

Period of unitholding	Percentage (%)
From the beginning of 4 th year after the date of listing pursuant to the initial offer and till the end of 5 th year from the date of listing pursuant to the initial offer	5% of total Units or ₹ 500 crores, whichever is lower
From the beginning of 6 th year after the date of listing pursuant to the initial offer and till the end of 10 th year from the date of listing pursuant to the initial offer	3% of total Units or ₹ 500 crores, whichever is lower
From the beginning of 11 th year after the date of listing pursuant to the initial offer and till the end of 20 th year from the date of listing pursuant to the initial offer	2% of total Units or ₹ 500 crores, whichever is lower
After completion of the 20 th year from the date of listing pursuant to the initial	1% of total Units or ₹ 500

Period of unitholding	Percentage (%)
offer	crores, whichever is lower

The Units are proposed to be listed on the Stock Exchanges. If the Sponsor and the Sponsor Group, subsequent to the end or lapse of either of the aforesaid lock-in periods directly or indirectly sells or is perceived as intending to sell a substantial number of its Units, or if a secondary offering of the Units is undertaken, the market price for the Units could be adversely affected.

- 81. *No investors are permitted to withdraw or lower their Bids (in terms of quantity of Units or the Bid Amount) at any stage after submitting a Bid.***

Pursuant to the InvIT Regulations, investors are required to pay the Bid Amount on submission of the Bid, and are not permitted to withdraw or lower their Bids (in terms of quantity of Units or the Bid Amount) at any stage after submitting a Bid, notwithstanding adverse developments in international or national monetary policy, financial, political or economic conditions, our business, results of operations, or otherwise, at any stage after the submission of their Bids.

- 82. *Under Indian law, foreign investors are subject to restrictions that limit their ability to transfer or redeem Units, which may adversely impact the trading price of the Units.***

Under foreign exchange regulations currently in force in India, transfers of units between non-residents and residents are permitted, subject to certain exceptions, if they comply with the pricing and reporting requirements specified by RBI. If a transfer of units is not compliant with such pricing or reporting requirements and does not fall under any of the exceptions specified by RBI, then RBI's prior approval is required.

Additionally, unitholders who seek to convert Indian rupee proceeds from a sale of units in India into foreign currency and repatriate that foreign currency from India require a no-objection or a tax clearance certificate from the Indian income tax authorities.

We cannot assure you that any required approval from RBI or any other Governmental agency can be obtained on any particular terms or in a timely manner, or at all.

Our Unitholders will not have the right to redeem or request the redemption of our Units while our Units are listed on the Stock Exchanges. In terms of the InvIT Regulations, an infrastructure investment trust may redeem units only by way of a buyback or at the time of delisting of units and may be subject to additional conditions and restrictions under Indian regulations.

- 83. *The Units have never been traded and the listing of the Units on the Stock Exchanges may not result in an active or liquid market for the Units.***

There is no market for the Units prior to the Issue and an active market for the Units may not develop or be sustained after the Issue. Moreover, the listing and quotation do not guarantee that a trading market for the Units will develop or, if a market does develop, the liquidity of that market for the Units. The price of the Units may be volatile, and investors may be unable to resell the Units at or above the Issue Price, or at all. Although it is currently intended that the Units will remain listed on the Stock Exchanges, there is no guarantee of the continued listing of the Units. There is no assurance that the Trust will continue to satisfy the listing requirements for InvITs. Further, it may be difficult to assess the Trust's performance against domestic benchmarks.

- 84. *Market and economic conditions may affect the market price and demand for the Units.***

Movements in domestic and international securities markets, economic conditions, foreign exchange rates and interest rates may affect the market price of and demand for the Units. In particular, an increase in market interest rates may have an adverse impact on the market price of the Units if the annual yield on the price paid for the Units gives investors a lower return as compared to other investments.

- 85. *There is no assurance that our Units will remain listed on the stock exchanges.***

Although it is currently intended that the Units will remain listed on the Stock Exchanges, there is no

guarantee of the continued listing of the Units. Among other factors, we may not continue to satisfy the listing requirements of the Stock Exchanges. Accordingly, Unitholders will not be able to sell their Units through trading on the Stock Exchanges if the Units are no longer listed on the Stock Exchanges. While the InvIT Regulations state that we must provide Unitholders with an exit prior to delisting, the specific mechanism of such delisting and related exit offer has not yet been finalised by the SEBI. Further, under the InvIT Regulations, we are required to maintain a minimum of twenty Unitholders (other than the Sponsor, its related parties and its associates) at all times after the listing of the Units pursuant to the Issue and certain minimum public holding requirements. Failure to maintain such minimum number of Unitholders or public holding may result in action being taken against us by the SEBI and the Stock Exchange, including the compulsory delisting of our Units.

86. *The Issue Price of the Units may not be indicative of the market price of the Units after the Issue.*

The Units may trade at prices significantly below the Issue Price after the Issue. The trading price of the Units will depend on many factors, including:

- the perceived prospects of our business and the road sector;
- differences between our actual financial and operating results and those expected by investors and analysts;
- changes in analysts' recommendations or projections;
- changes in general economic or market conditions;
- the market value of our assets;
- the perceived attractiveness of the Units against those of other equity or debt securities, including those not in the infrastructure industry;
- the balance of buyers and sellers of the Units;
- the future size and liquidity of the Indian infrastructure investment trust market;
- any future changes to the regulatory system, including the tax system, both generally and specifically in relation to Indian infrastructure investment trusts;
- the ability on our part to successfully implement its investment and growth strategies;
- foreign exchange rates;
- broad market fluctuations, including weakness of the equity markets and increases in interest rates;
- variations in our quarterly operating results;
- additions or departures of key management personnel of the Investment Manager and/or the Project SPV, the Parties to the Trust;
- changes in the amounts of our distributions, if any, and changes in the distribution policy or failure to execute the existing distribution policy;
- actions by Unitholders;
- changes in market valuations of similar business entities or companies;
- announcements by us or our competitors of significant contracts, acquisitions, disposals, strategic partnerships, joint ventures or capital commitments;
- speculation in the press or investment community; and

- changes or proposed changes in laws or regulations affecting the road industry and infrastructure development in India or enforcement of these laws and regulations, or announcements relating to these matters.

For these reasons, amongst others, the price of Units may fluctuate. To the extent that we retain operating cash flow for investment purposes, working capital reserves or other purposes, these retained funds, while increasing the value of its underlying assets, may not correspondingly increase the market price of the Units. Any failure on our part to meet market expectations with regard to future earnings and cash distributions may adversely affect the market price for the Units.

In addition, the Units are not capital-protected products and there is no guarantee that Unitholders can regain the amount invested. If the Trust is terminated or liquidated, it is possible that investors may lose all or a part of their investment in the Units.

- 87. *Any future issuance of Units by us may dilute investors' Unitholding. The sale or possible sale of a substantial number of Units by the Sponsor, Sponsor Group or another significant Unitholder could adversely affect the price of the Units.***

Where new Units are issued at less than the market price of the Units, the value of an investment in the Units may be affected. In addition, Unitholders who do not, or are not able to, participate in the new issuance of Units may experience a dilution of their interest in the Trust.

Further, under the InvIT Regulations, the Sponsor and the Sponsor Group, collectively, is required to lock-in units from the date of listing pursuant to the initial offer. The Units are proposed to be listed on the Stock Exchange(s). If the Sponsor or any of the Sponsor Group entities, following the lapse of either of the aforesaid lock-in period directly or indirectly sells or is perceived as intending to sell a substantial number of its Units, or if a significant Unitholder other than the Sponsor directly or indirectly sells or is perceived as intending to sell a substantial number of its Units, the market price for the Units could be adversely affected.

- 88. *Rights of Unitholders under Indian law may be more limited than under the laws of other jurisdictions.***

Indian legal principles related to corporate procedures, directors' fiduciary duties and liabilities, and unitholders' rights may differ from those that would apply to a company in another jurisdiction. Unitholders' rights under Indian law may not be as extensive as Unitholders' rights under the laws of other countries or jurisdictions. Investors may have more difficulty in asserting their rights as unitholder in an Indian entity than as unitholder of a corporation in another jurisdiction.

GENERAL INFORMATION

The Trust

The Anantam Highways Trust was set up as a contributory, determinate, irrevocable trust under the provisions of the Indian Trusts Act, 1882 pursuant to the Trust Deed dated July 24, 2024. The Trust was registered as an infrastructure investment trust under the InvIT Regulations on August 19, 2024, having registration number IN/InvIT/24-25/0031. The principal place of business and the correspondence address of Trust is 33rd Floor, Sunshine Tower, Senapati Bapat Marg, Dadar West, Mumbai 400 013. The telephone number of the Trust is: + 022 6145 8900 and the website of the Trust is: www.anantamhighways.com.

For information on the background of the Trust and the description of the Project SPVs, please see the sections entitled “*Overview of the Trust*” and “*Business*” on pages 20 and 258, respectively.

Compliance Officer of the Trust

The compliance officer of the Trust, as designated by the Investment Manager, is Chandra Kant Sharma (“**Compliance Officer**”). His contact details are as follows:

Chandra Kant Sharma
33rd Floor,
Sunshine Tower,
Senapati Bapat Marg, Dadar West,
Mumbai 400013
Mobile: +91 9867427545
E-mail: chandrakant.sharma@alt-alpha.com / anantam.cs@alt-alpha.com

Bidders can contact the Compliance Officer or the Lead Manager in case of any pre-Issue or post-Issue related problems such as non-receipt of Allotment Advice/letter of Allotment, non-credit of Allotted Units in the respective beneficiary account or non-receipt of refund orders and non-receipt of funds by electronic mode.

The Sponsor

Alpha Alternatives Fund Advisors LLP

Registered office and address for correspondence:

34th Floor,
Sunshine Tower,
Senapati Bapat Marg, Dadar West,
Mumbai 400 013
Tel: 022 6145 8900
E-mail: compliance@alt-alpha.com

Contact Person of the Sponsor:

Ashim Sahni is the contact person of the Sponsor. His contact details are as follows:

34th Floor,
Sunshine Tower,
Senapati Bapat Marg, Dadar West,
Mumbai 400 013
Tel: +91 22 6145 8900
Email: ashim@alt-alpha.com

The Investment Manager

Alpha Alternatives Fund – Infra Advisors Private Limited

Registered office and address for correspondence

33rd Floor,
Sunshine Tower,
Senapati Bapat Marg, Dadar West,
Mumbai 400 013

Tel: 022 6145 8900
Fax: 022 6145 8900
Email: compliance@alt-alpha.com
Contact Person: Chandra Kant Sharma

The Project Manager

Arsenio Strategies Private Limited

Registered office and address for correspondence:

34th Floor,
Sunshine Tower,
Senapati Bapat Marg, Dadar West,
Mumbai 400 013
Tel: 022 6145 8900
Email: kaushal.biyani@alt-alpha.com
Contact person: Kaushal Biyani

The Trustee

Axis Trustee Services Limited

Registered Office:

Axis House,
Bombay Dyeing Mills Compound,
Pandurang Budhkar Marg,
Worli,
Mumbai 400 025
Maharashtra, India

Correspondence Address

The Ruby, 2nd Floor, SW,
29 Senapati Bapat Marg,
Dadar West,
Mumbai 400 028
Maharashtra, India

Tel: +91 22 6230 0451
Fax: +91 22 6230 0700
E-mail: debenturetrustee@axistrustee.in
Contact Person: Chief Operating Officer
Website: www.axistrustee.com
SEBI Registration Number: IND000000494

Other Parties involved in the Trust

Auditors

Mukund M Chitale & Co, Chartered Accountants.
2nd Floor, Kapur House,
Paranjape B Scheme Road No. 1,
Vile Parle (E),
Mumbai – 400057
Tel: +91-22-26633500
Email: info@mmchitale.com
Contact Person: S.M. Chitale
Firm Registration Number: 106655W

Valuer

S. Sundararaman
5B, 'A' Block,
Mena Kampala Arcade, New 18&20,
Thiagaraya Road, T. Nagar
Chennai – 600017
Tel: +91 9790928047
Email: chennaiissr@gmail.com
Contact Person: S. Sundararaman
Registration Number: IBBI/RV/06/2018/10238

Technical Consultants

RUKY Projects Private Limited
1403A, Manjeera Trinity Corporate,
JNTU-HITEC City Road,
Kukatpally, Hyderabad – 500 072,
Telangana, India,
Tel.: +91 40 4855 7777 / 2304 4777
E-mail: contact@rukypromjects.com
Website: www.rukypromjects.com
Contact Person: C.Ramanaiah

Infinite Civil Solutions Pvt. Ltd
FP- 25, Infinite House,
CIMS Hospital Road, Sola
Ahmedabad – 380060
Tel.: +91 9824059739
E-mail: info@inficivil.com
Contact Person: +91 9824059739

Lead Manager to the Issue

Nuvama Wealth Management Limited

801 - 804, Wing A, Building No 3,
Inspire BKC, G Block,
Bandra Kurla Complex, Bandra East,
Mumbai, Maharashtra – 400 051
Tel: +91 22 4009 4400
E-mail: anantam@nuvama.com
Investor Grievance E-mail: customerservice.mb@nuvama.com
Website: www.nuvama.com
Contact Person: Lokesh Shah
SEBI Registration No.: INM000013004

Escrow Collection Bank

[●]

Syndicate Member

[●]

Legal Counsel to the Trust, the Investment Manager, the Sponsor as to Indian law**Cyril Amarchand Mangaldas**

5th Floor, Peninsula Chambers
Peninsula Corporate Park
Ganpatrao Kadam Marg
Lower Parel
Mumbai 400 013
Tel: +91 22 2496 4455

Legal Counsel to the Lead Manager as to Indian Law**J. Sagar Associates**

One Lodha Place, 27th Floor,
Senapati Bapat Marg,
Lower Parel,
Mumbai – 400 013

Registrar to the Issue

KFin Technologies Limited
Selenium Tower B,
Plot No. 31 and 32, Financial District,
Nanakramguda, Serilingampally,
Hyderabad, Rangareddi 500 032,
Telangana, India
Tel.: + 91 1800 309 4001 / + 91 40 6716 2222
Fax: +91 4067161563
E-mail: anantam.invit@kfintech.com
Investor Grievance E-mail: einward.ris@kfintech.com
Website: www.kfintech.com
Contact Person: M. Murali Krishna
SEBI Registration No.: INR000000221
CIN: L72400TG2017PLC117649

Credit rating agencies

India Ratings & Research Private Limited
Wockhardt Towers, 4th Floor, West Wing,
Bandra Kurla Complex, Bandra (E),
Mumbai-400 051
Tel: 022 40001700
Fax: 022 40001701
Email: infogrp@indiaratings.co.in
Contact Person: S Suryanarayanan
SEBI Registration Number: IN/CRA/002/1999

ICRA Limited
Electric Mansion, 3rd Floor,
Appasaheb Marathe Marg,

Prabhadevi, Mumbai – 400025
Tel: +91 22-61143406
Fax: +91 22-24331390
Email: rohitg@icraindia.com
Contact Person: Rohit Gupta
Designation: Senior Director
SEBI registration Number: IN/CRA/008/2015

Credit rating

The Trust has been given a rating of (i) 'Provisional IND AAA/Stable (Assigned)' by India Ratings and Research by the way of its letter dated March 25, 2025, for proposed rupee term loan aggregating to ₹ 33,000 million and (ii) 'Provisional [ICRA] AAA(Stable)' by ICRA Limited by way of its letter dated March 25, 2025, for proposed bank facilities aggregating to ₹ 33,000 million, the rationale for which is available at their websites, <https://www.indiaratings.co.in/pressrelease/75629> and <https://www.icra.in/Rationale/ShowRationaleReport?Id=133864>, respectively. It is clarified that the details available on these websites do not form a part of this Draft Offer Document.

Self-Certified Syndicate Banks

The list of SCSBs notified by SEBI for the ASBA process is available at <http://www.sebi.gov.in/sebiweb/other/OtherAction.do?doRecognised=yes>, or at such other website as may be prescribed by SEBI from time to time. For a list of the SCSB branches named by the respective SCSBs to receive ASBA Forms from the Designated Intermediary, please refer to the above-mentioned link.

Registered Brokers

The list of the Registered Brokers, including details such as postal address, telephone number and e-mail address, is provided on the websites of the Stock Exchanges at <https://www.bseindia.com/> and <https://www.nseindia.com>, as updated from time to time.

Registrar and Unit Transfer Agents

The list of the RTAs eligible to accept ASBA Forms at the Designated RTA Locations, including details such as address, telephone number and e-mail address, is provided on the websites of BSE at <https://www.bseindia.com/Static/PublicIssues/RtaDp.aspx> and NSE at http://www.nseindia.com/products/content/equities/ipos/asba_procedures.htm, respectively, as updated from time to time.

Collecting Depository Participants

The list of the CDPs eligible to accept ASBA Forms at the Designated CDP Locations, including details such as name and contact details, is provided on the websites of BSE at <https://www.bseindia.com/Static/PublicIssues/RtaDp.aspx> and NSE at http://www.nseindia.com/products/content/equities/ipos/asba_procedures.htm, respectively, as updated from time to time.

BASIS OF ISSUE PRICE

The Issue Price will be determined by the Investment Manager, in consultation with the Lead Manager, on the basis of assessment of market demand for the Units offered through the Book Building Process and on the basis of quantitative and qualitative factors as described below.

Bidders are requested to also refer to the sections entitled “*Risk Factors*”, “*Our Business*”, and “*Special Purpose Combined Financial Statements*” on pages 66, 258 and Annexure C, respectively, to make an informed investment decision.

The Price Band is ₹ [●] to ₹ [●].

Based on the evaluation of the qualitative and quantitative factors listed below, the enterprise value and equity value at the Floor Price and the Cap Price and the Issue Price is as follows:

Particulars	At Floor Price	At Cap Price	At Issue Price
Equity Value (Post Issue)	[●]	[●]	[●]
Total Units Post Issue	[●]	[●]	[●]

Qualitative Factors

We believe that some of the qualitative factors which form the basis for computing the Issue Price are as follows:

- Strong lineage and support from our Sponsor and Project Manager
- Consistent and stable cash flows from assets with long term visibility and low counter party risks
- Strong financial position
- Government support and an established regulatory framework
- Skilled and experienced Investment Manager having strong corporate governance philosophy
- Skilled and experienced O&M Contractor

For further details, please see the section entitled “*Business*” on page 258.

Quantitative Factors

Some of the information presented below is based on the Special Purpose Combined Financial Statements. For details, please see the section entitled “*Special Purpose Combined Financial Statements*” attached as Annexure C.

Some of the quantitative factors which may form the basis for computing the Issue Price are as follows:

1. Valuation provided by the Valuer

The Valuer has used the discounted cash flows method to determine the value of the Project SPVs. The assumptions on which the value of the Project SPVs is based have been disclosed in the section entitled “*Valuation Report*” attached as Annexure A to this Draft Offer Document. For further details, please refer to the “*Valuation Report*” attached as Annexure A to this Draft Offer Document.

2. Enterprise Value / Cash flows from operations ratio in relation to Issue Price:

(in ₹ million)

Particulars	Amount	EV/Cash flow from operations		
		At Floor Price	At Cap Price	At Issue Price
Cash flows from operations for the financial year ended March 31, 2024	(20,315.49)*	[●]	[●]	[●]
Projected cash flows from operations for the financial year ended March 31, 2026	10,237.13**	[●]	[●]	[●]

Particulars	Amount	EV/Cash flow from operations		
		At Floor Price	At Cap Price	At Issue Price
Projected cash flows from operations for the financial year ended March 31, 2027	9,351.71**	[●]	[●]	[●]
Projected cash flows from operations for the financial year ended March 31, 2028	8,287.88**	[●]	[●]	[●]

*Cash flow from operations for the financial year ended March 31, 2024 in the above table is in accordance with the Special Purpose Combined Financial Statements.

**In accordance with the Projections of Revenue from Operations and Cash Flow from Operating Activities prepared by the Investment Manager. For details of the projections and notes thereto, please see the section entitled "Projections of Revenue from Operations and Cash Flow from Operating Activities" attached as Annexure D. Also see the section entitled "Risk Factors" on page 66.

3. Price / Net Asset Value per Unit ratio in relation to Issue Price:

Particulars	Amount (₹)	Price / Net Asset Value per Unit		
		At Floor Price	At Cap Price	At Issue Price
Net Asset Value per Unit as of [●] ⁽¹⁾	[●]	[●]	[●]	[●]

⁽¹⁾ The number of Units that the Trust will issue is not presently ascertainable. Hence, the disclosures in respect of number of Units and Net Asset Value per Unit have not been provided as on date of this Draft Offer Document.

For further details, refer to "Special Purpose Combined Financial Statements" attached as Annexure C.

4. Earnings Per Units

Year/Period ended	Earnings per Unit (₹)*
March 31, 2024	[●]
December 31, 2024	[●]

Note: The number of Units that the Trust will issue is not presently ascertainable. Hence, the disclosures in respect of Earnings Per Unit have not been provided as on date of this Draft Offer Document.

5. Comparison with Industry Peers

Particulars	NAV per Unit (₹)*	Premium / (Discount to NAV)%**
Capital Infra Trust (Erstwhile National Infrastructure Trust)	91.77	(2.70)%
Indus Infra Trust (erstwhile Bharat Highways InvIT)	113.32	(1.80)%

*NAV as of September 30, 2024

**Calculated as Unit Price as of March 25, 2025 / NAV as of September 30, 2024

PARTIES TO THE TRUST

The summaries of the key terms of certain material contracts and agreements included in this section are not complete and are subject to, and are qualified in their entirety by reference to, the provisions of the respective material contracts and agreements. Copies of the material contracts and agreements described in this section will be available for inspection at the principal place of business of the Trust from the date of filing the Offer Document until the date of listing of the Units pursuant to this Issue. For further details, please see the section entitled “Material Contracts and Documents for Inspection” on page 452.

A. The Sponsor and Sponsor Group

Sponsor Alpha Alternatives Fund Advisors LLP

History and Certain Corporate Matters

Alpha Alternatives Fund Advisors LLP is the Sponsor of the Trust. The Sponsor is a limited liability partnership incorporated in India under the Limited Liability Partnership Act, 2008, with the identification number AAL-2353. The Sponsor was incorporated on November 23, 2017.

The Sponsor’s registered office and correspondence address is situated at 34th floor, Sunshine Tower, Senapati Bapat Marg, Dadar West, Mumbai 400013. For further details, please see the section entitled “General Information-The Sponsor” on page 106 .

Background of the Sponsor

The Sponsor was incorporated as a multi-asset class multi strategy asset management entity that creates investment solutions across various asset-classes, such as, infrastructure, credit, real estate, equities, commodities, and fixed income. The Sponsor is registered as an investment advisor, portfolio manager and investment manager to alternative investment funds with SEBI. The Sponsor provides fund and asset management services to its clients and makes investment in various companies engaged in, amongst others, the infrastructure sector. The Sponsor as an investment manager makes investments through the funds managed by it and has evaluated and invested in various infrastructure sub-sectors which fall under the Harmonised Master List of Infrastructure sub-sectors issued by the Ministry of Finance (Department of Economic Affairs) (Policy and Planning Unit), by way of a notification dated October 11, 2022 (the “**Harmonised List**”). Further, the Sponsor has set up an alternative investment fund in accordance with the provisions of the Securities and Exchange Board of India (Alternative Investment Funds) Regulations, 2012 (“**AIF**”) focused on the road infrastructure sector, namely, Build India Infrastructure Fund (a Category II AIF), a scheme of Alpha Alternatives Special Situations Fund. The scheme has received approval from SEBI on June 24, 2024.

Further, in accordance with the eligibility criteria specified under the InvIT Regulations, the Sponsor has net tangible assets of not less than ₹ 1,000 million as on March 21, 2025.

Partners of the Sponsor

The partners of the Sponsor are entrusted with the overall management of the Sponsor. Please see below the details in relation to the partners of the Sponsor:

Sr. No.	Name	Designation
1.	Alpha Alternatives Holdings Private Limited represented by Ashim Sahni	Designated Partner
2.	Naresh Kothari	Designated Partner

Other Confirmations

As of the date of this Draft Offer Document, the Sponsor is in compliance with the eligibility criteria provided under Regulation 4 of the InvIT Regulations, to the extent applicable to each of the Sponsor or Sponsor Group, severally, and are “fit and proper persons” as prescribed under SEBI Intermediaries Regulations.

Sponsor Group

Build India Infrastructure Fund, Terrefert Green Growth LLP, Spectrum Edge LLP, Alpha Alternatives Infrastructure Fund, and Alpha Alternatives Financial Services Private Limited form part of the Sponsor Group. For details in relation to the Sponsor Group, please see the section entitled “*Definitions and Abbreviations-Trust Related Terms-Sponsor Group*” on page 5.

Neither the Sponsor nor the Sponsor Group, nor the partners of the Sponsor, or the promoters, directors, or partners of the Sponsor Group (i) are or have been debarred from accessing the securities market by SEBI; (ii) are or have been promoters, directors or persons in control of any other company or a sponsor, investment manager or trustee of any other infrastructure investment trust or an infrastructure investment trust which is debarred from accessing the capital market under any order or direction made by SEBI; and/or (iii) are or have been declared a wilful defaulter by any bank or a financial institution or consortium thereof, in accordance with the guidelines on ‘wilful defaulters’ issued by the RBI.

B. The Trustee – Axis Trustee Services Limited

Axis Trustee Services Limited is the Trustee of the Trust. The Trustee is a registered intermediary with SEBI under the SEBI Debenture Trustee Regulations as a debenture trustee having registration number IND000000494 and the certificate of registration is valid until suspended. The Trustee’s registered office is situated at Axis House, Bombay Dyeing Mills Compound, Pandurang Budhkar Marg, Worli, Mumbai 400 025 and corporate office at The Ruby 2nd floor, SW, 29 Senapati Bapat Marg, Dadar West, Mumbai 400 028. The Trustee is a wholly-owned subsidiary of Axis Bank Limited.

Background of the Trustee

The Trustee is a wholly-owned subsidiary of Axis Bank Limited. The Trustee’s services are aimed at catering to the individual needs of the client and enhancing client satisfaction. As Trustee, it ensures compliance with all statutory requirements and believes in the highest ethical standards and best practices in corporate governance. It aims to provide the best services in the industry with its well trained and professionally qualified staff with a sound legal acumen. The Trustee is involved in varied facets of debenture and bond trusteeships, including, advisory functions and management functions. The Trustee also acts as a security trustee and is involved in providing services in relation to security creation, compliance and holding security on behalf of lenders.

The Trustee is not an Associate of the Sponsor or the Investment Manager or the Project Manager to the Trust. Further, neither the Trustee nor the settlors of the Trustee (i) are or have been debarred from accessing the securities market by SEBI; (ii) are or have been promoters, directors or persons in control of any other company or a sponsor, investment manager or trustee of any other infrastructure investment trust or an infrastructure investment trust which is debarred from accessing the capital market under any order or direction made by SEBI; and/or (iii) are or have been declared a wilful defaulter by any bank or a financial institution or consortium thereof, in accordance with the guidelines on ‘wilful defaulters’ issued by the RBI.

Other Confirmations

The Trustee is not an Associate of the Sponsor or the Investment Manager. Further, as of the date of this Draft Offer Document, the Trustee is in compliance with the eligibility criteria provided under Regulation 4 of the SEBI InvIT Regulations and is a “fit and proper person” as prescribed under SEBI Intermediaries Regulations.

Further, neither the Trustee nor the settlor of the Trustee, any of the promoters or directors of the Trustee (i) are debarred from accessing the securities market by SEBI; (ii) are promoters, directors or persons in control of any other company or a sponsor, investment manager or trustee of any other infrastructure investment trust or an infrastructure investment trust which is debarred from accessing the capital market under any order or direction made by SEBI; (iii) are wilful defaulters or fraudulent borrowers as per the list published by the Reserve Bank of India; or (iv) are fugitive economic offenders.

Board of Directors of the Trustee

The board of directors of the Trustee are entrusted with the responsibility for the overall management of the Trustee. Please see below the details in relation of the board of directors of the Trustee:

Sr. No.	Name	DIN	Designation
1.	Rahul Rajan Choudhary	10935908	Managing Director and Chief Executive Officer
2.	Prashant Joshi	08503064	Non-Executive Director
3.	Arun Mehta	08674360	Independent Director
4.	Parmod Kumar Nagpal	10041946	Independent Director

Brief profiles of the Directors of the Trustee

1. **Rahul Rajan Choudhary** is the managing director and chief executive officer of Axis Trustee Services Limited.
2. **Prashant Joshi** is a non-executive director on the board of directors of Axis Trustee Services Limited.
3. **Arun Mehta** is an independent director on the board of directors of Axis Trustee Services Limited.
4. **Parmod Kumar Nagpal** is an independent director on the board of directors of Axis Trustee Services Limited.

Key Terms of the Trust Deed

The Trustee has entered into the Trust Deed, in terms of the InvIT Regulations, the key terms of which, are provided below:

1. Powers of the Trustee

The Trustee has been provided with various powers under the Trust Deed in accordance with the Indian Trusts Act, 1882 and the InvIT Regulations, including but not limited to:

- (i). Without prejudice to the scope and generality of the powers and authority conferred upon the Trustee under the Indian Trusts Act, 1882, the Trustee shall, in relation to the Trust, have every and all powers that a Person competent to contract and acting as a legal and beneficial owner of such property has, and such powers shall not be restricted by any principle of construction or rule or requirement, but shall operate according to the widest generality of which the foregoing words are capable, notwithstanding that certain powers are more specifically set forth herein.
- (ii). The Trustee shall have the power to determine, in accordance with the Investment Management Agreement, the Investment Objectives and the policies adopted by the Trust, distributions to Unitholders and other rights attached to the Units and other securities or instruments of the InvIT in compliance with the InvIT Regulations and applicable law.
- (iii). The Trustee shall oversee voting of the Unitholders in accordance with the InvIT Regulations.
- (iv). The Trustee shall have the power to do the following, in accordance with the InvIT Regulations, which power may be delegated to the Investment Manager in terms of the Investment Management Agreement:
 - (a). cause the offering of the Units through any offer document;
 - (b). cause any offer document to be provided to the investors;

- (c). issue and allot Units or debt securities (as defined under the InvIT Regulations) in accordance with Applicable Law;
 - (d). summon and conduct meetings of the Unitholders in accordance with the relevant InvIT Documents and the InvIT Regulations;
 - (e). subject to, and only in accordance with, the terms of the InvIT Documents and the InvIT Regulations, approve transfer of the Units; and
 - (f). all such acts, deeds and actions as may be necessary in relation to the exercise of any of the powers specified under paragraphs (a) to (e) above.
- (v). The Trustee shall invest and hold the InvIT Assets in the name of the InvIT for the benefit of the Unitholders in accordance with the provisions of the InvIT Regulations, the InvIT Documents, this Deed and the Investment Objectives. The Trustee shall be empowered to make investment decisions as provided below, with respect to the underlying assets or projects of the InvIT including any further investments or divestment, subject to InvIT Regulations and in accordance with the offer document. Provided such power is delegated to, and exclusively exercised by, the Investment Manager pursuant to the Investment Management Agreement, the Investment Manager is also empowered to:
- (a). acquire, subscribe, hold, manage, trade, transfer and dispose of shares, stocks, convertibles, debentures, mutual funds, bonds or other equity or equity-related securities or other debt or mezzanine securities of all kinds issued by any Holding Company or any SPV, whether in physical or dematerialised form, including power to hypothecate, pledge or create Encumbrances of any kind on such securities held by the InvIT in such Holding Companies or SPVs, to be used as collateral security for any borrowings by the InvIT or any Holding Company or any SPV;
 - (b). avail commercial loans, including the power to hypothecate, pledge or create Encumbrances of any kind on the InvIT Assets as collateral security for any such loans availed by the Trust, in accordance with the InvIT Regulations and applicable law;
 - (c). keep the capital and monies of the Trust, the Holding Companies and the SPVs in deposit with banks or mutual funds or other institutions whatsoever, in accordance with the InvIT Regulations and other applicable law;
 - (d). undertake lending to Holdcos, SPVs and any other Persons permitted under applicable Law;
 - (e). accept capital contributions;
 - (f). collect and receive the profit, interest, repayment of principal of debt or debt like, or equity or equity like, mezzanine securities, dividend, return of capital of any type by the Holding Companies, or SPVs, and income of the InvIT as and when the same may become due and receivable;
 - (g). collect and receive the profit, interest, repayment of principal of debt or debt like, or equity or equity like, mezzanine securities, dividend, return of capital of any type by the Holding Companies, or SPVs, and income of the InvIT as and when the same may become due and receivable;
 - (h). invest in securities or in units of mutual funds in accordance with the InvIT Regulations and other applicable law by the Trust, the Holding Companies and the SPV;
 - (i). invest in money market instruments including government securities, treasury bills, certificates of deposit and commercial papers in accordance with applicable law by the Trust, the Holding Companies and the SPV.

- (j). to give, provide and agree to provide to any Holding Companies or SPVs, financial assistance in the form of investment in its debt securities or share capital of any class including ordinary, preference, participating, non-participating, voting, non-voting or other class, and in the form of investment in securities convertible into share capital;
- (k). to invest, acquire, purchase, hold, divest, sale, hypothecate, pledge or otherwise transfer movable property or immovable property of any kind including any rights and interest therein of the Holding Companies and the SPVs; and
- (l). provide guarantee, security, or other collateral facility or comfort in connection with any financing, borrowings or otherwise, undertaken by the Trust, Holdcos or SPVs or other investment entities; and
- (m). to appoint advisors and service providers in connection with the foregoing.
- (vi). Subject to the provisions of the InvIT Regulations, the Trustee, in consultation with the Investment Manager, shall have the power to make such reserves out of the income or capital as the Trustee may deem proper in order to meet the expenses, liabilities (including potential tax liability) or contingent liabilities of the InvIT including to address any event of force majeure and any decisions of the Trustee whether made in writing or implied from its acts, so far as the applicable law may permit, shall be conclusive and binding on the Unitholders and all Persons actually or prospectively interested under the Trust Deed. Any distribution made by the Trustee from such reserves shall be in the manner set out in Article 10 and other relevant provisions of the Trust Deed.
- (vii). In addition to acting in its capacity as trustee, the Trustee shall subject to the InvIT Regulations, have the power to employ and pay at the expense of the InvIT, any agent in any jurisdiction whether attorneys, solicitors, brokers, banks, trust companies or other agents whether associated or connected in any way with the Trustee or not, without being responsible for the default of any agent if employed in good faith to transact any business, including without limitation, the power to appoint agents to raise funds, or do any act required to be transacted or done in the execution of the trusts hereof including the receipt and payment of moneys and the execution of documents.
- (viii). The Trustee shall, on behalf of the InvIT, within a reasonable time from the date of execution hereof and subject to the InvIT Regulations, appoint the Investment Manager as the investment manager to the InvIT, by execution of the Investment Management Agreement, on behalf of the InvIT, to manage the assets and investments of the InvIT and undertake activities of the InvIT in accordance with the terms and conditions set out in this Deed and the Investment Management Agreement and Applicable Law.
- (ix). The Trustee shall oversee the activities of the Investment Manager in the interest of the Unitholders, ensure that the Investment Manager complies with the InvIT Regulations and applicable law, including in relation to the appointment of Unitholder Nominee Directors by Eligible Unitholders, and shall obtain a compliance certificate or such other reports and information as may be prescribed under the InvIT Regulations from time to time from the Investment Manager on a quarterly basis, or such other time period as prescribed by Applicable Law, in the form prescribed by SEBI, if any
- (x). The Trustee shall, on behalf of the InvIT, within a reasonable time from the date of execution hereof, appoint the Project Manager as the project manager for the InvIT, by execution of the Project Implementation and Management Agreement, for the operation and management of the InvIT Assets, in accordance with the terms and conditions set out in the Trust Deed, the Project Implementation and Management Agreement and applicable law.
- (xi). The Trustee shall oversee activities of the Project Manager with respect to compliance with the InvIT Regulations and the Project Implementation and Management Agreement and shall obtain a compliance certificate from the Project Manager on a quarterly basis or such other time period as prescribed by Applicable Law, in the form prescribed by SEBI, if any.

- (xii). The Trustee may, in consultation with the Investment Manager, appoint any custodian in order to provide custodian services, and may permit any property comprised in the InvIT to be and remain deposited with a custodian or with any Person or Persons in India or in any other jurisdiction subject to such deposit being permissible under the applicable law.
- (xiii). In the event of any Taxes, stamp duty or other duties or, fees (and any interest or penalty chargeable thereon) whatsoever becoming payable in any jurisdiction in respect of the InvIT or any part thereof or in respect of documents issued or executed in pursuance of the Trust Deed in any circumstances whatsoever, the Trustee, in consultation with the Investment Manager, shall have the power and duty to pay all such duties, fees or Taxes (and any interest or penalty chargeable thereon) as well as to create any reserves for future potential Tax liability out of the income of the InvIT and/or InvIT Assets, or to the extent of the amount invested in the Units by the Unitholders, as may be permitted under applicable law and the advice of tax consultants, and the Trustee may pay such duties, fees or Taxes (and any such interest or penalty) on behalf of the InvIT. For avoidance of doubt, it is clarified that, pursuant to this Article, no Unitholder will be required to make a contribution as a capital commitment to the InvIT (other than the value for Units already paid). The Trustee may, on the recommendation of the Investment Manager, file tax returns with the relevant Governmental Agencies, in accordance with applicable law and the advice of tax consultants.
- (xiv). The Trustee shall, subject to the advice of the Investment Manager and InvIT Regulations, have the power to pay InvIT expenses (including taxes and statutory charges) out of the funds held by the Trust.
- (xv). The Trustee shall, in discharge of its duties, have the power to take the opinion of legal or tax counsel in any jurisdiction concerning any disputes or differences arising under the Trust Deed or any matter relating to the InvIT and the fees of such counsel shall be paid out of the funds held in the InvIT.
- (xvi). The Trustee shall, in discharge of its duties, have the power to appear before the relevant authorities, submit information, seek clarifications from any regulatory authority and complete, sign and submit any applications or documents for any approvals, permissions, or actions that may be necessary or desirable on behalf of the InvIT.
- (xvii). The Trustee may, in execution of the InvIT hereof or in exercise of any of the powers hereby or by law given to the Trustee sell, rent or buy any property, or borrow property from or carry out any other transaction with the trustees of any other trust or the executors or administrators of any estate notwithstanding that the Trustee is the same Person as those trustees, executors or administrators or any of them and where the Trustee is the same Person as those trustees, executors or administrators, the transaction shall be binding on all Persons then or thereafter interested hereunder though effected and evidenced only by an entry in the books of accounts of the Trustee, provided such power is delegated to, and exclusively exercised by, the Investment Manager pursuant to the Investment Management Agreement. The Trustee shall ensure that no conflicts of interest shall arise whilst conducting such activities.
- (xviii). Subject to applicable law, the Trustee (acting on behalf of the InvIT) shall have the power to:
 - (a). accept any property before the time at which it is transferable or payable;
 - (b). pay or allow any claim on any evidence that it thinks sufficient;
 - (c). accept any security movable or immovable in lieu of any amounts payable to it;
 - (d). alter the dates for payment of any amounts payable to it; and
 - (e). subject to such approval (if any) as may be required from the Unitholders, compromise, compound, abandon or otherwise settle any claim or thing whatsoever relating to the InvIT or the Trust Deed.
- (xix). The Trustee shall, subject to the advice of the Investment Manager, have the power to borrow

funds any subordinated equity, bonds, commercial papers, long-term loans, short term loans, bonds or other loans or funds from any Person or authority (whether Government or otherwise, whether Indian or overseas) for the purpose of the InvIT on such terms and conditions and for such periods and subject to approval of the Unitholders in accordance with and as may be required in terms of the InvIT Regulations and Applicable Law. The Trustee shall, subject to the advice of the Investment Manager, also have the power to create Encumbrances of any kind on the InvIT Assets as collateral security for any such borrowings. Further, the Trustee (acting in capacity of the trustee of the InvIT) shall have the power to create charge, security interest and/or lien over any or all of the assets of the InvIT (both present or future), to secure and/or guarantee the performance or any of the obligations of the Holdcos/SPVs or investment entity, as it may deem fit, subject to compliance with applicable law.

- (xx). Subject to the conditions laid down in any offer document, InvIT Documents, and the InvIT Regulations and applicable law, the Trustee may, subject to any advice of the Investment Manager, retain any proceeds received by the InvIT from any Holding Companies or SPVs or infrastructure projects, including through the sale of or any Holding Company or SPV or infrastructure projects.
- (xxi). The Trustee may make rules to give effect to and carry out the investment objectives subject to applicable law. In particular, and without prejudice to the generality of such power, the Trustee may provide, in a manner not inconsistent with the provisions of the Trust Deed and the InvIT Regulations, for all or any of the following matters namely:
 - (a). manner of maintaining of the records and particulars of the Unitholders;
 - (b). norms of investment by the InvIT in accordance with the investment objectives of the InvIT and in accordance with the powers and authorities of the Trustee as set out in the Trust Deed;
 - (c). matters relating to entrustment / deposit or handing over of any securities or shares of the Holding Companies or SPVs of the InvIT to any one or more custodians and the procedure relating to the holding thereof by the custodian;
 - (d). such other administrative, procedural or other matters relating to the administration or management of the affairs of the InvIT and which matters are not by the very nature required to be included or provided for in the Trust Deed or by the management thereof and which matters are not inconsistent with the investment objectives of the Trust Deed and applicable law;
 - (e). procedure for seeking the vote of the Unitholders either by calling a meeting or through postal ballot or otherwise; and
 - (f). procedure for summoning and conducting meetings of Unitholders.

The aforementioned power to make rules may be delegated by the Trustee to the Investment Manager subject to the InvIT Regulations and in terms of the Investment Management Agreement.

- (xxii). The Trustee shall cause the depository to maintain the depository register.
- (xxiii). The Trustee shall advise the Investment Manager in relation to the appointment of valuer, auditors, registrar and transfer agent, merchant bankers, custodian, credit rating agency and any other intermediary or service provider or agent as may be applicable with respect to the activities pertaining to the Trust, in a timely manner, in accordance with the InvIT Regulations and applicable law. The Investment Manager shall ensure that the activities of, and the services provided by, any of the intermediaries set out above are as per the provisions of the InvIT Regulations and applicable law.
- (xxiv). The Trustee shall review the reports required in terms of InvIT Regulations and applicable law, as submitted by the Investment Manager including, without limitation, in relation to

Eligible Unitholder(s), as prescribed from time to time. In the event such reports are not submitted in a timely manner, the Trustee, after due follow-up, shall intimate the same to SEBI as required in terms of the InvIT Regulations and applicable law.

- (xxv). The Trustee shall have the power to open one or more bank accounts for the purposes of the InvIT, to deposit and withdraw money and fully operate the same.
- (xxvi). The Trustee shall have the power to take up with SEBI or with the designated stock exchange as applicable, any matter which has been approved in any meeting of Unitholders, if the matter requires such action.
- (xxvii). Without prejudice to any other provisions of the Trust Deed, the Trustee shall also have the following powers and authorities:
 - (a). to institute, conduct, compromise, compound, or abandon any legal proceedings for or on behalf of or in the name of the InvIT or the Trustee, and to defend, compound or otherwise deal with any such proceedings against the InvIT or Trustee or the officers of the Trustee or concerning the affairs of the InvIT, and also to compound and allow time for payment or satisfaction of any equity due and of any claims or demands by or against the InvIT and to refer any differences to arbitration and observe and perform in relation to any decisions thereof;
 - (b). to make and give receipts, releases and other discharges for moneys payable to the InvIT and for the claims and demands of the InvIT;
 - (c). to vary, alter, postpone, extend or cancel the terms and conditions of agreements, in relation to investments, as entered into with the relevant SPVs/Holdcos/investment entities, as applicable;
 - (d). to enter into all such negotiations and contracts, and, execute and do all such acts, deeds and things for or on behalf of or in the name of the InvIT as the Trustee may consider expedient for or in relation to any of the matters or otherwise for the purposes of the InvIT;
 - (e). to sign, seal, execute, deliver and register according to law all deeds, documents, agreements, and assurances in respect of the InvIT;
 - (f). to negotiate, sign, seal, execute and deliver the InvIT Documents, including but not limited to, any issue agreement, share purchase agreement, services agreement, deed of right of first offer, debenture subscription agreement, escrow agreement, underwriting agreement, loan documentation, offer document or any other deed, agreement or document in connection with the InvIT or the Units, including any amendments, supplements or modifications thereto;
 - (g). take into their custody and/or control all the capital, assets, property of the InvIT and hold the same in trust for the Unitholders in accordance with the Trust Deed, the InvIT Regulations and applicable law; and
 - (h). generally to exercise all such powers as it may be required to exercise under the InvIT Regulations and applicable law for the time being in force and do all such matters and things as may promote the InvIT or as may be incidental to or consequential upon the discharge of its functions and the exercise and enforcement of all or any of the powers and rights under the Trust Deed, applicable law and the InvIT Regulations.
- (xxviii). Subject to applicable law, the Trustee may at any time, buy-back the Units from the Unitholders.
- (xxix). Subject to applicable law, the advice of the Investment Manager, the Trustee may cause the InvIT to pay, prepay or repay any and all debt raised from any person in accordance with the terms of the Trust Deed and to redeem any debt securities or other securities, obligations or

instruments in accordance with the terms thereof issued to such persons in compliance with the InvIT Regulations and other applicable law.

- (xxx). The Trustee shall have the power, whether directly (in consultation with or on the recommendation of the Investment Manager) through the Investment Manager where the Investment Manager has been so authorised by the Trustee under the Investment Management Agreement, to appoint, determine the fees of and enter into, execute, deliver, perform, modify or terminate all documents, agreements and instruments containing customary terms including contractual indemnities with valuers, auditors, registrar and transfer agents, merchant bankers, credit rating agencies, search agents, custodians, property consultants, brokers, legal, financial and tax consultants or any other intermediary or professional service provider or agent as may be required in connection with the activities of the InvIT in a timely manner and as per the provisions of the InvIT Regulations and other Applicable Law.
- (xxxi). The Trustee may, delegate to the Investment Manager or the Project Manager, any powers set out above and the duties set out below, or as available to it under the InvIT Regulations and applicable law, including, *inter alia*, management of the assets and investments of the InvIT vested in it under the Trust Deed, taking investment decisions, issue, listing and allotment of Units and making distributions in accordance with the InvIT Regulations. Further, for administrative and operational convenience, the Trustee may delegate to any committee or Person, with consent of the Investment Manager, any administrative duties as set out below, provided, however, the Trustee shall remain responsible and liable for any such Persons' acts of commission or omission as determined by a court of competent jurisdiction whose decision is final, binding and non-appealable, except the roles and responsibilities delegated by the Trustee to Investment Manager, Project Manager or any third party expert, or any sub-delegation by the Investment Manager or the Project Manager.

2. *Duties of the Trustee*

- (i). The Trustee shall use best endeavours to carry on and conduct the business of the InvIT in a proper and efficient manner in the best interest of the Unitholders.
- (ii). The Trustee, on behalf of the InvIT, shall appoint an Investment Manager and Project Manager in accordance with the InvIT Regulations and applicable law.
- (iii). The Trustee shall, on behalf of the InvIT, within a reasonable time from the date of execution of the Trust Deed, enter into the Investment Management Agreement with the Investment Manager.
- (iv). The Trustee shall ensure that the Investment Manager performs its obligations as specified below:
 - (a). The Trustee shall ensure that the Investment Manager complies with reporting and disclosure requirements in accordance with InvIT Regulations and in case of any delay or discrepancy, require the Investment Manager to rectify such delay or discrepancy on an urgent basis;
 - (b). The Trustee shall review the transactions carried out between the Investment Manager and its associates and where the Investment Manager has advised that there may be a conflict of interest, it shall obtain a certificate from a practising chartered accountant or valuer, as applicable, that such transaction is on arm's length basis;
 - (c). The Trustee shall review the valuation report submitted by the Investment Manager;
 - (d). The Trustee may require the Investment Manager to set up such systems and procedures and submit such reports to the Trustee, as may be necessary for effective monitoring of the functioning of the InvIT;
 - (e). The Trustee may maintain, or cause the Investment Manager or the registrar and transfer agent to maintain a register of the Units of the InvIT; and

- (f). The Trustee shall ensure that the Investment Manager convenes meetings of the Unitholders in accordance with the InvIT Regulations and oversee the voting by Unitholders and declaration of such results of such meetings, provided that where there is (i) a change or removal of the Investment Manager, or a change in control of the Investment Manager, and the Trustee will be required to obtain approval of the Unitholders the Trustee shall be responsible for convening and conducting of the meeting of the Unitholders; and (ii) any issue pertaining to the Trustee, such as change in the Trustee, the Trustee shall not be involved in any manner in the conduct of the meetings of the Unitholders. The Trustee shall ensure that the Investment Manager convenes meetings of Unitholders in the manner as prescribed under InvIT Regulations, from time to time.
- (v). The Trustee shall provide SEBI and the stock exchange(s), where applicable, such information as may be sought by SEBI or by the stock exchange(s) pertaining to the activity of the InvIT. The Trustee shall comply with intimation requirements under the InvIT Regulations and applicable law, including in relation to intimating SEBI in case of any discrepancy in the operation of the InvIT with the Trust Deed, the InvIT Regulations and any offer document. The Trustee shall also immediately inform SEBI in case any act which is detrimental to the interest of the Unitholders is noted.
- (vi). The Trustee shall at all times exercise due diligence in carrying out its duties and protecting the interests of the Unitholders.
- (vii). The Trustee shall delegate all such powers to the Investment Manager as may be required by the Investment Manager to carry out its obligations under the Investment Management Agreement and under applicable law.
- (viii). The Trustee shall delegate all such powers to the Project Manager as may be required by the Project Manager to carry out its obligations under the Project Implementation and Management Agreement and under applicable law.
- (ix). The Trustee shall obtain prior approval from the Unitholders in accordance with the InvIT Regulations before any change in, or change in control of, the Investment Manager due to removal or otherwise. In this regard, the Trustee shall also obtain prior approval from SEBI prior to any change in, or change in control of, the Investment Manager, in the event that such approval is required in terms of the InvIT Regulations. In case of change in Investment Manager due to removal or otherwise, the Trustee shall, appoint a new investment manager in accordance with the Investment Management Agreement, the InvIT Regulations and applicable law, within the time period prescribed under the InvIT Regulations. The previous investment manager shall continue to act as such at the discretion of the Trustee until such time as the new investment manager is appointed. The Trustee shall ensure that the new investment manager shall stand substituted as a party in all the documents to which the earlier Investment Manager was a party. The Trustee shall also ensure that the earlier Investment Manager continues to be liable for all its acts of omissions and commissions for the period during which it served as investment manager, notwithstanding its termination.
- (x). In case of change in Project Manager due to removal or otherwise, the Trustee shall appoint a new project manager in accordance with the InvIT Regulations and applicable law. The Trustee shall appoint a new project manager within the time period prescribed under the InvIT Regulations. The Trustee may appoint an administrator in connection with an infrastructure project for such terms and on such conditions as it deems fit. The previous project manager shall continue to act as the project manager at the discretion of the Trustee till such time as a new project manager is appointed. All costs and expenses in this regard will be borne by the new project manager. The Trustee shall ensure that the new project manager shall stand substituted as a party in all the documents to which the earlier Project Manager was a party. The Trustee shall also ensure that the earlier Project Manager continues to be liable for all its acts of omissions and commissions for the period during which it served as project manager, notwithstanding its termination.

- (xi). The Trustee shall ensure that in case of change in control of the Project Manager, the Trustee shall, in consultation with the Investment Manager, take such actions as may be required in terms of the InvIT Documents, written consent is obtained from the counter parties in terms of the concession agreements or agreements of a similar nature entered into by the holding company(ies) or SPVs, prior to such change, if applicable.
- (xii). The Trustee shall ensure that subscription amount is kept in a separate bank account in name of the InvIT and is only utilised for adjustment against allotment of Units or refund of money to the applicant till the time such Units are listed and the same will be utilised for objectives of the offering as will be mentioned in the relevant offer document.
- (xiii). The Trustee shall cause the books of accounts of the InvIT to be in accordance with the Trust Deed.
- (xiv). The Trustee shall ensure that all acts, deeds and things are done for the attainment of the investment objective of the InvIT and in compliance with the InvIT Regulations and applicable law and to secure the best interests of the Unitholders.
- (xv). The Trustee, either by itself or through the Investment Manager shall, from time to time, file such reports as may be required by SEBI or any other regulatory authority or as required under the InvIT Regulations and applicable law with regard to the activities carried on by the InvIT.
- (xvi). The Trustee shall periodically review the status of the Unitholders' complaints and their redressal undertaken by the Investment Manager, in accordance with the InvIT Regulations.
- (xvii). The Trustee and its directors, officers, employees and agents shall at all times maintain the greatest amount of confidentiality as regards the activities and assets of the InvIT and such other matter connected with them and the InvIT generally and shall not disclose any confidential information to any other Person, other than the Investment Manager, or the Project Manager, unless such information is required to be disclosed to some regulatory authority, court or any other Person under any order of court or any law in force in India.
- (xviii). The assets and liabilities of the InvIT shall at all times be segregated from the assets and liabilities of the Trustee and the assets and liabilities of other trusts managed by the Trustee. The assets held under the InvIT shall be held for the exclusive benefit of the Unitholders and such assets shall not be subject to the claims of any creditor or any Person claiming under any other fund administered by the Trustee or by the Investment Manager.
- (xix). The Trustee shall ensure through the Investment Manager that a detailed valuation is undertaken of the InvIT Assets by a valuer at such intervals and in the manner as may be prescribed under the InvIT Regulations and applicable law. The Trustee shall ensure that the remuneration of the valuer is not linked to or based on the value of the asset(s) being valued.
- (xx). The Trustee of the InvIT shall not invest in Units of the InvIT.
- (xxi). The Trustee shall fulfil its obligations in terms of the InvIT Regulations.
- (xxii). The Trustee shall ensure that the activity of the InvIT is being operated in accordance with the provisions of the Trust Deed, the InvIT Regulations, applicable law and the InvIT Documents and if any discrepancy, it shall inform SEBI immediately in writing.
- (xxiii). The Trustee shall ensure that the InvIT, the Investment Manager, the Project Manager, the Holding Companies and the SPVs adopt, policies, including corporate governance policies, policies in relation to acquisition of assets from the Sponsor and third parties, policies in relation to related party transactions, policies in relation to appointment of auditors and valuers, policies in relation to the Net Distributable Cash Flows, leverage policies ("**Policies**"), as applicable, prior to filing of the relevant offer document for the initial offer. The terms, such as, manner or requirement of Unitholders' approval for each of these Policies, applicability, amendment and termination, of the respective Policies shall be set out in each of the Policies.

- (xxiv). The Trustee shall maintain records in relation to the InvIT in accordance with the InvIT Regulations and applicable law.
- (xxv). The Trustee shall wind up the InvIT in accordance with the InvIT Regulations and applicable law. Upon winding up of the InvIT, the Trustee shall surrender the certificate of registration to SEBI.
- (xxvi). The Trustee shall, promptly on occurrence, inform the Sponsor of a cancellation, revocation, suspension, non-renewal of its registration to act as a trustee under applicable law or a breach of the terms of such registration that will materially impair its ability to perform its obligations and exercise its powers under the Trust Deed.

3. *Rights of the Trustee*

The Trustee shall have the following rights:

- (i). The Trustee may, in the discharge of its duties, act upon any advice obtained in writing from any bankers, accountants, brokers, lawyers, professionals, consultants, or other experts acting as advisers to the Trustee.
- (ii). Subject to applicable law, no Unitholder shall be entitled to inspect or examine the InvIT's premises or properties (including any Holding Companies and SPVs) without the permission of the Trustee, who shall give such permission, if necessary, in consultation with the Investment Manager. Further, no Unitholder shall be entitled to require discovery of any information respecting any detail of the InvIT's activities or any matter which may relate to the conduct of the business of the InvIT and which information may, in the opinion of the Trustee and the Investment Manager adversely affect the interest of other Unitholders.
- (iii). Without prejudice to any other provisions of the Trust Deed, but save as otherwise provided for in any InvIT Document, the Trustee shall be entitled to reimburse itself and shall be entitled to charge the InvIT with the expenses, taxes, levies, and liabilities (including indemnity obligations of the InvIT, if any) as set out in the Trust Deed.
- (iv). The Trustee may accept as sufficient evidence for the value of any investment or for the cost price or sale price thereof or for any other fact within its competence, a certificate by a Valuer or any other professional Person appointed by the Investment Manager for the purpose.

4. *Liabilities of the Trustee*

The liabilities of the Trustee in terms of the Trust Deed are as follows:

- (i). The Trustee shall only be held chargeable for such monies, stocks, funds, shares, assets, investment, property or securities as the Trustee shall have actually received and shall not be liable or responsible for any banker, broker, custodian or other Person in whose hands the same may be deposited or placed, nor for the deficiency or insufficiency in the value of any investments of the InvIT nor otherwise for any involuntary loss. Any receipt signed by the Trustee for any monies, stocks, funds, shares, securities, investment or property, paid, delivered or transferred to the Trustee under or by virtue of the Trust Deed or in exercise of the duties, functions and powers of the Trustee shall effectively discharge the Trustee or the Person or Persons paying, delivering or transferring the same therefrom or from being bound to see to the application thereof, or being answerable for the loss or misapplication thereof provided that the Trustee and such Persons shall have acted in good faith, without negligence and shall have used their best efforts in connection with such dealings and matters.
- (ii). The Trustee shall not be under any liability on account of anything done or omitted to be done or suffered by the Trustee in good faith in accordance with, or in pursuance of any request or advice of the Investment Manager.
- (iii). The Trustee shall not be under any obligation to institute, acknowledge the service of, appear in, prosecute or defend any action, suit, proceedings or claim in respect of the provisions hereof

or in respect of the InvIT Assets or any part thereof or any corporate action which in its opinion would or might involve it in expense or liability unless the Investment Manager shall so request in writing and the Trustee in consultation with the Investment Manager is satisfied that the value of the investment is sufficient to provide adequate indemnity against costs, claims, damages, expenses or demands to which it may be put as Trustee as a result thereof. The costs in relation to such action, suit, proceedings or claims (whether undertaken upon request of Investment Manager or otherwise) incurred by the Trustee in connection with or arising out of the InvIT, shall be borne by the InvIT.

- (iv). The Trustee shall not be liable in respect of any action taken or damage suffered by it on reliance upon any notice, resolution, direction, consent, certificate, affidavit, statement, certificate of stock, plan of reorganization or (without being limited in any way by the foregoing) other paper or document believed to be genuine and to have been passed, sealed or signed by appropriate authorities or entities.
- (v). The Trustee shall not be liable to the Unitholders for doing or failing to do any act or thing which it is directed or requested to do or perform or to forbear from doing or performing by reason of any provision of any present or future law or regulation made pursuant thereto, or of any decree, order or judgment of any court, or by reason of any request announcement or similar action (whether of binding legal effect or not) which may be taken or made by any Person or body acting with or purporting to exercise the authority of any government (which legally or otherwise). If for any reason it becomes impossible or impracticable to carry out any of the provisions of these presents the Trustee shall not be under any liability therefore or thereby.
- (vi). Nothing in the Trust Deed exempts or indemnifies the Trustee against liability for: (i) breach of trust under the Indian Trusts Act, 1882; (ii) fraud, misconduct or gross negligence by the Trustee as conclusively determined by a court of competent jurisdiction; (iii) violation of Applicable Laws by the Trustee (to the extent that such violation adversely effects the InvIT and/or the Unit Holders); or (iv) failure to show the degree of care and diligence required of them as Trustee under the Indian Trusts Act, 1882, while carrying out the duties described in this Deed as determined by a court of competent jurisdiction, whose decision is final and non-appealable.
- (vii). The Trustee shall not be responsible to any Unitholder for the authenticity of any signature affixed to any document or be, in any way, liable for any forged or unauthorized signature on or for acting upon or giving effect to any such forged or unauthorized signature. The Trustee shall be entitled but not bound to require that the signature of any Unitholder to any document required to be signed by him under or in connection with these presents shall be verified to the Trustee's reasonable satisfaction.
- (viii). Nothing contained in the Trust Deed, shall be construed so as to prevent the Trustee from acting as trustee of other trusts or alternate investment funds or venture capital funds or private equity funds or real estate investments trusts or infrastructure investment trusts or private trusts or customised fiduciary trusts separate and distinct from the InvIT, and retaining for its own use and benefit all remuneration, profits and advantages which it may derive therefrom, as permitted under applicable law.
- (ix). If the Trustee is required by the InvIT Regulations or any other applicable law to provide information regarding the InvIT or the Unitholders, the investments made by the InvIT and income therefrom and provisions of these presents and complies with such request in good faith, whether or not it was in fact enforceable, the Trustee shall not be liable to the Unitholders or to any other party as a result of such compliance or in connection with such compliance.
- (x). The Trustee shall not incur any liability for any act or omission or (as the case may be) failing to do any act or thing which may result in a loss to a Unitholder (by reason of any depletion in the value of the InvIT Assets or otherwise), except in the event that such loss is a direct result of fraud, gross negligence or wilful default on the part of the Trustee or results from a breach by the Trustee of the Trust Deed, as determined finally by a court of competent jurisdiction.

- (xi). If the Trustee engages any external advisors or experts (in accordance with the Trust Deed), to discharge its obligations under the Trust Deed, or undertakes any work (in consultation with the Investment Manager, in the interest of the Unitholders) which is not covered within the scope of work of the Trustee under the Trust Deed and such additional work is beyond the obligations of the Trustee under applicable law, the Trustee shall be entitled to recover such costs, charges and expenses which the Trustee may incur in this regard, from the funds of the InvIT. Further, it is clarified that, the Trustee will not be required to utilize funds held by the Trustee for any other trust for which, it is appointed as a trustee, for discharging its obligations as the Trustee under the Trust Deed.

5. *Provisions relating to Unitholders*

- (i). Notwithstanding anything to the contrary contained in any of the InvIT Documents, the aggregate liability (including any taxes, duties, fines, levies, liabilities, costs or expenses) of each Unitholder in the InvIT shall be limited to making the Capital Contribution payable by it in respect of the Units subscribed by it. For the avoidance of doubt, the Unitholders shall not be responsible or liable, directly or indirectly, for acts, omissions or commissions of the Trustee, the Investment Manager, the Sponsor, or any other Person, whether or not such act, omission or commission, has been approved by the Unitholders in accordance with the InvIT Regulations or not. Further, the Sponsor shall not be responsible or liable, directly or indirectly, for acts, omissions or commissions of the Trustee, the Investment Manager or any other Person, whether or not such act, omission or commission, has been approved by the Unitholders in accordance with the InvIT Regulations or not.
- (ii). Each Unit allotted to the Unitholders shall have one vote for any decisions requiring a vote of Unitholders.
- (iii). No Unitholder shall enjoy preferential voting or any other rights over another Unitholder subject to subordinate Units being issued to the Sponsor and its associates, where such subordinate Units shall carry only inferior voting or any other rights compared to other Units, in accordance with InvIT Regulations and applicable law.
- (iv). In no event shall the Trustee or the Investment Manager be bound to make payment to any Unitholder, except out of the funds held by it for that purpose under the provisions of the Trust Deed.
- (v). A Unitholder whose name and account details are entered in the depository register shall be the only Person entitled to be recognised by the Trustee as having a right, title, interest in or to the Units registered in his name and the Trustee shall recognise such holder as an absolute owner and shall not be bound by any notice to the contrary and shall also not be bound to take notice of or to see to the execution of any trust, express or implied, save as expressly provided or as required by any court of competent jurisdiction to recognise any trust or equity or interest affecting the title of the Units.
- (vi). The Unitholders (acting in their capacity as unitholders of the InvIT) shall not give any directions to the Trustee or the Investment Manager (whether in a meeting of Unitholders or otherwise) if it would require the Trustee or the Investment Manager to do or omit doing anything which may result in:
 - (a). the InvIT or the Trustee, in its capacity as the trustee of the InvIT, or the Investment Manager, in its capacity as the investment manager of the InvIT, ceasing to comply with applicable law;
 - (b). interference with the exercise of any discretion expressly conferred on the Trustee by the Trust Deed or the Investment Manager by the Investment Management Agreement, or the determination of any matter which requires the agreement of the Trustee or the Investment Manager, provided that nothing in (vi) above, shall limit the right of the Unitholder to require the due administration of the InvIT in accordance with the Trust Deed.

- (vii). The depository register shall (save in case of manifest error) be conclusive evidence of the number of Units held by each depositor and in the event of any discrepancy between the entries of the depository register and any statement issued by the depository, the entries in the depository register shall prevail unless the depositor proves to the satisfaction of the Trustee and the depository that the depository register is incorrect.
- (viii). The Unitholders shall have the right to call for certain matters to be subject to their consent, in accordance with the InvIT Regulations and applicable law.
- (ix). The Eligible Unitholders shall have the right to appoint Unitholder Nominee Directors on the Investment Manager's Board from time to time, in the manner prescribed under the InvIT Regulations. The Trustee shall supervise and ensure that the Investment Manager takes all such actions and compliances, as may be prescribed under the InvIT Regulations from time to time, in relation to the right of Eligible Unitholders to appoint Unitholder Nominee Directors on the Investment Manager's Board.
- (x). The Unitholders may, in accordance with the provisions of the InvIT Documents and applicable law, transfer any of the Units to an investor where such investor accepts all the rights and obligations of the transferor and the Trustee or the Investment Manager shall give effect to such transfer in accordance with applicable law.
- (xi). The Unitholders shall be entitled to receive the Distributions made by the InvIT in the proportion of their respective Beneficial Interest. The Beneficial Interest of each Unitholder shall be equal and limited to the proportion of the number of Units held by that Unitholder to the total number of Units issued by the InvIT as on a relevant date.
- (xii). No Person, other than the Sponsor, their related parties and associates ("**Investor**") shall acquire or receive Units, which when taken together with Units held by the Investor and by persons acting in concert with the Investor exceeds such value of the outstanding Units as prescribed under InvIT Regulations unless prior approval of the Unitholders is obtained in accordance with the InvIT Regulations. In the event such approval is not received, the Investor shall provide an exit option to the dissenting Unitholders in terms of the InvIT Regulations and in the manner specified by SEBI.
- (xiii). The Trustee shall obtain, and shall ensure that the Investment Manager obtains, as applicable, the consent of the Unitholders for the matters prescribed under the InvIT Regulations in accordance with the provisions of the InvIT Regulations.

6. *Indemnification*

In addition to the fees, distributions and expense reimbursements herein described, the InvIT Assets shall be utilized to indemnify and hold harmless the Trustee, Sponsor and any of their respective officers, directors, shareholders, sponsors, partners, members, employees, advisors and agents ("**Indemnified Parties**") from and against any claims, losses, costs, damages, liabilities, and expenses, including legal fees ("**Losses**") suffered or incurred by them by reason of their activities on behalf of the InvIT, unless such Losses resulted from fraud, gross negligence, willful default or willful misconduct or breach of any obligations or duties under applicable law by the relevant Indemnified Party, as determined by a court of competent jurisdiction.

7. *Termination*

The InvIT is subject to dissolution and termination in accordance with and subject to the InvIT Regulations and applicable laws:

- (i). if the InvIT fails to make any offer of Units, whether by way of public issue or private placement, within the time period stipulated in the InvIT Regulations or any other time period as specified by SEBI, the InvIT shall surrender its certificate to SEBI and cease to operate as an infrastructure investment trust, unless the period is extended by SEBI;

- (ii). upon the liquidation of all InvIT Assets;
- (iii). if there are no projects having valid concession agreements remaining under the InvIT and the InvIT does not invest in any project for six months thereafter;
- (iv). delisting of the Units in accordance with the InvIT Regulations
- (v). illegality of the Trust.

C. The Investment Manager – Alpha Alternatives Fund-Infra Advisors Private Limited

History and Certain Corporate Matters

Alpha Alternatives Fund-Infra Advisors Private Limited is the Investment Manager of the Trust. The Investment Manager is a private company limited by shares incorporated on February 8, 2024 under the Companies Act, 2013 having CIN U70200MH2024PTC418826. The Investment Manager's registered office is situated at 33rd floor, Sunshine Tower, Senapati Bapat Marg, Dadar West, Mumbai 400 013. The authorised share capital of the Investment Manager is ₹ 20,00,00,000 divided into 1,00,00,000 equity shares of ₹ 10 each and 1,00,00,000 preference shares of ₹ 10 each.

Background of the Investment Manager

The principal business of the Investment Manager in terms of its memorandum of association is to carry on the business of acting as investment manager, investment adviser, trustee, settlor, sponsor, promoter, portfolio manager, manager, administrator, attorney, agent, consultant, representative or nominee of or for any investment funds, unit trusts, private equity funds, debt funds, mutual funds, venture capital funds, alternative investment funds, hedge funds, collective investment schemes, taxable or tax exempt funds, trusts, pooled investment vehicles, special purpose vehicles, infrastructure investment trusts, real estate investment trusts, or any other portfolio of securities, properties and/or assets of any kind, including any pension, provident fund or superannuation fund set up, formed or established in India or in any other country by the Company or by any other person including bodies corporate, limited liability partnerships, partnerships, trusts, societies, associations of persons, or by government, state, local authority, institute (whether incorporated or not) of any other agency or organization with respect to any class of assets, and to thereby settle, administer, manage and deploy funds, acquire, take up, manage, invest, hold, sell, deal or dispose of all or any property, investments, securities or other assets of any kind whatsoever.

The cumulative experience of the key personnel (i.e. directors or employees, as applicable) of the Investment Manager in fund management or advisory services or development in the infrastructure sector is above 30 years. Accordingly, the Investment Manager is qualified to act as such, in terms of Regulation 4(2)(e)(ii) of the InvIT Regulations.

Further, in accordance with the eligibility criteria specified under the InvIT Regulations, the Investment Manager has a net worth of not less than ₹ 100 million as on March 21, 2025.

Neither the Investment Manager nor any of the promoters or directors of the Investment Manager (i) is debarred from accessing the securities market by SEBI; (ii) is a promoter, director or person in control of any other company or a sponsor, investment manager or trustee of any other infrastructure investment trust or an infrastructure investment trust which is debarred from accessing the capital market under any order or direction made by SEBI; or (iii) is in the list of wilful defaulters published by the RBI.

Board of Directors of the Investment Manager

The IM Board is entrusted with the responsibility for the overall management of the Investment Manager. Please see below the details in relation of the IM Board:

Sr. No.	Name	DIN	Designation
1.	Naresh Kothari	00012523	Director
2.	Jignesh Shah	01587849	Director

Sr. No.	Name	DIN	Designation
3.	Abhishek Dalmia	00011958	Director
4.	Vijay Chhibber	00396838	Independent Director
5.	Dr Shubhada Rao	09118876	Independent Director
6.	Radhakrishnan Nair	07225354	Independent Director

Brief Biographies of the Directors of the Investment Manager

Please see below brief biographies of the directors of the Investment Manager:

1. **Naresh Kothari** is the director of the Investment Manager since February 8, 2024. He has completed his post graduate diploma in management from Indian Institute of Management, Ahmedabad. He holds a bachelor's degree in engineering (computer science) from Vivekanand Education Society's Institute of Technology, University of Bombay. He has an experience of more than 17 years across investment banking, capital markets, asset management and proprietary investing. He has been associated with the Edelweiss Group for over 13 years and the time of his exit, he was the president of the corporate office at Edelweiss Financial Services Limited. He has been a director on board of Nuvama Wealth Management Limited, Nuvama Wealth and Investment Limited, Edelweiss Capital Markets Limited, Edelweiss Asset Reconstruction Company Limited and Edelweiss Global Wealth management Limited amongst others. In 2013, he set-up Alpha Alternatives Holdings Private Limited to carry on the business of an investment company. He has also been on board of many companies, including, Blackbox Limited, BL Kashyap & Sons Limited, ADF Foods Limited etc.
2. **Jignesh Shah** is the director of the Investment Manager since February 8, 2024. He holds a master's degree in business administration from University of North Carolina at Chapel Hill. He is a chartered accountant being an associate member of the Institute of Chartered Accountants of India. He is a finance and strategy professional with more than 16 years of experience in leadership roles, fund management and project and infrastructure finance. He has an overall experience of more than 14 years of fund management in the infrastructure sector. Prior to joining the Investment Manager, he was the Chief Operating Officer of IL&FS Infra Asset Management Limited ("IIAML"), in the IDF team and was associated with the IL&FS Group since 2009. He was on the Boards of the Bangalore Elevated Tollway Limited (toll project in Bangalore), Hyderabad Expressways Limited (annuity project in Hyderabad) and Cyberabad Expressways Limited (annuity project in Hyderabad).
3. **Abhishek Dalmia** is a director of the Investment Manager since February 14, 2024. He has passed the final examination held by the Institute of Chartered Accountants of India. He has also passed the final examination held the Institute of Cost & Works Accountants of India. He is currently a director on the boards of Revathi Equipment India Limited and Semac Consultants Limited.
4. **Vijay Chhibber** is an independent director of the Investment Manager since February 14, 2024. He is a retired IAS officer of the 1978 batch of Manipur-Tripura Cadre. He holds a post graduate degree in history. He has an experience of over 37 years of public service in the Indian Administrative Services. He has served as the Union Secretary of the Ministry of Road Transport, and Highways and was also the Chairman of National Highways Authority of India. He was also advisor to the Chief Minister, Government of Tripura. He has served on the boards of National Highways and Infrastructure Development Corporation Limited, J M Baxi Ports & Logistics Private Limited, Shipping Corporation of India Limited, Vizag General Cargo Berth Private Limited, Scania Commercial Vehicles India Private Limited and EV Motors India Private Limited. He is currently a director on the boards of Dilip Buildcon Limited, (as an independent director), Sagarmala Coastal Limited and Reach to Teach Foundation.
5. **Dr Shubhada Rao** is an independent director of the Investment Manager since February 14, 2024. She has obtained a doctor of philosophy (arts) in economics from the University of Bombay. She holds a master's degree in arts (industrial economics) (gold medallist) from the University of Bombay. She served as a senior group president at Yes Bank from 2006 to 2020. She is also a

director on the boards of Institutional Investor Advisory Services India Limited and has also been a director on the board of Aequus Private Limited.

6. **Radhakrishnan Nair** is an independent director of the Investment Manager since February 14, 2024. He holds bachelor's degree in science from the Bangalore University and master's degree in science from the University of Delhi. He also holds bachelor's degree in law from the University of Delhi and a master's degree in business administration from the Indira Gandhi National Open University. He has around forty years of experience in the banking industry and in the field of securities. He was associated with Corporation Bank from August 1976 till March 2010. During his stint at Corporation Bank, he served as officer, manager and was also the regional manager and assistant general manager (zonal head) for various locations and regions. He also served as deputy general manager and then general manager at Corpbank Securities Limited from 1999 to 2003. He went on to become a general manager at the Head Office where he worked on development of priority sector lending, regional rural banks, credit risk management, loan review, recovery, securitisation, one time settlements, legal services etc. From July 2005 to March 2010, he was on deputation to Securities and Exchange Board of India (SEBI), where as an executive director, he worked in the Investment Management Department, Department of Economic and Policy Analysis, Office of Investor Assistance and Education and Integrated Surveillance Department, amongst others. Currently, he is serving as a director, amongst other companies, on the boards of ICICI Bank Limited, ICICI Securities Primary Dealership Limited, ICICI Prudential Life Insurance Company Limited and Axis Mutual Fund Trustee Limited.

Brief profiles of the Key Personnel of the Investment Manager

Please see below brief biographies of the other key personnel of the Investment Manager:

1. **Jignesh Shah** For details in relation to the profile on Jignesh Shah, please refer to the section entitled – *“Parties to the Trust- Brief Biographies of the Directors of the Investment Manager on page 129”*.
2. **Janam Jain** is an employee of the Investment Manager since April 1, 2024. He has passed the final examination held by the Institute of Chartered Accountants of India (with distinction) and holds a bachelor's degree in commerce from H.R. College of Commerce and Economics. He has an overall experience of more than 8 years in the financial services sector across tax, regulatory and compliance services. Prior to joining the Investment Manager, he was associated with Ernst & Young LLP in their tax practice. At Alpha Alternatives Fund Advisors LLP, he has served as the compliance officer under the Securities and Exchange Board of India (Portfolio Managers) Regulations, 2020 for the portfolio management services arm.
3. **Paras Modi** is an employee of the Investment Manager since June 3, 2024. He holds a master's degree in business administration from Narsee Monjee Institute of Management Studies, Mumbai and bachelor's degree in computer engineering from Bharati Vidyapeeth University, Pune. He is a finance professional with experience of over 14 years in infrastructure financing, project finance and advisory. Prior to joining the Investment Manager, he was senior vice president with Kotak Mahindra Bank. Prior to that, he was also associated with ICICI Bank Limited with last designation being assistant general manager.. He also was part of SBI Capital Markets Ltd, wherein he was a manager in the infrastructure department.
4. **Chandra Kant Sharma** is an employee of the Investment Manager since December 16, 2024 and was appointed as the Compliance Officer on March 8, 2025. Chandra Kant Sharma is a company secretary and an associate of the Institute of Company Secretaries of India and has passed the final examination of masters in commerce from the University of Rajasthan and a bachelor's degree in Law from University of Mumbai. He possesses over 13 years of experience across the real estate, infrastructure, manufacturing, and financial services sectors. He was previously associated with Altius Telecom Infrastructure Trust (formerly known as Data Infrastructure Trust) (InvIT), Indiabulls Asset Management Company Limited, Indian Commodity Exchange Limited, Poddar Housing Development Limited, and Setco Automotive Limited.
5. **Rushikesh Raval** is an employee of the Investment Manager since June 15, 2024. He has passed

the final examination held by the Institute of Chartered Accountants of India. He has more than 15 years of experience in tax advisory. Prior to joining the Investment Manager, he served as a partner at Transaction Square LLP and has spent 11 years with KPMG in the tax advisory practice.

6. **Rishabh Jain** is an employee of the Investment Manager since October 1, 2024. He has passed the final examination held by the Institute of Chartered Accountants of India and holds a bachelor's degree in commerce from University of Mumbai. He has an experience in the finance sector including investment banking. Rishabh was associated with ICICI Bank as Manager-II.

Key Terms of the Investment Management Agreement

The Investment Manager has entered into the Investment Management Agreement, in terms of the InvIT Regulations, the key terms of which, are provided below.

1. Powers of the Investment Manager

The Investment Manager has been provided with various powers under the Investment Management Agreement in accordance with the InvIT Regulations, including but not limited to:

- (i). The Investment Manager shall take all decisions in relation to the management and administration of InvIT assets and the investments of the Trust as may be incidental or necessary for the advancement or fulfilment of the investment objectives of the Trust in accordance with the InvIT Regulations and other applicable law.
- (ii). The Trustee shall invest and hold the InvIT Assets in the name of the InvIT for the benefit of the Unitholders in accordance with the provisions of the InvIT Regulations, the InvIT Documents, the Trust Deed and the investment objectives. The Trustee shall be empowered to make the investment decisions as provided below, with respect to the underlying assets or projects of the InvIT, including any further investments or divestments, subject to InvIT Regulations, applicable law and in accordance with the offer document. Provided such power is delegated to, and exclusively exercised by, the Investment Manager pursuant to the Investment Management Agreement, the Investment Manager is also empowered to:
 - (a). make all decisions, concerning the investigation, selection, development, negotiation, structuring, restructuring, monitoring, investment, divestment of investments (including any additions or accretions thereto) and the appointment of various advisors and service providers in connection with such investments;
 - (b). direct and approve the formulation of investment policies and strategies for the InvIT
 - (c). acquire, subscribe, hold, manage, trade, transfer and dispose of shares, stocks, convertibles, debentures, mutual funds, bonds or other equity or equity-related securities or other debt or mezzanine securities of all kinds issued by any Holding Company or any SPV or any infrastructure project, whether in physical or dematerialised form, including power to hypothecate, pledge or create encumbrances of any kind on such securities held by the InvIT in such Holding Companies or SPVs, or infrastructure projects to be used as collateral security for any borrowings by the InvIT or any Holding Company or any SPV or any infrastructure project;
 - (d). avail commercial loans, including the power to hypothecate, pledge or create encumbrances of any kind on the InvIT Assets as collateral security for any such loans availed by the Trust, in accordance with the InvIT Regulations, applicable law;
 - (e). keep the capital and monies of the InvIT, the holding companies and the SPVs in deposit with banks or mutual funds or other institutions, whatsoever, in accordance with the InvIT Regulations and other applicable law;
 - (f). accept Capital Contributions;

- (g). collect and receive the profit, interest, repayment of principal of debt or debt like, or equity or equity like, mezzanine securities, dividend, return of capital of any type by the holding companies, or SPVs, or infrastructure projects and income of the Trust as and when the same may become due and receivable;
 - (h). invest in securities or in units of mutual funds in accordance with the InvIT Regulations and other applicable law by the InvIT, the holding companies and the SPVs;
 - (i). invest in money market instruments including government securities, treasury bills, certificates of deposit and commercial papers in accordance with applicable law by the InvIT, the holding companies and the SPVs;
 - (j). without limiting the generality of the foregoing to decide, in the manner set out in the InvIT Documents and investment objectives and in compliance with the InvIT Regulations, (a) the amounts to be invested in each new entity or InvIT Asset that is to form part of the InvIT and the mode, manner, terms, and conditions for making such investment; and (b) to realise such investments and the income therefrom and distribute the same to the Unitholders or reinvest the same, as may be decided by the Investment Manager as per the terms contained herein and the InvIT Documents and in compliance with InvIT Regulations;
 - (k). undertake lending to Holdcos, SPVs and any other Persons permitted under Applicable Law;
 - (l). enter into, execute and/or terminate any investment pooling agreements, agreements related to strategic investments, co-investment agreements, and any and all documents and instruments of a similar nature in the name of the InvIT or its Holdcos, SPVs or other investment entities;
 - (m). provide guarantee, security, or other collateral facility or comfort in connection with any financing, borrowings or otherwise, undertaken by the InvIT, holding company, SPVs or other investment entities;
 - (n). to appoint advisors and service providers in connection with the foregoing (including affiliates and associates of the Investment Manager, Sponsor or the InvIT);
 - (o). to give, provide and agree to provide to any Holding Companies, or SPVs financial assistance in the form of investment in the InvIT's debt securities or share capital of any class including ordinary, preference, participating, non-participating, voting, non-voting or other class, and in the form of investment in securities convertible into share capital; and
 - (p). to invest, acquire, purchase, hold, divest, sale, hypothecate, pledge or otherwise transfer movable property or immovable property of any kind including any rights and interest therein of the holding companies and the SPVs; and
- (iii). The Investment Manager along with the Trustee shall within a reasonable time from the date of execution hereof, appoint a Project Manager for the InvIT, by execution of the Project Implementation and Management Agreement, for the operation and management of the InvIT Assets, in accordance with the terms and conditions set up in the Trust Deed, the Project Implementation and Management Agreement and applicable law.
 - (iv). The Investment Manager shall oversee activities of the Project Manager with respect to compliance with the InvIT Regulations and the Project Implementation and Management Agreement and in terms of the InvIT Regulations and applicable law. The Investment Manager shall obtain a compliance certificate from the Project Manager in the form as may be specified by SEBI, on a quarterly basis or such other intervals as may be prescribed under applicable law.
 - (v). The Trustee hereby authorizes the Investment Manager to do all such other acts, deeds and

things as may be incidental or necessary for the advancement or fulfilment of the investment objectives of the InvIT, as set out in the offer document.

- (vi). The Investment Manager shall have the power to issue and allot Units in accordance with the InvIT Regulations and within such time period as may be prescribed under applicable law. The Investment Manager shall have the power to accept subscriptions to Units of the InvIT and issue and allot Units to Unitholders or such other Persons and undertake all related activities under applicable law. The Investment Manager shall also have the power to refund subscription money and pay necessary interest thereon, in accordance with applicable law. Further, the Investment Manager shall, subject to and only in accordance with the terms of the InvIT Documents and applicable law, have the power to transfer the Units. The power of the Investment Manager is subject to the condition that, after the initial offer, no Person, other than the Sponsor, its related parties and associates (the “**Investor**”) shall acquire or receive Units, which when taken together with Units held by the Investor and by persons acting in concert with the Investor exceeds 25% (twenty five percent) of the value of the outstanding Units unless prior approval of the Unitholders is obtained in accordance with the InvIT Regulations. In the event such approval is not received, the Investor shall provide an exit option to the dissenting Unitholders in terms of the InvIT Regulations and in the manner specified by SEBI.
- (vii). The Investment Manager shall cause the depository to maintain a depository register.
- (viii). The Investment Manager, in consultation with the Trustee shall make such reserves out of the income or capital as it may deem proper in order to meet the expenses, liabilities (including potential tax liability) or contingent liabilities of the InvIT including to address any event of force majeure and any directions of the Trustee in this behalf whether made in writing or implied from their acts shall, so far as the applicable law may permit, be conclusive and binding. Any distribution made from such reserves shall be in accordance with the InvIT Regulations.
- (ix). The Investment Manager shall have the power to cause the InvIT to borrow funds, including any subordinated equity, commercial papers, long term loans, short term loans, bonds or other loans or funds from any Person or authority (whether government or otherwise, whether Indian or overseas) for the purpose of the InvIT and the InvIT Assets on such terms and conditions and for such periods and subject to any approval of the Unitholders in accordance with and as may be required in terms of the InvIT Regulations and Applicable Law. The Investment Manager shall also have the power to cause the InvIT to create Encumbrances of any kind on the InvIT Assets as collateral security for any such borrowings. Further, the Investment Manager shall have the power to create charge, security interest and/or lien over any or all of the assets of the InvIT (both present or future), to secure and/or guarantee the performance or any of the obligations of the Holdcos/SPVs, as it may deem fit, subject to compliance with applicable law.
- (x). The Investment Manager shall have the power to exercise all rights of the InvIT in the Project SPVs, including voting rights, rights to appoint directors, whether pursuant to securities held by the InvIT, or otherwise, in such manner as it deems to be in the best interest of the InvIT, and in accordance with the InvIT Regulations and Applicable Law. Additionally, if the InvIT has invested in infrastructure projects through the Holding Company or SPVs, then the Investment Manager, in consultation with the Trustee, shall appoint the majority of the directors of the Holding Company(ies) and/or the SPV(s), in accordance with the Applicable Law, as well as ensure that in every general meeting including the annual general meeting of any SPV or Holding Company, the voting of the InvIT is exercised, in accordance with the InvIT Regulations and applicable law.
- (xi). The Investment Manager or the Team may use the services of external advisors and rely on the information provided in the due diligence process of assessing investment proposals as it deems necessary in its sole discretion.
- (xii). The Investment Manager shall have the power to employ and pay at the expense of the Trust, any agent in any jurisdiction whether attorneys, solicitors, brokers, banks, trust, companies or

other agents, consultants or advisors without being responsible for the default of any agent if employed in good faith to transact any business, including without limitation, the power to appoint agents, consultants or advisors to raise funds, or do any act required to be transacted or done in the execution of the responsibilities hereof including the receipt and payment of moneys and the execution of documents.

- (xiii). The Investment Manager (through the Trustee) may cause the InvIT to pay, prepay or repay any and all debt raised from any Person in accordance with the terms therein and to redeem any debt securities or other securities, obligations or instruments in accordance with the terms thereof issued to Persons in compliance with the InvIT Regulations and other Applicable Law, if so directed by the Trustee.
- (xiv). The Investment Manager, in consultation with the Trustee, shall appoint such number of nominees on the board of directors or the governing board of the SPVs and Holdcos, as applicable, which is in proportion to the shareholding or holding interest of the InvIT in such SPVs/Holdcos, or as may be permitted or required under the InvIT Regulations.
- (xv). The Investment Manager shall have the power to employ and pay at the expense of the InvIT, any agent in any jurisdiction whether attorneys, solicitors, brokers, banks, trust, companies or other agents, without being responsible for the default of any agent if employed in good faith to transact any business, including without limitation, the power to appoint agents to raise funds, or do any act required to be transacted or done in the execution of the responsibilities hereof including the receipt and payment of moneys and the execution of documents.
- (xvi). The Investment Manager may appoint a custodian in order to provide such custodian services as may be authorised by the Trustee, and may permit any property comprised in the InvIT to be and remain deposited with a custodian or with any person or persons in India or in any other jurisdiction subject to such deposit as authorised by the Trustee and permissible under the applicable law.
- (xvii). The Investment Manager, in consultation with the Trustee, shall appoint and have the power to appoint, determine the remuneration and enter into, execute, deliver and terminate all documents and agreements, any contracts, agreements, including share purchase agreement, deed of right of first offer and refusal, escrow agreements, debt documentation, underwriting agreements and other InvIT documents, any investment pooling agreement, agreement relating to strategic investments, co-investment agreements and other any and all documents and instruments containing customary terms including contractual indemnity with valuers, auditors, registrar and transfer agent, merchant banker, credit rating agency, or any other intermediary or service provider or agent including any amendments or supplements thereto as may be applicable with respect to the activities pertaining to the InvIT in a timely manner as per the provisions of the InvIT Regulations and applicable law. The Investment Manager shall appoint an auditor for a period of not more than five consecutive years or such period as provided in the InvIT Regulations. The Investment Manager shall appoint an Auditor for a period of not more than one term of five consecutive years, if the auditor is an individual and not more than two terms of five consecutive years, if the auditor is an audit firm, or such period as may be provided in the InvIT Regulations from time to time. The Investment Manager shall have the power to determine the remuneration of the Auditors in consultation with the Trustee. Provided that in the event the Investment Manager is required to take any approval of the Unitholders for approval of remuneration of the Auditors or appointment of the Auditors, the same shall be obtained in accordance with the requirements as set out in the InvIT Regulations. The Investment Manager shall also have the power to determine the remuneration of the Valuer. The remuneration of the Valuer shall be in accordance with the InvIT Regulations.
- (xviii). In the event of any Taxes, stamp duty or other duties, or fees whatsoever becoming payable in any jurisdiction in respect of the InvIT or any part thereof or in respect of documents issued or executed in pursuance of this Agreement and the Deed in any circumstances whatsoever, the Investment Manager shall have the power and duty to pay all such duties, fees or taxes (and any interest or penalty chargeable thereon) as well as to create any reserves for future potential tax liability (and any such interest or penalty) out of the InvIT's income, or to the extent of the amount invested in the Units by the Unitholders, as may be permitted under Applicable Law

and the advice of tax consultants, and the Trustee may pay such duties, fee or taxes (and any such interest or penalty) on behalf of the InvIT. For avoidance of doubt, it is clarified that, pursuant to the Investment Management Agreement, no Unitholder will be required to make a contribution as a capital commitment to the InvIT (other than the value for Units already paid). The Investment Manager shall exercise due care and prudence in payment of duties and taxes of the InvIT and shall endeavour to ensure that there are no material outstanding dues in that behalf, except for any claim or demand made by any tax department or authority subsequently, or any amounts disputed in good faith. The Investment Manager may, on the recommendation of the Trustee, file tax returns with the relevant Governmental Agencies, in accordance with Applicable Law and the advice of tax consultants.

- (xix). The Investment Manager shall have the power to pay InvIT Expenses out of the funds of the InvIT, or from any or all of the InvIT Assets on behalf of the InvIT, SPVs and any holding companies, in such proportion as may be determined from time to time, and the Investment Manager shall be entitled to reimbursement of any such expenditure duly incurred, subject to as set out in the Investment Management Agreement.
- (xx). The Investment Manager, in discharge of its duties shall have the power to take the opinion of legal / tax counsel in any jurisdiction concerning any disputes or difference arising under the Investment Management Agreement or any matter relating to the InvIT and the fee of such counsel shall be paid out of the funds held in the InvIT.
- (xxi). Subject to applicable law, the Investment Manager shall have the power, on behalf of the Trust, to:
 - (a). accept any property before the time at which it is transferable or payable;
 - (b). pay or allow any equity or claim on any evidence that it thinks sufficient;
 - (c). accept any compensation or security movable or immovable, for any equity or other property, in lieu of any amounts payable to it;
 - (d). alter the dates for payment of any amounts payable to it;
 - (e). institute, conduct, compromise, compound, or abandon any legal proceedings for or on behalf of or in the name of the InvIT, including its SPVs, Holding Companies, InvIT Assets or the Investment Manager (in its capacity as investment manager of the InvIT) and to defend, compound or otherwise deal with any such proceedings against the InvIT, Investment Manager (in its capacity as manager of the InvIT) or the officers of the Investment Manager or concerning the affairs of the InvIT, and also to compound and allow time for payment satisfaction of any equity due and of any claims or demands by or against the InvIT and to refer any differences to arbitration and observe and perform any awards thereof;
 - (f). allow any time for payment of any equity; and
 - (g). subject to such approval (if any) as may be required from the Unitholders, compromise, compound, abandon, submit to arbitration or otherwise settle any equity account, claim or thing whatsoever relating to the InvIT or the Investment Management Agreement.
- (xxii). Subject to the conditions laid down in any InvIT Documents, the InvIT Regulations and applicable law, the Investment Manager may retain any proceeds received by the InvIT from any holding company or SPV or infrastructure projects, including through the sale of or any holding company or SPV or infrastructure projects.
- (xxiii). Subject to restrictions contained in the InvIT Documents and applicable laws (including the limits and restrictions prescribed under the InvIT Regulations), the Investment Manager may cause the InvIT to extend loans to the Holding Company/ SPVs/ (subject to disclosures required to be made in accordance with the InvIT Regulations) and any other Persons permitted under Applicable Law and also to subscribe to debt securities or quasi debt securities or any

similar kind of securities issued by the Holding Company/SPVs or any other Person permitted under the Applicable Law. Provided that, investment in debt securities shall not be considered as lending.

- (xxiv). The Investment Manager may make rules to give effect to, and carry out the investment objectives, subject to applicable law. In particular, and without prejudice to the generality of such power, the Investment Manager may provide for all or any of the following matters, namely:
- (a). manner of maintaining of the records and particulars of Unitholders;
 - (b). norms of investment by the InvIT in accordance with the investment objectives of the InvIT and in accordance with the powers and authorities of the Trustee as set out in the Trust Deed;
 - (c). matters relating to entrustment, deposit or handing over of any securities or shares of holding companies or SPVs of the InvIT to any one or more custodians and the procedure relating to the holding thereof by the custodian;
 - (d). such other administrative, procedural or other matters relating to the administration or management of the affairs of the InvIT and which matters are not, by their very nature, required to be included or provided for in the Trust Deed or by the management thereof and which matters are not inconsistent with the investment objectives, the Trust Deed and the applicable law;
 - (e). procedure for seeking the vote of the Unitholders either by calling a meeting or through postal ballot or otherwise; and
 - (f). procedure for summoning and conducting of meetings of Unitholders.
- (xxv). The Investment Manager shall, in discharge of its duties, have the power to appear before the relevant authorities, submit information, seek clarifications from any regulatory authority and complete, sign and submit any applications or documents for any approvals, permissions, or actions that may be necessary or desirable on behalf of the InvIT.
- (xxvi). Subject to applicable law, no Unitholder shall be entitled to inspect or examine the InvIT's premises or properties (including any holding companies, SPVs and infrastructure projects) without the prior permission of the Trustee, who shall give such permission, if necessary, in consultation with the Investment Manager. Further, no Unitholder shall be entitled to require discovery of any information in respect of any detail of the InvIT's activities or any matter which may be related to the conduct of the business of the InvIT and which information may, in the opinion of the Trustee and the Investment Manager, adversely affect the interest of other Unitholders.
- (xxvii). The Investment Manager may buyback the Units from the Unitholders at the end of the term of the InvIT or any other time or in any other manner in accordance with applicable law, if so directed by the Trustee.
- (xxviii). Subject to applicable law, the policies and the advice provided by the Investment Manager to the Trustee, the Investment Manager (through the Trustee) may cause the InvIT to pay, prepay or repay any and all debt raised from any Person in accordance with the terms therein and to redeem any debt securities or other securities, obligations or instruments in accordance with the terms thereof issued to such Persons in compliance with the InvIT Regulations and other applicable law.
- (xxix). The Investment Manager (on behalf of the InvIT) shall provide the Trustee with advice and recommendations regarding the extension of loans from the InvIT to the Holding Company or the SPVs and also subscription to debt securities or quasi-debt securities or any similar kind of securities issued by the Holding Company and SPV from the InvIT or extension of loans from the InvIT in compliance with Applicable Law.

(xxx). The Investment Manager shall also have the following powers and authorities:

- (a). to vary, alter, postpone, extend or cancel the terms and conditions of agreements, in relation to investments, as entered into with the relevant SPVs/ Holdcos, as applicable;
- (b). to ascertain, appropriate, declare, carry forward and distribute or reinvest/ the surplus or otherwise deal with any surplus in compliance with the InvIT Regulations, to determine and allocate income, profits and gains and expenses in respect of the InvIT to and amongst the Unitholders and to transfer such sums as the Investment Manager may, deem fit to one or more reserve funds which may be established by the Investment Manager;
- (c). to sign and verify all written statements, petitions, appeals, declarations, revisions and applications in connection with any proceedings and have the power to refer any claim to arbitration and to perform, observe and challenge the awards;
- (d). to open, maintain and close one or more bank accounts and demat accounts, for the purposes of the InvIT, to deposit and withdraw money and fully operate and manage any such account;
- (e). to make and give receipts, releases and other discharges for monies payable to the InvIT and for the claims and demands of the InvIT;
- (f). to enter into all such negotiations and contracts, and, execute or terminate and do all such acts, deeds and things for or on behalf of or in the name of the InvIT as it may consider expedient for or in relation to any of the matters or otherwise for the purposes of the InvIT;
- (g). to ascertain, appropriate, declare and distribute or reinvest the surplus generally or under the InvIT, to determine and allocate income, profits and gains in respect of the InvIT to and amongst the Unitholders, to carry forward, reinvest or otherwise deal with any surplus and to transfer such sums, as it may deem fit, to one or more reserve funds which may be established by it;
- (h). to retain and pay to the relevant Governmental Agencies, any amounts that the Trustee or the Investment Manager is required to, or may deem prudent to, withhold from the amounts to be distributed to the Unitholders;
- (i). to exercise its powers and undertake its duties with respect to the operation of the SPVs and Holdcos in accordance with the provisions of the InvIT Regulations and all other applicable laws as may be applicable to the respective SPVs and Holdcos;
- (j). to sign, seal, execute, deliver and register according to Applicable Law all deeds, documents, and assurances in respect of the InvIT;
- (k). to ascertain, assess and calculate the Net Distributable Cash Flows of the
- (l). InvIT in accordance with the Deed, the policy adopted by the InvIT, the InvIT Regulations and applicable law;
- (m). pay out of the income of the InvIT, after deducting all expenses, the income and other distributions in accordance with the Deed, the InvIT Regulations and applicable law;
- (n). take into their custody or control all the capital, assets, property of the InvIT and hold the same in trust for the Unitholders in accordance with the Trust Deed, applicable law and the InvIT Regulations;

- (o). generally to exercise all such powers as it may be required to exercise under the InvIT Regulations and applicable law for the time being in force and do all such matters and things as may promote the investment objectives of the InvIT or as may be incidental to or consequential upon the discharge of its functions and the exercise and enforcement of all or any of the powers and rights under this Agreement, Applicable Law and the InvIT Regulations;
- (p). in accordance with Applicable Law, together with the Trustee, initiate, prosecute or defend any action or other proceedings in any court of law or through arbitration or in any other manner for recovery of debts or sums of money, right, title or interest, property, claim, matter or thing whatsoever now;
- (q). or hereafter to become due or payable or in any way and belonging to the InvIT by any means or on any account whatsoever in respect of and pertaining to the investments made by it and the same actions or proceedings or suits to discontinue or settle, as it shall in its best judgment or discretion deem fit;
- (r). to issue statement of accounts or Unit certificates (if requested) to the Unitholders on behalf of the Trustee in accordance with applicable law. To submit Units for dematerialisation and to make all applications and execute all documents with the Depositories and Depository participants as may be necessary in this regard;
- (s). to set up such systems and procedures, and submit such reports, as may be required by the Trustee as necessary for effective monitoring of the functioning of the InvIT.

2. *Duties of the Investment Manager*

The Investment Manager shall perform its duties as required under the Investment Management Agreement in accordance with the InvIT Regulations, including but not limited to:

- (i). The Investment Manager shall use best endeavours to carry on and conduct its business in a proper and efficient manner in the best interest of the Unitholders. Further, it shall at all times maintain high standards of integrity and fairness in all its dealings and in the conduct of its business.
- (ii). The Investment Manager shall coordinate with the Trustee, as may be necessary, with respect to the operations of the InvIT.
- (iii). The Investment Manager shall appoint an eligible valuer and ensure that the valuation of the InvIT Assets is done by the valuer(s) in accordance with the InvIT Regulations and at the frequency as required under the InvIT Regulations. The Investment Manager shall submit the valuation reports to the Trustee as required under the InvIT Regulations and within the timelines prescribed in the InvIT Regulations. To the extent applicable, the Investment Manager shall also submit the valuation reports to the stock exchange(s) in accordance with the InvIT Regulations and applicable law.
- (iv). The Investment Manager shall arrange for adequate insurance coverage for the InvIT assets in accordance with the InvIT Regulations. Provided that this shall not apply in case the InvIT assets are required to be insured by any other person under any agreement including a concession agreement or under any act or regulations or circulars or guidelines of any concessioning authority or government or local body. Further, the Investment Manager shall ensure that InvIT Assets held by the Holding Companies or the SPVs are adequately insured.
- (v). The Investment Manager shall maintain proper books of accounts, documents and records with respect to the InvIT and holding companies/SPVs, in the manner set out in the Trust Deed, to give a true, fair and accurate account of the investments, expenses, earnings, profits, receipts, payments etc. of the InvIT. The financial year of the InvIT shall begin from the date of the Trust Deed and shall end on the immediately succeeding 31st of March and on the 31st of March in each succeeding year, unless otherwise determined. The Investment Manager shall ensure

that audit of the accounts of the InvIT by the auditors is undertaken in accordance with the InvIT Regulations and other applicable law and such report is submitted to the stock exchange(s) within the time stipulated by the stock exchange(s), if any, and in accordance with the InvIT Regulations.

- (vi). The Investment Manager shall facilitate the appointment of Unitholder Nominee Directors by Eligible Unitholders in the manner prescribed under the InvIT Regulations, from time to time, and shall take all actions as may be required under the InvIT Regulations and applicable law in relation to the review, monitoring and reporting of the nomination rights. In this regard, the Investment Manager shall comply with all obligations prescribed under the InvIT Regulations or applicable law from time to time, including, amongst others, informing Unitholders on a periodic basis of the right to nominate Unitholder Nominee Directors, evaluating notices from Eligible Unitholder(s) in relation to the proposed appointment of a Unitholder Nominee Director, evaluating eligibility of Unitholder Nominee Directors, review of unitholding of Eligible Unitholder(s) on an ongoing basis, taking requisite actions in relation to the withdrawal of nomination or vacation of office of Unitholder Nominee Directors, and submitting such information and reports to the Trustee in relation to Eligible Unitholder(s) and Unitholder Nominee Directors, as may be prescribed from time to time.
- (vii). The Investment Manager shall declare distributions to Unitholders in accordance with the InvIT Regulations, the Trust Deed and in accordance with the policy adopted by the InvIT. Subject to applicable law, such percentage of the net distributable cash flows of the SPVs shall be distributed to the InvIT/Holdco in terms of the InvIT Regulations, the Trust Deed and in accordance with the policy adopted by the InvIT. Such declared distributions shall be made within the time period prescribed by the InvIT Regulations, the Trust Deed and in accordance with the policy adopted by the InvIT.
- (viii). The Investment Manager shall convene meetings of the Unitholders and maintain records pertaining to the meetings in accordance with the InvIT Regulations. The Investment Manager acknowledges that matters brought to vote at a meeting of the Unitholders shall require approval of such percentage of Unitholders, present and voting, in accordance with the InvIT Regulations. The Investment Manager shall be responsible for all the activities pertaining to conducting the meetings of the Unitholders, subject to overseeing by the Trustee other than where the meetings are on issues pertaining to the Trustee. Provided that, for meetings on issues related to the Investment Manager, such as change, removal or Change in Control of the Investment Manager, the meeting shall be convened and conducted by the Trustee.
- (ix). The Investment Manager shall intimate the Trustee prior to any change in control of the Investment Manager to enable the Trustee to seek prior approval from the Unitholders as required in accordance with the InvIT Regulations, and prior approval from SEBI, if required under applicable law, and shall ensure that no such change is given effect to until such prior approval has been obtained, or the Investment Management Agreement is terminated and a new investment manager has been appointed in accordance with the terms hereof, or in compliance with any other requirement under the InvIT Regulations and applicable law.
- (x). The Investment Manager will monitor the InvIT, including monitoring current and projected financial position of the InvIT and the InvIT Assets including the Project SPVs. The Investment Manager shall place before its board of directors, a report on the activity and performance of the InvIT in accordance with the InvIT Regulations. The Investment Manager shall designate an employee from the team or a director as the compliance officer for monitoring of compliance with the InvIT Regulations and any circulars or guidelines issued thereunder and intimating SEBI in case of any non-compliance.
- (xi). The Investment Manager shall maintain records pertaining to the activity of the InvIT in terms of the InvIT Regulations.
- (xii). The Investment Manager shall adopt, as applicable, and shall ensure that, the InvIT, the Project Manager, the holding companies and the SPVs adopt policies, including corporate governance policies, policies in relation to acquisition of assets from the Sponsor and third parties, policies in relation to related party transactions, policies, policies in relation to appointment of auditors

and valuers, policies in relation to Net Distributable Cash Flows, appointment and eligibility of Unitholder Nominee Directors, leverage policies (“**Policies**”) as applicable, prior to filing of the relevant offer document for the initial offer. The terms, such as, manner or requirement of Unitholders’ approval for each of these policies, applicability, amendment and termination, of the respective policies shall be set out in each of the policies.

- (xiii). The Investment Manager (along with the Trustee) shall ensure that all related party transactions in relation to the InvIT are on an arms-length basis as per the InvIT Regulations and are consistent with the investment strategy to be set out in the offer documents to be filed by the InvIT and the investment objectives. Further, the Investment Manager shall ensure that related party transactions in relation to the InvIT after an initial public offering, shall be in accordance with the InvIT Regulations.
- (xiv). The Investment Manager shall manage the InvIT in accordance with the InvIT Regulations and the investment objectives of the InvIT, and shall ensure that the investments made by the Trust are in accordance with the investment conditions enumerated in the InvIT Regulations, applicable law and in accordance with the investment objectives.
- (xv). The Investment Manager shall review the transactions carried out between the Project Manager and its associates and where the Project Manager has advised that there may be a conflict of interest, shall obtain confirmation from a practising chartered accountant or a valuer, as applicable, that such transaction is on an arm’s length basis.
- (xvi). The Investment Manager shall ensure adequate and timely redressal of all Unitholders’ grievances pertaining to the activities of the InvIT in accordance with the InvIT Regulations and applicable law.
- (xvii). The Investment Manager shall submit to the Trustee:
 - (a). quarterly reports on the activities of the InvIT including receipts for all funds received by it and for all payments made, status of compliance with the InvIT Regulations, specifically Regulations 18, 19 and 20 of the InvIT Regulations, performance report, status of development of under-construction projects, within the time period specified under the InvIT Regulations;
 - (b). valuation reports as required under the InvIT Regulations within the time period specified under the InvIT Regulations;
 - (c). proposal or decision to acquire, sell or develop, or bid for any asset or project or expand existing completed assets or projects along with rationale for the same;
 - (d). details of any action which requires approval from the Unitholders as may be stipulated under the InvIT Regulations;
 - (e). details of transactions it enters into with its associates;
 - (f). details of any other material fact including change in its directors, change in its shareholding, any legal proceedings that may have a significant bearing on the activity of the InvIT, within such period as stipulated under applicable law;
 - (g). details, including reports and any other information, in relation to Eligible Unitholders or Unitholder Nominee Directors, as stipulated under the InvIT Regulations and applicable law, from time to time;
 - (h). such information, document and records as pertaining to the activities of the InvIT as may be required under the InvIT Regulations and as may be reasonably necessary for the Trustee with respect to its responsibilities under the Trust Deed, the InvIT Regulations and applicable law; and
 - (i). such other information, document and records as pertaining to its activities, obligations, duties and responsibilities under the Investment Management Agreement, the InvIT

Regulations and applicable law, as may be reasonably necessary for, and sought by, the Trustee.

In the event of failure of the Investment Manager to submit information or reports as specified above in a timely manner and in terms of the InvIT Regulations, the Trustee shall intimate SEBI.

- (xviii). The Investment Manager shall submit to the Unitholders such information, document and records as pertaining to the activities of the InvIT or having bearing on the operation or performance of the InvIT as may be required under the InvIT Regulations.
- (xix). The Investment Manager shall be responsible for all activities pertaining to the offer, issue and listing of the Units of the Trust, as applicable, in accordance with applicable law, including:
 - (a). filing of offer document with SEBI;
 - (b). filing the offer document with the stock exchange(s), within the prescribed time period;
 - (c). dealing with all matters up to the allotment of Units to the Unitholders;
 - (d). obtaining in-principle approval and final listing and trading approvals from the designated stock exchange; and
 - (e). dealing with all matters relating to the issue and listing of the Units as specified under Chapter IV of the InvIT Regulations and all matters relating to the offer and any circulars and guidelines as may be issued by SEBI in this regard, from time to time as applicable. The InvIT shall also comply with the minimum public holding for the Units and minimum number of Unitholders as prescribed under the InvIT Regulations.
- (xx). The Investment Manager together with the merchant banker appointed in relation to the InvIT shall also ensure that all relevant provisions of the InvIT Regulations and applicable law have been complied with and all statements and disclosures made in any offer document are material, true, correct, not misleading and are adequate disclosures in order to enable the investors to make an informed decision and are in accordance with the InvIT Regulations and applicable law, and such offer document should not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading.
- (xxi). In case of occurrence of any event specified in Regulations 17(1)(a) to 17(1)(g) of the InvIT Regulations, the Investment Manager shall apply for delisting of units of the InvIT to SEBI and the designated stock exchange in accordance with the InvIT Regulations and applicable law.
- (xxii). The Investment Manager shall, within the time period prescribed under the InvIT Regulations, submit quarterly, half-yearly and annual report, as may be applicable and Valuation Reports of the InvIT as required under the InvIT Regulations to all the Unitholders electronically or provide physical copies, and to the designated stock exchange, as prescribed.
- (xxiii). The Investment Manager shall provide a compliance certificate to the Trustee on a quarterly basis in accordance with InvIT Regulations.
- (xxiv). The Investment Manager shall ensure that the InvIT Assets have proper legal title, if applicable, and that all material contracts entered into on behalf of the InvIT or the Holdco/SPV are legal, valid, binding and enforceable by and on behalf of the InvIT or the Holdco/SPV.
- (xxv). The Investment Manager shall, in accordance with the requirements of the InvIT Regulations and other applicable law, including any requirements prescribed by SEBI or the stock exchange(s) from time to time, disclose quarterly and half-yearly annual reports, as may be applicable and such other disclosures as may be prescribed under the InvIT Regulations, including the valuation reports, within the time period prescribed under the InvIT Regulations

to the stock exchange(s) and provide any information having bearing on the operation or performance of the InvIT, as well as price sensitive information and other information that is required in terms of the InvIT Regulations and Applicable Law.

(xxvi). Without prejudice to any other provision of the Investment Management Agreement, the Investment Manager will also have the following duties and obligations:

- (a). ensure compliance with, and implement all corporate governance requirements as per InvIT Regulations and other applicable law;
- (b). ensure that computation and declaration of net asset value of the InvIT is based on the valuation done by the valuer in accordance with the InvIT Regulations and applicable law and is disclosed to the stock exchanges in accordance with the InvIT Regulations and applicable law, if applicable;
- (c). maintain regular interaction with the Trustee regarding performance of the InvIT and providing the Trustee with any information in relation to the operations of the InvIT as maybe required under applicable law;
- (d). conducting its affairs and the affairs of the InvIT in such a manner that no Unitholder will have any personal liability (except to the extent of their Unitholding, where such Unit is partly paid) with respect to any liability or obligation of the InvIT;
- (e). keeping the Unitholders of the InvIT informed and updated on investment activities of the InvIT in accordance with the terms of the InvIT Documents;
- (f). collecting all dividends, fee, property and other payments due and receivable by the InvIT declaring distribution to the Unitholders in the manner set out in the Trust Deed and in terms of the InvIT Regulations and applicable law;
- (g). to ensure that no commission or rebate or any other remuneration, arising out of transactions pertaining to the InvIT is collected by it or its associates, other than as specified in the offer document or any other document as may be specified by SEBI for the purpose of the issue of the Units of the Trust;
- (h). ensure that the InvIT Assets including the Holding Companies and SPVs, have proper legal titles, to the extent applicable, and that all the material contracts entered into on behalf of the InvIT or the InvIT Assets are legal, valid, binding and enforceable by and on behalf of the InvIT or the InvIT Assets;
- (i). ensure that the activities of the intermediaries or agents or service providers appointed by it are in accordance with the InvIT Regulations or any guidelines or circulars issued thereunder;
- (j). to ensure that any possible conflict of interest involving its role as Investment Manager is reported to the Trustee;
- (k). to ensure that disclosures or reporting to Unitholders, SEBI, the Trustee and the designated stock exchange(s) are in accordance with the InvIT Regulations and applicable law and rectify any delay or discrepancy or non-compliance of reporting or disclosure requirements under the InvIT Regulations and applicable law on an urgent basis;
- (l). provide SEBI, the designated stock exchange and Trustee, where applicable, such information as may be sought by SEBI or by the designated stock exchange(s) or Trustee pertaining to the activity of the InvIT;
- (m). ensure that it does not take or refrain from taking any measures, that will adversely impact the benefits available to the InvIT, including on account of being an infrastructure investment trust registered with SEBI;

- (n). to inform the Trustee in writing about any change in the representations and warranties provided by it under the Investment Management;
 - (o). taking any other actions reasonably incidental to any of the foregoing, or necessary or convenient in order to fully effect or evidence any action or transaction contemplated under this Agreement; and
- (xxvii). The Investment Manager shall provide to the Trustee such assistance as may be required by the Trustee in fulfilling its obligation towards the InvIT under applicable law or as may be required by any regulatory authority with respect to the Trust.

3. *Liabilities of the Investment Manager*

The liabilities of the Investment Manager in terms of the Investment Management Agreement are as follows:

- (i). The Investment Manager shall not be liable in respect of any action taken or damage suffered by it on reliance upon any notice, resolution, direction, consent, certificate, affidavit, statement, certificate of stock, plan of reorganization or, without being limited in any way by the foregoing, other paper or document believed to be genuine and in good faith and to have been passed, sealed or signed by appropriate government authorities, authorised persons or entities.
- (ii). The Investment Manager shall not be liable to the Trustee and/or Unitholders for doing or failing to do any act or thing which by reason of any provision of any present or future law or regulation made pursuant thereto, or of any decree, order or judgment of any court, or by reason of any request, announcement or similar action, whether of binding legal effect or not, which may be taken or made by any person or body acting with or purporting to exercise the authority of any government (legally or otherwise) it shall be directed or requested to do or perform or to forbear from doing or performing. If for any reason it becomes impossible or impracticable to carry out any of the provisions of the Investment Management Agreement, the Investment Manager shall not be under any liability. However, it shall duly inform the Trustee and the Unitholders of the same.
- (iii). If the Investment Manager is required or reasonably believes that it is required, by the InvIT Regulations or any other applicable law to provide information regarding the InvIT or the Unitholders, the InvIT investments and income therefrom and provisions of these presents and complies with such request in good faith, whether or not it was in fact enforceable, the Investment Manager shall not be liable to the Unitholder or any of them or to any other party as a result of such compliance or in connection with such compliance.
- (iv). The Investment Manager shall not incur any liability for any act or omission which may result in a loss to a Unitholder by reason of any depletion in the value of the InvIT Assets or otherwise, except in the event that such loss is a result of fraud or gross negligence or wilful default on the part of the Investment Manager, or where the Investment Manager fails to exercise due care in relation to its obligations under the Investment Management Agreement.
- (v). If the distributions, after being declared, are not made within the period prescribed in the InvIT Regulations, the Investment Manager shall be liable to pay interest to the Unitholders at the rate as may be prescribed in the InvIT Regulations until the distribution is made, and such interest shall not be recovered in the form of fee or any other form payable to the Investment Manager by the InvIT.
- (vi). The Investment Manager shall not be liable to any Unitholder for the authenticity of any signature or of any seal affixed to any endorsement or other document affecting the title to or the transmission of Units or interests in the InvIT or of any investments of the InvIT or be in any way liable for any forged or unauthorized signature or seal affixed to such endorsement, transfer or other document, or for acting upon or giving effect to any such forged or unauthorized signature or seal. The Investment Manager shall be bound to require that the

signature of any Unitholder to any document required to be signed by such Unitholder, under or in connection with these presents shall be verified to its reasonable satisfaction.

- (vii). The Investment Manager shall continue to be liable for all of its acts of omission and commission with respect to the activities of the InvIT, notwithstanding surrender of registration of the InvIT to SEBI.

4. *Indemnification*

- (i). In addition to the fee, distributions and expense reimbursements herein described, the Trustee (on behalf of the InvIT) shall, from the InvIT Assets and hold harmless the Investment Manager and its respective officers, directors, shareholders, partners, members, employees, advisors and agents (“**Indemnified Parties**”) from and against any claims, losses, costs, damages, liabilities, suits, proceedings, taxes and expenses, including legal fee (“**Losses**”) suffered or incurred by them by reason of their activities on behalf of the InvIT, unless such Losses have resulted from fraud, gross negligence, wilful default or wilful misconduct or breach of any obligation or duties under applicable law by the relevant Indemnified Party, as determined by a court of competent jurisdiction.
- (ii). The Trustee, its directors, employees and officers (“**Trustee Party**”) shall be indemnified by the Investment Manager against any and all direct and actual losses, actions, claims, suits, proceedings, damages, liabilities, costs and expenses including legal fees, incurred or suffered by the Trustee Party in connection with the breach of any of the terms of this Agreement by the Investment Manager, or failure in furnishing information required by SEBI or any regulatory authority with respect to the InvIT, or furnishing incorrect information by the Investment Manager under the InvIT Regulations or related to InvIT including in any offer document, if arising out of gross negligence, wilful default or misconduct or fraud on part of the Investment Manager, in carrying out its obligations under the Investment Management Agreement, Trust Deed, the other InvIT Documents, any information memorandum, offer document and Applicable Law. The Trustee acknowledges and agrees that the aggregate maximum liability of the Investment Manager in each financial year with regard to the Investment Management Agreement, shall be limited to the aggregate fees paid to the Investment Manager for the immediately preceding one financial year, in accordance with the terms of this Agreement.

5. *Termination*

- (i). Subject to the other provisions of the Investment Management Agreement, including this Clause, the Agreement shall continue during the term of the InvIT and shall terminate upon dissolution of the Trust.
- (ii). The Investment Management Agreement shall be effective from the date of execution of the Investment Management Agreement and shall terminate in accordance with the terms of the Investment Management Agreement.
- (iii). The appointment of the Investment Manager may be terminated by the Trustee in accordance with the procedure specified under the InvIT Regulations.
- (iv). The Unitholders, other than any party related to the transactions and its associates holding not less than such percentage by value as specified under the InvIT Regulations, may apply in writing to the Trustee for removal of the Investment Manager.
- (v). Subject to the approval of Unitholders (if required) and compliance with other requirements under applicable law, the Investment Management Agreement may be terminated:
 - (a). by the Investment Manager by delivery of a written notice of 30 (thirty) business days to the Trustee, subject to appointment of new Investment Manager in accordance with the Investment Management Agreement and the InvIT Regulations; or
 - (b). if it is impossible to continue with the InvIT or if the Trustee on advice of the Investment

Manager deems it impracticable to continue the InvIT;

- (c). where SEBI has passed a direction for the winding up of the InvIT or if the InvIT is required to be wound up pursuant to the InvIT Regulations;
 - (d). by the Trustee by delivery of a written notice to the Investment Manager at any time, upon breach of any of the terms, covenants, conditions or provisions of the Investment Management Agreement by the Investment Manager and a failure of the Investment Manager to cure the said breach within a period that is earlier of: (a) the period stipulated under applicable law, or (b) 60 (sixty) business days; or such other period as may be mutually agreed to cure such breach; or
 - (e). by any Party by delivery of a written notice to the other Party upon the bankruptcy of such other Party, or if winding up or liquidation proceedings are commenced against such other Party, and such proceedings persist for a period of more than three months.
- (vi). After prior approval from the Unitholders and SEBI in accordance with the InvIT Regulations, for the change in the Investment Manager due to removal or otherwise, the Trustee shall appoint a new investment manager and execute a new investment management agreement within three months from the termination of the previous investment management agreement in accordance with applicable law. The Trustee shall also ensure that the new investment manager stands substituted as a party in all documents to which the Investment Manager was a party, in relation to the InvIT in its capacity as the Investment Manager. The Investment Manager shall remain in office until the appointment of a new investment manager. The Investment Manager shall continue to be liable for all of its acts, omissions and commissions during its tenure as Investment Manager, notwithstanding the termination.
- (vii). Upon removal or replacement of the Investment Manager in accordance with the InvIT Regulations, the Investment Manager shall, within a period of 30 (thirty) Business Days, transfer custody of the InvIT to the Trustee and give the Trustee all books of accounts, correspondence, documents and records relating to the InvIT which the Investment Manager has in its possession. In the event of removal or resignation of the Investment Manager, the Investment Manager shall be entitled to receive Management Fees only up to the date of effectiveness of such removal or resignation.

Notwithstanding anything contained hereinabove, (i) in the event that the offer of Units does not occur within the time period stipulated in the InvIT Regulations or such other date as may be mutually agreed to between the Investment Manager and the Trustee, or (ii) in the event of cancellation of registration of the InvIT by SEBI, or (iii) winding up of the Trust, then the Investment Management Agreement shall automatically terminate without any liability on any party.

D. The Project Manager – Arsenio Strategies Private Limited

History and Certain Corporate Matters

Arsenio Strategies Private Limited is the Project Manager for the Trust. The Project Manager is a private company limited by shares incorporated on November 7, 2023 at Mumbai under the Companies Act, 2013 having CIN U74909MH2023PTC413446. The Project Manager's registered office is situated at 34th floor, Sunshine Towers, Senapati Bapat Marg, Dadar West, Mumbai 400 013, Maharashtra, India.

Background of the Project Manager

The principal business of the Project Manager in terms of its memorandum of association is to (i) set-up, create, float, promote, sponsor, co-sponsor and manage assets, trusts or funds; (ii) carry on business of infrastructure development and to lay-out, develop, construct, build, acquire, erect, demolish, re-erect, alter, modify, repair, remodel, or to do any other work; (iii) carry on all the business of builders, real estate-developers, contractors, subcontractors, dealers and enter into contracts and arrangements; (iv) set up, create, promote, establish, carry on, directly or through affiliates, associates or subsidiaries,

the business of providing consulting, achieving execution/management of the infrastructure related projects and management services and infrastructure support service in relation to all kinds of infrastructure related projects, implementation, operation; (v) carry on the business of conducting technical, economic, social, consultation services and other viability and feasibility studies and to provide facilitation, monitoring and project implementation services; (vi) carry on the business as advisors, arbitrageurs, importers, exporters, clearing and forwarding agents, consignors, packers, movers, suppliers, licensing agents, commission agents, trading adviser and/or consultants, pool operator and/or hedgers in agricultural products, metals; (vii) consultants and advisors on all matters in the field of management, regulatory and secretarial activities, finance, investment, trade, commerce .

The Project Manager will be looking over the operation and maintenance of the entire portfolio of the projects to be transferred to the Trust

Neither the Project Manager nor any of the promoters or directors of the Project Manager (i) is debarred from accessing the securities market by SEBI; (ii) is a promoter, director or person in control of any other company or a sponsor, investment manager or trustee of any other infrastructure investment trust or an infrastructure investment trust which is debarred from accessing the capital market under any order or direction made by SEBI; or (iii) is in the list of wilful defaulters published by the RBI.

Key terms of the Project Implementation and Management Agreement

The Project Manager has entered into the Project Implementation and Management Agreement for the Project SPVs, in terms of the InvIT Regulations, the key terms of which, are provided below:

1. Scope of Services

- a. The Project Manager shall, either directly or through the appointment and supervision of appropriate sub-contractors and/or vendors (for spares/consumables/capital equipment etc) (“Agents”) undertake the operation, maintenance and management of InvIT Assets in accordance with the scope of services as set out in the Project Implementation and Management Agreement.
- b. The scope of services of the Project Manager are as follows:
 - a. permitting safe, smooth and uninterrupted flow of traffic on the project;
 - b. allowing and assisting NHAI or NHAI contractor in collecting and appropriating the fee;
 - c. minimising disruption to traffic in the event of accidents or other incidents affecting the safety and use of the project;
 - d. carrying out periodic maintenance of the project;
 - e. undertaking routine maintenance;
 - f. undertaking major maintenance;
 - g. preventing any unauthorised use of the project or encroachment, with the assistance of concerned law enforcement;
 - h. protection of the environment and provision of equipment and material;
 - i. operation and maintenance of all communication, control and administrative system necessary for effective operation of the project; and
 - j. complying with safety requirements.
 - k. engineering, procurement and construction management in relation to InvIT assets;
 - l. oversight, supervision and advice over the operations and maintenance for the InvIT assets;
 - m. planning, forecasting and scheduling;
 - n. training staff for relevant operations and maintenance functions
 - o. preparing budgets for operation and maintenance activities;
 - p. reviewing engineering and design documents prepared by a third party consultants;
 - q. providing daily generation reports to the investment manager.

2. *Duties of the Project Manager*

The duties of the Project Manager in terms of the Project Implementation and Management Agreement are as follows:

- (i). The Project Manager shall, either directly or through the appointment and supervision of Agents, provide Services in relation to the InvIT Assets as may be necessary for the discharge of its duties under the terms of this Agreement and under the InvIT Regulations.
- (ii). The Project Manager shall, either directly or through Agents, oversee the progress of development, approval status and other aspects of the InvIT Assets that may be under development or is to be established until its completion in accordance with any agreement that may be entered into in this regard and discharge all obligations in respect of achieving timely completion of the infrastructure projects, wherever applicable, including the supervision of agents appointed for such purpose.
- (iii). The Project Manager shall, either directly or through Agents, discharge all obligations in respect of the maintenance, operation and management of the infrastructure projects which have achieved the commercial operations date, and acknowledges all its obligations in terms of the respective Project Agreements in terms of this Agreement and the InvIT Regulations.
- (iv). The Project Manager acknowledges that the Trustee and the Investment Manager will oversee the activities undertaken by the Project Manager in accordance with the InvIT Regulations and accordingly, the Project Manager shall extend complete co-ordination to enable the Trustee and the Investment Manager to perform such obligations in accordance with the InvIT Regulations. The Project Manager shall provide compliance certificate(s), as may be specified, to the Investment Manager and the Trustee in accordance with the InvIT Regulations, in the form prescribed by SEBI, if any.
- (v). The Project Manager shall at all times ensure that the transactions or arrangements entered into by the Project Manager with a related party are on an arm's-length basis and shall provide the Investment Manager with details of transactions carried out between itself and its associates and disclose any conflict of interest in such cases to the Investment Manager, in accordance with the InvIT Regulations.
- (vi). The Project Manager shall intimate the Trustee prior to any Change in Control of the Project Manager to enable the Trustee to seek requisite approval from regulatory, statutory, legal or government authorities, lenders and any contractual counter parties in accordance with any documents pertaining to the InvIT Assets, if applicable.
- (vii). The Project Manager shall, either by itself or through its Agents provide to the Trustee and the Investment Manager or to such other person as the Trustee and/or the Investment Manager may direct, all information that may be necessary for each of them to maintain the records of the InvIT and as may be required for making submissions to SEBI or any other Governmental Authority, including with respect to relevant approvals, consents and other documents required in relation to the InvIT Assets and the reporting requirements under the InvIT Regulations, in a proper and timely manner, and in the format prescribed (if any), as required by the Trustee and /or the Investment Manager. Further, the Project Manager shall, either by itself or through its Agents provide reasonable assistance to the Project SPVs to apply for, obtain and maintain all necessary approvals (and renewals of the same) that each of the Project SPVs is required to obtain from or file relevant applications for approvals with any Governmental Authority in connection with InvIT Assets or as may be required under any third party agreement entered into by the Project SPVs.
- (viii). The Project Manager may appoint one of its qualified employees reasonably acceptable to the Investment Manager and the Project SPVs with adequate and appropriate experience as a principal contact for the board of directors of the Project SPVs, the Trustee

and the Investment Manager in relation to the Services. The Project Manager shall have full authority, to receive directions and instructions from each of the Project SPVs and to take actions in relation to and ensure compliance with such directions and instructions and report back to each Project SPV, the Trustee and the Investment Manager. Provided that termination of any of the O&M services or any such principles agreed to in the relevant O&M contract for the InvIT Asset shall not be undertaken by the Project Manager without prior consultation with the Investment Manager.

- (ix). The Project Manager shall promptly inform the Parties in writing of any act, occurrence or event, which the Project Manager believes is reasonably likely to increase the cost of or the time for implementation taken in relation to any InvIT Asset, or materially change the financial viability, quality or function of any InvIT Asset.
- (x). If any defects are found in the maintenance, materials and workmanship of the Services provided under this Agreement by the Project Manager and/or by the Team Members, the Project Manager shall promptly, in consultation and agreement with the other Parties regarding appropriate remedying of the defects including through its Agents, repair, replace or otherwise make good such defects as well as any damage caused by such defect.
- (xi). The Project Manager shall be liable to the other Parties for any direct loss or damage attributable to the non-performance or breach of the obligations of the Project Manager including those of the Team Members, under this Agreement. The Trustee and the Investment Manager acknowledge and agree that the aggregate maximum liability of the Project Manager in each financial year shall be limited to an amount equivalent to one year's fee payable to the Project Manager in such financial year in accordance with the terms of this Agreement, as applicable unless the loss or damage caused is due to gross negligence, fraud or wilful default of the Project Manager.
- (xii). The duties of Project Manager shall also include the following:
 - a. supervision of revenue streams from the InvIT Assets and providing the necessary certification as may be required under the applicable law and the InvIT Regulations;
 - b. execution and completion of activities in relation to the InvIT Assets under development or to be developed in accordance with and in the manner contemplated in any agreement entered into by the relevant Portfolio SPV in this regard;
 - c. exercising diligence and vigilance in carrying out its duties, and protecting the InvIT Assets;
 - d. keeping the Investment Manager informed on all matters which have a material bearing on the operations of the InvIT Assets;
 - e. liaising with governmental authorities in respect of its obligations under Project Implementation and Management Agreement;
 - f. taking appropriate measures to mitigate the risks which may be encountered by the InvIT in respect of the InvIT Assets;
 - g. keeping proper records for actions taken in respect of the InvIT Assets; and
 - h. complying with the instructions of the Investment Manager and the Trustee and the provisions of the InvIT Regulations.
- (xiii). The Parties may, from time to time, agree to provisions for additional services to be rendered by the Project Manager. If, in the assessment of the Project Manager, additional services are required for the purposes of carrying out its duties and obligations under this Agreement and Applicable Law, the Project Manager shall notify the Parties in writing of such requirement and obtain prior written approval of the Parties in this regard.

- (xiv). Notwithstanding anything to the contrary contained in the Project Implementation and Management Agreement, nothing contained in the Project Implementation and Management Agreement shall be construed to limit or restrict the performance of any duties or obligations of the Project Manager, Investment Manager or the Trustee contained in the InvIT Regulations and other Applicable Law.
- (xv). During the term of the Project Implementation and Management Agreement, in the event the representations provided by the Project Manager under the Project Implementation and Management Agreement, become untrue or incorrect or incomplete in any respect, the Project Manager shall, within a reasonable time, inform the Trustee and Investment Manager of such event.
- (xvi). In case of any inconsistency or discrepancy between Project Implementation and Management Agreement and the project agreements, the Project Manager shall bring the same into the notice of the Trustee and the Investment Manager and take all such actions necessary to resolve the inconsistency.

3. *Indemnity*

The Trustee, the Investment Manager and the Project SPVs and their respective directors, employees, officers and the InvIT (“**Indemnified Parties**”) shall be indemnified by the Project Manager against any claims, losses, costs, damages, liabilities and expenses, including legal fee from and incurred or suffered by the Indemnified Parties in connection with the breach of any of the terms of this Agreement by the Project Manager, or failure in furnishing information required by SEBI or any regulatory authority with respect to the InvIT, or furnishing wrong information by the Project Manager under the InvIT Regulations or related to InvIT including in any offer documents, or arising out of gross negligence, willful default or fraud on part of the Project Manager, in carrying out its obligations under this Agreement, the other InvIT Documents any information memorandum / offer documents and Applicable Law. The Trustee, the Investment Manager and the Project SPVs acknowledge and agree that the aggregate maximum liability of the Project Manager in each financial year shall be limited to an amount equivalent to one year’s fee payable to the Project Manager in such financial year in accordance with the terms of this Agreement.

4. *Termination*

- (i). The Project Implementation and Management Agreement shall remain valid and effective, unless terminated by the parties to the Project Implementation and Management Agreement in accordance with the provisions of the agreement or extended by mutual consent expressed in writing by the parties to the Project Implementation and Management Agreement (“**Validity Period**”), for the period that the project agreements are in force
- (ii). Prior to the expiry of its validity period, the Project Implementation and Management Agreement, may be terminated:
 - a. by the Investment Manager after consultation with the Trustee by delivery of a prior written notice of 15 days to the Project Manager, subject to appointment of new project manager in accordance with the provisions of this agreement and the InvIT Regulations; or
 - b. by the Investment Manager after consultation with the Trustee by delivery of a written notice to the Project Manager at any time, upon breach of any of the terms, covenants, conditions or provisions of this Agreement by the Project Manager and a failure of the Project Manager to remedy the said breach within a period of 120 days or such other period as may be mutually agreed to cure such breach; or
 - c. by any Party by delivery of a written notice to the other Party upon the bankruptcy of such other Party or if winding up or liquidation proceedings whether voluntary

or involuntary are commenced or admitted against such other Party (and such proceedings persist for a period of more than three months)

- (iii). Notwithstanding anything contained hereinabove, the Trustee shall appoint a new project manager and execute a new project implementation and management agreement within three months from the termination of the earlier project implementation and management agreement in accordance with applicable law. The Trustee and Investment Manager shall also ensure that the new project manager stands substituted as a party in all documents to which the Project Manager was a party. The Project Manager shall remain in office until the appointment of a new project manager. All costs and charges in this regard shall be borne by the new project manager. The Project Manager shall continue to be liable for all its acts, omissions and commissions notwithstanding its termination.
- (iv). The termination of the Project Implementation and Management Agreement shall not affect the rights and obligations of the parties accrued prior to such termination.
- (v). In case of early termination prior to the expiry of the validity period, the Project Manager shall be entitled to and the Trustee shall be liable to pay to the Project Manager, out of the funds of the Trust, the fee accrued up to the date of termination. The fee shall be paid to the Project Manager within a period of 7 business days from the date of receipt of demand in this regard from the Project Manager failing which the fee, or any part thereof, which remains outstanding shall attract interest at the rate of 18% per annum.
- (vi). In case of termination under clause (ii)(b) above, the fee accrued and outstanding up to the date of termination shall be treated as dues and the Project Manager shall be treated as a creditor for such amounts.
- (vii). Notwithstanding anything contained hereinabove, (i) in the event that the offer of the Units does not occur within the time period stipulated in the InvIT Regulations or such other date as may be mutually agreed to between the parties, or (ii) in the event of cancellation of registration of the InvIT by SEBI, or (iii) winding up of the Trust, then the Project Implementation and Management Agreement shall automatically terminate without any liability to any party.

OTHER PARTIES INVOLVED IN THE TRUST

The Auditors

Background and terms of appointment

The Investment Manager, in consultation with the Trustee, pursuant to a resolutions passed by its Board dated November 16, 2024 and March 8, 2025, has appointed Mukund M Chitale & Co. as the Auditor of the Trust for the financial year 2024-2025, from the conclusion of the 1st annual meeting of the unitholders till the conclusion of 6th annual meeting, subject to the InvIT Regulations. The Auditor has audited the Special Purpose Combined Financial Statements and have been prepared in accordance with the basis of preparation as specified in Note 1.2 to the Special Purpose Combined Financial Statements,, the Projections of Revenue from Operations and Cash Flow from Operating Activities, and their report in relation to such Special Purpose Combined Financial Statements dated March 28, 2025 and Projections of Revenue from Operations and Cash Flow from Operating Activities dated March 28, 2025, has been included in this Draft Offer Document.

Functions, Duties and Responsibilities

The Investment Manager has appointed the Auditor of the Trust from the conclusion of the 1st annual meeting of the unitholders till the conclusion of 6th annual meeting, subject to the InvIT Regulations.

The Investment Manager shall ensure that the auditor carries out an audit of the accounts of the Trust, not less than once a year in accordance with the InvIT Regulations and other applicable law and such report is submitted to the stock exchange within the time stipulated by the stock exchange, if any, and in accordance with the InvIT Regulations. Further such report shall be submitted to the Unitholders and the Trustee, either electronically or through physical copies.

In accordance with the InvIT Regulations, the auditor of the Trust shall:

- conduct an audit of the accounts of the Trust and draft the audit report based on the accounts examined by them, and after taking into account the relevant accounting and auditing standards, as may be specified by SEBI;
- to the best of its information and knowledge, ensure that the accounts and financial statements give a true and fair view of the state of the affairs of the Trust, including profit or loss and cash flow for the period and such other matters as may be specified;
- have a right of access at all times to the books of accounts and vouchers pertaining to activities of the Trust;
- have a right to require such information and explanation pertaining to activities of the Trust, as it may consider necessary for the performance of its duties as an auditor from the employees of Trust or Parties to the Trust or the Project SPVs or any other person in possession of such information; and
- undertake a limited review of the audit of all the entities or companies whose accounts are to be consolidated with the accounts of the Trust as per the applicable Indian Accounting Standards and any addendum thereto as defined in Rule 2(1)(a) of the Companies (Indian Accounting Standards) Rules, 2015, in such manner as may be specified by SEBI.

The Valuer

Background and terms of appointment

The Investment Manager, in consultation with the Trustee, pursuant to a resolution passed by its Board dated January 28, 2025 has appointed S. Sundararaman, a registered valuer, as the Valuer of the Trust. In accordance with the InvIT Regulations, the Valuer has undertaken a full valuation of the Project SPVs which are proposed to be acquired by the Trust pursuant to the formation transactions and their report in relation to such valuation dated March 26, 2025 has been included in this Draft Offer Document.

The Valuer is not an Associate of the Sponsor, the Investment Manager or the Trustee, and has not less than five years of experience in the valuation of infrastructure assets.

Functions of the Valuer

The functions, duties and responsibilities of the Valuer will be in accordance with the InvIT Regulations in the manner and withing timelines as specified under the InvIT Regulations and other applicable law. Presently, in terms of the InvIT Regulations, the Valuer is required to comply with the following conditions at all times:

- the Valuer shall ensure that the valuation of the Project SPVs is impartial, true and fair and is in accordance with Regulation 21 of the InvIT Regulations;
- the Valuer shall ensure adequate and robust internal controls to ensure the integrity of its valuation reports;
- the Valuer shall ensure that it has sufficient key personnel with adequate experience and qualification to perform valuations;
- the Valuer shall ensure that it has sufficient financial resources to enable it to conduct its business effectively and meet its liabilities;
- the Valuer and any of its employees involved in valuing of the assets of the Trust, shall not, (i) invest in Units of the Trust or in the assets being valued; and (ii) sell the assets or Units of Trust held prior to being appointed as the Valuer, till the time such person is designated as Valuer of the Trust and not less than six months after ceasing to be valuer of the Trust;
- the Valuer shall conduct valuation of the Project SPVs with transparency and fairness and shall render, at all times, high standards of service, exercise due diligence, ensure proper care and exercise independent professional judgment;
- the Valuer shall act with independence, objectivity and impartiality in performing the valuation;
- the Valuer shall discharge its duties towards the Trust in an efficient and competent manner, utilising its knowledge, skills and experience in best possible way to complete given assignment;
- the Valuer shall not accept remuneration, in any form, for performing a valuation of the Project SPVs from any person other than the Trust or its authorised representative;
- the Valuer shall before accepting any assignment, from any related party of the Trust, disclose to the Trust any direct or indirect consideration which the Valuer may have in respect of such assignment;
- the Valuer shall disclose to the Trust any pending business transactions, contracts under negotiation and other arrangements with the Investment Manager or any other party whom the Trust is contracting with and any other factors that may interfere with the Valuer's ability to give an independent and professional valuation of the assets;
- the Valuer shall not make false, misleading or exaggerated claims in order to secure assignments;
- the Valuer shall not provide misleading valuation, either by providing incorrect information or by withholding relevant information;
- the Valuer shall not accept an assignment which interferes with its ability to do fair valuation; and
- the Valuer shall, prior to performing a valuation, acquaint itself with all laws or regulations relevant to such valuation.

Policy on Appointment of Auditor and Valuer

The Investment Manager has adopted a policy on the appointment of auditor and valuer of the Trust, pursuant to its resolution dated November 16, 2024. The key terms of the Appointment of Auditor and Valuer Policy are set out below:

Appointment and role of the auditor of the Trust

- (i). The Investment Manager, in consultation with the trustee to the Trust (the “**Trustee**”), shall appoint the auditor of the Trust (the “**Auditor**”), in a timely manner and in accordance with the Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, as amended or supplemented, including any guidelines, circulars, notifications and clarifications framed or issued thereunder (the “**InvIT Regulations**”).
- (ii). The Investment Manager shall ensure that the appointment of the Auditor and the fees payable to the Auditor is approved by the unitholders of the Trust (the “**Unitholders**”) in accordance with the InvIT Regulations.
- (iii). The Investment Manager shall ensure that if the removal of the Auditor and appointment of another auditor to the Trust is taken up at a meeting of the Unitholders at the request of the Unitholders, such removal of the Auditor shall be approved by the Unitholders in accordance with the InvIT Regulations.
- (iv). The Investment Manager shall appoint an individual or a firm as the Auditor, who shall hold office from the date of conclusion of the annual meeting in which the Auditor has been appointed till the date of conclusion of the sixth annual meeting of the Unitholders in accordance with the procedure for selection of auditors, in accordance with the InvIT Regulations.
- (v). The Investment Manager shall not appoint or re-appoint
 - a) an individual as the Auditor for more than one term of five consecutive years, provided that such individual, upon completion of one term of five consecutive years, shall not be eligible for re-appointment as the auditor in the Trust for a period of five years from the date of completion of the term; and
 - b) an audit firm as the Auditor for more than two terms of five consecutive years, provided that, upon completion of two terms of five consecutive years, such audit firm shall not be eligible for re-appointment as the auditor in the Trust for a period of five years from the date of completion of its term.
- (vi). The Investment Manager shall ensure that the audit of accounts of the Trust by the Auditor is done not less than once in a year and such report is submitted to the stock exchanges within the timelines prescribed under the InvIT Regulations.
- (vii). The Auditor shall conduct the audit of the accounts of the Trust and draft the audit report based on the accounts examined by it after taking into account the relevant accounting and auditing standards under applicable law, including the InvIT Regulations and any guidelines, circulars, notifications and clarifications framed or issued by the Securities and Exchange Board of India (“**SEBI**”), as may be specified from time to time.
- (viii). The Auditor shall undertake a limited review of the audit of all the entities or companies whose accounts are to be consolidated with the accounts of the Trust as per the relevant auditing standards under applicable law and in accordance with the InvIT Regulations or such other manner as may be specified by SEBI.
- (ix). The Auditor shall comply with the conditions prescribed under the InvIT Regulations at all times, including the following:
 - a. the accounts of the Trust shall be subjected to audit by the Auditors and shall be accompanied by a report of the Auditors in such manner and at such intervals as may be prescribed under applicable law, including the InvIT Regulations;
 - b. the Auditor shall, to the best of his information and knowledge, ensure that the accounts and financial statements give a true and fair view of the state of the affairs of the Trust, including profit or loss and cash flow for the period and such other matters as may be specified by SEBI;
 - c. the Auditor shall have a right of access at all times to the books of accounts and vouchers pertaining to activities of the Trust; and

- d. the Auditor shall have a right to obtain such information and explanation pertaining to activities of the Trust as he may consider necessary for the performance of his duties as auditor from the employees of Trust or any holding company or parties to the Trust or any holding company or the special purpose vehicle(s) or any other person in possession of such information.
- (x). The Investment Manager, in consultation with the Trustee, shall have the right to take all necessary steps to remove the Auditor who ceases to comply with the eligibility criteria required under the InvIT Regulations and applicable law. In case of removal of the auditor and appointment of another auditor to the Trust, approval from the Unitholders shall be required in accordance with the InvIT Regulations.

Appointment and role of the Valuer of the Trust

- (i). The Investment Manager, in consultation with Trustee, shall appoint the valuer of the Trust (“**Valuer**”), in a timely manner and shall determine the remuneration of such Valuer, in accordance with the InvIT Regulations. A ‘Valuer’ shall have the meaning provided under the InvIT Regulations.
- (ii). The remuneration of the Valuer shall not be linked to or based on the value of the assets being valued.
- (iii). The Valuer shall not be an associate of any of the Sponsor or the Investment Manager or Trustee. The Valuer shall have the minimum number of years of experience in valuation of infrastructure assets as may be required under the InvIT Regulations.
- (iv). The Valuer shall be eligible to act as a valuer in accordance with the InvIT Regulations or any clarifications, guidelines, notifications or exemptions issued by SEBI.
- (v). A Valuer shall not undertake valuation of the same project for more than four years consecutively, provided that the Valuer may be reappointed after a period of not less than two years from the date it ceases to be the Valuer of the trust.
- (vi). The Valuer shall not undertake valuation of any assets in which it has either been involved with the acquisition or disposal within the last twelve months other than such cases where the Valuer was engaged by the Trust for such acquisition or disposal.
- (vii). The Valuer shall comply with the following conditions at all times:
 - a. the Valuer shall ensure that the valuation of the Project SPVs is impartial, true and fair and is in accordance with the InvIT Regulations;
 - b. the Valuer shall ensure adequate and robust internal controls to ensure the integrity of its valuation reports;
 - c. the Valuer shall ensure that it has sufficient key personnel with adequate experience and qualification to perform valuations;
 - d. the Valuer shall ensure that it has sufficient financial resources to enable it to conduct its business effectively and meet its liabilities;
 - e. the Valuer and any of its employees involved in valuing of the assets of the Trust, shall not: (a) invest in units of the Trust or in the assets being valued; and (b) sell the assets or units of the Trust held prior to being appointed as the Valuer and not less than six months after ceasing to be Valuer of the Trust;
 - f. the Valuer shall conduct valuation of the Project SPVs with transparency and fairness and shall render, at all times, high standards of service, exercise due diligence, ensure proper care and exercise independent professional judgment;
 - g. the Valuer shall act with independence, objectivity and impartiality in performing the valuation;

- h. the Valuer shall discharge its duties towards the Trust in an efficient and competent manner, utilizing its knowledge, skills and experience in best possible way to complete given assignment;
 - i. the Valuer shall not accept remuneration, in any form, for performing a valuation of the Project SPVs from any person other than the Trust or its authorized representative;
 - j. the Valuer shall before accepting any assignment, from any related party of the Trust, disclose to the Trust, by disclosing to the Investment Manager or the Trustee, any direct or indirect consideration which the Valuer may have in respect of such assignment;
 - k. the Valuer shall disclose to the Trust, through the Investment Manager, any pending business transactions, contracts under negotiation and other arrangements with the Investment Manager or any other party whom the Trust is contracting with and any other factors that may interfere with the Valuer's ability to give an independent and professional valuation of the assets, and other necessary disclosures required under the InvIT Regulations;
 - l. the Valuer shall not make false, misleading or exaggerated claims in order to secure assignments;
 - m. the Valuer shall not provide misleading valuation, either by providing incorrect information or by withholding relevant information;
 - n. the Valuer shall not accept an assignment which interferes with its ability to do fair valuation; and
 - o. the Valuer shall, prior to performing a valuation, acquaint itself with all laws or regulations relevant to such valuation.
- (viii). The Investment Manager in consultation with the Trustee shall have the right to take all necessary steps to remove the Valuer who ceases to comply with the eligibility criteria required under the InvIT Regulations and applicable law. If the removal of the Valuer and appointment of another valuer to the Trust is taken up at a meeting of the Unitholders at the request of the Unitholders, such removal of the Valuer shall be approved by the Unitholders in accordance with the InvIT Regulations.

CORPORATE GOVERNANCE

The section below is a summary of the corporate governance framework in relation to the Trust, implemented by or to be implemented by the Investment Manager and the Project SPVs, as applicable and as specified in this section.

Investment Manager

Alpha Alternatives Fund – Infra Advisors Private Limited is the investment manager of the Trust. For further details on the background of the Investment Manager, please see the section entitled “*Parties to the Trust – The Investment Manager – Alpha Alternatives Fund–Infra Advisors Private Limited*” on page 128 .

Board of Directors

Composition of the Board of Directors of the Investment Manager (“IM Board”)

In addition to the applicable provisions of the Companies Act and Listing Regulations (as applicable), the composition of the IM Board shall adhere to the following:

- (i). the IM Board shall comprise of at least 6 directors;
- (ii). Not less than 50% of the IM Board shall comprise independent directors, who are not directors or members of the governing board of an investment manager of another InvIT registered under the InvIT Regulations. The IM Board shall also have not less than one woman independent director;
- (iii). the independence of directors shall be determined in accordance with the InvIT Regulations and other applicable law; and
- (iv). collective experience of the directors should cover a broad range of commercial experience, particularly experience in infrastructure sector (including the applicable sub-sector), investment management or advisory and financial matters.

For details of the current composition of the board of directors, please see the section entitled “*Parties to the Trust – The Investment Manager – Alpha Alternatives Fund– Infra Advisors Private Limited– Board of Directors of the Investment Manager*” on page 128.

Quorum

The quorum shall be one-third of the total strength of the board of directors or three directors, whichever is higher, including at least one independent director.

Frequency of meetings

The IM Board should meet at least four times every year, with a maximum gap of 120 days between any two meetings. Additionally, the IM Board shall meet prior to any meeting of the Unitholders and approve the agenda for Unitholders’ meetings.

Sitting fee

Remuneration including sitting fees of the directors will be decided by the board of directors, from time to time.

Articles of Association of the Investment Manager

The articles of association should not include any affirmative rights for the Sponsor in relation to the Trust.

Committees of the board of directors

Name of the committee	Composition	Present Members	Quorum	Frequency of meetings
Nomination and Remuneration Committee	The Nomination and Remuneration Committee should comprise at least three directors. All the directors of the committee shall be independent directors. The chairperson of this committee shall be an independent director. Provided that the chairperson of the Board, may be appointed as a member of the Nomination and Remuneration Committee and shall not chair such committee.	Radhakrishnan Nair, Vijay Chhibber and Shubhada Rao	The quorum shall be either two members or one third of the members of the committee, whichever is greater, including at least one independent director in attendance.	The Nomination and Remuneration Committee shall meet at least once in a financial year or as necessary.
Audit Committee	<p>The audit committee shall consist of at least three directors. At least two-thirds of the members of audit committee shall be independent directors. The chairperson of the audit committee should be an independent director. All members of the audit committee should be financially literate and at least one member should have accounting or related financial management expertise, in accordance with the Listing Regulations. The company secretary shall act as the secretary to the audit committee.</p> <p>The audit committee at its discretion shall invite the finance director or head of the finance function, head of internal audit and a representative of the statutory auditor and any other such executives to be present at the meetings of the committee. Provided that occasionally the Audit Committee may meet without the presence of any executives</p>	Radhakrishnan Nair, Vijay Chhibber and Jignesh Shah	The quorum shall either be two members or one third of the members of the audit committee, whichever is greater, including at least two independent directors in attendance.	The audit committee should meet at least four times every year, with a maximum gap of 120 days between any two meetings.
Stakeholders Relationship Committee	The stakeholders' relationship committee should comprise at least three members. At least one member of the committee shall be an independent director. The chairperson of this committee shall be a non-executive director.	Shubhada Rao, Jignesh Shah and Abhishek Dalmia	The quorum shall be at least one-third of the members of the stakeholders' relationship committee or two members, whichever is higher.	The stakeholders relationship committee shall meet at least once in a year.
Risk Management Committee	The risk management committee should comprise at least three members with majority of them being members of the board of directors, including at least one independent director. The chairperson of this committee shall be a member of the board of directors and senior executives may be member of committee.	Shubhada Rao, Naresh Kothari and Abhishek Dalmia	The quorum shall either be two members or one third of the members of the committee, whichever is greater, including at least one members of the board in attendance.	The risk management committee should meet at least twice in a year. The meetings of the risk management committee shall be conducted in such a manner that on a continuous basis not more than two hundred and ten days

Name of the committee	Composition	Present Members	Quorum	Frequency of meetings
				shall elapse between any two consecutive meetings.
InvIT Committee	-	Naresh Kothari and Jignesh Shah	-	The InvIT Committee shall meet at such intervals as may be deemed necessary by the members of the InvIT Committee.

For details of the scope of each committee, please see below.

Nomination and Remuneration Committee

Terms of reference of the Nomination and Remuneration Committee

The terms of reference of the Nomination and Remuneration Committee include, amongst others, the following:

- (i). ensuring compliance with the requirements of the InvIT Regulations and the Companies Act, 2013 as may be applicable;
- (ii). formulation of the criteria for determining qualifications, positive attributes and independence of a director and recommend to the board of directors a policy relating to, the remuneration of the directors, key managerial personnel and other employees;
- (iii). for every appointment of an independent director, the nomination and remuneration committee shall evaluate the balance of skills, knowledge and experience on Board and on the basis of such evaluation, prepare a description of the role and capabilities required of an independent director. The person recommended to the Board for appointment as an independent director shall have the capabilities identified in such description. For the purpose of identifying suitable candidates, the Nomination and Remuneration Committee may:
 - a. use the services of an external agencies, if required;
 - b. consider candidates from a wide range of backgrounds, having due regard to diversity; and
 - c. consider the time commitments of the candidates.
- (iv). formulation of criteria for evaluation of performance of independent directors and the board of directors;
- (v). recommending to the board, all remuneration, in whatever form, payable to senior management
- (vi). identifying persons who are qualified to become directors and who may be appointed in senior management in accordance with the criteria laid down, and recommend to the board of directors their appointment and removal;
- (vii). making recommendations in relation to appointment or re-appointment or replacement or removal of (a) independent directors; (b) any key managerial personnel; and (c) directors on the board of directors of the Project SPV/HoldCos;
- (viii). identifying persons who are qualified to become directors and who may be appointed in senior management in accordance with the criteria laid down, and recommend to the IM Board their appointment and removal.
- (ix). formulating the following policies:
 - a. a policy relating to, the remuneration of the directors, key managerial personnel and other employees; and

- b. devising a policy on diversity of board of directors.
- (x). whether to extend or continue the term of appointment of the independent director, on the basis of the report of performance evaluation of independent directors; and

Audit Committee

Terms of reference of the Audit Committee

The terms of reference of the Audit Committee include, amongst others, the following:

- (i). providing recommendations to the board of directors regarding any proposed distributions, and evaluating any defaults or delay in payment of distributions to the unitholders or dividends by the Project SPV to the Trust and payments to any creditors or debenture holders of the Trust or the Project SPV, and recommending remedial measures;
- (ii). oversight of the Trust's financial reporting process and the disclosure of its financial information to ensure that the financial statement is correct, sufficient and credible;
- (iii). recommending to the board of directors the appointment, re-appointment and replacement, remuneration and terms of appointment of statutory auditor of the Trust and the audit fee, subject to the approval of the unitholders;
- (iv). Approving the payment to statutory auditors for any other services rendered by the statutory auditor;
- (v). reviewing, with the management, the annual financial statements and auditor's report thereon of the Trust and the Investment Manager, before submission to the board of directors for approval, with particular reference to:
 - a. matters required to be included in the director's responsibility statement to be included in the board's report of Investment Manager in terms of clause (c) of sub-section (3) of Section 134 of Companies Act 2013;
 - b. changes, if any, in accounting policies and practices and reason for such change;
 - c. major accounting entries involving estimates based on exercise of judgment by management;
 - d. significant adjustments made in the financial statements arising out of audit findings;
 - e. compliance with listing and other legal requirements relating to financial statements;
 - f. disclosure of any related party transactions; and
 - g. modified opinion(s) in the draft audit report;
- (vi). reviewing, with the management, the Trust's financial disclosure and reporting process and all periodic financial statements, including but not limited to quarterly, half-yearly and annual financial statements of the Trust, whether standalone or consolidated or in any other form as may be required under applicable law, before submission to the board of directors for approval;
- (vii). reviewing, with the management, the statement of uses/application of funds raised through an issue of units by the Trust (including but not limited to public issue, rights issue, preferential issue, private placement etc.) and any issue of debt securities and the statement of funds utilised for purposes other than those stated in the offer documents/ notice, and the report submitted by the monitoring agency monitoring the utilisation of proceeds of a public issue or rights issue or preferential issue or qualified institutions placement, and making appropriate recommendations to the board of directors for follow-up action;
- (viii). reviewing and monitoring the auditor's independence and performance, and effectiveness of audit process and internal control systems, as necessary;
- (ix). (a) reviewing the procedures put in place by the Investment Manager for reviewing related party transactions, the indemnification of expenses or liabilities incurred by the Investment Manager and (b)

approving any subsequently modifying transactions of the Trust with related parties, and recommending such transactions to the board of directors or the unitholders, as may be required, in terms of the InvIT Regulations;

- (x). scrutiny of inter-corporate loans and investments of the Trust including (a) reviewing the investment decisions with respect to the underlying assets or projects of the Trust from the Sponsor including any further investments or divestments and (b) approving any proposal in relation to acquisition of assets, further issue of units including in relation to acquisition or assets; and undertaking other functions to ensure protection of the interest of unitholders;;
- (xi). evaluation of internal financial controls and risk management systems;
- (xii). reviewing the adequacy of internal audit function, if any, including the structure of the internal audit department, staffing and seniority of the official heading the department, reporting structure coverage and frequency of internal audit;
- (xiii). reviewing management letters/letters of internal control weaknesses issued by the statutory auditors and the findings of any internal investigations in relation to the Trust, into matters where there is suspected fraud or irregularity or a failure of internal control systems of a material nature, discussing such findings with internal and statutory auditors and follow ups thereon and reporting the matter to the board of directors;
- (xiv). discussion with statutory auditors before the audit commences, about the nature and scope of audit as well as post-audit discussion to ascertain any area of concern;
- (xv). Giving recommendations to the board of directors regarding appointment, re-appointment and replacement, remuneration and terms of appointment of the valuer of the Trust; as well as reviewing and monitoring the independence and performance of the valuer of the Trust;
- (xvi). to review the functioning of the whistle blower mechanism with direct access to the chairperson of the audit committee in appropriate and exceptional cases;
- (xvii). approval of appointment of chief financial officer after assessing the qualifications, experience and background, etc. of the candidate;
- (xviii). reviewing the utilization of loans and/ or advances from/investment by the Trust in the SPVs exceeding rupees 100 crore or 10% of the asset size of the SPVs, whichever is lower including existing loans / advances / investments;
- (xix). consider and commenting on the rationale, cost-benefits and impact of schemes involving merger, demerger, amalgamation etc., on the Trust and its Unitholders or Investment Manager and its shareholders;
- (xx). valuation of undertakings or assets of the Trust, wherever it is necessary; and
- (xxi). formulating any policy for the Investment Manager as necessary, in relation to its functions, as specified above.

Stakeholders Relationship Committee

Terms of reference of the Stakeholders Relationship Committee

The terms of reference of the Stakeholders Relationship Committee shall include, amongst others, the following:

- (i). consider and resolve grievances of the unitholders or debenture holders, including complaints related to the transfer/transmission of units, non-receipt of annual report, non-receipt of declared distributions and non-receipt of interest or principal repayment on debentures, general meetings etc.;
- (ii). review of measures taken for effective exercise of voting rights by unitholders of the Trust;
- (iii).review of adherence to the service standards adopted by the Trust in respect of various services being rendered by the registrar and share transfer agent;
- (iv).review of the various measures and initiatives taken by the Trust or Investment Manager for reducing the quantum of unclaimed distributions and ensuring timely receipt of distribution warrants/annual reports/statutory notices by the unitholders of the Trust;
- (v). update Unitholders on acquisition / sale of assets by the Trust and any change in the capital structure of the Project SPV; and
- (vi).review of any litigation related to Unitholders' grievances.

Risk Management Committee

Terms of reference of the Risk Management Committee

The terms of reference of the Risk Management Committee include, amongst others, the following:

- (i). formulation of a detailed risk management policy, which will include:
 - a. a framework for identification of internal and external risk specifically faced by the Trust in particular, including financial, operational, sectoral, sustainability (particularly, ESG related risks), information, cyber security risks or any other risk as may be determined by the risk management committee;
 - b. measures for risk mitigation including systems and processes for internal control of identified risks; and
 - c. business continuity plan;
- (ii). to ensure that appropriate methodology, processes and systems are in place to monitor and evaluate risks associated with the business;
- (iii).to monitor and oversee implementation of the risk management policy, including evaluating the adequacy of risk management systems;
- (iv).periodically reviewing the risk management policy, at least once in two years, including by considering the changing industry dynamics and evolving complexity;
- (v). to keep the board of directors informed about the nature and content of its discussions, recommendations and actions to be taken;
- (vi).the appointment, removal and terms of remuneration of the chief risk officer, if any, will be subject to review by the Risk Management Committee; and
- (vii).to Coordinate its activities with other committees, in instances where there is any overlap with activities of such committees, as per the framework laid down by the board of directors.

InvIT Committee

Terms of reference of the InvIT Committee

The terms of reference of the InvIT Committee include, amongst others, the following:

- (i). Entering into, execution and finalisation of all contracts, agreements and all other documents, deeds and instruments as may be required or desirable in connection with the Trust and the Issue, including but not limited to the trust deed, the Project Implementation and Management Agreement, Escrow Agreements, Investment Management Agreement, Registrar Agreement, Ad Agency Agreement, the share/securities purchase agreements, offer agreement, the right of first offer agreement, inter-se/framework agreement with Dilip Buildcon Limited and/or its affiliates, trust loan agreement, and the shared/transition services agreements (if any) ;
- (ii). To approve the Issue and to decide on the timing, pricing and all the terms and conditions of the Issue, including the pricing, allotment, etc. and to accept any amendments, modifications, variations or alterations thereto and all other matters incidental to the Issue;
- (iii). To approve and adopt the valuation report, technical reports, industry report, credit ratings (if any) and all such documents in relation to the Issue;
- (iv). To make applications, where necessary, to such authorities or entities as may be required and accept on behalf of the Board such conditions and modifications as may be prescribed or imposed by any of them while granting such approvals, consents, permissions and sanctions as may be required in relation to the Trust and the Issue;
- (v). To approve and file, where applicable, the draft offer document, offer document and final offer document to be filed with the Securities and Exchange Board of India (“SEBI”) and the stock exchanges and to make necessary amendments or alterations, therein in relation to the Issue;
- (vi). To approve and adopt the necessary Governance Policies for the Trust as required under the InvIT regulations.
- (vii). To approve the appointment of Intermediaries for the purpose of Issue and approve entering into agreements/ Engagement Letters.

Policies of the Board of Directors of the Investment Manager in relation to the Trust

The Investment Manager has adopted, amongst others the following policies, in relation to management of the Trust and all assets of the Trust:

A. Borrowing Policy

The Investment Manager has adopted a borrowing policy pursuant to a resolution of the IM Board dated November 16, 2024, in relation to Trust (“**Borrowing Policy**”). The Investment Manager shall ensure that all funds borrowed by the Trust or in relation to the Trust are in compliance with the InvIT Regulations, applicable prudential norms and other applicable law. Accordingly, the IM Board has formulated the Borrowing Policy to outline the process for borrowing monies in relation to the Trust. The key terms of the Borrowing Policy include, among other things, the following:

- (i). The Investment Manager shall ensure that all funds borrowed in relation to the Trust are in compliance with the InvIT Regulations.
- (ii). In the event the aggregate consolidated borrowings and deferred payments (net of cash and cash equivalents) of the Trust, Holding Companies and the SPVs, exceed any thresholds prescribed under the InvIT Regulations in this regard, any further borrowings by the Trust shall be availed in accordance with the requirements prescribed under the InvIT Regulations, including any approval from Unitholders under Regulation 22 of the InvIT Regulations
- (iii). The Trust may raise debt and avail borrowings and deferred payments from time to time, including through (i) issuance of debt securities, in the manner specified by the Securities and Exchange Board

of India (“**SEBI**”), and in accordance with applicable law, and (ii) availing loans from banks and financial institutions in accordance with applicable law (including the InvIT Regulations). The Trust shall be permitted to borrow monies through any permitted means, by any instrument, in Indian or foreign currency, as permitted by applicable law, including as prescribed by the Reserve Bank of India, from time to time.

- (iv). The Investment Manager and the Trustee (on behalf of the Trust) shall be permitted to borrow monies in relation to the Trust, subject to the approval of its board of directors or such other committee of the board of directors of the Investment Manager as may be constituted in this regard. The Investment Manager may engage such intermediaries (include any other group companies of the Investment Manager) as may be necessary to facilitate the borrowings in relation to the Trust, Holding Companies or SPVs at such remuneration as may be reasonable and at arm’s length, as permitted by applicable law.
- (v). The Trust also has the power to create mortgage or secure any of its assets or provide guarantees in order to borrow funds. However, the Investment Manager shall not be allowed to create any obligation which would allow the liabilities to extend beyond the assets held by the Trust or making such liabilities unlimited except with obtaining the necessary approvals as may be required under the applicable law including the SEBI InvIT Regulations.
- (vi). The Trust also has the power to create mortgage or secure any of its assets or provide guarantees in order to borrow funds. However, the Investment Manager shall not be allowed to create any obligation which would allow the liabilities to extend beyond the assets held by the Trust or making such liabilities unlimited except with obtaining the necessary approvals as may be required under the applicable law including the SEBI InvIT Regulations

B. Policy on Related Party Transactions

The Investment Manager has adopted a policy in relation to related party transactions (“**RPT Policy**”) pursuant to a resolution of its board of directors on November 16, 2024. For details of the RPT Policy, please see the section entitled “*Related Party Transactions*” on page 373.

C. Distribution Policy

The Investment Manager has adopted a distribution policy in relation to Trust (“**Distribution Policy**”) pursuant to a resolution of its board of directors on November 16, 2024, and thereafter amended on March 8, 2025. For details of the Distribution Policy, please see the section entitled “*Distribution*” on page 346.

D. Policy on Appointment of Auditor and Valuer of the Trust

The Investment Manager has adopted a policy on appointment of auditor and valuer (“**Appointment Policy**”) pursuant to a resolution of its board of directors on November 16, 2024. For details of the Appointment Policy in relation to the Trust, please see the section entitled “*Other Parties involved in the Trust – Policy on appointment of Auditor and Valuer*” on page 152.

E. Policy on unpublished price-sensitive information and dealing in securities by the parties to Trust (the “UPSI Policy”)

The Investment Manager has adopted the UPSI Policy pursuant to a resolution of the IM Board on March 8, 2025. The purpose of the policy is to ensure that Trust and the Investment Manager comply with applicable laws, including the InvIT Regulations, as amended or supplemented or such other laws, regulations, rules or guidelines prohibiting insider trading and governing disclosure of material, unpublished price sensitive information (“**UPSI**”). The key principles of the UPSI Policy are set out below:

- (i). The Investment Manager shall promptly disclose to the public all UPSI that would impact price discovery no sooner than credible and concrete information comes into being in order to make such information generally available;

- (ii). The Investment Manager shall follow uniform and universal dissemination of UPSI to avoid selective disclosure;
- (iii). The Compliance Officer shall be responsible for deciding whether a public announcement is necessary for verifying or denying rumours and then making the disclosure, in accordance with the procedure specified in the policy for determining materiality of information;
- (iv). The Compliance Officer shall also make an appropriate and fair response to the queries on news reports and requests for verification of market rumours by regulatory authorities, in accordance with the procedure specified in the Materiality of Information Policy. Further, no employee or representative of the Investment Manager who is in receipt of any inquiries relating to the Trust, including from any investors, shall respond to such inquiries. Such employee or representative of the Investment Manager shall refer the inquirer to the Compliance Officer or an any person authorised by the IM Board to deal with inquiries;
- (v). While dealing with analysts or research persons or large investors like institutions, the Investment Manager shall provide only public information; and
- (vi). The Investment Manager shall handle all UPSI on a “need to know” basis, provided that UPSI may be disclosed to persons (including but not limited to, any designated person, partners, collaborators, lenders, customers, suppliers, bankers etc.) who need such information for furtherance of legitimate purposes, performance of duties or discharge of legal obligations in relation to the Trust.

F. *Policy for Determining Materiality of Information for Periodic Disclosures (the “Materiality of Information Policy”)*

The Investment Manager has adopted the Materiality of Information Policy pursuant to a resolution of the IM Board on November 16, 2024, in relation to the Trust. The Materiality of Information Policy aims to outline process and procedures for determining materiality of information in relation to periodic disclosures on Trust’s website, to the Trustee, stock exchanges and to all stakeholders at large, in relation to Trust. The key principles of the Materiality of Information Policy are set out below:

- (i). Any information concerning the Trust is considered material to the business and affairs of a Trust if (i) it results in, or would reasonably be expected to result in a significant change in the market price or value of units of the Trust; or (ii) if there is a substantial likelihood that a reasonable unitholder would consider it important in determining whether to buy, sell or hold, or engage in other transactions concerning the Trust’s units; or (iii) the investor would consider important in making an investment decision
- (ii). The Investment Manager or the Trustee shall provide to SEBI and to the Stock Exchange, wherever applicable, such information as may be sought by SEBI or by the Stock Exchange pertaining to the activities of the Trust.
- (iii). The Trust shall also submit such information to the Designated Stock Exchange and Unitholders on a periodical basis as may be required under the listing agreements. Further, the Trust shall disclose all such information as may be specified by SEBI to the Designated Stock Exchange, Unitholders and SEBI, in the manner as may be specified by SEBI.
- (iv). The Materiality of Information Policy also provides for the approval process for disclosure or dissemination of any material or unpublished price sensitive information on behalf of the Trust shall be marked to the compliance officer or to any other person authorised by the IM Board to make the disclosures, as may be required.

G. *Document Archival Policy (“Archival Policy”)*

The Investment Manager has adopted the Document Archival Policy as per applicable laws and regulations and pursuant to a resolution of the IM Board dated November 16, 2024, in relation to Trust, in accordance

with applicable laws. The document archival policy aims to provide a comprehensive policy on the preservation and conservation of the records and documents of the Trust. It provides guidance on the preservation and management of documents to help ensure the authenticity, reliability and accessibility of such documents. The policy aims at identifying, classifying, storing, securing, retrieving, tracking and destroying or permanently preserving records. It stipulates the duration and manner in and place at which records and documents of the Trust shall be preserved.

H. Code of Conduct (the “Code”)

The Investment Manager has adopted the Code pursuant to a resolution of its board of directors dated November 16, 2024, in relation to the Trust and conduct of the Trust and the Parties to the Trust.

The key principles of the Code are set out below:

- (i). the Trust and the Parties to the Trust shall conduct all affairs of the Trust in the interest of all the unitholders of the Trust (the “**Unitholders**”);
- (ii). the Trust and the Parties to the Trust shall make adequate, accurate, explicit and timely disclosure of relevant material information to all Unitholders, the stock exchanges and the Securities and Exchange Board of India (“**SEBI**”) in accordance with the InvIT Regulations and as may be specified by the stock exchanges from time to time;
- (iii). the Trust and the Parties to the Trust shall try to avoid conflicts of interest, as far as possible, in managing the affairs of the Trust and keep the interest of all Unitholders paramount in all matters. In case such events cannot be avoided, it shall be ensured that appropriate disclosures are made to the Unitholders and they are fairly treated;
- (iv). the Trust and the Parties to the Trust shall ensure that fees charged by them with respect to activities of the Trust shall be fair and reasonable;
- (v). the Investment Manager shall carry out the business of the Trust and invest in accordance with the investment objectives (as disclosed in the draft offer document and the offer document) and take investment decisions solely in the interest of Unitholders;
- (vi). the Trust, the Parties to the Trust and any third party appointed by the Investment Manager shall not use any unethical means to sell, market or induce any person to buy units of the Trust and where a third party appointed by the Investment Manager fails to comply with this condition, the Investment Manager shall be held liable for the same;
- (vii). the Trust and the Parties to the Trust shall maintain high standards of integrity and fairness in all their dealings and in the conduct of their business;
- (viii). the employees of the Trust and the Parties to the Trust shall not accept or offer gifts to past, current or prospective Unitholders of the Trust unless in accordance with the policies adopted by the Investment Manager, on behalf of the Trust;
- (ix). the compliance officer of the Trust (“**Compliance Officer**”) shall ensure compliance in relation to anti-bribery and anti-corruption laws at all times. Further, the Compliance Officer shall not personally engage in or ignore any instance of someone paying or receiving any bribe or facilitate payment on behalf of any of the Parties of the Trust. Additionally, any instance of potential bribery or corruption shall be immediately reported to the Compliance Officer;
- (x). the Trust and the Parties to the Trust shall render at all times high standards of service, exercise due diligence, ensure proper care and exercise independent professional judgment;
- (xi). the Trust and the Parties to the Trust shall not make any exaggerated statement, whether oral or written, either about their qualifications or capabilities or experience; and

- (xii). the employees of the Parties to the Trust shall avoid any action or behaviour that could be viewed as harassment. In case of any complain of sexual harassment, the relevant Party to the Trust shall put in place a process to appropriately, sensitively and expeditiously deal with it. Strict disciplinary action will be taken against any employee found guilty of any kind of sexual harassment.
- (xiii). the employees of the Parties to the Trust shall respect the intellectual property rights of others and never infringe them. Further, the employees should be cautious while preparing advertising and promotional materials using the name or logo of any of the Parties to the Trust. The employees shall ensure that only licensed software should be used on Trust's and Parties to the Trust's electronic devices.

I. *Nomination and Remuneration Policy ("NR Policy")*

The Investment Manager has adopted the NR Policy pursuant to a resolution of its board of directors on March 8, 2025. The NR Policy aims to provide a framework for nomination and remuneration of members of the IM Board, its key managerial personnel, senior management personnel and other employees of the Investment Manager. The key terms of the NR Policy are set out below:

- (i). The NR Policy reflect the remuneration philosophy and principles of the Investment Manager and the Trust and considers the pay and employment conditions with peers / competitive market to ensure that pay structures are appropriately aligned.
- (ii). Non-Executive Directors ("**NEDs**") shall not be entitled to any remuneration, commission or compensation, other than reimbursements for out of pocket expenses. Independent Directors ("**IDs**") may be paid remuneration by way of sitting fees and commission. The remuneration / commission / compensation to the IDs will be determined by the nomination and remuneration committee of the Board ("**NRC**") and recommended to the Board for its approval subject to considerations under applicable law including restrictions on payments to NEDs who are not resident of India
- (iii). The Investment Manager's total compensation for KMP, SMP, if any, and other employees will consist of:
 - a. fixed compensation;
 - b. variable compensation in the form of short term and long term incentives;
 - c. work related facilities and perquisites; and
 - d. perquisites and benefits.
- (iv). Employees will also be eligible for work related facilities and perquisites as may be determined through human resources policies issued from time to time based on the grade of the employee

J. *Policy on Code of Conduct for Board of Directors and Senior Management Personnel (the "Coc")*

The Investment Manager has adopted the CoC pursuant to a resolution of the IM Board dated November 16, 2024, for all members of board of directors and senior management personnel of the Investment Manager. The senior management personnel of the Investment Manager shall include officers and personnel of the Investment Manager who are members of its core management team, excluding the IM Board, and shall also comprise all members of management, one level below the chief executive officer or managing director or whole time director or manager (including chief executive officer or manager, in case they are not part of the IM Board) and shall specifically include the compliance officer and chief financial officer, as applicable ("**Senior Management Personnel**").

The key terms of the CoC are set out below:

- (i). The CoC enables the Investment Manager to publicly state to the external stakeholders of the Trust (suppliers, customers, consumers, Unitholders, etc.), the way in which they intend to carry out their business and their business in relation to the Trust.

(ii). In accordance with the CoC, the IM Board and Senior Management Personnel should:

- a. demonstrate the highest standards of integrity, business ethics, and corporate governance;
- b. perform their roles with competence, diligence, in good faith and in the best interests of the Trust and the Unitholders of the Trust;
- c. provide expertise and experience in their areas of specialization and share learnings at the meetings of the IM Board with best interests of the Trust and its stakeholders along with the Unitholders in mind. They should point the Investment Manager's management in the 'right' direction based on their experience and judgement;
- d. give careful and independent consideration to the affairs of the Investment Manager and the Trust and all documents placed before them to satisfy themselves with the soundness of key decisions taken by the management. They should call for additional information, where necessary, for making such judgements;
- e. not engage in any business, relationship or any activity which detrimentally conflicts with the interest of the Trust or bring discredit to the Investment Manager or the Trust. Any situation that creates a conflict of interest between personal interests and the Trust or its Unitholders' interest must be avoided at all costs;
- f. follow all the guidelines put forth in the policy for prevention of insider trading;
- g. not disclose any confidential / privileged information of the Investment Manager or the Trust and should direct any media queries or approaches to the appropriate spokesperson within the Investment Manager;
- h. not achieve or attempt to achieve any undue gain or advantage either to himself or to his relatives, partners, or associates; and
- i. not make any exaggerated statement, whether written or oral, either about their qualification or capabilities or experience.

(iii). The CoC also sets out the duties of the independent directors on the IM Board, including, amongst others, (a) undertaking appropriate induction and regularly update and refresh their skills, knowledge and familiarity with the Investment Manager and the Trust; (b) seeking appropriate clarification or amplification of information and, where necessary, take and follow appropriate professional advice and opinion of outside experts at the expense of the Trust; and (c) striving to attend all meetings of the IM Board and of the committees of the IM Board, of which the independent director(s) is a member.

All members of the IM Board and Senior Management Personnel shall affirm compliance with the CoC on an annual basis.

K. Policy on Familiarisation Program for Independent Directors ("Familiarization Policy")

The Investment Manager has adopted the Familiarization Policy pursuant to a resolution of its board of directors on November 16, 2024. The key terms of the Familiarization Policy are set out below:

- (i). The Investment Manager shall conduct orientation programmes / presentations / training sessions, periodically at regular intervals, to familiarize the independent directors with the strategy, operations and functions of the Trust.
- (ii). Such orientation programmes / presentations / training sessions will provide an opportunity to the independent directors to interact with the senior leadership team of the Investment Manager and help them to understand the Investment Manager's and Trust's strategy, business model, structure, operations, service and product offerings, markets, organization structure, finance, human resources, technology, quality, facilities, risk management strategy, governance policies, designated channels for flow of information and such other areas as deemed necessary.
- (iii). The programmes / presentations shall also familiarize the independent directors with their roles, rights and responsibilities.

- (iv). The Investment Manager may include such other details and information, as required, during the introductory familiarization programme / presentation, when a new independent director comes on the IM Board.
- (v). The Investment Manager may periodically review this Programme and make suitable revisions, as may be deemed necessary, from time to time.
- (vi). The Programme will be conducted at least once in a year on an “as needed” basis and will be disclosed on the website of the Trust and a web link thereto shall also be given in the annual report of the Trust.

L. Vigil Mechanism and Whistle Blower Policy (“Whistleblower Policy”)

The Investment Manager has adopted the Whistleblower Policy pursuant to a resolution of its board of directors on November 16, 2024. The key terms of the Whistleblower Policy are set out below:

- (i). Any communication made in good faith that discloses or demonstrates information that may evidence unethical or improper activity or violations of law or policies of the Trust or the Investment Manager, (“**Protected Disclosure**”) should be made by the relevant whistle-blower (“**Whistleblower**”) to the Compliance Officer.
- (ii). Protected Disclosure should be in writing so as to ensure a clear understanding of the issues raised and should be either typed or written in legible writing in English, Hindi or a regional language. The protective disclosure or reporting can also be made by electronic mail.
- (iii). Protected Disclosure should be forwarded with a cover letter which shall bear the identity of the Whistleblower.
- (iv). Protected Disclosure should be factual and not speculative and should contain as much specific information as possible in order to allow proper investigation.
- (v). The Whistleblower is not required or expected to conduct any investigation and shall not have the right to participate in any investigation conducted by the Compliance Officer in relation to Protected Disclosure made by such Whistleblower.
- (vi). The Compliance Officer, on finding the Protected Disclosure to be proper, shall forward the details of the Protected Disclosure to the empowered committee. The Compliance Officer, on finding the Protected Disclosure to be improper, shall reject the complaint, with a report in this regard to the empowered committee and such report shall comprise the grounds and rationale for rejecting the complaint made by the Whistleblower. The review by the Compliance Officer shall be completed within 30 days of the receipt of the Complaint.
- (vii). The empowered committee may categorize the Protected Disclosure as follows:
 - a. *Genuine*: The allegations shall be genuine in the event it is substantially proven against the Subject. The Empowered Committee shall initiate actions against the Subject in case of genuine complaints.
 - b. *Could not be proven*: The allegations that could not be proven due to lack of evidence, incomplete information, lapse of substantial time between occurrence of the event and complaint or any other reason shall be categorized as ‘could not be proven’. The empowered committee shall not take any action in case of complaints which could not be proven.
 - c. *False alarms*: The allegations that are investigated and are proven ‘false’ shall be categorized as false alarms. In the event that the empowered committee determines that the complaint was

made with malicious intent and if the identity of the Whistleblower is known or is traced by the empowered committee, it may decide appropriate penal action against such Whistleblower. It is clarified that protection under this Policy shall not mean protection from disciplinary action arising out of complaints that have been categorized as false alarms.

- (viii). The Investment Manager shall ensure that no Whistleblower who has made any Protected Disclosure is subjected to victimization by initiation of any proceedings or otherwise merely on the grounds that such Whistleblower had made any Protected Disclosure or rendered assistance in any inquiry.
- (ix). If any Whistleblower is being victimized or likely to be victimized on the ground of making any Protected Disclosure, filing a complaint or rendering assistance in any inquiry pursuant to the Protected Disclosure made by such Whistleblower, such Whistleblower may file an application to the chairman, managing director or the chairperson of the Audit Committee of the Investment Manager directly, seeking redress in the matter and such authority shall take such action as it deems fit and may give suitable directions to protect the Whistleblower being victimized and avoid any further victimization.
- (x). Every effort will be made to protect Whistleblowers' identity and under no circumstances shall such identity be discussed with any unauthorized person. Utmost care should be taken by the Compliance Officer that the Protected Disclosure made by any Whistleblower is kept confidential and identity of the Whistleblower is not revealed. In case any such information is disclosed, necessary action shall be taken against the concerned employee making such disclosure.
- (xi). The Investment Manager may engage an independent service provider for providing or operating the vigil mechanism who shall report to the audit committee of the Investment Manager.

M. Policy for Evaluation of the Performance of the Board of Directors

The Investment Manager has adopted the policy for evaluation of the performance of the IM Board pursuant to a resolution of its board of directors dated November 16, 2024, to formulate and provide a performance evaluation mechanism for the members of the IM Board.

N. Policy on Succession Planning for Board And Senior Management Personnel ("Succession Policy")

The Investment Manager has adopted the Succession Policy pursuant to a resolution of its board of directors on November 16, 2024. The purpose of the Succession Policy is to provide a framework for succession planning of the non-independent directors, independent directors and other members of the Board and senior management of the Investment Manager. The key terms of the Succession Policy are set out below:

- (i). The objectives of the Succession Policy are, *inter alia*, as under:
 - a. To identify and nominate suitable candidates for the board of director's approval to fill vacancies which may arise in the Board from time to time;
 - b. To identify the competency requirements of critical and key positions, assess potential candidates and develop required competency through planned development and learning initiatives;
 - c. To identify the key job incumbents in senior management positions and recommend whether the concerned individual be granted an extension in term/service or be replaced with an identified internal or external candidate or recruit other suitable candidate(s); and
 - d. To ensure the systematic and long-term development of individuals in the senior management level to replace as and when the need arises due to deaths, disabilities, retirements, and other unexpected occurrence.

- (ii). The Nomination and Remuneration Committee shall review the leadership and management needs of the Investment Manager from time to time. The Nomination and Remuneration Committee shall assess the suitability of a person who is being considered for appointment as a director of the Investment Manager, based on his / her educational qualification, experience, expertise and track record and shall recommend to the IM Board, the terms and conditions of his/her appointment, including remuneration.
- (iii). The Nomination and Remuneration Committee may, at its discretion, recommend to the IM Board, appointment of suitable candidate(s) in senior management level with a view to ensure a continuous availability of managerial talent at senior levels to meet the organizational needs.
- (iv). The recommendations of the Nomination and Remuneration Committee shall be placed before the IM Board for approval. The senior management team shall always strive to develop in-house capabilities by enriching work exposure.

O. Risk Management Policy (“RM Policy”)

The Investment Manager has adopted the RM Policy pursuant to a resolution of its board of directors on March 8, 2025. The RM Policy aims to provide a framework for identification and management of risks associated with the business of the Trust. The key terms of the RM Policy are set out below:

(i). Principles of risk management:

The risk management committee shall provide reasonable assurance in protection of business value of the Trust from uncertainties and consequent losses.

(ii). ‘General:

Risk management process includes four activities:

- a. Risk identification;
- b. Risk assessment;
- c. Risk mitigation and monitoring; and
- d. Reporting.

(iii). Risk identification:

The purpose of Risk identification is to identify internal and external risks specifically faced by the Trust and/or SPV, in particular including financial, operational, sectoral, sustainability (particularly, environment, social and governance related risks), information, personnel, reputational, regulatory, technology, political, litigation, cyber security risks or any other risk as may be determined by the Risk Management Committee and identify all other events that can have an adverse impact on the achievement of the business objectives.

(iv). Risk assessment:

Assessment involves quantification of the impact of Risks to determine potential severity and probability of occurrence. Each identified risk is assessed on two factors which determine the risk exposure:

- 1. Impact if the event occurs
- 2. Likelihood of event occurrence

Risk Categories: It is necessary that risks are assessed after taking into account the existing controls, so as to ascertain the current level of risk. Based on the above assessments, each of the risks can be categorized as – low, medium and high.

(v). *Risk mitigation:*

All identified risks should be mitigated using any of the following risk mitigation plans:

- a. Risk avoidance: by not performing an activity that could carry risk. Avoidance may seem the answer to all risks but avoiding risks also means losing out on the potential gain that accepting (retaining) the risk may have allowed;
- b. Risk transfer: mitigation by having another party to accept the risk, either partial or total, typically by contract or by hedging / insurance;
- c. Risk reduction: Employing methods/solutions that reduce the severity of the loss; and
- d. Risk retention: Accepting the loss when it occurs. Risk retention is a viable strategy for small risks where the cost of insuring against the risk would be greater than the total losses sustained. All risks that are not avoided or transferred are retained by default.

(vi). *Monitoring and reviewing risks:*

The risk management committee shall formulate the policies for effective identification, monitoring, mitigation of the risks. Internal audit committee reviews the risk register once a year and adds any new material risk identified to the existing list. These will be taken up with respective functional head for its mitigation. Existing process of risk assessment of identified risks and its mitigation plan will be appraised by the risk management committee to the IM Board on an annual basis.

P. *Policy to Promote Diversity of Board of Directors (“Diversity Policy”)*

The Investment Manager has adopted the Diversity Policy pursuant to a resolution of its board of directors dated November 16, 2024. The key terms of the Diversity Policy are set out below:

- (i). The Nomination and Remuneration Committee shall ensure that the IM Board shall have an optimum combination of non-independent, independent and woman directors in accordance with requirements of the InvIT Regulations, Listing Regulations and other statutory, regulatory and contractual obligations of the Investment Manager and the Trust. The Board shall have at least the minimum number of woman independent director as per the InvIT Regulations and applicable law.
- (ii). The Investment Manager recognises the benefits of having a diverse Board and sees increasing diversity at Board level as an essential element in maintaining a competitive advantage. The Investment Manager believes that a truly diverse IM Board will leverage differences in thought, perspective, knowledge, skill, regional and industry experience, cultural and geographical background, age, ethnicity and gender, which will ensure that the Trust, retains its competitive advantage. The Investment Manager further believes that a diverse IM Board will contribute towards driving business results, make corporate governance more effective, enhance quality and responsible decision-making capability, ensure sustainable development and enhance the reputation of the Trust.
- (iii). The Nomination and Remuneration Committee shall review the profile of the prospective candidates for appointment as a director on the IM Board taking in consideration knowledge, experience, financial literacy / expertise, global market awareness and other relevant factors as may be considered appropriate and the IM Board shall be so formulated with mix of members to maintain high level of ethical standards. The Nomination and Remuneration Committee shall also take into consideration the provisions of the InvIT Regulations, Listing Regulations and other statutory, regulatory and contractual obligations of the Investment Manager.

Q. *Policy on Qualification and Criteria for the Appointment of Unitholders Nominee Directors on the Board*

The Investment Manager has adopted the policy for appointment of Unitholder Nominee Directors and the criteria for evaluation of the individuals nominated as Unitholder Nominee Directors pursuant to a resolution of its board of directors dated November 16, 2024. The Eligible Unitholder(s) shall be entitled to nominate only one Unitholder Nominee Director. However, if the right to nominate one or more directors

on the Board of the Investment Manager is available to any entity (or to an associate of such entity) in the capacity of shareholder of the Investment Manager or lender to the Investment Manager or the Trust (or its holding companies or special purpose vehicles), then such entity in its capacity as Unitholder, shall not be entitled to nominate or participate in the nomination of a Unitholder Nominee Director. The above restriction relating to the right to nominate a Unitholder Nominee Director shall not be applicable if the right to appoint a nominee director is available in terms of clause (e) of sub-regulation (1) of regulation 15 of the SEBI (Debtenture Trustees) Regulations, 1993.

Project SPVs

Representatives on the Board of Directors of the Project SPVs

The Investment Manager, in consultation with the Trustee, shall appoint the majority of the members of the board of directors of each of the Project SPVs, in accordance with the requirements prescribed under the InvIT Regulations.

INDUSTRY OVERVIEW

MACROECONOMIC OVERVIEW OF INDIA

Review of India's GDP growth

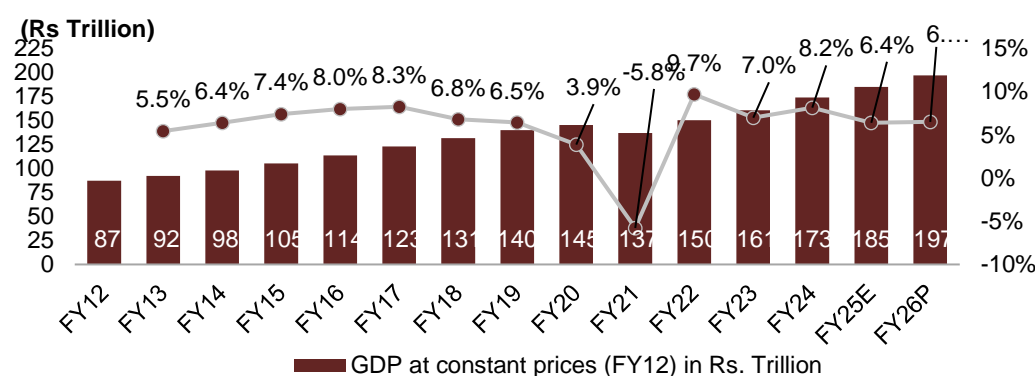
GDP logged 5.7% CAGR between fiscals 2012 and 2023

In 2015, the Ministry of Statistics and Programme Implementation changed the base year for calculating India's gross domestic product (GDP) to fiscal 2012 from fiscal 2005.

Based on the change, India's GDP clocked a compound annual growth rate (CAGR) of 5.7% between fiscals 2012 and 2023, with the country's overall GDP at Rs 160,714 billion in fiscal 2023 vs Rs 87,363 billion in fiscal 2012. The pace of growth was despite the stress inflicted by the pandemic that led to the GDP — which was already experiencing a slowdown and had grown 3.9% in fiscal 2020 — contracting 5.8% on-year in real terms in fiscal 2021 to Rs ~136,949 billion.

The economy bounced back in fiscal 2022 as the Covid-19 pandemic-related shocks subsided, which resulted in a growth of 9.7% on-year in real GDP to Rs ~150,218 billion.

Real GDP growth in India (new GDP series)



FRE-First Revised Estimate; PE- Provisional Estimate; P – Projected

Source: National Statistics Office (NSO), Advance estimates of national income 2020-24, Central Statistics Office, Ministry of Statistics and Programme Implementation (MoSPI), Crisil Intelligence

Review of real GDP growth over fiscals 2019-2024 and outlook for fiscals 2025-2030

India ranks as the world's 5th largest economy and is the fastest growing among major economies. The Indian economy logged 4.3% CAGR between fiscals 2019 and 2024. This was a sharp deceleration from a robust 6.7% CAGR between fiscals 2017 and 2019, which was driven by rising consumer aspiration, rapid urbanization, the government's focus on infrastructure investment and growth of the domestic manufacturing sector. Economic growth was supported by benign crude oil prices, soft interest rates and low current account deficit. The Indian government also undertook key reforms and initiatives, such as implementation of the Goods and Services Tax (GST), Insolvency and Bankruptcy Code, Make in India, financial inclusion initiatives, and gradual opening of sectors such as retail, e-commerce, defense, railways, and insurance for foreign direct investments (FDIs).

A large part of the lower growth between fiscals 2018 and 2023 was because of the economy contracting 5.8% in fiscal 2021 owing to the fallout of Covid-19. The pandemic's impact was more pronounced on contact-sensitive services and social distancing norms-affected services such as entertainment, travel, and tourism, with many industries in the manufacturing sector also facing issues with shortage of raw materials/components as lockdown in various parts of the world upended supply chains.

Over the period, India's economic growth was led by services, followed by the industrial sector, while in part impacted by demonetization, the non-banking financial company (NBFC) crisis, slower global economic growth, and the pandemic.

As lockdowns were gradually lifted, economic activity revived in the second half of fiscal 2021. After a steep contraction in the first half, owing to rising number of Covid-19 cases, gross domestic product (GDP) moved into positive territory towards the end of fiscal 2021. Subsequently, in fiscal 2022, India's real GDP grew 9.7% from the low base of fiscal 2021.

India's GDP exceeded expectations during all four quarters of fiscal 2024. However, growth slowed down in fourth quarter but stayed strong. According to the National Statistics Office's (NSO) provisional estimates, GDP growth slowed to 7.8% year-on-year in the fourth quarter of last fiscal from 8.6% of third quarter but was higher than 6.1% in the year-ago quarter. This prompted the NSO to revise upward the fiscal 2024 GDP growth estimate to 8.2% (which is the provisional estimate), from the earlier estimate of 7.6%.

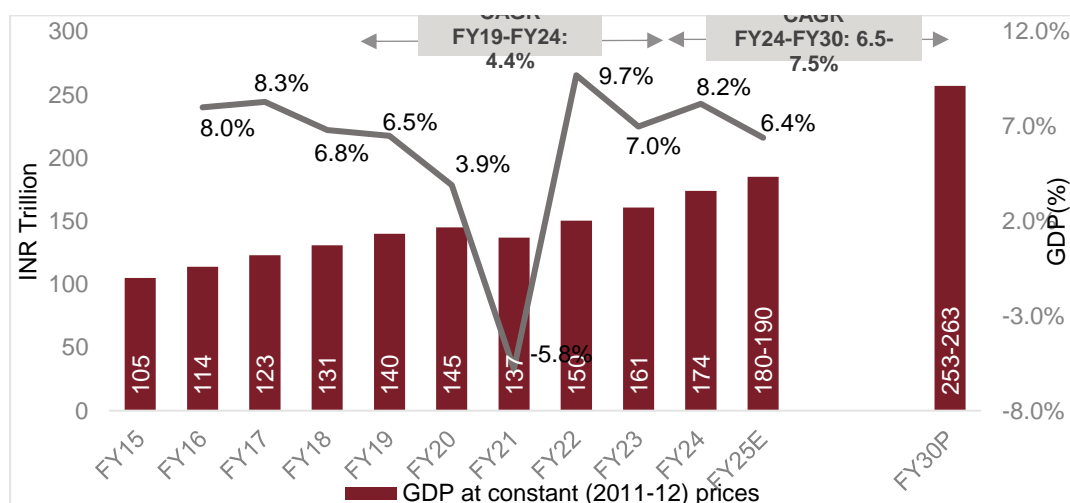
Growth surpassed forecasts in the fiscal 2024, driven by strong government spending and a sharp rise in manufacturing and construction growth. Globally, growth in major economies such as the US and China beat estimates and has contributed to better export earnings for India.

According to the National statistics Offices (NSO) first advance estimates (FAE) based on the data for three quarters for the fiscal 2025, India's real gross domestic product (GDP) growth is at 6.4%, significantly slower than the 8.2% in fiscal 2024. Weak investments amid reduced government capital expenditure (capex) are the primary reason for the deceleration. However, private consumption is expected to rise significantly compared to fiscal 2024's weak performance.

Based on FAE, GDP growth is expected to pick up in the second half of CY2025, registering a 6.8% rise compared with 6.0% in the first half. Consumption is expected to improve in the second half, but not investment.

Crisil Intelligence expects GDP growth to moderate to 6.4% in fiscal 2025 owing to slowing demand, particularly in United States and China, will weigh on global growth. Geopolitical tensions, particularly in the Middle East, remain a risk for trade flows and supply chain pressures for industry and along with the impact of high interest rates.

India's GDP growth trend and outlook



Note: P – projected

Source: National Statistical Office (NSO), IMF, Crisil Intelligence estimates

Key fiscal measures announced by the Centre to deal with pandemic fallout

Under the Atmanirbhar Bharat initiative, the government announced a series of fiscal measures to contain the human and economic challenges from the pandemic. Following are the details of key measures announced through three packages in May, October and November of fiscal 2021.

Fiscal stimulus 1.0

Through this fiscal stimulus package, the government announced measures worth Rs 11,000,000 million in five tranches. This was in addition to the earlier announced measures worth Rs 9,900,000 million, including liquidity support from the Reserve Bank of India (RBI), taking the total financial support amount to Rs 20,900,000 million. The government announced the package with the aim of reviving the economy by infusing liquidity and providing income support. The actual committed fiscal outgo was of Rs 1,000,000 million, translating into 9% of the Rs 11,000,000 million of measures outlined over the five tranches. The bulk of this direct support was through the Pradhan Mantri Garib Kisan Yojana. The government also ploughed in some earlier discussed structural reforms, especially in tranches 4 and 5, to help drive India's medium-term growth story. The announcements pertained especially to sectors such as mining, aviation, urban infrastructure, power and agriculture.

Further, the government increased the borrowing limit for state governments from 3% of their GDP to 5%. However, of this additional 2.0 percentage points, 1.5 percentage point was conditional upon states achieving certain targets.

For addressing near-term issues, apart from direct benefit transfers and additional spending through the Mahatma Gandhi National Rural Employment Guarantee Act, 2005, the government mobilised credit to micro, small and medium enterprises, agriculture, and the affordable housing sector. This included the 100% guarantee on loans worth Rs 30,000,000 million and one-year moratorium to help these units, which were typically strapped for working capital. It was also aimed at spurring credit growth for both banks and non-banks in fiscal 2021 and contain delinquencies in the segment, which would have increased otherwise.

Fiscal stimulus 2.0

The government measures targeted increasing demand in the economy. The government proposed a scheme where central government employees could spend their tax-exempt travel concessions on certain goods and services. It also made provisions for them to receive a part of their wages in advance to spend on their choice of festival before March-end 2021. The stimulus also included infrastructure spending of Rs 250,000 million and interest-free loan to states, which stood at Rs 120,000 million. The measures announced under this package amounted to Rs 700,000 million.

Fiscal stimulus 3.0

This Rs 2,650,000 million stimulus package was aimed at job creation, access to credit and farm support with. The key highlight of this stimulus was to provide production-linked incentives to 10 sectors, estimated at ~14,500,000 million. This was proposed to be spent over next 4-6 years, i.e. till fiscal 2028, to encourage domestic manufacturing across 10 sectors – namely, textiles, food, pharma, consumer durables, auto, telecom, specialty steel, solar, electronic, and battery. The stimulus package also provides Rs 650,000 million additional outlays for subsidy towards the fertilisers sector. The stimulus includes a Rs 180,000 million outlay for the housing for all plan, besides having a package of Rs 100,000 million to support the rural economy.

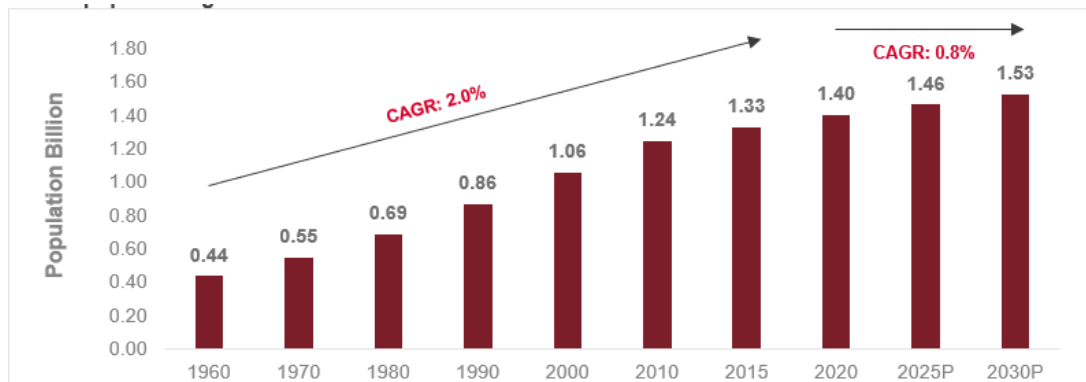
Review of population growth and urbanisation

India's population projected to touch 1,500 million by 2030

India's population clocked ~1.6% CAGR from 2001 to 2011, reaching ~1,200 million, and comprised nearly 246 million households, as per Census 2011.

According to the World Urbanization Prospects: The 2018 Revision by the United Nations, India and China – the top two countries in terms of population – accounted for nearly 37% of the world's population in 2015. India's population is expected to increase at 0.8% CAGR from 2020 to 1,525 million by 2030.

India's population growth



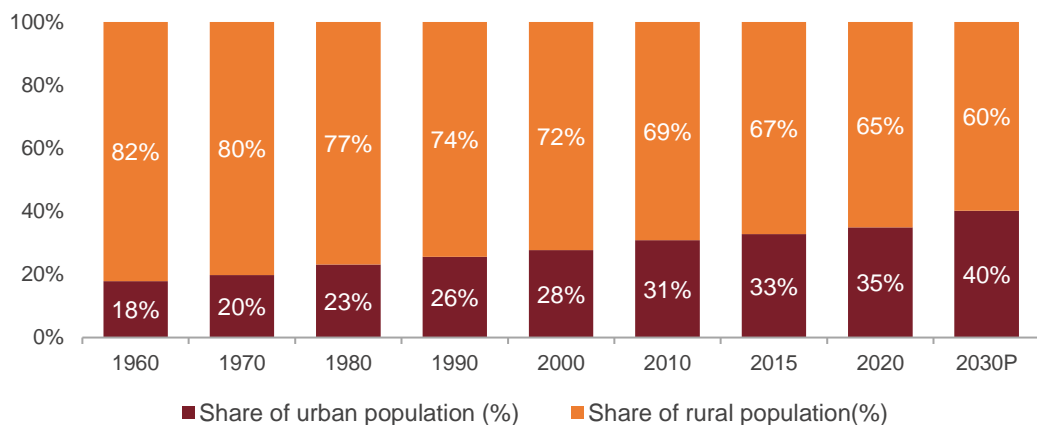
P: Projected

Source: United Nations, Department of Economic and Social Affairs, Population Division (2024); Probabilistic Population Projections Rev. 1 based on the World Population Prospects 2019 Rev. 1; Crisil Intelligence

Urbanisation likely to reach 40% by 2030

The share of the urban population in India's total population has been rising over the years and stood at ~31% in 2010. People from rural areas move to cities for better job opportunities, education and quality of life. The entire family or only a few individuals (generally an earning member or students) may migrate, while the rest of the family continues to live in the native, rural house. This trend is expected to continue, with a United Nations report projecting that nearly 40% of the country's population will live in urban areas by 2030.

India's urban versus rural population



P: Projected

Source: World Urbanization Prospects: The 2018 Revision, United Nations; Crisil Intelligence

Managing urban growth will play a key role in India becoming a developed nation by 2047. Since nearly 70-80% of the urban infrastructure needed by 2047 is yet to be built, sizeable investments will be required in housing, commercial spaces, and public infrastructure. By 2036, India will need to invest USD 840 billion in infrastructure. This infrastructure growth will have to be supported by enhanced public services, improved access to healthcare, efficient public transportation, steady water security and public safety. The increase in urbanization will also increase the need for improving air & water quality, which will in turn give impetus to clean / green / renewable energy initiatives and clean transportation. Today urbanization is not only confined to mega-cities but is also altering the landscape of Tier 2 and Tier 3 cities.

With the rapid rise in urbanization, the demand for personal mobility is growing and demands cleaner public transport solutions. India's transportation sector is undergoing a significant change, spurred by the government's strong push towards clean energy and zero emission vehicles. This is drawing government attention towards electric vehicles, hybrid vehicles and other non-emission technologies.

Hence, there is a growing adoption of electric vehicles in the public sector, which is backed by the establishment of a comprehensive charging infrastructure to ensure smooth transition towards electric mobility. Further government is incentivizing adoption of e-buses through various schemes offered to state governments and State Transport Undertaking (STUs). In August 2023, the Central Government unveiled the PM e-Bus Sewa Scheme, dedicating USD 2.4 billion to facilitate the deployment and operation of 10,000 electric buses in 169 eligible cities. The initiative aims to complete these deployments by 2026.

Metro Rail systems are also crucial in addressing the challenges in urban mobility as they support mass transit aiding the public transport system. During the last 10 years more than 725 km has been operationalized in the country and another 974 km of Metro network is under construction as of October 2024. India has made notable strides extending by becoming the third largest in the world in operational metro network length, operating in 11 states and 23 cities as of January 2025. These projects are growing globally, driven by the need for sustainable urban transportation. On January 5, multiple development projects worth over Rs 12,200 crore were laid in Delhi, including the inauguration of the 13 km stretch of the Delhi-Ghaziabad-Meerut Namo Bharat corridor, which will greatly ease travel between Delhi and Meerut.

Review of private final consumption growth

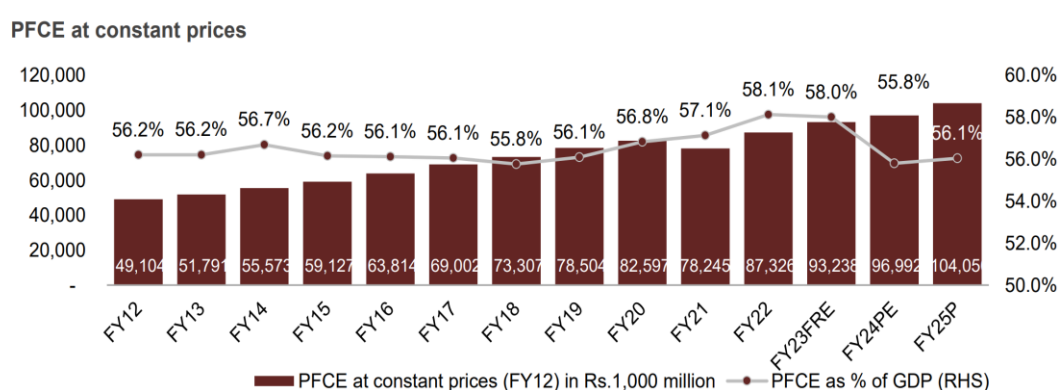
Private final consumption expenditure to maintain dominant share in GDP

Private final consumption expenditure (PFCE) reflects the overall consumption patterns and spending capacity of households within an economy. When PFCE increases it often translates to increased demand for various goods and services.

PFCE at constant prices clocked 6.0% CAGR between fiscals 2012 and 2023, maintaining its dominant share in the GDP pie, at 58.5% or Rs 93,587,000 million as of fiscal 2023. Factors contributing to the growth included good monsoons, wage revisions due to the implementation of the Pay Commission's recommendations, benign interest rates and low inflation.

That said, PFCE had declined to Rs 78,245,000 million in fiscal 2021 from Rs 82,597,000 million in fiscal 2020 on account of the pandemic, when consumption demand was impacted on account of strict lockdowns, employment loss, limited discretionary spending and disruption in demand-supply dynamics. PFCE increased 6.8% to Rs 93,238,000 million in fiscal 2023 but remained at 58.0% as a % of GDP. This was because the pandemic had an adverse impact on personal expenditure and government spending increased in an effort to boost the economy from the Covid-19-induced slump.

PFCE at constant prices



PE – Provisional Estimate

Source: Second Advance Estimates 2023-24, MoSPI, Crisil Intelligence

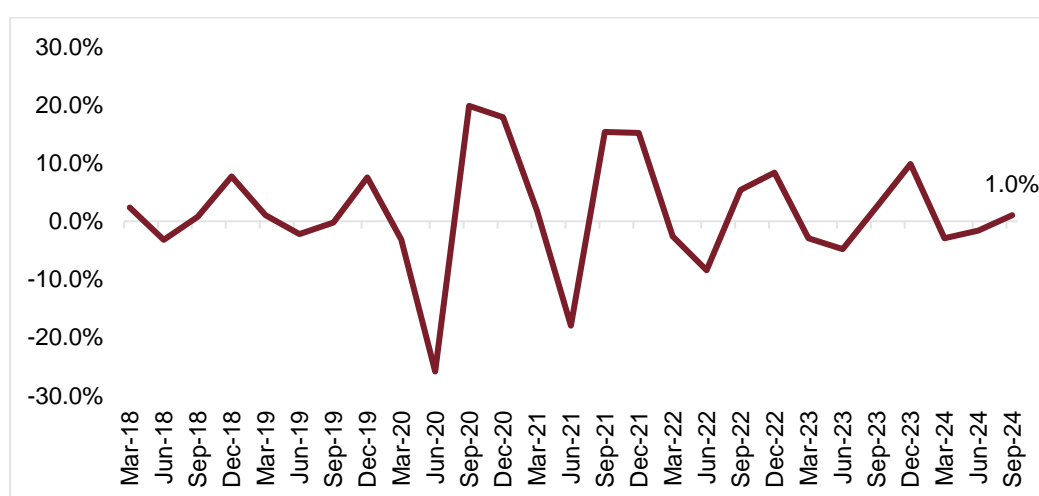
Private final consumption expenditure (PFCE) moderated to 6.0% year-on-year in the second quarter of fiscal 2025 from 7.4% in the previous quarter. High frequency indicators suggest weaker urban demand is likely to have led the slowdown. Elevated food inflation has been exerting a substantial strain on the finances of lower-income households in rural and urban areas. It has led to lower sales growth of discretionary items such as fast-moving consumer goods (FMCG). The urban economy faced a

double whammy of high inflation and slowing credit growth. The latest Reserve Bank of India's (RBI) survey released in October indicated consumer confidence in urban areas moderated on average in the second quarter versus the previous one, with price levels being one reason. PLFS (Periodic Labour Force Survey) data shows urban wage growth was becoming sluggish over fiscal 2024, particularly for non-salaried workers. Bank retail credit growth, which has a higher footprint in the urban economy, moderated in second quarter of current fiscal following a rise in lending rates.

In contrast, rural wage growth stayed healthy in Q2 of fiscal 2025. This, along with declining job demand under the National Rural Employment Guarantee Act (MGNREGA), indicates improvement in rural conditions in the second quarter. The better monsoon has augured well for agricultural activity. Commentary from key FMCG companies indicates demand in the second quarter was better from the rural economy compared with the urban.

Private consumption accounts for the largest share of GDP, at about 56%, and the rise in discretionary spending will keep private consumption healthy in the coming years.

PFCE quarterly trend for India



Source: Industry, Crisil Intelligence

Outlook on GDP growth

Near-term review and outlook on GDP

Services sector is the key growth driver

In fiscal 2020, the services sector accounted for 55.3% of India's GDP compared with 52.4% in fiscal 2015. However, its share dipped to 52.9% in fiscal 2021 owing to the pandemic.

The industrial sector, which is the second-largest contributor, maintained its share in GDP of ~31%, logging 7.0% CAGR between fiscals 2015 and 2019. Industrial contribution declined in fiscal 2020, with slowdown in economic development. Before overall economic activity slowed down in fiscal 2020, India's industrial sector output growth was supported by the Make in India initiative, rising domestic consumption and GST implementation. The initiatives improved India's position on the World Bank's Ease of Doing Business index to 63 in fiscal 2019 from 142 in fiscal 2014.

The pandemic and subsequent lockdown exacerbated the economic slowdown in fiscal 2021. The services segment was the worst affected and declined 8.4% year-on-year mainly due to the decline in Trade, Hotels, Transport, and Communication services (THTC) by 19.9% and decline in Public Administration, defense and other services by 7.6%, followed by industrial, which declined 0.4% year-on-year. Agriculture was the only sector that grew 4.0% year-on-year and restricted the fall in GDP.

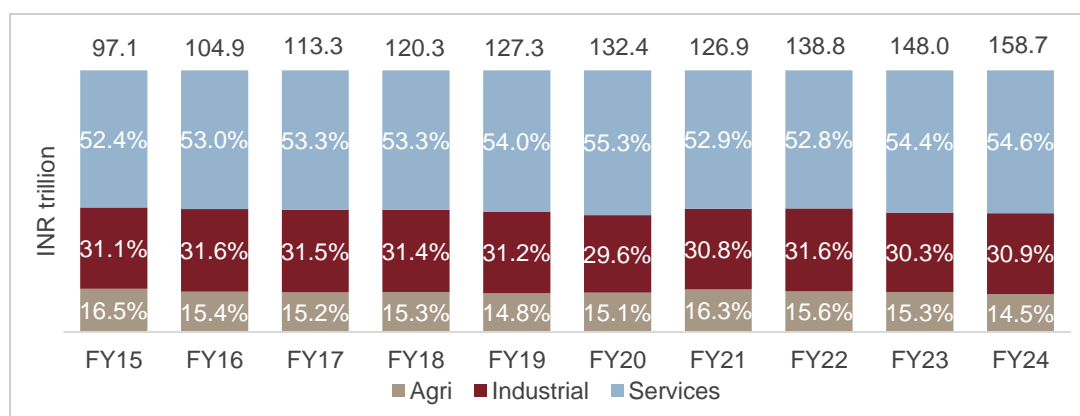
In fiscal 2021, the agriculture and service sector's share in Gross Value Added (GVA) at constant prices expanded, while the share of the industrial sectors contracted.

In fiscal 2022, agriculture GVA grew at a rate of 4.6% and the industrial sector grew by 12.2% on a

low base of fiscal 2021. Whereas the service sector grew by 9.2% year-on-year. This helped GDP to grow by 9.7%

Agriculture GVA continued to grow at a steady 4.7% in fiscal 2023. Faster GDP growth in fiscal 2023 saw the share of agriculture increase in the fiscal. The share of industrial sector in GDP grew 4.7% in fiscal 2023, strongly due to utility services and construction with 9.4% growth, which was higher than all other industrial sectors. Mining grew by 1.9%, while manufacturing saw a marginal drop from a high base of fiscal 2022. The high base of fiscal 2022 led to moderate growth of the industrial sector in fiscal 2023. The services sector grew 10.0% in fiscal 2023. Trade, hotels, transport, and communication services (THTC) saw strong year-on-year growth of 12% in fiscal 2023.

Share of sector in GVA at constant prices



Source: RBI; Crisil Intelligence

GVA growth for agriculture expected to be picked up 3.8% in the fiscal 2025 compared to 1.4% in the fiscal 2024 due to healthy kharif output on account of the normal monsoon. The FAE estimates kharif output to be 5.7% higher in fiscal 2025. Rabi sowing was up by 0.5% compared to fiscal 2024 as per the latest available data, as water reservoir levels remain healthy due to the good rains in fiscal 2025.

Industry is estimated to moderate substantially 6.2% in fiscal 2025 compared to 9.5% in fiscal 2024. Within industry, manufacturing is expected to clock the slowest growth in fiscal 2025 to 5.3% versus 9.9% in the previous year, weighed down by slowing government capex and rising input costs.

Construction GVA, the most labor-intensive sector, is expected to slow amid lower government capex in fiscal 2025 to 8.6% compared to 9.9% in FY2024. Utilities, too, are seen moderating to 6.8% in fiscal 2025 vs 7.5% in fiscal 2024.

Services is estimated to have seen a mild moderation in growth to 7.2% in fiscal 2025 vs 7.6% in fiscal 2024. Within services, financial, real estate and professional services are expected to decelerate 7.3% in fiscal 2025 vs 8.4% in fiscal 2024 on the back of elevated interest rates. Trade, hotels, transport, communication and services related to broadcasting — another labor-intensive sector, particularly in urban areas — are estimated to slow to 5.8% in fiscal 2025 vs 6.4% in fiscal 2024 with the gradual fading of post-pandemic pent-up demand. However, growth in public administration, defense and other services is estimated to have grown 9.1% in fiscal 2025 vs 7.8% in the previous year.

GVA growth is estimated to pick up for agriculture and allied to 4.9% in the second half fiscal 2025 vs 2.7% in the first half of fiscal 2025, and industry 6.4% in the second half of fiscal 2025 vs 6.0% in the second half of fiscal 2025. The former will be buoyed by a healthy rabi harvest, while the latter will benefit from improving domestic demand and exports. Services growth is also expected to pick up slightly led by professional services exports 7.3% in second half of fiscal 2025 vs 7.1% in the first half of fiscal 2025. On the other hand, construction is expected to slow 8.1% in the second half of fiscal 2025 vs 9.1% in the first half of fiscal 2024, on the back of lower investment growth.

Industry is expected to decelerate substantially to 6.2% in fiscal 2025 versus 9.5% in the previous fiscal; services is seen slowing slightly in fiscal 2025 to 7.2% compared 7.6% for the same period last year. In contrast, agriculture is expected to improve substantially to 3.8% in fiscal 2025 compared to 1.4%

in the previous year.

On the demand-side, private consumption is expected to emerge as the primary driver of growth 7.3% in fiscal 2025 compared to 4.0% in the previous fiscal, spurred by a recovery in rural demand because of better agricultural prospects. As a result, private consumption's share in GDP is estimated at 56.3% this fiscal, compared with pre-pandemic decadal average of 56.1%, a normalization after the drop witnessed last fiscal.

Investments, as measured by gross fixed capital formation, are estimated to moderate 6.4% in fiscal 2025 vs 9.0% in fiscal 2024 because of weaker government capex and an insufficient pick-up in private investment.

Government consumption expenditure is also expected to be higher 4.1% in the fiscal 2025 vs 2.5% in the fiscal 2024.

Private consumption is estimated to grow better 7.9% in the second half of fiscal 2025 vs 6.7% in the first of fiscal 2025 as inflation eases, rural demand improves, and the festival and wedding season acts as a tailwind. Government consumption expenditure is also expected to increase considerably 6.1% in the second half of fiscal 2025 vs 2.1% in the first half of fiscal 2025. Investment growth is not expected to pick up 6.3% in the second half of fiscal 2025 vs 6.5% in the first half of fiscal 2025. Exports are expected to rise 6.0% in the second half of fiscal 2025 vs 5.8% in the first half of fiscal 2025, while imports are expected to contract in the second half -3.4% in the second half of fiscal 2025 vs 0.8% in the first of fiscal 2025.

Outlook on GDP

After a strong GDP growth in the past three fiscals, GDP growth is expected to moderate to 6.4% in fiscal 2025. Fiscal consolidation, elevated interest rates and prolonged high food inflation weighed down the economy in the CY2025. Investment faltered given lower government capex and subdued private investments. Consumption improved on a low base, as it had grown less than half the pace of GDP growth last fiscal. Growth became more balanced as rural areas likely fared better than urban areas. However, demand was constrained by tighter credit conditions and high food inflation, particularly in the urban areas.

The FAE indicates quicker growth in the second half. Agricultural growth is likely to accelerate as higher reservoir levels also indicate healthy for rabi output. This should provide stimulus to farm incomes and rural consumption. Higher agriculture production is likely to ease the pressure on food inflation in the remainder of this fiscal, which will boost discretionary consumption. The festival and wedding season is likely to increase consumption in the second half. However, investment's contribution is not expected to increase as private investment remains sluggish.

Crisil Intelligence expect GDP growth to improve to 6.7% in fiscal 2026 in the base case scenario. The Reserve Bank of India's (RBI) rate cuts, lower crude oil prices and a normal monsoon are expected to support growth. While government capex will remain supportive, continued fiscal consolidation implies that investment prospects hinge on a sustained revival in private capex.

Agricultural growth has risen and is likely to increase further due to expectations of a healthy kharif harvest on account of the monsoon being 8% above the Long Period Average at the season's end. Higher reservoir levels also bode well for rabi output. All these factors contribute to boosting agricultural incomes and rural consumption. Additionally, increased kharif arrivals into the market are likely to ease the pressure on food inflation, which has been elevated for several months, eroding the purchasing power of both rural and urban households.

While government capex has rebounded in the second quarter and is likely to pick up further as state capital expenditure revives, investment prospects largely hinge on a sustained pickup in private capex which, in turn, depends on the extent of increase in domestic demand.

Geopolitics will continue to be the key monitorable in the fiscal 2026, given the likely wide-ranging changes the Donald Trump administration is expected to bring about. Exports will have to navigate heightened uncertainties given the likelihood of the US tariffs.

Risks to Growth

Bank credit growth pick up

Bank credit growth rose in December 2024 to 11.5% from 10.6% in the previous month, though it remained significantly lower than the 15.3% growth at the beginning of fiscal 2025.

According to Sectoral data (available till November 2024) showed credit growth was the strongest in agriculture at 15.3%, but it has slowed from the 19.8% at the beginning of the fiscal 2025. Credit growth decline was sharper in personal loans 13.3% in November 2024 vs 17.4% in April 2024 and services 13% in November vs 19.2% in April.

Non-banking financial companies, a key component of services where the RBI has increased risk weights, saw a credit growth of 7.8% in November vs 15.3% in April. Industrial credit growth rose to 8% in November from 6.9% in April, primarily driven by improved growth in credit to large industries

CPI Inflation eases

The Consumer Price Index (CPI) inflation decelerates to 5.2% in December 2024 from 5.5% in November 2024. Food inflation declined to 8.4% in December from 9% in the previous month driven by sharp deceleration in vegetable inflation. Fuel inflation remains negative in December and core inflation was stable at 3.7% for the month of December 2024.

Food inflation, the driver of inflation in fiscal 2025, is expected to ease in the coming quarter as agricultural output has been robust in CY2025. Adequate reservoir levels augur well for rabi production. CPI-linked food inflation has softened in November and December 2024. Early data for January 2025 has indicated a drop in the prices of vegetables and foodgrains.

Bank lending rates above pre-pandemic levels

Most bank lending rates and deposit rates are above their pre-pandemic averages. In December, key rates such as auto averaged 9.74% and housing loan rates averaged 9.15%. Auto loan rates, the one-year marginal cost of funds-based lending rate (MCLR) and deposit rates averaging 9% in December were stable relative to November.

External drag on growth

Global growth is likely to slow down this year because of higher interest rates. Central banks in key advanced economies have maintained policy interest rates in their latest meetings. This, coupled with the improving inflation outlook, will allow the RBI to initiate rate cuts in fiscal 2025. Geopolitical tensions will continue to disrupt global trade.

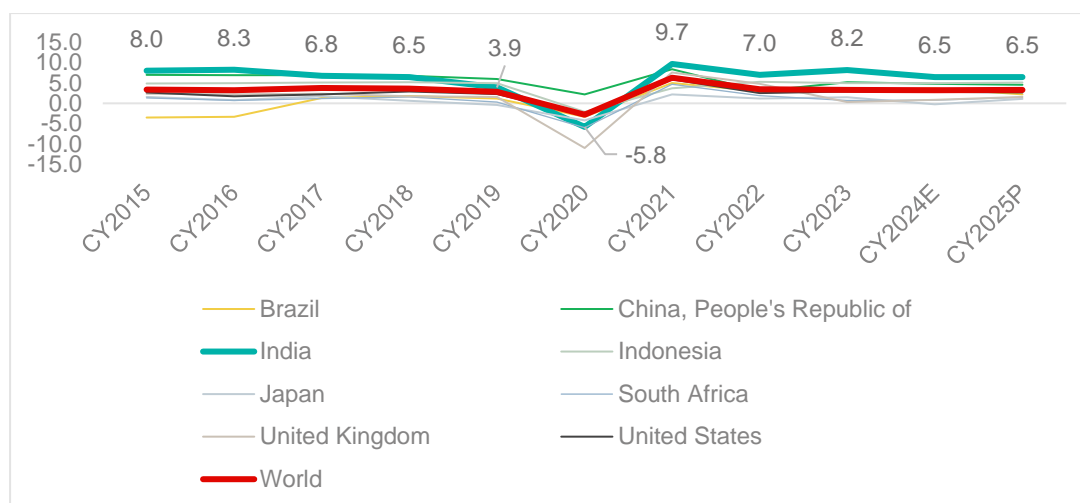
Impact of higher interest rates

The Monetary Policy Committee (MPC) of the Reserve Bank of India kept the repo rate unchanged at 6.5%, the standing deposit facility at 6.25% and the marginal standing facility at 6.75% for the 21st month in a row. The stance retained at 'neutral' during its December 2024 review meeting. The MPC took note of the sharp slowdown in economic growth at 5.4% during the second quarter of fiscal 2025, which is below the MPC's expectations, prompting a 60-bps reduction in its GDP growth forecast. The neutral stance gives it flexibility to change the repo rate in the upcoming monetary policy review, depending on economic data.

India to remain a growth outperformer globally

Despite slowdown in the near term, India's growth is expected to outperform over the medium run. Crisil Intelligence expects GDP growth to average 6.7% between fiscals 2025 and 2029, compared with 3.2% globally as estimated by the IMF.

India is one of the fastest growing emerging economies (GDP growth, % year-on-year)



E: estimated; P: projected

Note: GDP growth based on constant prices

Source: IMF (World Economic Outlook – January 2025 update), Crisil Intelligence

Drivers for India's Economic Growth

- Strong domestic demand is expected to drive India's growth over peers in the medium term.
- Medium-term growth is anticipated to be bolstered by increased capital spending on infrastructure and asset development projects, leading to enhanced growth multipliers.
- The government's future capital expenditures are expected to be supported by factors such as tax buoyancy, simplified tax structures with lower rates, tariff structure reassessment, and tax filing digitization.
- Investment prospects are optimistic, given the government's capex push, progress of Production-Linked Incentive (PLI) scheme, healthier corporate balance sheets, and a well-capitalised banking sector with low non-performing assets (NPAs).

Key factors in budget 2025-26 that can influence medium to long term growth:

- Stronger Consumption Support: Tax relief measures and enhanced allocations for welfare programs like PMAY, PMGSY and MGNREGS (Mahatma Gandhi National Rural Employment Guarantee Scheme) to boost demand and economic activity.
- Sustained Infrastructure Investment: Increased funding for roads, highways, railways, and urban development, driving long-term growth and job creation.
- Government-Led Capital Expenditure: Continued high Capex allocation supporting various industries.
- Employment & Skilling Initiatives: Allocations for new employee generation schemes, vocational training, and opening of 'centres of excellence' will enhance workforce productivity and helps in skilling the youth of the country.
- Push for Innovation & Industrial Growth: Increased R&D funding, incentives for EVs and electronics manufacturing, and export promotion to strengthen India's global competitiveness.

Near-term Review and Outlook on Inflation

Consumer Price Index (CPI) inflation softened sharply to 4.3% from 5.2% in December due to easing food inflation. Food inflation, dipped for the third straight month to a five-month low of 6% from 8.4%. Within food, the easing was led by vegetables inflation, which corrected to 11.3% (from 26.6%), and foodgrains inflation, which eased to 5.5% (from 5.9%).

Consumer Price Index (CPI) inflation softened sharply to 4.3% from 5.2% in December due to easing food inflation. Food inflation, dipped for the third straight month to a five-month low of 6% from 8.4%. Within food, the easing was led by vegetables inflation, which corrected to 11.3% (from 26.6%), and foodgrains inflation, which eased to 5.5% (from 5.9%). On the other hand, fruits and edible oils inflation rose. Edible oils have emerged as a pressure point recently, impacted by high global prices and import duties. In January, inflation in this category surged to 15.6%, a 33-month high. Since ~60% of edible oil is imported, a weakening currency also adversely impacts its price. Non-food inflation (fuel plus core) inched up to a 13-month high of 3.2% but remained in the comfort zone. Core inflation was up 10 basis points (bps) to 3.7%. Fuel inflation was broadly stable compared with December, remaining negative for the 17th straight month, primarily due to retail fuel price relaxations by the government in September 2023 and March 2024.

- Food inflation eased to 6% in January from 8.4% in December, led by softer inflation in vegetables, pulses and cereals. The CPI food price index eased sequentially for the third straight month on a seasonally adjusted basis. In January, food prices declined 1.8% on-month (seasonally adjusted), sharper than the 0.2% decline in December
- Vegetable inflation eased sharply to its lowest value since August 2024 (11.3% vs 26.6%). Sequentially, vegetable prices were down 6.1% (seasonally adjusted). Among the key TOP[1] vegetables, inflation eased to a five-month low of -7% in tomatoes (vs 31.4%) and a ten-month low in potatoes (49.6% vs 68.2%). On the other hand, inflation rose in onions (16.4% vs 10.9%). Non-TOP vegetable inflation eased to 5.6% (vs 22%), led by softer inflation in leafy vegetables (0.7% vs 17.1%), brinjal (-9.9% vs 13.6%), garlic (30.6% vs 58.3%), etc.
- Foodgrain inflation hit a 30-month low of 5.5% (vs 5.9%), as inflation eased in both pulses (2.6% vs 3.8%) and cereals (6.2% vs 6.5%)
 - On-year fall in prices of tur (-0.5% vs 1.5%), moong (-0.2% vs 0.2%) and masur (-0.6% in both January and December) pulled down pulses inflation
 - Cereals inflation was influenced by softer inflation in rice from non-public distribution system (PDS) sources, which eased to a 30-month low (5.8% vs 6.9%). That said, inflation rose in non-PDS wheat (8.8% vs 7.8%)
- Edible oil inflation rose to 15.6% from 14.6%. Within edible oils, the key drivers of higher inflation were refined oil (20.9% vs 19.4%) and mustard oil (19.1% vs 18.7%)
- Fruit inflation rose to 12.2% from 8.6%, driven by hardening inflation in apples (8% vs 3.1%) and bananas (8% vs 5.8%)
- Spices inflation picked up but remained negative at -6.8% (vs -7.4%) due to a waning supportive base effect even as prices fell on-month

Fuel inflation remains negative

- Fuel[2] prices recorded an on-year decline for the 17th straight month in January. Prices fell 1.4% on-year in January, similar to the 1.3% decline in December
- Liquified petroleum gas prices fell 9.3% on-year, unchanged from December
- Inflation in electricity inched up 10 bps to 5.2%
- The pace of deflation picked up in PDS kerosene (-7% vs -5.2%), while it slowed in non-PDS kerosene (-2.6% vs -3.1%)

Core inflation rises a tad

- Core inflation inched up to 3.7% from 3.6%

- Inflation in housing, which has the highest weight in core, rose to 2.8% from 2.7%. Among other essentials, inflation softened in education (3.8% vs 3.9%), while it remained steady in health (4%)
- Personal care and effects saw the sharpest rise in inflation to 10.6% from 9.8%. This category has primarily been influenced by swings in gold inflation in the fiscal. In January, gold inflation accelerated to 26.4% from 24.1%
- Transport and communication inflation rose 20 bps to 2.8%, led by rising inflation in diesel for vehicles (-2% vs -2.1%) and bus and tram fares (1.6% vs 0.9%)

Wholesale inflation eases marginally

Inflation based on the Wholesale Price Index (WPI) marginally eased to 2.3% in January from 2.4% in December, driven by softer food inflation.

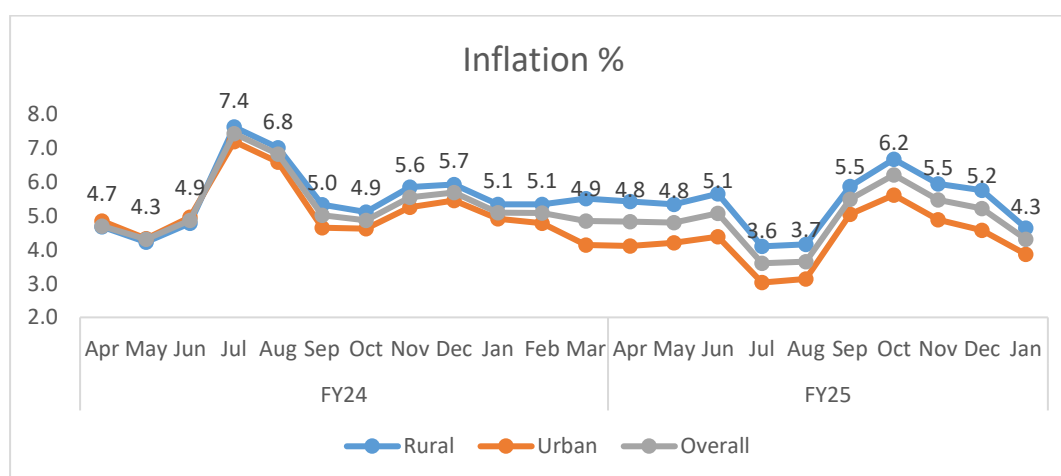
Wholesale food inflation, excluding manufactured foods, moderated to 5.9% from 8.5%. Vegetable inflation softened to 8.4% from 28.7%, led by deflation in tomatoes (-18.9% vs 5.3%), Cauliflower (-14.1% vs 11.6%), brinjal (-9% vs 22.2%) and lady's finger (-7.7% vs 3.8%). On the other hand, inflation in foodgrains rose to 6.9% (vs 6.5%), led by wheat prices, which were up 9.7%, compared with 7.6%. This was offset by non-food inflation turning positive for the first time since August 2024 to 0.2% from -0.3%. Inflation in manufactured products hardened to 2.5% from 2.1%, on account of higher inflation in manufactured foods (10.4% vs 9.7%) and chemicals (1% vs 0.5%). Fuel and power inflation remained negative but picked up from the previous month (-2.8% vs -3.8%). Inflation in coal (-0.4% vs -0.8%), mineral oils (-2.6% vs -3.8%) and electricity (-4.8% vs -5.7%) hardened. Inflation in crude petroleum accelerated (-0.8% vs -6.9%), tracking the rise in global prices.

Crisil's WPI input-output ratio reached a seven-month high of 0.97 in January from 0.95 in December amid easing output prices and rising input prices. Output prices declined 1.6%, driven by a sharp decline in vegetable prices, while input prices rose 0.5%, led by the increase in prices of crude petroleum and mineral oils. That said, excluding food, the input-output ratio was stable at 0.96.

Outlook on inflation

In fiscal 2026, food inflation is expected to ease further supported by a healthy rabi crop, assuming normal southwest monsoon that benefits the kharif crop and expectations of soft global food prices. A high base for food inflation this fiscal will also provide some relief. Non-food inflation could see some more hardening lifted by a low base this fiscal and some impact of a weaker rupee. A sharper-than-expected weakening in the rupee, price shock to global oil prices due to any geopolitical turmoil and risks from climate change could impose upside pressures on the forecast. Overall, we expect retail inflation to moderate to 4.4% in fiscal 2026 from an estimated 4.7% this fiscal.

Inflation %



Source: Ministry of Statistics and Programme Implementation (MOSPI), Crisil Intelligence

Key Structural Reforms in the Indian Economy

Over the past decade, the government has progressively implemented reforms, including notable initiatives such as the Goods and Service Tax (GST), Insolvency and Bankruptcy Code (IBC), and Industrial Production Linked Incentives (PLI), expected to have significant structural impact. Focus has been on physical infrastructure to improve connectivity and reduce logistics expenses by modernizing highways, ports, airports, and railways. Efforts are also made to streamline government subsidy delivery and ensure efficient payment mechanisms. In digital infrastructure, synergies with physical infrastructure are established to optimize digital connectivity and accessibility. Additionally, fast-tracking clearances, reducing corporate tax rates, and easing Foreign Direct Investment (FDI) norms contribute to improving the ease of doing business. Despite progress, ongoing opportunities for further enhancement indicate a continued commitment to reform and improvement.

Improving infrastructure to raise efficiencies in logistics

The government's push has been focused largely on transport-related sectors, such as roads, railways, and urban infrastructure. This is being complemented with policies geared towards improving and integrating different segments of the logistics ecosystem. All these are expected to reduce bottlenecks and improve competitiveness of domestic production and trade via reduced logistics costs and improved connectivity.

- **National Infrastructure Pipeline:** The government has set targets for infrastructure development between fiscals 2019 and 2025. Crisil Intelligence expects aggregate (government plus private) spending on infrastructure to double by 2030, i.e., from ~INR 67 trillion between fiscals 2017 and 2023 to ~INR 143 trillion during fiscal 2024 to 2030, primarily driven by spends on 'core' infrastructure, i.e., roads, railways, airports, ports, urban infrastructure, irrigation, warehouses, and telecom.
- **PM Gati Shakti - National Master Plan for Multi-modal Connectivity or Gati Shakti Scheme,** was unveiled in October 2021, with an objective of curtailing the logistics cost for the country, by coordinating the infrastructure creation activities across different government entities. Major characteristics of the scheme are:
 - Digital platform for coordination across 16 ministries, including roadways and railways
 - 'Gati Shakti' platform will subsume the infrastructure projects announced under the National Infrastructure Pipeline (valued at INR 111 trillion)
 - Existing infrastructure schemes across ministries, such as Bharatmala (Roads), Sagarmala (Ports), UDAN (Air), Inland Waterways, Dry ports etc. will be incorporated in the platform
 - The platform will also provide spatial data and implementation status for different projects
 - Eleven industrial corridors and two defense corridors are also planned in the scheme, covering clusters for textile, pharmaceutical, fishing, electronics, agriculture etc.
- **Key targets set for different heads under the scheme are:**
 - **Ports:** Capacity of the major ports to be increased from 1,282 million tonnes in fiscal 2020 to 1,759 million tonnes in fiscal 2025
 - **National Waterways:** Cargo movement to be ramped from 74 million tonnes to 95 million tonnes during fiscal 2020-25 period
 - **Railways:** Target of 1,600 million tonnes by fiscal 2025, vis-à-vis 1,210 million tonnes in fiscal 2020
 - **MMLPs:** Indian railways will setup 500 multimodal cargo terminals by fiscal 2025

- Others: Gas pipeline length to be doubled from 17,000 Km to 34,500 Km within the country, incremental renewable capacity of ~150 GW, power line capacity target of ~452,000 circuit Km by fiscal 2025
- An integrated platform to monitor the progress of projects and logistics initiatives spanning across different ministries will certainly aid in increasing coordination and planning infrastructure creation and connectivity.
- National Logistics Policy (NLP): National Logistics Policy (NLP) was launched in September 2022 to complement PM GatiShakti National Master Plan (NMP). NLP addresses the soft infrastructure and logistics sector development aspect, including process reforms, improvement in logistics services, digitization, human resource development and skilling. The targets of the NLP are to: (i) Reduce cost of logistics in India; (ii) improve the Logistics Performance Index ranking – aim to be among top 25 countries by 2030 (India was ranked 38 out of 139 countries in 2023), and (iii) create data driven decision support mechanism for an efficient logistics ecosystem. A Unified Logistics Integrated Platform has been set up under this, which, as of September 2023, had integrated 34 logistics portals/digital systems across 33 ministries/ departments, and had over 600 industry players registered. Twenty-one states have also notified their own logistics policies, in line with the NLP.

The infrastructure policies would enhance the logistical efficiency there by strengthening the supply chain for automobiles and auto components. These initiatives will further lower the logistical cost and the lead time in components/automobile transit. In the case of raw materials, this allows various stakeholders in the ecosystem to have a clear understanding of raw material availability and necessary logistics for the same. Thus, these policies augment the efficiency in production and supply.

Decoupling of global supply chains

As traditional supply chains are threatened by large scale global events, rising trends in protectionism and wage inflation, there is a greater need for rethinking supply chain models to remain competitive. In the wake of global disruptions such as Covid, geopolitical crises, environmental disruptions, etc., significant decoupling of supply chains is happening to bring key supply links closer home, particularly the ones situated in China.

To establish collective supply chains that would improve their resilience in the long term, 18 economies, including India, the US and the EU unveiled a roadmap in July 2022 which included steps to counter supply chain dependencies and vulnerabilities. This was done as a part of the ongoing supply chain de-risking strategy of global companies/multinationals, wherein global companies are diversifying their businesses away from their reliance on a single large supplier, to alternative destinations. Beijing's Zero-Covid policy and the resultant disruptions to global supply chains, container shortage and higher lead times have served as an impetus to this strategy.

This reorientation has benefitted other economies in southeast Asia and India. India can take advantage of the same as the enormous quantum of Chinese exports coupled with India's cost advantage in manufacturing, would serve as a highly lucrative opportunity for Indian manufacturers. Realizing this opportunity, the government has introduced many reforms and incentive schemes to increase domestic manufacturing and attract global manufacturing firms to India.

Lowering supply chain dependency on China

India including other nations are actively pursuing strategies to reduce supply chain dependency on China in the wake of pandemic and growing geo-political tensions.

This includes diversifying the supply chain by sourcing inputs from various countries with a goal of reducing the risk of relying on a single country. Furthermore, India is also trying to strengthen the domestic manufacturing environment through various policy initiatives. Key strategies adopted by India to diversify the supply chain includes:

- **Foreign investments:** India is attracting multi-national companies those who are actively seeking to diversify their manufacturing bases away from China. Government is aiding these

companies in terms of tax benefits and incentive schemes. India has also published new policies on FDI to attract investments from various countries across sectors.

- **Domestic manufacturing:** Government is pushing domestic companies to develop products locally and bring certain level of localisation in the products, thereby reduce dependence on China. This involves introduction of initiatives and schemes like Make in India, Atmanirbhar Bharat, China plus one, PMP and PLI.
- **Trade diversification:** India is actively engaging in trade pacts and FTA to diversify their trade partners. Strengthening trade ties with developing and developed economies offers alternatives to sourcing of goods and technology.

To reduce the dependency on China and prepare for potential future supply chain challenges, 14 nations under the Indo-Pacific Economic Framework (IPEF), including the United States, Japan, and India, have reached an agreement aimed at augmenting supply chain resilience and diversification. The agreement involves sharing information with each other and coordinating responses during the time of crises. Under the agreement, the participating countries would establish an IPEF supply chain council, supply chain crisis response network, and labor rights advisory network that will provide a framework to strengthen supply chains and prevent potential disruptions.

Make in India

The 'Make in India' initiative was launched in September 2014 to give a push to manufacturing in India and encourage FDI in manufacturing and services. The objective of the initiative was to increase the share of manufacturing in GDP to 25% by 2020 by boosting investment, fostering innovation, and intellectual property. The other objective was building best-in-class infrastructure for manufacturing across sectors, including but not limited to automobile, auto components, aviation, biotechnology, chemicals, construction, defense manufacturing, electrical machinery, electronic systems, food processing, mining, oil and gas, pharmaceuticals, renewable energy, thermal power, hospitality, and wellness.

To achieve this objective, a dedicated Investor Facilitation Cell was set up to assist investors in seeking regulatory approvals, hand-holding services through the pre-investment phase, execution, and after-care support. Key facts and figures, policies and initiatives and relevant contact details were made available through print and online media. Indian embassies and consulates proactively disseminated information on the potential for investment in the identified sectors in foreign countries while domestically, regulations and policies were modified to make it easier to invest in India.

FDI to India almost doubled to USD 83.6 billion in fiscal 2022 from USD 45.15 billion in fiscal 2015. However, during fiscal 2023, FDI inflow decreased to USD 71 billion (provisional figure). Over the last decade (April 2014 to September 2024), total FDI inflows amounted to USD 709.84 billion, accounting for 68.69% of the overall FDI inflow in the past 24 years. This robust inflow of investments underscores India's pivotal role in shaping the global economic landscape. FDI inflows have received an impetus, as India jumped to the eighth position in the list of the world's largest FDI recipients in 2022 compared with 12th in 2018, according to the World Investment Report 2024. From 2000 to 2024, a total FDI inflow of USD 991 billion was recorded. FDI equity inflow in the manufacturing sector increased by 69%, rising from USD 98 billion in 2004-2014 to USD 165 billion in 2014-2024. In the first quarter of fiscal 2025, FDI inflow reached USD 22.5 billion, a 26% increase compared to USD 17.8 billion in the first quarter of fiscal 2024.

However, the share of manufacturing in GDP has not attained the intended levels of 25%. Hence, additional policies were announced, and targets rolled forward initially to 2022 and then to 2025. Domestically, multiple steps were taken to make sectors more attractive and ease investment processes. Some of the major steps taken included announcement of the NIP and reduction in corporate tax; various sectors such as defense manufacturing, railways, space, and single brand retail have been opened for FDI. Measures to boost domestic manufacturing were also taken through Public Procurement Orders (PPO), Phased Manufacturing Programme (PMP) and Production Linked Incentive (PLI) schemes, etc. Many states also launched their own initiatives on similar lines to boost manufacturing in their respective states. Investments in the manufacturing sector rose 14.1% on average, during fiscals 2022 and 2023. FDI in manufacturing rose to USD 9.3 billion in fiscal 2024, higher than the USD 8.3 billion average in the pre-pandemic decade. The share of manufacturing in

GDP is projected to rise 20% by fiscal 2031.

In Budget 2025-26, government has announced to set up a National Manufacturing Mission covering small, medium and large industries to bolster the 'Make in India' initiative, providing policy-support, execution road maps, and a governance and monitoring framework for central ministries and states. The mission will also support clean tech-related manufacturing. The aim is to improve domestic value addition and build an ecosystem for solar photovoltaic (PV) cells, electric vehicle (EV) batteries, motors and controllers, electrolyzers, wind turbines, very high voltage transmission equipment and grid scale batteries

Foreign Direct Investment (FDI)

FDI plays a pivotal role in economic growth, aiding development and shaping of the economic landscape. Through FDI route, international corporations can invest in India, capitalizing on the country's investment incentives offered by Indian government, including tax incentives and relatively competitive labor costs. This fosters job creation and offers various additional advantages along with facilitating the acquisition of technological expertise from global peers. Government bodies, such as Department for Promotion of Industry and Internal Trade (DPIIT), Reserve Bank of India (RBI) and Securities and Exchange Board of India (SEBI) formulates the regulations, and guidelines for FDI. DPIIT frames and implements policies to promote and regulate foreign investment in India across sectors. RBI manages the monetary aspects of foreign investments and SEBI regulates FDI in the capital market.

There are two FDI routes in India, the Government route and the Automatic route. The Automatic route allows foreign investors to invest in sectors without requiring prior approval from Indian government. Under this route, investors are only required to notify the RBI within a specified time frame. Whereas the Government route mandates prior approval from the Indian government or relevant authorities for investments in India. In April 2020, the DPIIT amended the FDI Policy, that the countries which shares a land border with India which include China, Bangladesh, Pakistan, Bhutan, Nepal, Myanmar, and Afghanistan, can invest only under the Government route. Shortly, it will be mandatory to obtain government approval for investments from these countries. FDI proposals from these countries must go through tight scrutiny and government has set up an inter-ministerial panel to review these proposals. All ministries and departments have been recommended to have dedicated FDI cells to process these proposals quickly. This policy thus restricted entry and expansion of Chinese OEMs including MG and Great Wall Motors in India by restricting them to invest or raise funds from China.

Summary of FDI in key Indian sectors

Sector	FDI Cap	Route
Automobile	100%	Automatic
Airports -Greenfield projects	100%	Automatic
Satellites-Manufacturing & Operation, Satellite Data Products and Ground Segment & User Segment.	74%	Government
Hospitals Sector	100%	Automatic
Defense	74%	Automatic Government route up to 100% if resulting in access to modern technology

Source: DPIIT, PIB

Atmanirbhar Bharat Campaign

Atmanirbhar Bharat Abhiyan or the self-reliant India campaign was launched in May 2020 amid the Covid-19 pandemic, with a special and comprehensive economic package of INR 20 trillion, equivalent to 10% of the country's GDP.

The scheme was launched with the primary intent of fighting the pandemic and making the country self-reliant based on five pillars: economy, infrastructure, technology-driven system, demography, and demand. The stimulus package announced by the government under the scheme consisted of five tranches, intended to boost businesses, including Micro, Small and Medium Enterprises (MSMEs), help the poor (including farmers), boost agriculture, expand the horizons of industrial growth, and bring in governance reforms in the business, health, and education sectors.

The mission emphasizes the importance of encouraging local products and aims to reduce import dependence through substitution. It also aims to enhance compliance and quality requirements to meet international standards and gain global market share. The mission will support in bolstering manufacturing activity in the upcoming EV sector by prioritizing domestic production to reduce import dependency, adopt technological innovation, and create job opportunities within the country.

The government has also rolled out other reforms — namely, supply chain reforms for agriculture, rational tax systems, simple and clear laws, capable human resources, and a strong financial system. These reforms will further promote business, attract investment, and strengthen Make in India initiative.

PLI scheme provides boost to industrial investments in the short-to-medium term

The PLI scheme's primary objective is to make manufacturing in India globally competitive by removing sectoral obstacles, creating economies of scale and ensuring efficiency. It is designed to create a complete component ecosystem in India and make the country an integral part of the global supply chain. Furthermore, the government hopes to reduce India's dependence on raw material imported from China. The scheme is expected to boost economic growth over the medium term and create more employment opportunities, as many of the sectors covered under the scheme are labor-intensive. It will be implemented over fiscals 2022 to 2029. The Production Linked Incentive (PLI) Schemes have made significant strides in transforming India's manufacturing landscape. As of August 2024, actual investments totaled Rs. 1.46 lakh crore have been realized. These investments have already led to a remarkable revenue of Rs. 12.50 lakh crore, while directly and indirectly generating approximately 9.5 lakh jobs.

The PLI scheme is a time-bound incentive scheme by the government which rewards companies in the 5-15% range of their annual revenue based on the companies meeting pre-decided targets for incremental production and/or exports and capex over a base year. The stronger-than-expected pick-up in demand and larger companies gaining share over smaller companies led to revival of capex in fiscal 2022. The rise in fiscal 2024 was on account of the expansion plans underway by India Inc.

Construction spending across industrial investments are seen rising 6-8% in fiscal 2024, driven by expansion in the oil and gas and metals segments. The growth is on a low base of fiscal 2023 where the sector faced a slight bump owing to geopolitical issues in the previous two fiscals. However, the PLI scheme is expected to provide the necessary boost to the sector.

In Budget 2025-26, government has increased its allocation to the PLI scheme to ~ Rs. 17,517 crore for fiscal 2026, aimed at driving growth across industries and enhancing competitiveness. The increase in outlay is notable for electronics (accounting for over half of the allocation), textiles, white goods and IT hardware sectors. Capex is expected to peak in the next two fiscals, followed by incentive payouts, which will support the growth of Indian businesses and reduce import dependence.

Budgeted incentives for each sector under the PLI scheme in budget 2025-26

Sector	Segment	FY26 Budget Estimates (INR Crore) *	
Automobile	Advance chemistry cell (ACC) battery	156	2,975
	Automobiles and auto components	2,819	
Electronics	Mobile manufacturing and specified electronic components	8,885	9,445
	Electronic/technology products/IT hardware	115	
	White goods (ACE and LED)	445	
Pharma and medical equipment	Critical key starting materials/drug intermediaries and active pharmaceutical ingredients	40	2,445
	Manufacturing of medical devices	105	
	Pharmaceutical drugs	2,300	
Food	Food products	1,200	1,200
Textile	Textile products: man-made / (MMF) and technical textiles	1,148	1,148
Steel	Specialty steel	305	305
Aviation	Drones and drone components	-	-
Total			2,192

Note: ACE: Appliance and consumer electronics; LED: Light-emitting diode

Source: Budget Document 2025-26, Crisil Intelligence

An outlay in the Union Budget 2025-26 of INR 2975 Crore has been done for automobiles, auto components and ACC:

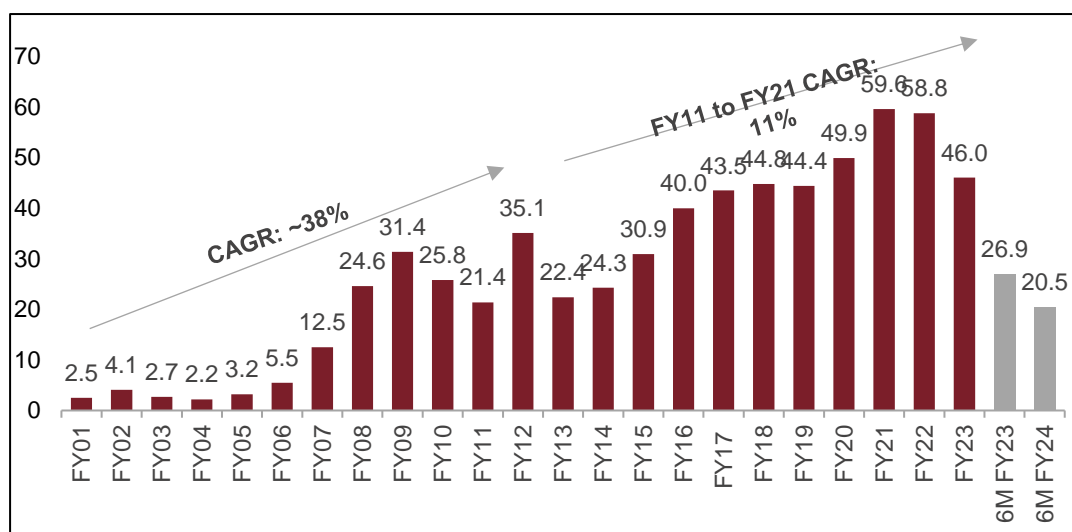
- INR 2819 Crore allotted for enhancing India's manufacturing capabilities of automobile and auto component industry - Advanced Automotive Products (AAT). The scheme has two components viz. Champion OEM Incentive Scheme and Component Champion Incentive Scheme. A total of 95 applicants have been approved under this PLI scheme.
- INR 156 Crore under the 'National Programme on Advanced Chemistry Cell (ACC) Battery Storage' for achieving manufacturing capacity of 50 Giga Watt Hour (GWh) of ACC. Four companies have been selected till date for incentive under the PLI Scheme for ACC battery storage.

Past trends in foreign direct investment (FDI) inflows

Under the new foreign investment policy, the Government of India constituted the Foreign Investment Promotion Board (FIPB), whose main function was to invite and facilitate foreign investments. The FIPB ceased to exist as per the decision taken by the finance ministry in 2017. The government has now empowered individual departments to clear FDI proposals in consultation with the Department of Industrial Policy and Promotion (DIPP) within the set timelines. From a baseline of less than \$1 billion in 1990, India has become one of the most important FDI destinations in the world.

FDI inflows in India grew rapidly at ~17% CAGR to \$49.9 billion in fiscal 2020 from \$2.5 billion in fiscal 2001. The pace of growth was faster from fiscals 2001 to 2009 (~38% CAGR), but the global slowdown affected investments in fiscals 2010 and 2011. During fiscal 2021, India recorded highest ever FDI inflows of \$59.6 billion, up ~20% on-year. Fiscal 2023 has recorded \$46.0 billion FDI inflow which is ~22% lower than fiscal 2022. Continuing its downward trend FDI inflows declined by 24% to USD 20.5 billion during the first six months of fiscal 2024.

FDI equity inflows to India (\$ billion)



Source: DIPP, Crisil Intelligence

According to the quarterly factsheet on FDI prepared by the DIPP up to the fourth quarter of fiscal 2023, Mauritius was the leader in cumulative FDI inflows over April 2000 to March 2023 with a share of 26%, followed by Singapore (23%), United States (9%), Netherlands (7%), Japan (6%) and United Kingdom (5%). During the period, services sector accounted for 16% of the cumulative FDI inflows, followed by computer software and hardware (15%), telecommunications (6%), trading (6%), automobile (5%) and construction development (5%). FDI inflows in fiscal 2023 stood at \$46.0 billion, registering a significant decline over fiscal 2022 levels.

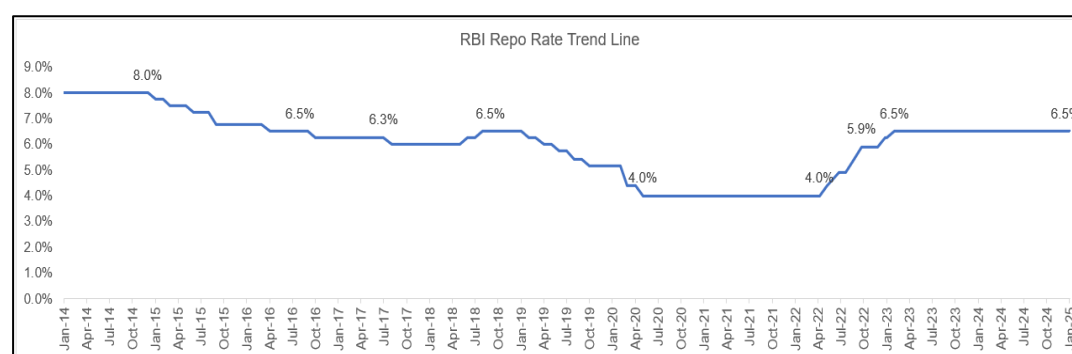
Past trends in RBI repo rates and MCLR of Banks

The Monetary Policy Committee (MPC) of the Reserve Bank of India (RBI) kept policy rates unchanged for the eighth straight time in today's meeting. Amid domestic economic growth exceeding expectations, the MPC remains focused on inflation risks and any external shocks. The committee also maintained its stance of 'withdrawal of accommodation'

Highlights from June monetary policy review

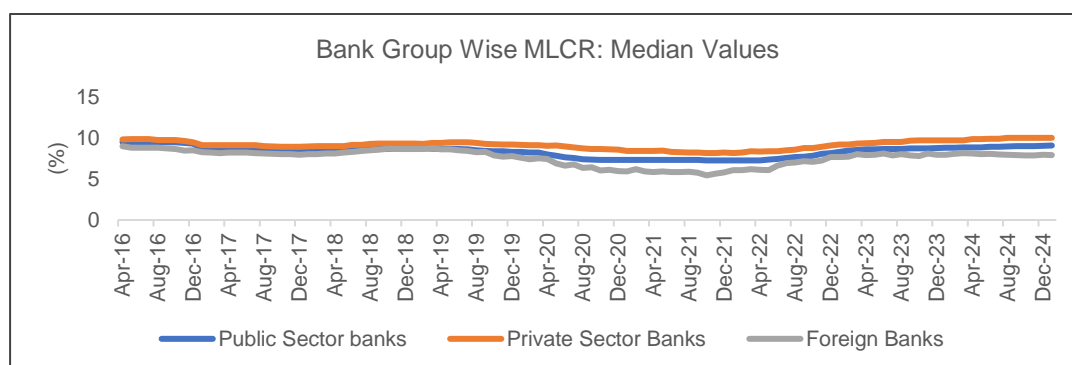
- The MPC voted to keep policy rates unchanged. However, the members in favour of this pause reduced to four from five earlier, with two members voting for a rate cut
- The repo rate remains at 6.50%, standing deposit facility at 6.25% and marginal standing facility at 6.75%
- There was also status quo on 'withdrawal of accommodation' stance, with a 4-2 majority vote vs. 5-1 previously
- The MPC retained its forecasts for CPI-based inflation at 4.5%, as the previous meeting

RBI Repo rate trends



Source: RBI, Crisil Intelligence

Marginal cost of fund-based lending rate (MCLR) of banking sector



Source: RBI, Crisil Intelligence

REVIEW OF INFRASTRUCTURE IN INDIA

Trend of Infrastructure spending in India

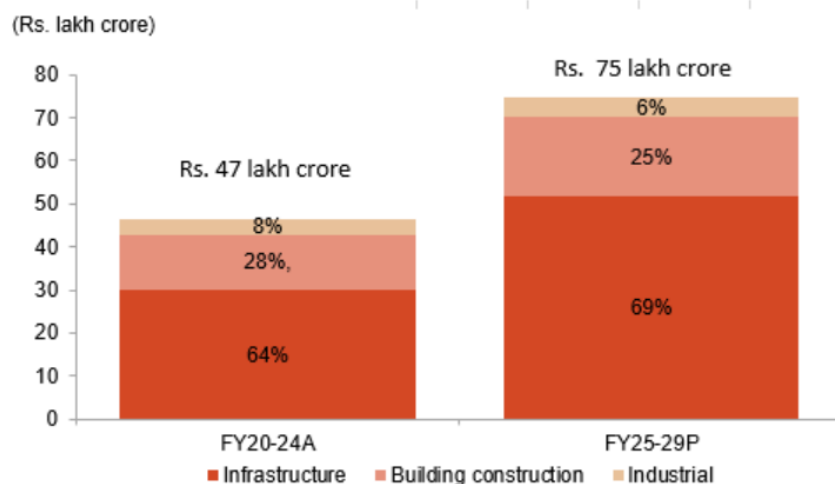
Infrastructure is universally acknowledged as a key driver of growth. To improve India's global competitiveness, creating new and upgrading existing infrastructure will be critical along with introducing a slew of reforms. Infrastructure development is labour intensive, leading to increase in employment opportunities and thus, fueling domestic demand. All of this together can aid in initiating a virtuous cycle of higher investments, growth, and employment generation in the economy.

The construction sector is projected to grow at 7-9% in fiscal 2025 with major contribution by infrastructure segment given the rising investments and focus by central and state government capex

coupled with schemes such as NIP, NMP and gati shakti initiatives on a rising pace.

Construction capex recorded to have risen by 13% on year in fiscal 2024 led by infrastructure segment to Rs 12 lakh crore. The rise is in keeping with the Govt's focus on infrastructure as visible in rising central and state budget allocations to capex in order to meet the infra build out outlined in the NIP.

Overall construction investments



Note: A: Actual, P: Projected

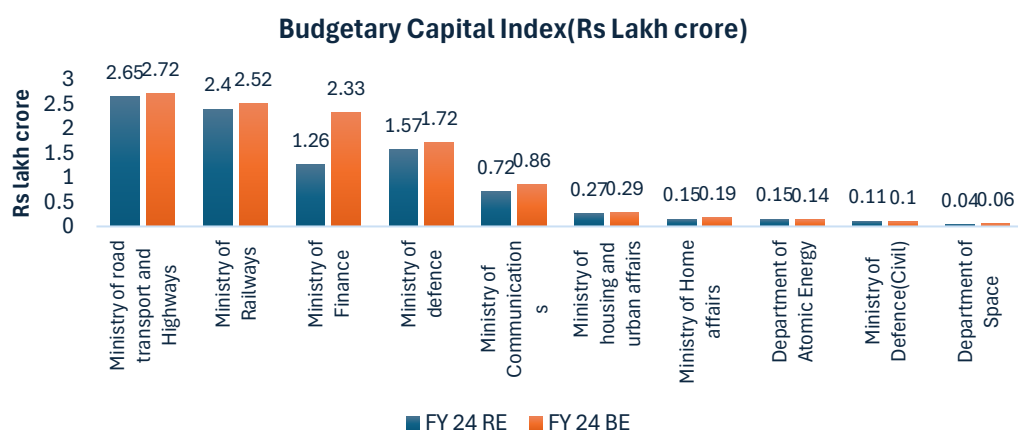
Source: Crisil Intelligence

Key areas of Infrastructure spending

Key infrastructure areas include expanding and modernizing the railway network, developing smart cities, improving road connectivity, and supporting the renewable energy sector.

The following chart shows the top 10 ministries/departments which account for almost 98% of budgetary capex of 11.1 lakh crore this fiscal year. Ministry of road transport and highways continued to get the highest capex allocation in the budget (24.5%), followed by Railways (22.7%), Ministry of finance (21.1%), Defence (15.5%), and Ministry of communications (7.7%).

Infrastructure to continues to get bulk of the capex



Note: Significantly higher capex allocation to ministry of finance is largely a reflection of a) state capex loans that are routed through the ministry and are budgeted to rise to 1.5 lakh crore in fiscal 2025, from Rs 1.05 lakh crore last fiscal and b) a large capex budgeted under a new head, details of which remain unclear

Source: Budget 2024-25, CRISIL INTELLIGENCE

Apart from supporting investments in the economy through its own infrastructure spending programmes. The budget has also been trying to incentivise private sector investments in several sectors through the PLI scheme.

The government has also announced steps such as reduction in corporate tax rate on foreign companies to 35% from 40%, abolition of angel tax and increase in basic customs duties in some cases (to incentivise domestic production). At the same time, import tariffs have been cut for some segments, which will support value addition in those areas and can eventually lead to capex. All these steps should provide some push to the private investment in the economy.

Road construction investments to grow in fiscal 2024 driven by high value expressways.

Investments in roads to rise 10-12% on-year in fiscal 2024 led by a strong pipeline of awarded and under execution national highway projects, execution of higher value expressways and recovery in state road investments. Investments in National highways led by expressway execution are projected to rise 16-18% while state road investments are projected growing 8-10% in fiscal 2024. Investments in roads in fiscal 2023 are estimated to have recorded a 22% rise with healthy central government capital expenditure by MoRTH. With achievement of targets under PMGSY, rural roads expected to decline by 8-10% in FY24 on a high base of FY23.

Road projects augur well for construction players, as nearly all funds (save those used for land acquisition) are channelised into construction. Investments in road and highways, is forecasted to nearly double over fiscals 2023-27 compared to fiscals 2018-22, due to the government's focus on roads, and state and national highways driven by public funds. Around 50% of the projects awarded by the National Highways Authority of India (NHAI) in fiscal 2021 are through the hybrid annuity model (HAM), in which 40% of the total construction cost is paid by the government during the construction period. Thus, more than 75-80% of the total investment expected in national highways will be expensed by public funds (state and centre).

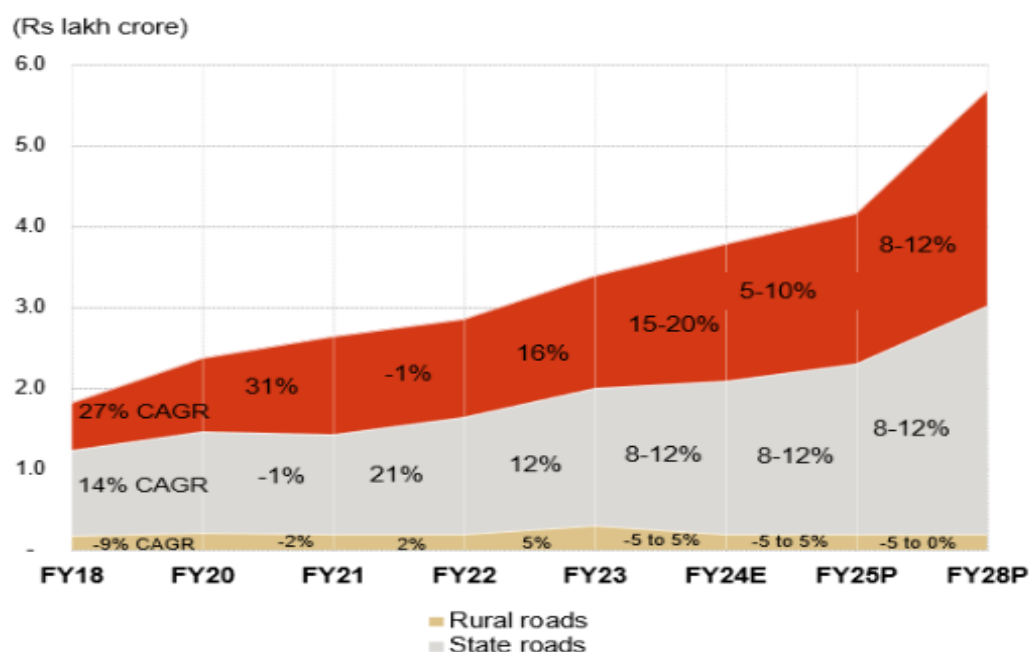
The road sector's growth trajectory remains robust despite a dip in project awards in fiscal year 2024 (FY24). Over the block period from fiscal year 2024 to 2028 (FY24-FY28), capital expenditure in the road sector is anticipated to rise by 70% to 90% compared to the fiscal year 2019 to 2023 (FY19-FY23) period. Between fiscal year 2021 and 2024 (FY21-FY24), capital expenditure in the road sector experienced a compound annual growth rate (CAGR) of 14%. This upward trend is projected to continue, with capital expenditure expected to grow by 10% to 12% year-on-year in fiscal year 2025 (FY25).

Road project awarding and execution are set to gain momentum in the current fiscal year. This acceleration is partly due to the high volume of projects awarded during FY21-FY23. However, project awarding in FY24 was lower than anticipated, primarily due to funding constraints and the impact of general elections during the fiscal year. Despite this, project awarding is expected to regain momentum in the current fiscal year, with an execution pace of 34-36 kilometers per day.

One notable trend in the road sector is the low level of Build-Operate-Transfer (BOT) project awards, which has been negligible in recent fiscal years. However, with the introduction of a new concession agreement and increased government focus on revitalizing the BOT model, the share of BOT projects and private sector participation is likely to increase.

In summary, the road sector shows strong potential for growth in the coming years, supported by robust capital expenditure projections and a solid pipeline of projects. Despite some moderation, the overall outlook remains positive, with a steady increase in project execution and new opportunities for private sector involvement.

Expected spending on Road Construction



E: Estimated; P: Projected

Source: CRISIL INTELLIGENCE

High pace of construction expected to continue in FY25

Execution of National highways in FY24 is seen at 15-16 km daily, surpassing even FY23 levels of 4600 km. National highway construction in fiscal 2021 was the highest achieved, surpassing the execution in FY20. Execution of national highways was 3,979 km in FY20 ~11km/day, led by strong order book backlog and award of appointed dates of delayed HAM projects.

However, pace of execution over the medium term is linked to the NHAI's ability to raise market borrowings to achieve Bharat Mala targets, given the awarding will be largely under EPC and HAM. Crisil Intelligence projects execution of national highways at 5500-6000 km in fiscal 2028 amounting to 15.5-16.5 km per day. NHAI records highest construction pace in FY22.

Further, the government's Bharatmala project envisages construction of 51,000 km of roads in multiple phases along India's borders, coastal areas, ports, religious and tourist places, identified economic corridors, inter-connectivity corridors, and over 100 district headquarters.

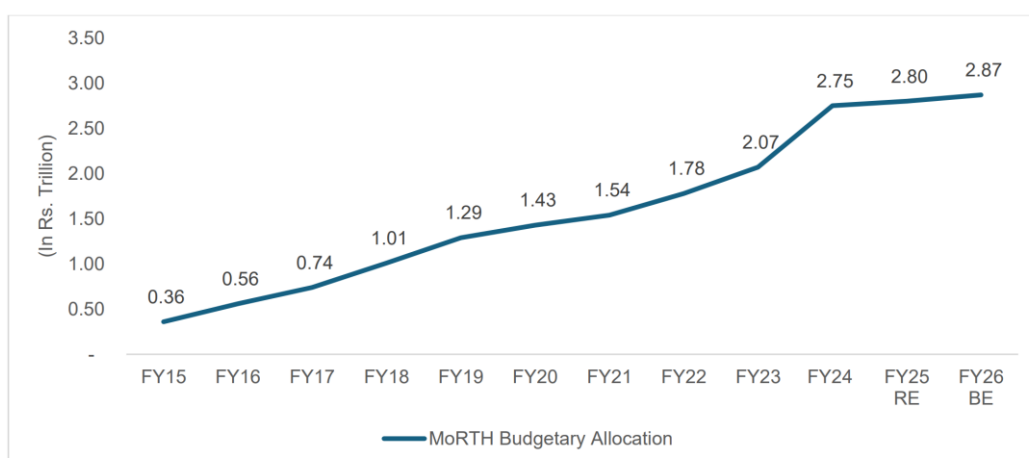
While as per our analysis the government may fall short of its Bharatmala targets, this has empowered new agencies such as the National Highways Infrastructure and Development Corporation Ltd. The government has also increased budgetary allocation to aid execution via the engineering, procurement and construction (EPC) mode as developers overcome their financing constraints. The government has introduced new avenues to finance projects, such as investment trusts and the National Investment and Infrastructure Fund.

Further, the government has introduced policy reforms to boost private participation, including:

- Immediate payment of 75% arbitral awards to contractors by government agencies
- Premium rescheduling of projects to improve developers' cash flow
- 100% exit in build-operate-transfer projects to release developers' tied-up equity and reduce debt
- The NHAI's one-time fund infusion in stalled projects
- Introduction of HAM, wherein most of the project risk is taken up by the awarding authority

Hence, we expect the sectoral momentum to continue, with EPC road projects driving execution in the short term. As a result of policy reforms, private participation is expected to improve over the long term.

Budgetary allocation for capital expenditure in national highways



Note: FY15 to FY24 are actual spending numbers. FY25 is revised estimate and FY26 is budget estimate.

Source: Ministry of Road, Transport & Highways, Crisil Intelligence

While increasing the awarding of road projects will undoubtedly drive construction activity, execution of the projects will be a key monitorable. The overall gross budgetary outlay for the Ministry of Road Transport and Highways doubled from ₹ 1.29 lakh crore in fiscal 2019 to ₹ 2.75 lakh crore in fiscal 2024.

Construction spends in railways to record an increase of 70% in next five years

Crisil Intelligence expects a 5-7% rise in investments in railways in fiscal 2025 led by rise in budget allocation for railways, implementation of high value projects such as the Mumbai-Ahmedabad Bullet train, gaining traction in station redevelopment and completion of the freight corridor. The rise is post a robust rise of 22% CAGR rise in investments in Railways between FY21-24; owing to government focus on completion of DFC projects, traction in high speed rail, investment in newer avenues such as Vande Bharat trains and rising focus on station redevelopment program. A construction capex of Rs 7.3-7.8 lakh crore is seen over the next 5 years compared to 4.5 lakh crore over the past 5 years led by investments in network decongestion, dedicated freight corridors and high-speed trains.

The central government announced a capital outlay of Rs 2.6 lakh crore for the Indian Railways in the Union Budget 2025. The rise is due to planned investments in manufacture of 400 new generation Vande Bharat trains and development of 100 PM GatiShakti cargo terminals for multimodal logistics during the next three years.

Spend over the next five years hinges on the possibility to attract private participation however efforts remain futile.

With construction investments over FY25-29P expected to rise by ~70% over the preceding five years, raising funds through external agencies, IEBR and via PPP would be a key monitorable. The railways had initiated the station redevelopment program and the new cargo policy from 15th December 2021 which should aid the ministry in garnering funds for deployment in its core functions of network decongestion/doubling and electrification.

PPP in railways remains lukewarm

The participative model introduced in the railways in December 2012 comprises five models:

- Non-government private line

- Joint ventures (JVs)
- Capacity augmentation with funding provided by customers
- Build, operate and transfer (BOT)
- Capacity augmentation through annuity

The first three models involve strategic investors or customers, while the BOT and annuity models are pure public-private partnership (PPP). While projects are being implemented through the first three, private participation through BOT and annuity is yet to take off. Three projects have been identified for the annuity route – Bhadrak-Nargundi (Rs 900 crore), Kazipet-Vijayawada (Rs 15,600 crore), and Nagpur-Wardha (Rs 5,500 crore). Unless the government develops robust revenue models and removes bottlenecks related to land acquisition and clearances, significant pick-up in private participation is unlikely.

Even in the case of the dedicated freight corridor (DFC), the government proposes to build the Sonnagar-Gomoh-Dhankuni stretch through PPP. However, no significant progress has been made even after several years of the proposal.

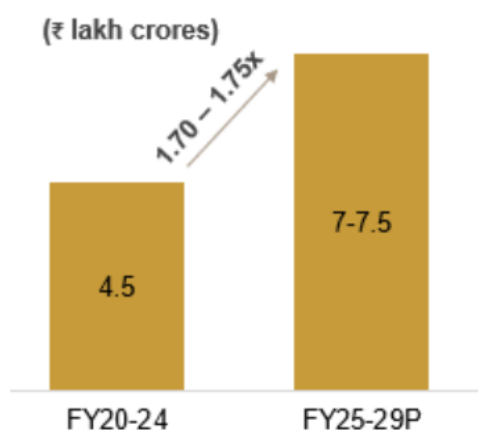
The station redevelopment scheme was expected to be implemented under the PPP program, however, with disbandment of the Indian railway station development corporation (IRSDC) with the stations reverting under the zonal railways, station redevelopment is being explored under the HAM (Hybrid annuity model) where the Railways contribute 40% with the private entity bringing in the balance.

The proposal for running private trains on Government railway tracks despite calling for bids from interested parties saw muted demand, which led to the Railways scrapping the process and calling for a revised model to be drawn up.

With multiple PPP projects seeing no to limited traction, the Railways may have to continue to rely on government funds, multilateral agencies and IEBR for financing its Infrastructure need.

Railways construction capex to increase by 70-75% over block period of FY25-29P as compared to FY20-24

Railway Construction spending



A: Actual; P: Projected

Source: Crisil Intelligence, Union budget document

National Railway plan 2050

Indian Railways have prepared National Rail Plan (NRP) to create a ‘future ready’ Railway system for India. It aims to formulate strategies based on both operational capacities and commercial policy initiatives to increase share of Railways in freight transportation to 45%. The objective of the Plan is to

create capacity ahead of demand, which in turn would also cater to the future growth in demand up to 2050. Total estimated cost of the proposals in National Rail Plan is more than 38 lakh crore.

The key objectives of the National Rail Plan are: -

- Formulate strategies based on both operational capacities and commercial policy initiatives to increase modal share of the Railways in freight to 45%.
- Reduce transit time of freight substantially by increasing average speed of freight trains to 50Kmph.
- As part of the National Rail Plan, Vision 2024 has been launched for accelerated implementation of certain critical projects by 2024 such as 100% electrification, multi-tracking of congested routes, upgradation of speed to 160 kmph on Delhi-Howrah and Delhi-Mumbai routes, upgradation of speed to 130kmph on all other Golden Quadrilateral-Golden Diagonal (GQ/GD) routes and elimination of all Level Crossings on all GQ/GD route.

Infra investments to continue rising in the medium term led by rising urbanisation.

Investments in urban infrastructure are expected to record a 31-33% rise in fiscal 2024 led by investments in Water supply and sanitation under schemes such as Swachh Bharat Mission, Jal Jeevan mission, AMRUT and deferred investments in Metro projects a bulk of which were under implementation and have achieved financial closure. This follows a 20-21 % on-year rise in urban infrastructure investments in fiscal 2023 attributable to rise in investments in WSS, increased focus by government on urban infrastructure projects by introduction of schemes such as smart cities mission and rise in execution of metro projects across 27 cities

Urban infrastructure includes construction-intensive mass rapid transit system (MRTS), bus rapid transit system (BRTS), water supply and sanitation (WSS) projects, smart cities, and related infrastructure development.

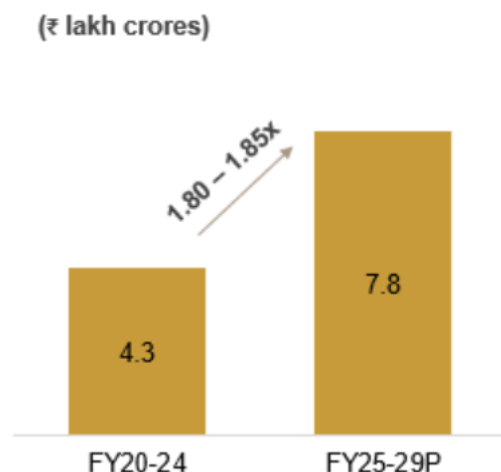
Investments in urban infrastructure recorded a 33% CAGR between fiscal 2020-fiscal 2024 led by investments in Water supply and sanitation under schemes such as Swachh Bharat Mission, Jal Jeevan mission, AMRUT and deferred investments in Metro projects a bulk of which were under implementation and have achieved financial closure.

CRISIL INTELLIGENCE expects ~Rs 7.5-8 lakh crore spends on urban infrastructure between fiscals 2025 and 2029, which is ~80 higher than the amount invested in the previous five years.

Urban infrastructure includes construction-intensive mass rapid transit system (MRTS), bus rapid transit system (BRTS), water supply and sanitation (WSS) projects, smart cities, and related infrastructure development.

CRISIL INTELLIGENCE expects investment in India's urban infrastructure to be driven by government schemes such as AMRUT, Swachh Bharat, Clean Ganga and Jal Jeevan mission. Water supply and sanitation (WSS) projects and metro construction in major Indian cities are expected to boost urban infrastructure investment in the next five years.

Construction spends in urban infrastructure.



Note: A: Actual; P: Projected

Source: CRISIL INTELLIGENCE

Key Policies / budgetary proposals for infrastructure sector

To scale up infrastructure investments in various sectors throughout the country, it is critical to introduce a set of general reforms and also update existing sectoral policies and reforms. This will aid in propelling investments in the infrastructure sector. Some of the key policies and reform initiatives to be undertaken are provided below.

Physical Infrastructure

PM Gati Shakti Scheme:

It aims to ensure integrated planning and implementation of infrastructure projects in the next four years, with focus on expediting works on the ground, saving costs and creating jobs. PM Gati Shakti National Master Plan (PMGS-NMP) was launched on 13th October 2021 for providing multimodal connectivity infrastructure to various economic zones.

PM Gati Shakti National Master Plan provides a comprehensive database of the trunk & utility infrastructure, ongoing & future projects of various Infra structure and Economic Ministries/Departments of Central Government and States/UTs. This data is integrated with the GIS-enabled PM Gati Shakti platform, there by facilitating the integrated planning, designing, and monitoring of the Next Generation infrastructure projects on a single portal.

Economic Zones like textile clusters, pharmaceutical clusters, defence corridors, electronic parks, industrial corridors, fishing clusters, Agri zones etc. are being mapped for integrated infrastructure planning and make Indian businesses more cost competitive. This will boost economic growth, attract foreign investments while de-risking investments by visualizing the connectivity, and enhance the country's global competitiveness in export markets.

While the development of integrated infrastructure development is addressed through the PM Gati Shakti NMP, efficiency in services (like processes, digital systems, and regulatory framework) and human resources is addressed by the National Logistics Policy, 2022 through its Comprehensive Logistics Action Plan (CLAP). NMP and National Logistics Policy together provide a framework for creating a data-driven decision support mechanism for an efficient logistics ecosystem aimed at reducing logistics costs and enhancing logistics efficiency in the country.

PM Gati Shakti is a Whole-of-Government approach adopted to facilitate integrated planning of multimodal infrastructure through collaboration among the concerned Ministries. So far, the Logistics Division of DPIIT has conducted 62 Network Planning Group (NPG) meetings to assess the comprehensive area-based socio-economic development of infrastructure projects.

Further, the PM Gati Shakti institutional mechanism has been adopted by States/UTs and NPG meetings are also being organized at State/UT level to assess last and first-mile connectivity gaps and ensure seamless movement of people, goods & services.

PM Gati Shakti is a transformative approach for economic growth and sustainable development. The approach is driven by 7 engines, namely:

- Railways
- Roads
- Ports
- Waterways
- Airports
- Mass Transport
- Logistics Infrastructure

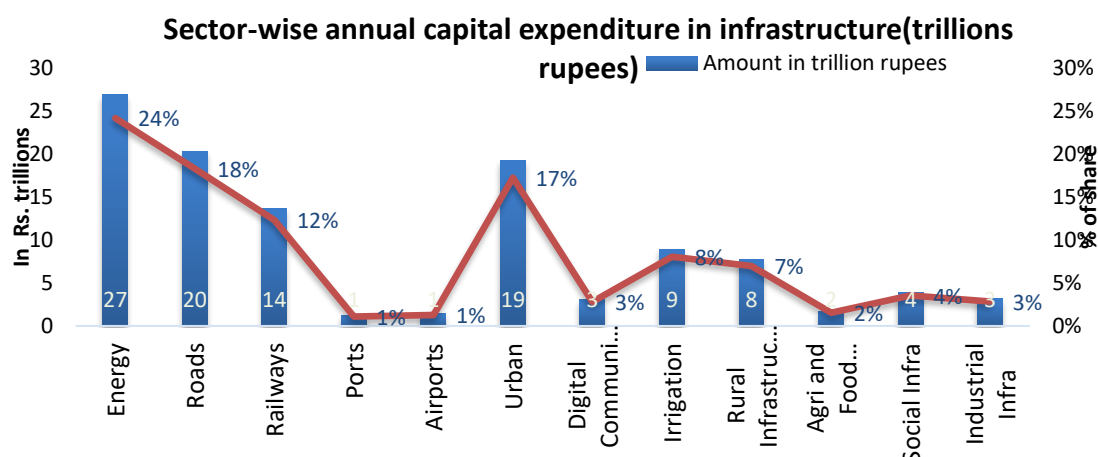
REVIEW OF ROADS INFRASTRUCTURE IN INDIA

Overview of infrastructure sector in India

Developing and modernising the infrastructure sector has been a priority area for the Government of India and has witnessed increasing public investments and budgetary support. Further, the government has undertaken several reforms and initiatives in the infrastructure sector, which has resulted in robust secular growth in most of the segments within the sector.

The roads sector registered a strong pace of constructions by NHAI, growing 6,003 km (16.4 km per day) in fiscal 2023 from 3,071 km (8.4 km per day) in fiscal 2018. Investments in the roads and highways sector rose from Rs 1.7 trillion in fiscal 2018 to ~Rs 2.9 trillion in fiscal 2022, registering ~1.7x growth. Civil aviation has witnessed strong growth as well. India's passenger traffic logged at a CAGR of ~8% from around 165 million in fiscal 2017 to around 209 million in fiscal 2020. In fiscal 2023, passenger traffic stood at 194 million passengers, however international passenger traffic is still below pre-pandemic levels. In the ports and shipping sector, installed capacity of major ports in India increased to 2,456 million tonne in fiscal 2022 from 2,283 million tonne in fiscal 2018.

The government launched the National Infrastructure Pipeline (NIP) for fiscals 2020 to 2025, to boost infrastructure, with a projected investment of Rs 111 trillion during the period. Investments in energy (24%), roads (18%), urban (17%), and railways (12%) will amount to over 70% of the projected capital expenditure during the period. As per an economic survey, NIP will be funded by the central government (39%), state governments (40%), and private sector (21%). The NIP outlines a revised spend of 147 lakh crore which was originally planned over fiscals 2020-2025, a lofty target with focus on public funds to do the heavy lifting. With public funds being constrained due to the impact of the pandemic across fiscals 2021 and 2022, with vaccination, social and healthcare spends to be met. The investments outlined in the NIP are almost double over the previous 5-year plan and the achievement ratio of the 5-year plans have been dropping with rising outlay of capex. Crisil Intelligence projects a 70-75% achievement of the NIP. The balance investments are unlikely to be met till fiscal 2025 and will likely spill over into further years. As per the India Investment Grid website accessed on April 24, 2024, 10,286 projects are under development covering over 56 sub-sectors.



Source: National Infrastructure Pipeline (NIP) , Ministry of finance

The Public Private Partnership Appraisal Committee (PPPAC) set up by the government has been responsible for the appraisal of PPP projects in the central sector. Yearwise project summary of PPAC is tabulated below.

PPAC Project Summary

FY	Number of Projects	Total Project Cost (in Rs. Bn)
FY24	9	490.7
FY23	6	88.9
FY22	6	784.8
FY21	10	1357.5
FY20	8	275.1
FY19	8	97.3
FY18	4	78.5
FY17	9	124.0
FY16	17	286.7
FY15	18	290.7
FY14	25	553.3
FY13	25	256.4
FY12	53	549.6
FY11	31	243.0
FY10	53	578.5
FY9	48	533.8
FY8	13	112.3
FY7	15	65.2

Source: PPP in India (PPPAC projects summary), Crisil Intelligence

In fiscal 2021, the government approved the continuation of the revamped Infrastructure Viability Gap Funding (VGF) Scheme till fiscal 2025. The objective of the revamped scheme is to attract PPP projects and aid private investment in social infrastructure (health, education, wastewater, solid waste management, water supply, etc).

Contribution of roads sector to India's GVA

The share of the roads sector in India's GDP stood at 3.0% in fiscal 2023. The share hovered at ~3.3% from fiscals 2012 to 2022.

GVA share	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Road transport (at constant prices)	3.2%	3.3%	3.3%	3.3%	3.3%	3.2%	3.3%	3.3%	3.3%	2.5%	3.1%	3.0%

Source: MoSPI, National Accounts Statistics 2024, Crisil Intelligence

Road network in India

India has the second-largest road network in the world, spanning 6.345 million km as of fiscal 2024.

Roads, the most frequently used mode of transportation in India, accounted for ~87% of passenger traffic and close to ~60% of freight traffic says MoRTH as of September, 2024. Although national highways span nearly 146,145 km, constituting just 2% of road length, they accounted for ~40% of the total road traffic. The secondary road system comprises state roads and major district roads, which accounted for the remaining 60% of traffic and 98% of road length.

As per the report published by MoSPI in October 2024, in FY23 gross value add of road sector was ~68% among all contributors of output & value added from transport services.

Road network in India in FY24

Road network	Length (km)	Percentage of total length	Percentage of total traffic	Connectivity to
National highways	146,145	~2	40	Union capital, state capitals, major ports, foreign highways
State highways	179,535	~3	60	Major centres within the states, national highways
Other roads	6,019,723	~95		Major and other district roads, rural roads - production centres, markets, highways and railway stations
Total Network	6,345,403	100	100	

Source: MoRTH PIB-05 Jan 2024, MoRTH Annual Report 2023-24, Crisil Intelligence

Total length and break-up of national, state and rural roads (in km)

	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
National highways	97,991	101,011	114,158	126,350	132,500	132,995	136,440	140,995	144,955	146,145
State highways	167,109	176,166	175,036	186,908	186,528	194,900	176,818	171,039	167,079	179,535
Other roads	5,207,044	5,326,116	5,608,477	5,902,539	6,067,269	6,165,660	5,902,539	6,059,813	6,019,757	6,019,723
Total	5,472,144	5,603,293	5,897,671	6,215,797	6,386,297	6,493,555	6,215,797	6,371,847	6,331,791	6,345,403

Source: MoRTH Annual Report 2021-22 and 2022-23, MoRTH PIB-05 Jan 2024, Crisil Intelligence

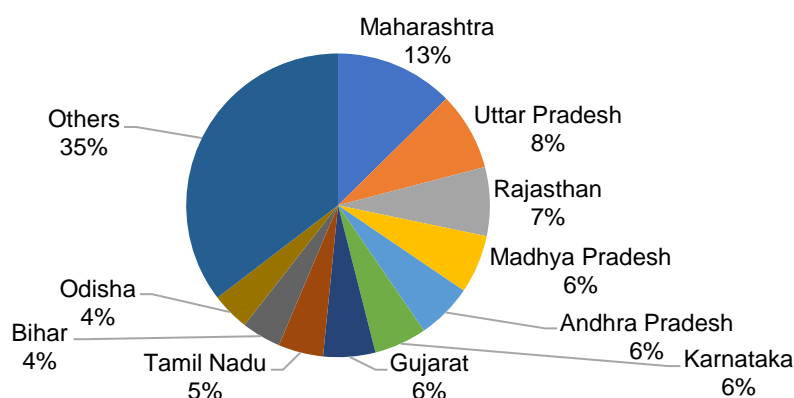
State-wise length of national highways in India as on June 30, 2024

S. No.	State	Total NH length as on March 31, 2014	Total NH length as on June 30, 2024	S. No.	State	Total NH length as on March 31, 2014	Total NH length as on June 30, 2024
1	Andhra Pradesh	4,190	8,683	19	Manipur	1,452	1,840
2	Arunachal Pradesh	2,027	4,367	20	Meghalaya	1,171	1,156
3	Assam	3,634	4,077	21	Mizoram	1,222	1,499
4	Bihar	4,467	6,132	22	Nagaland	741	1,670
5	Chandigarh	24	15	23	Odisha	4,550	5,897
6	Chhattisgarh	3,031	3,620	24	Puducherry	53	64
7	Delhi	80	157	25	Punjab	1,699	4,239
8	Goa	269	299	26	Rajasthan	7,646	10,706
9	Gujarat	4,694	8,099	27	Sikkim	149	709
10	Haryana	2,050	3,394	28	Tamil Nadu	4,975	7,000
11	Himachal Pradesh	2,196	2,607	29	Telangana	2,400	4,926
12	Jammu and Kashmir	1,513	1,935	30	Tripura	509	889

S. No .	State	Total NH length as on March 31, 2014	Total NH length as on June 30, 2024	S. No .	State	Total NH length as on March 31, 2014	Total NH length as on June 30, 2024
13	Jharkhand	2,968	3,633	31	Uttar Pradesh	7,986	12,141
14	Karnataka	6,177	8,191	32	Uttarakhand	2,282	3,664
15	Kerala	1,700	1,858	33	West Bengal	2,908	3,910
16	Ladakh	8,06	806	34	Andaman & Nicobar Islands	300	331
17	Madhya Pradesh	5,116	9,105	35	Dadra & Nagar Haveli	31	37
18	Maharashtra	6,249	18,447	36	Daman & Diu	22	22
					TOTAL	91,287	146,126

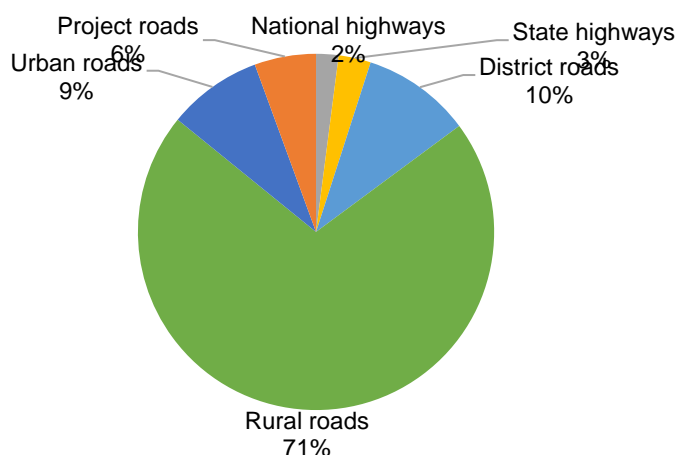
Source: PIB (July 25, 2024), Crisil Intelligence

State-wise share of national highways in India



Source: PIB (July 25, 2024), Crisil Intelligence

Road length break-up by segment as a percentage of total road length in India for FY19



Source: MoRTH Annual Report FY24, Crisil Intelligence

Qualitative overview of maintenance of roads in India

The Pradhan Mantri Gram Sadak Yojana (PMGSY) is a one-time special scheme undertaken by the central government to boost infrastructure in the rural parts of the country, but maintenance of these roads remains a state subject. All PMGSY roads are covered by five-year maintenance contracts.

Maintenance funds to service the contract are to be budgeted by the state government. With effect from fiscal 2017, financial incentives have been given to best-performing states, which show higher achievement on the basis of set parameters. Financial incentives amounting to Rs 10,800 million and Rs 8,400 million were awarded in fiscals 2017 and 2018, respectively, for periodic maintenance to best-performing states.

In fiscal 2017 alone, Rs 5,400 million was credited to the accounts of 20 state rural-road development agencies for carrying out maintenance on these roads, of which, only Rs 3,330 million was spent. In fiscal 2018, Rs 9,400 million was spent on maintenance. Thus, even though execution of new roads under PMGSY is on track, their maintenance remains a key monitorable.

Central Road Infrastructure Fund (CRIF)

The CRIF is funded from the cess collected on the sale of petrol and high-speed diesel (HSD). On every litre of petrol and HSD that is sold, a cess of Rs 6 is collected (since fiscal 2016; previously cess was Rs 2). The fund provides assistance to states for the development and maintenance of state roads, rural roads, national highways, under- and over-bridges, and safety works at unmanned railway crossings. About 11% of the cess collected on HSD and 30% on petrol is allocated towards maintenance of state roads.

Funds allocated for fiscals 2015, 2016, 2017, and 2018 were Rs 26,500 million, Rs 28,800 million, Rs 72,400 million, and Rs 83,100 million, respectively. About 476 projects, amounting to Rs 98,600 million, were sanctioned under the scheme in fiscal 2018, compared with 1,093 projects, costing Rs 123,000 million in fiscal 2017. As per notes published in the public domain on Demand no. 84 and 86 (MoRTH), the amounts transferred to the Central Road and Infrastructure Fund (CRIF) in fiscals 2019, 2020, 2021, 2022 and 2023 (RE) were Rs 200,400 million, Rs 160,900 million, Rs 207,500 million, Rs 394,100 million, and Rs 1,136,000 million, respectively.

In the Union Budget for fiscal 2019, road cess was replaced by the road and infrastructure cess. Previously, road cess was split for NH construction, maintenance, railways, Pradhan Mantri Gram Sadak Yojana, etc., based on a fixed formula.

Development of roads under CRIF scheme

				Projects received	Projects sanctioned/finalised		
Sl. No.	State/UT	No.	Length	Cost (10 million)	No.	Length	Cost
2019-20							
1	Assam	88	1,472	3,507	-	-	-
2	Himanchal Pradesh	20	229	381	-	-	-
3	Kerala	57	485	493	-	-	-
4	Manipur	38	342	264	13	145	132
5	Nagaland	5	152	611	-	-	-
6	Odisha	31	558	928	-	-	-
7	Uttarakhand	2		159	2		174
Total		241	3,237	6,341	15	145	306
2020-21							
1	Andhra Pradesh	77	1,097	1,501	46	676	946
2	Assam	1	89	241	13	201	606
3	Bihar	1	2	205	1	2	205
4	Goa	7	79	98	-	-	-
5	Himachal Pradesh	5	64	107	-	-	-
6	Kerala	8	110	115	-	-	-
7	Madhya Pradesh	1	107	154	1	107	154
8	Maharashtra	284	2,188	2,098	276	2,263	2,231
9	Manipur	23	284	259	-	-	-
10	Mizoram	1	15	99	-	-	-
11	Odisha	25	521	1,001	-	-	-
12	Punjab	12	144	211	12	144	211

				Projects received	Projects sanctioned/finalised		
Sl. No.	State/UT	No.	Length	Cost (10 million)	No.	Length	Cost
13	Rajasthan	32	531	724	32	531	724
14	Telangana	42	523	744	-	-	-
15	Tripura	1	16	16	1	16	16
16	Uttarakhand	2		2,402	3	-	2,777
17	West Bengal	7	136	483	7	136	483
Total		529	5,906	10,457	392	4,075	8,351
2021-22							
1	Andhra Pradesh	13	204	353	-	-	-
2	Arunachal Pradesh	27	294	553	27	294	553
3	Bihar	12	121	873	-	-	-
4	Chhattisgarh	15	316	846	15	316	846
5	Goa	6	75	81	6	75	81
6	Haryana	1	24	99	1	24	99
7	Himachal Pradesh	9	187	368	13	94	238
8	Jharkhand	7	121	496	-	-	-
9	Kerala	69	956	1,307	-	-	-
10	Madhya Pradesh	24	600	1,893	24	600	1,893
11	Maharashtra	276	1,597	2,231	276	1,597	2,231
12	Meghalaya	15	127	257	15	127	257
13	Mizoram	3	34	223	1	10	47
14	Odisha	35	619	1,727	35	619	1,727
15	Punjab	5	24	272	5	24	272
16	Rajasthan	81	1,607	2,046	81	1,607	2,046
17	Tamil Nadu	47	103	582	-	-	-
18	Telangana	48	612	879	48	612	879
19	Uttarakhand	42	370	615	42	370	615
20	West Bengal	6	155	397	-	-	-
21	Ladakh	17	422	297	17	422	297
22	Puducherry	4	41	33	4	41	33
Total		762	8,610	16,428	610	6,833	12,113
2022-23							
1	Andhra Pradesh	60	320	2,682	37	391	1,270
2	Arunachal Pradesh	6	-	64	3	0	33
3	Bihar	29	150	1,846	27	122	2
4	Chhattisgarh	23	133	1373	6	0	315
5	Haryana	14	279	794	11	279	724
6	Himachal Pradesh	5	137	452	1	0	103
7	Jharkhand	16	148	1,289	17	216	1,128
8	Karnataka	22	0	785	22	0	785
9	Kerala	71	981	1,342	37	404	673
10	Madhya Pradesh	43	626	3270	39	651	3047
11	Manipur	26	207	716	-	-	-
12	Maharashtra	146	943	1892	171	943	2978
13	Meghalaya	2	0	0	2	0	0
14	Mizoram	9	0	55	-	-	-
15	Nagaland	52	802	4,455	1	24	93
16	Odisha	10	7	579	6	0	361
17	Punjab	32	370	870	23	372	627
18	Rajasthan	98	1812	3053	14	0	674
19	Sikkim	66	-	476	-	-	-
20	Tamil Nadu	56	103	1376	51	103	1,002
21	Telangana	25	-	1,829	5	0	433
22	Tripura	12	226	321	-	-	-

				Projects received	Projects sanctioned/finalised		
Sl. No.	State/UT	No.	Length	Cost (10 million)	No.	Length	Cost
23	Uttar Pradesh	25	78	1,525	17	80	1
24	Uttarakhand	164	2897	2896	6	1	194
25	West Bengal	18	356	1,025	14	346	997
Total		1,030	10,575	34,965	510	3,932	14,439
2023-24							
1	Andhra Pradesh	-	-	-	3	40	108
2	Arunachal Pradesh	-	-	-	25	88	316
3	Assam	-	-	-	7	76	425
4	Chhattisgarh	-	-	-	1	0	42
5	Goa	-	-	-	1	1	92
6	Gujarat	-	-	-	49	577	1,905
7	Himachal Pradesh	-	-	-	5	73	295
8	Karnataka	-	-	-	317	2,056	2
9	Madhya Pradesh	-	-	-	11	54	698
10	Maharashtra	-	-	-	89	663	2
11	Manipur	-	-	-	8	58	153
12	Nagaland	-	-	-	8	39	103
13	Punjab	-	-	-	1	0	83
14	Rajasthan	-	-	-	112	2,397	4
15	Sikkim	-	-	-	13	33	50
16	Telangana	-	-	-	37	498	977
17	Tripura	-	-	-	6	22	77
18	Uttarakhand	-	-	-	13	439	259
19	Delhi	-	-	-	1	3	9
20	Ladakh	-	-	-	37	469	1,352
Total		0	0	0	744	3,137	6,952

Source: PIB (March 23, 2023, July 25, 2024), Crisil Intelligence

Of the amount collected under CRIF for state roads, 10% is reserved for the development of roads under the following schemes:

Interstate connectivity (ISC)

Under this scheme, 100% funding (not a loan) is provided by the central government. ISC typically encompasses the development of

- Interstate roads
- Roads connecting national highways

Economic importance (EI)

Under this scheme, projects are funded to the extent of 50% by the central government. The state government contributes the rest of the project cost. This scheme is focussed on the development of:

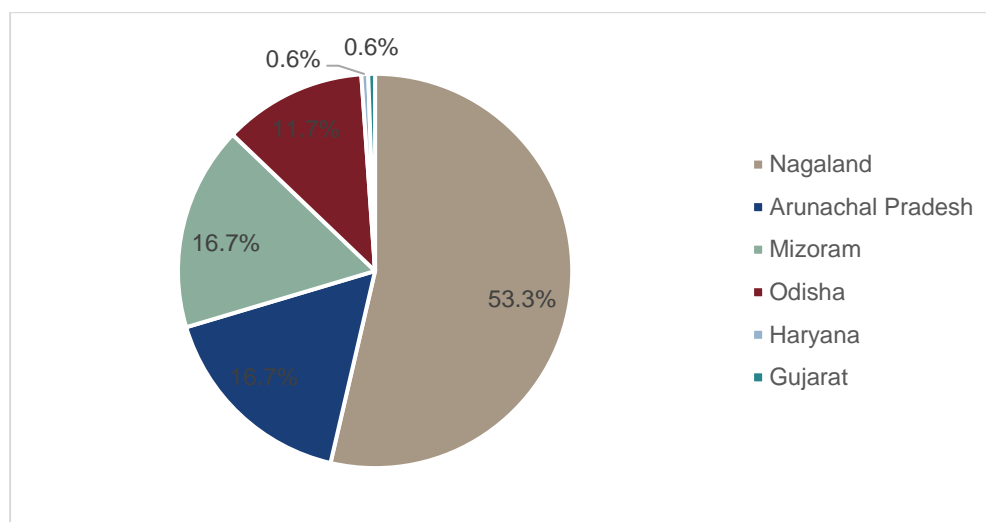
- Roads facilitating connectivity to remote industrial and economic areas
- Roads facilitating the development of remote residential areas, such as those connecting the hilly regions to plains

Funds allocated together under ISC and EI in fiscals 2015, 2016 and 2017 stood at Rs 2,390 million, Rs 3,550 million and Rs 4,150 million, respectively. In fiscal 2018, ~19 projects amounting to Rs 6,600 million were approved under ISC and EI. In fiscal 2019, ~18 projects amounting to Rs 4,740 million were approved.

During fiscal 2023, a sum of Rs 1,900 million had been allocated to various states. As per MoRTH's

letter dated February 9, 2024, Rs 3,000 million had been allocated for fiscal 2024. Additionally, as per the revised letter dated May 21st 2024, of state-wise allocation of funds the revised allotted value stands at a total of Rs 900 million.

State-wise allocation under ISC and EI schemes in FY24



Source: Letter published by MoRTH- 21st May 2024, Crisil Intelligence

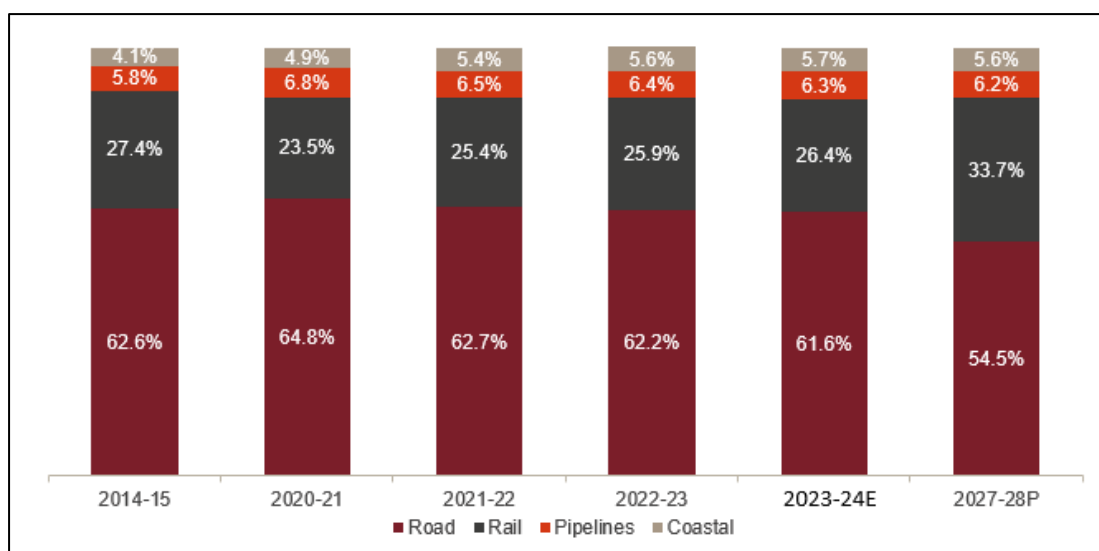
Indian freight traffic scenario

Road Transportation Remains Dominant, but Railways Eye Share with Dedicated Freight Corridors and Higher Road Freight Rates

Roads are expected to remain dominant in transportation, having grown 5-7% in fiscal 2024. Railways are expected to gain share owing to the Dedicated Freight Corridors (DFCs) and higher road freight rates. DFCs are aimed at decongesting India's railway network. It will help carry freight at higher speed with increased load-carrying capacity, up to 6.2 million TEUs (twenty-foot equivalent unit) in total, reducing operating costs in India for rail freight significantly. Roads are typically preferred for non-bulk, high-value commodities. As on July 31, 2024, Railways was still to release traffic metrics. Railways gained share in fiscal 2021 as rail freight traffic was more resilient during the pandemic. The share of railways increased further in fiscal 2022 owing to increased rail capacity, partial commissioning of the DFCs, soaring diesel prices and higher road freight rates. Commissioning of the DFCs will aid in increasing the share of railways in India's freight traffic.

Road freight movement is estimated to have grown 5-7% in fiscal 2024, at a slightly slower pace than that of rail freight movement. In fiscal 2023, road Billion Tonne Kilometres (BTKM) is estimated to have grown ~7%, mainly attributed to higher production across all sectors and government spending focused on investments. However, it is expected that road transport will lose market share to railways in the upcoming years on account of the establishment of DFCs and comparatively higher road freight rates relative to other modes of transportation.

Share of roads in total freight movement (in terms of BTKM)



E: Estimated; P: Projected

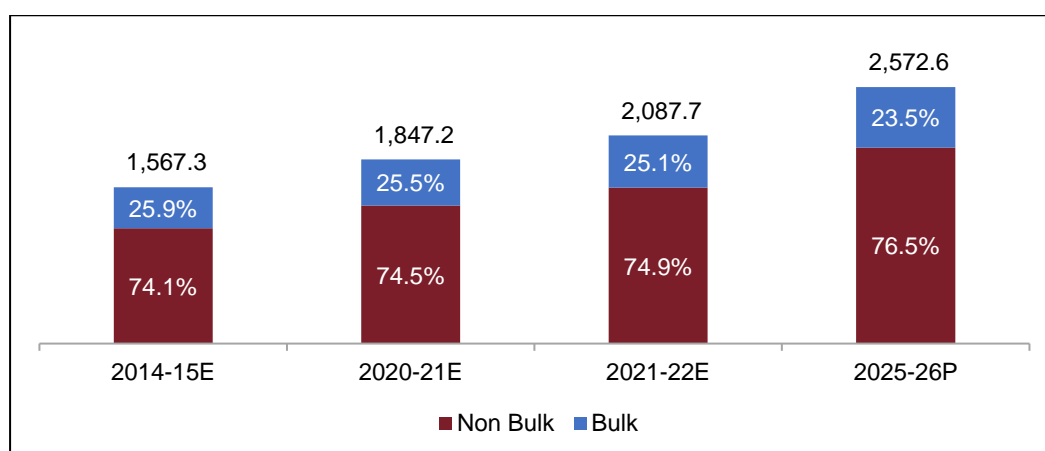
Source: Crisil Intelligence

Roads remain the preferred mode for non-bulk transportation

Roads generally account for a significant share in non-bulk commodity transportation, as:

- Rail does not cater to piecemeal freight transportation. Entire rakes are provided for transportation, and not just single wagons (although Indian Railways is looking into multi-point loading, it would still not attract small-sized cargo)
- Road transport has better service quality and is more reliable
- Road transporters operate on a much smaller scale. Also, given the large number of road transport operators, customers have better bargaining power. These transporters also add a personal touch to their service, which is important, as these commodities are typically expensive and fragile.
- Roads provide end-to-end connectivity and safer handling, which is an important factor while transporting low-volume, but high-value commodities

Roads predominantly transfer non-bulk freight (in terms of BTKM)



E: Estimated; P: Projected

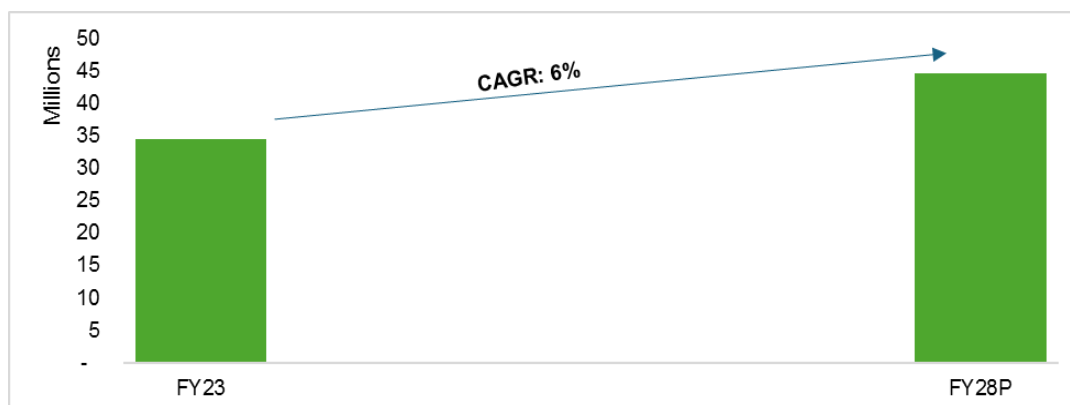
Source: Crisil Intelligence

Vehicle population's historic growth

Market for PVs underpenetrated, offers sizeable potential in the long run

India's car market is extremely underpenetrated compared with most developed economies and some developing nations. As of fiscal 2024, India had ~32 passenger vehicles per 1,000 people. This number is expected to increase to 40 by fiscal 2029, which is significantly lower than the developed nations and even Brazil, Russia, and China (which, along with India, form the BRIC block) based on per capita GDP. Thus, India offers tremendous growth potential for automobile manufacturers. Even while comparing the penetration of cars and UVs across countries based on per capita GDP, India lags most others. We expect this gap to reduce gradually in the long run.

Outlook on passenger vehicles population



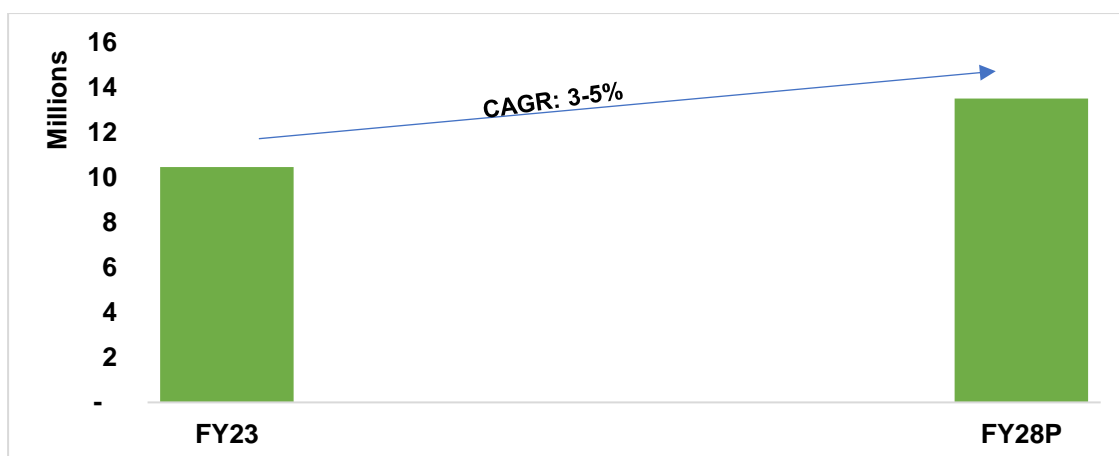
E: Estimated, P: Projected
Source: Crisil Intelligence

Efficiency gains, lower utilisation, and recovery in manufacturing to impact CV population growth in next five years

Manufacturing and construction sectors are the prime factors driving CV demand. Both sectors are expected to perform positively with revival in the overall macroeconomic scenario. The transportation industry enjoyed an increase in available capacity due to axle load norms published in 2018, but this acted as a negative for the CV industry as sales declined due to increased capacity and lower utilisation. Also, post implementation of GST, check posts across state borders have been removed, which has resulted in increase in efficiency of existing fleet on the road.

Improvement in road infrastructure is expected to increase the average speed of trucks, leading to efficiency gain of ~10%. Hence, fewer trucks will be required to move the same quantity of goods, lowering truck demand. On the other hand, increased running of trucks will help improve the competitiveness of the road transportation industry, helping attract more freight. Considering the above-mentioned factors and their future impact Crisil Intelligence expects CV population to log 3-5% CAGR over the next five fiscals. The commercial traffic growth is expected to grow at a faster pace than the CV population due to a higher number of trip possible per vehicle owing to increased efficiency.

Outlook on freight vehicles population growth



E: Expected; P: Projected
Source: Crisil Intelligence

Key growth drivers and emerging trends for road sector

Policy pushes aimed at improving private participation in national highways.

The following are the recent policy changes that the MoRTH and NHAI have undertaken to improve private participation in the sector and increase competition:

- Technical and financial bidder eligibility criteria reduced for HAM and EPC projects, which would promote the entry of smaller players.
- Changes in the hybrid-annuity model (HAM) concession agreement aimed at protecting developers' returns and easing their cash flows during the construction period.
- Changes in the Build-Operate-Toll (BOT) concession agreement to reinstate developer interest in the model.

Apart from this, the government has taken various steps under the Atmanirbhar package to mitigate the impact of Covid-19 on the sector:

- Extension of time (EOT) of up to 3-6 months for all projects and relaxation of milestone achievement
- Monthly payment mechanism, instead of milestone-based payments
- Reduction in performance security from 5% to 3%, release of retention money to the extent of work done.
- Additionally, Covid-19 emergency loan facilities and moratorium on loan repayment up to August 2020
- Extension of concession period for BOT-toll operators, due to toll suspension and restriction in movement during lockdowns

Strong government thrust likely to deliver steady growth in fiscal 2024.

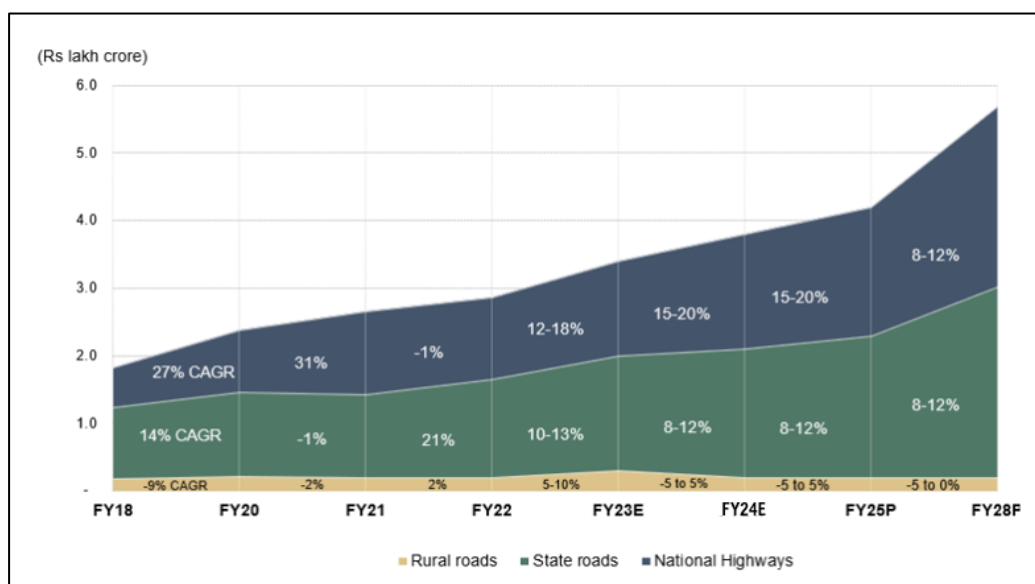
Overall road sector capex, comprising of National Highways, State Highways & rural roads is estimated to have grown at a CAGR of 14% between fiscals 2018 & 2023. This growth, driven by Bharatmala and increased state spends on roads has been achieved despite brief hiccups such as the pandemic and hampered construction due to elongated monsoons. The outlook of the sector also remains firm supported by higher awarding of previous fiscals, Bharatmala, NIP pipeline of DPR ready projects and steady state capex.

The NH segment contributes around 40-45% of the overall capex. While the execution remained flattish

in fiscal 2023 vis-à-vis fiscal 2022, capex grew by 12-18% due to a rise in construction of high value projects and high commodity prices. In fiscal 2024, we expect the national highway capex to grow by 15-20% driven primarily by increased execution.

On the low base of fiscal 2021, the state spends grew by 21% in fiscal 2022 and are estimated to have grown further by 10-13% in fiscal 2023 largely in line with the growth in budgetary outlay. In fiscal 2024, state spends are expected to go up further by 8-12% as their percentage achievement of budgetary allocations are expected to be largely in line with historical average.

Momentum to continue, supported by Bharatmala and NIP pipeline



Note: Capex excludes the land-acquisition costs
Source: NHAI, MoRTH, State budget documents, PMGSY, Crisil Intelligence

Key challenges faced by roads sector in India.

Issues and challenges for roads sector

Given the share of roads in the overall transport of goods and passenger traffic, it is critical to develop the roads sector. Although the government has been continuously making efforts to give a fillip to the sector, several issues and challenges hamper the pace of development.

NHAI trying to reduce risks associated with BOT projects through changes in MCA

In order to improve private participation via the BOT-toll mode, NHAI and the ministry introduced changes to the BOT MCA, aimed at addressing key issues such as land acquisition, revenue assessment in case of traffic shortfall and stuck projects. Key amendments to the MCA are as below:

Land acquisition

- Minimum 90% right of way before issue of appointed date as against 80% earlier, providing more comfort to lenders and developers.
- Balance 10% to be granted within 180 days of appointed date, else it would be removed from the scope of work. Automatic de-scoping clause would enable the developer to receive PCOD/COD on the completed stretch and start tolling.
- Termination clause if appointed date is not received within one year of concession signing date.

Traffic risk

- Revenue assessment of project to be done every five years instead of 10 years (or once in a lifetime of a project) earlier. In case of traffic either exceeding or seeing a shortfall from the target traffic, the concession period would be adjusted accordingly, providing more comfort to lenders and developers.

Stuck projects

- In case the project has not achieved COD one year post its scheduled completion date, the project will be mutually foreclosed, and the authority will pay the concessionaire an amount equal or lower of:

90% of the debt due less insurance cover and

Value of work done

This will prevent dragging of projects that would lead to time and cost overruns, which was witnessed in the earlier BOT era.

Subdued private participation due to limited financial flexibility witnessing strong revival.

Funding constraints and financial stress have thwarted the pace of development in the roads sector. The PPP model for road construction and development acted as a catalyst and provided an impetus to the sector's growth. During fiscals 2008-2012 of the total 10,600 km of national highways completed under the National Highways Development Programme, 50% was funded through the BOT-toll model and 10% through the BOT-annuity model. Rise of PPP in the roads sector has also had some adverse effects. Period of 2007 to 2011 was considered to be the golden age for PPP in the roads sector, wherein the road developers bid aggressively to bag more BOT-toll projects.

In the subsequent years, developers faced viability issues with projects. Issues pertaining to subdued financing, lower traffic, high gearing ratio and delayed execution have stressed their balance sheets. Bidders for PPP toll projects have become limited on account of the said issues. This led to a rise in EPC contracts, but the quality of roads constructed has been usually poor as the EPC contractor has no stake in the roads once these are constructed and handed over to the government. Further, maintenance of roads has been poor after handover to the government since there is no proper accountability on quality in case of state-owned roads. In case of PPP projects, the developer ensures that the roads are in a good condition for a longer period, i.e., the concession period. In the recent years, private participation has revived with the introduction of the HAM model in 2016 and the subsequent favourable changes to the concession agreements in 2020 for the HAM and BOT model.

Delays in project execution and resultant cost overruns

Delays in project execution have posed a major hurdle in the development of the roads sector. Delays lead to significant cost overruns, which lower returns for developers as well as adversely affect their debt-servicing ability. Reasons for delays are numerous and include:

- ❑ Issues in land acquisition
- ❑ Environmental clearances
- ❑ Forest clearances
- ❑ Railway clearances
- ❑ Shifting of utilities, religious structures, and encroachments

It is observed that the duration of delay and cost escalation are on the higher side for projects involving interstate road construction owing to the involvement of different state agencies. NHAI is working towards fast-tracking the resolution of these issues and has established conciliation committees, which target at settling arbitration disputes within 18-20 months (Arbitration Act - amendment in 2019). As per the April 2022 press release, 251 cases have been referred to CCIE and claims worth Rs 387.4 billion have been settled for an amount of Rs 130.6 billion.

Hurdles in bank funding for road projects

Banks are reluctant to fund road sector projects as they are close to the sector exposure limits. Moreover, to ensure delays because of land acquisition do not hinder the progress of a project, they demand 80-100% of the land to be available with the developer at the time the project is awarded. Given the dependence of infrastructure projects on banks for funding, the projects are unable to take off owing to such funding constraints.

Moreover, the stretched working capital cycle in the core construction business of many entities has also strained their liquidity position and increased their dependence on borrowed funds. The operating margins of several road contractors came under pressure because of rising commodity prices (in case of fixed-price contracts) and idling of capacities since execution could not begin on many new projects.

Reluctance to pay toll

Indians have not yet completely accepted the importance of toll for road construction and improvement of service delivery. Also, appeasement of people through provision of subsidies has been a major tool for reaping political gains in the country. There have been several instances of people, backed by political groups, opposing toll plazas. Such instances have not only affected the sentiment of road developers, but also service delivery within the sector.

Policy framework for road sector

Recent policy reforms provide a significant push to the sector

Key policy measures to boost private participation

To encourage and facilitate private sector investment and participation in the roads sector, the central government, via its respective authorities, has undertaken certain policy measures and provided certain fiscal incentives within the sector. The most significant policy reforms in recent times are discussed below.

Amendments to the EPC model concession agreement (MCA)

The key changes are as follows:

- Right of way: Deadline reduced from 240 days to 180 days for approval/ clearances for areas under forest or sanctuary
- If the appointed date is not received within 90 days of signing the agreement, the contract may be terminated, the authority will pay contractor damages = 1% of the contract price to the contractor for each day of delay
- If the project is not completed within 90 days of the scheduled completion date, the contractor would be ineligible to bid for future projects till it is completed
- Lower compensation and longer tenure for the contractor's maintenance obligations. Defect liability period increased from 4 years to 10 years
- Higher interest on mobilisation advances paid to the authority; earlier recovery of mobilisation advance by the authority; release of retention money against bank guarantees discontinued

Impact

- The authority's obligations increased to enable quicker land acquisition
- Developer's working capital needs increased, also responsible for timely project completion

Introduction of the hybrid annuity model (HAM) in 2016

The broad outline of the new model of operation is as follows:

- Of the total project cost, 40% is to be funded by the government, and the remaining by the developer

- The project cost will be linked to inflation
- HAM calls for lower equity contribution from developers (15% compared with 25% for BOT-toll projects)
- Construction support is to be disbursed in five equal instalments of 8% each, and the timing of each such payment will be linked to the percentage of project cost spent by the concessionaire
- Traffic risk will be borne by the government, with developers receiving fixed annuities
- Annuities will be linked to bank rate plus 3%
- 80% of land to be provided prior to the appointed date

Impact of the model

- With land being acquired and other clearances already in place before the appointed date, construction risk is expected to be lower
- Lenders will be assured a steady stream of inflows as traffic risk will be borne entirely by the government
- Low risk and lower capital requirements are expected to attract private players, as well as bankers, towards these projects and gradually help increase private participation in the sector

Impact

The amendment to allow premium payment to begin only in the fourth year of completion will provide developers and lenders a great deal of comfort as interest payments are high in the first three years of operations. The deemed termination of projects will ensure that troubled projects are terminated without delay, thereby avoiding problems that previously existed with prolonged project delays. The amendments, with regard to toll fees and the maintenance of national highways, will provide better protection to highway users.

Exit policy

On August 26, 2015, the Cabinet Committee on Economic Affairs (CCEA) amended its earlier approval dated May 13, 2015, to allow 100% equity divestment after two years of completion for all BOT projects, irrespective of the year of award. The earlier policy allowed such divestments only for projects awarded prior to September 30, 2009. While the earlier policy allowed the funds obtained through such divestments to be used only for the completion of the concessionaire/promoter's other pending BOT road projects, the new policy allows the proceeds to be used to complete any highway project, any power sector project, or also to retire debt in any other infrastructure project. The exit policy has been changed to six months for HAM projects during construction period and remains as two years for BOT projects as per the latest MCA changes in 2020.

Impact

This move will help close stake sale transactions announced in the last one year and help free up developers' capital, which can be used to repay debt or invest in new projects.

NHAI fund infusion

On May 13, 2015, the CCEA permitted the NHAI to infuse funds in projects stuck in advanced stages of completion. Below are the broad contours of the policy announced:

- Government to look at one-time fund infusion for installed projects where 50% work has already been done
- The NHAI to have the first charge on toll revenue

Impact

This policy will improve developers' cash flows through toll collections and also their debt servicing ability. However, as the NHAI will have the first charge on receivables, lenders are hesitant to allow such a fund infusion. Hence, this policy may not have a significant impact in the near future.

Premium rescheduling

In March 2014, premium rescheduling was announced for projects with delays or lower-than-expected traffic. This helped players manage cash flow mismatches, especially at a time when loan tenures were significantly lower than the project life, resulting in cash flow issues. It also helped specifically in the case of aggressively bid projects where premium payments amounted to a very large portion of the total cost. Decision allowing rescheduling of premium payments, i.e. monthly payments due, to be made by developers to NHAI with an escalation of 5% per annum over the concession period.

Substitution

In January 2014, the CCEA approved the proposal to facilitate the substitution of concessioners in ongoing and completed national highway projects. As per the proposal, existing concessioners are permitted to divest their equity in totality in on-going or completed projects. However, subsequent to the substitution, the leading substituting entity will be required to maintain at least 51% equity holding in the project SPV. The decision to permit substitution will be taken by lenders in consent with the NHAI.

De-linking of forest and environmental clearances

In March 2013, the Supreme Court approved the de-linking of forest and environmental clearances. This de-linking is valid only for road widening projects. In a notification in 2011, the Ministry of Environment and Forests had asked for forest clearances before seeking environmental approval. This led to many road projects being stalled in the first stage itself. This judgement in 2013 allows companies to start road widening work with just environmental clearances, without having to wait for forest clearances. However, forest clearances will be necessary for stretches that fall in forested areas.

Relaxation on green nod norms for road widening projects up to 100 km

In June 2013, the environment ministry cleared a proposal allowing for the expansion of highways up to 100 km without environmental clearances. Earlier, approval from the environment ministry was not required for road expansion up to 30 km. The relaxation will also be applicable on existing highways, which require additional 40 m of land for widening. This limit was earlier 20 m.

Payment of 75% of arbitration claims

In August 2016, the ministry introduced a policy with regard to the payment of 75% of arbitration claims to the concessionaires. According to the policy, if an arbitration claim has been awarded in favour of a private concessionaire in a lower court/tribunal and the government agency has appealed against it in a higher court/tribunal, then the private player can receive 75% of the claimed amount. It will have to provide the authorities a bank guarantee of an equivalent amount to the government agency.

As per PIB's publication dated 14th, October 2023, Union Minister for Road Transport and Highways, Shri Nitin Gadkari, held a High-Level meeting with the National Highway Builders Federation to resolve their issues. It was agreed that implementation of Vivad Se Vishwas II Scheme be taken in a campaign mode with a target to settle all eligible claims. NHBF was requested to ensure that all contractors file their claims by 25th October 2023.

The Vivad se Vishwas II (Contractual Disputes) Scheme of Department of Expenditure, Ministry of Finance, Government of India contains detailed procedure / modalities to arrive at the settlement amount that shall be offered to the contractors and where the claim amount is Rs.500 crore or less, procuring entities will have to accept the claim, if the claim is in compliance with the guidelines. In case the claim is more than Rs.500 crore, then the decision of not accepting the request for settlement from the contractor should be done after recording the reasons with the approval of the competent authority. The claims are to be submitted by 31.10.2023 through GeM portal.

The extant guideline is applicable to disputes of all such cases where the award has been passed by the court/tribunal is for monetary value only and the award of the Arbitration is issued up to 31.01.2023 or Court Award is passed up to 30.04.2023.

Secretary for Ministry of Road Transport & Highways, Shri Anurag Jain said that Vivad se Vishwas II Scheme has been formulated to clear backlog of old litigation cases. He said the scheme will help in freeing up locked working capital and stimulate fresh investments.

As per PIB's publication dated 08th February 2024 regarding updates of Vivaad se vishwash II scheme, by February 5, 2024, 120 applications have been received, with 56 applications accepted and settlement offers extended, and 43 offers accepted by contractors. However, 7 applications have been rejected. The scheme's deadline for application submission is March 31, 2024, with extended cut-off dates provided for certain cases.

Impact

This policy will help private players facing financial problems and having substantial claims pending with the NHAI. It is expected to help kick-start stalled projects on account of fund infusion by developer and provide some relief to lenders because of loan repayment.

Overview of PPP framework and models in operations

PPP is an arrangement between a government/statutory entity/government-owned entity and a private sector entity for the provision of public assets and/or public services through investments made and/or management undertaken by the private sector entity for a specified period of time. In this arrangement, allocation of risk between the private sector and the public entity is defined well. The private entity receives performance-linked payments that conform with (or are benchmarked to) specified and pre-determined performance standards, measurable by the public entity or its representative.

For broad-based and sustainable growth, the government recognises the need to engage with the private sector through a PPP framework to achieve the following objectives:

- Harness private sector efficiencies in asset creation, maintenance and service delivery
- Focus on a life-cycle approach for project development, involving asset creation and maintenance over its life cycle
- Create opportunities to bring in innovation and technological improvements
- Enable affordable and improved services to users in a responsible and sustainable manner

While the preferred form of the PPP model is one in which ownership of the underlying asset remains with the private entity during the contract period, and the project is subsequently transferred back to the public entity on contract termination, the final decision on the form of PPP is taken using the value-for-money analysis.

The types of construction contracts based on price risk are as follows:

Fixed-price contracts: These contracts state the fixed fee or payment (per unit output or whole project) the contractor receives on completion of a contract. The contractor bears the risk of a rise in cost during the construction period. Certain pass-through of higher cost may be allowed in some projects.

Cost-plus contracts: These are contracts in which the contractor is entitled to receive a fixed surplus over the project cost borne. The surplus given to the contractor can be in the form of a fixed percentage over cost or a pre-decided fee over cost. Therefore, any increase in cost of the project, during the construction phase, is passed on to the client.

The types of contracts based on scope of execution are as follows:

Item rate contract

These are fixed-price contracts, where the concerned authority provides the detailed design and the

estimated quantity of materials. A project is divided into several sub-activities, for which the item-wise quantity of input material to be used is specified in a document called bill of quantities. Bids are invited for the price of each construction activity based on the items specified. As the aggregate of bid amounts form the total project cost, the lowest bidder wins the project. The bill of quantity document may state the quantity of items such as cement, girders, electric boards, wires, etc, to be used, against which the bids are invited.

Lump-sum turnkey (LSTK) contract

LSTK is a fixed-price contract in which the contractor fixes a lump-sum fee based on the specific project requirements. The client states the project specifications with respect to designs, drawings, technical stipulations, quality of raw material, etc, based on which the contractor provides bids, stating a lump-sum fee for execution.

Design and build contract

In this type of a contract, the authority does a conceptual study of the project to be awarded and specifies the technical output details based on which the specifications of the project are decided. The developer has to undertake the detail designing and execution of these projects. EPC and BOT are design and build models.

A few operational models:

- I. BOT-toll/-annuity/-hybrid annuity model (HAM)
- II. EPC
- III. Toll collection
- IV. Operate, maintain and transfer (OMT)
- V. Toll, operate and transfer (TOT)

Electronic toll collection (ETC) is a strategic focus area for regulatory and administrative bodies involved in the process of toll collection. It presents several advantages such as limiting toll leakages, reducing the waiting time for vehicles, and improving overall traffic flow at toll plazas. In the future, this may result in significant changes in toll collection operating procedures, followed in all the PPP models.

Types of PPP models

Type of project	Description	Development risk	Financing risk	Traffic risk and accrual of toll fee collection	Net cash outflow for the government	Revenue for private party	Concession period	Award criteria
BOT-toll	Private party builds the road, undertakes O&M and collects toll	Concessionaire	Concessionaire	Concessionaire	Yes (in the form of grant/equity support)	Toll	20-30 years for the NHAI** and other authorities	Highest revenue sharing bid/highest premium/lowest equity support

Type of project	Description	Development risk	Financing risk	Traffic risk and accrual of toll fee collection	Net cash outflow for the government	Revenue for private party	Concession period	Award criteria
BOT-annuity	Private party builds the road, undertakes O&M* and collects annuity from the granting authority	Concessionaire	Concessionaire	Authority	Yes, net payment to be made is the difference between the toll collection and the annuity payable	Annuity payment	15-20 years for the NHAI and other authorities	Lowest annuity
BOT-HAM	Private party builds the road, undertakes O&M. Gets 40% of payment during construction and 60% as annuity along with interest	Concessionaire	Concessionaire	Authority	40% during construction and 60% as semi-annual annuity along with interest, net of toll collected	Construction grant plus annuity payments, interest on annuities, inflation-indexed O&M payments	Around 15 years of operations plus additional construction period	Lowest project cost plus O&M cost
EPC	Private party builds the road, based on the cost incurred by the government	Concessionaire	Authority	Authority	Yes	Contract amount	Not required	Lowest contract price requested
OMT	Private party collects toll, and undertakes O&M and major maintenance	No development risk except minimal risk in case of paved shoulders	Concessionaire	Concessionaire	No	Toll	Up to nine years for NHAI projects	Highest % of toll revenue share or highest premium per year
Tolling	Private party pays the estimated toll upfront to the authority and collects it during the concession period	No development risk by tolling contractor	Concessionaire	Concessionaire	No	Toll	One year for NHAI projects	Highest revenue-sharing bid

Type of project	Description	Development risk	Financing risk	Traffic risk and accrual of toll fee collection	Net cash outflow for the government	Revenue for private party	Concession period	Award criteria
TOT	Private party pays an upfront bid concession fee (summation of NPV of free cash flow based on concessionaire estimates) to the authority, undertakes O&M plus certain capex and collects the toll during concession period	Authority (in case upgradation of lanes is taken up during the concession period)	Concessionaire	Concessionaire	No	Toll	15, 20, 30 years [#]	Highest upfront payment

Note: Development risk refers to construction risk in developing a road project

***Operations and maintenance**

**** National Highways Authority of India**

#As per TOT bundles of NHAI in 2021-22

Source: Crisil Intelligence,, NHAI

BOT

BOT contracts are typically PPP agreements wherein a government agency provides a private player the rights to build, operate and maintain a facility on public land for a fixed period, after which the assets are transferred back to the public authority.

Funding for the project is arranged by the concessionaire through a mix of equity and debt from banks and other financial institutions. Under the basic BOT mode, the concessionaire charges a fee to the users of the project/facility, and may either transfer the entire user fee collected to the authority or may retain the entire amount as revenue. BOT contracts are, therefore, classified into the following types:

- ❓ **Annuity-based contract:** Under this contract, the concessionaire is responsible for the construction and maintenance of the project during the concession period. Variability in user fee gives rise to revenue risk, which is borne by the authority. However, the concessionaire generates revenue through fixed annuity payments received from the authority over the concession period. Since this annuity payment is a cost to the authority, the contract is awarded to the lowest bidder. Tolls charged under these contracts are generally regulated by a policy or a public agency.
- ❓ **Toll-based:** Under this model, too, the concessionaire is responsible for the construction and maintenance of the project, after which the project's ownership is transferred to the public authority. However, the toll collected is retained by the concessionaire and not transferred to the authority. Therefore, the concessionaire bears the revenue risk during the concession period. As in BOT annuity-based projects, toll charged under these contracts is generally regulated by a policy or a public agency.
- ❓ **HAM:** This is a mix of EPC and BOT (annuity) models. In this model, the project cost is shared between the authority and the concessionaire in a 40:60 ratio. This model aims to lower the financial burden on the concessionaire during the project implementation phase. Compared with EPC projects, the shift to HAM will also ease cash flow pressure on the NHAI. It will lower project risk for developers because the NHAI will bear the risk of traffic volume and the developer earns through fixed annuity payments. It will also help developers participate in more projects given that

equity contribution per project will now be lower. This model will also encourage banks to lend to road projects because of the NHAI's involvement. HAM was approved by the Cabinet Committee on Economic Affairs on January 27, 2016.

Viability gap funding (VGF)

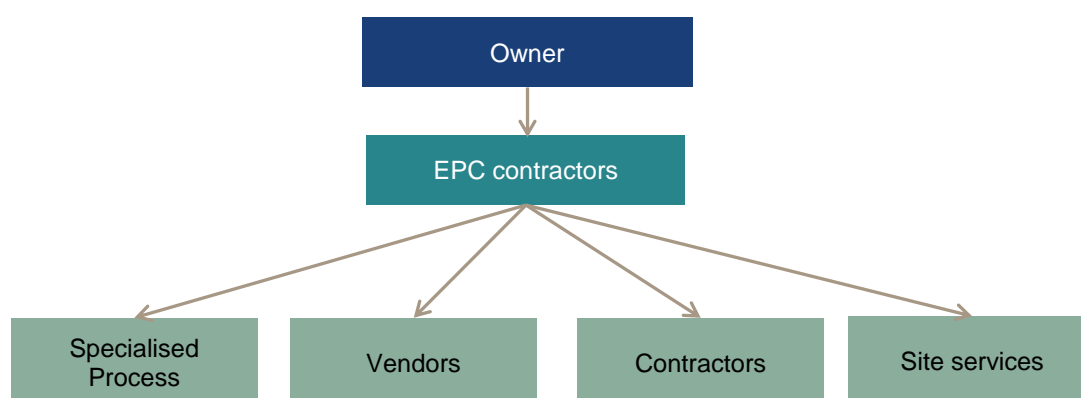
VGF means a grant, one-time or deferred, provided to support infrastructure projects that are economically justified but fall short of financial viability. The VGF scheme was launched in 2004 to support PPP projects. It was a method used by the government for awarding a few BOT projects. Projects generally expected to have traffic numbers insufficient to compensate the costs to the developer were provided an additional grant from the government for execution. The bidder who used to quote the lowest grant used to be awarded the project. The number of projects which got such a grant fell from a high of 23 in fiscal 2010 to only two in fiscal 2016, and no projects in fiscal 2017. Up to fiscal 2012, the rise in the bidding aggression led to a fall in the number of projects receiving VGF. Over fiscals 2013-15, the NHAI's awarding fell drastically. Since fiscal 2016, a majority of the projects awarded by the central government have been on an EPC basis.

In the recently developed HAM model, which in a way is VGF, the government provides 40% of the total cost incurred by the developer during the construction period itself.

EPC

EPC contracts are fixed-price, wherein the client provides conceptual information about the project. Technical parameters, based on the desired output, are specified in the contract. The contractor undertakes the responsibility of designing the project either through an in-house design team or by appointing consultants. Unlike item rate and LSTK contracts, the contractor is allowed to innovate on the project design. Based on these designs, the contractor draws up cost estimates and accordingly bids for the project.

EPC contracts



Source: Crisil Intelligence

Toll collection

Toll collection, as a separate business model, evolved in 2009. Under this model, the authority invites bids from private players to collect toll on roads constructed under the EPC and BOT-annuity models. It is used for short-duration projects, typically lasting 12 months. The private player with the highest bid is awarded the project. The user fee is pre-determined by the contracting authority. The right to collect user fees during the concession period lies with the private player. A contract of this category involves negligible to minimal road construction and maintenance.

Along with the NHAI, state authorities, municipal bodies and developers are also outsourcing toll collection to private players to recognise revenue upfront. Toll management companies recover their investments and make profits from toll receipts. A typical bidding process adopted by the NHAI and state authorities has been outlined below.

NHAI's bidding process

The NHAI introduced the operate-maintain-transfer (OMT) model for roads in India, and has awarded the maximum number of OMT projects. The bidding process specified by the NHAI for awarding OMT projects is as follows:

NHAI awards OMT projects under a two-stage process: **qualification stage** and **bid stage**

1. Qualification stage

- The NHAI solicits applicants' qualifications through the request for qualification (RFQ) document, for a prefixed number of OMT projects and road length, to ease the process at the bid stage
- The aim of the qualification stage is to evaluate the technical and financial capability of the applicants and decide their eligibility for various categories of OMT projects based on estimated project cost. The cost is specified by the NHAI for all OMT projects and includes all costs expected to be incurred during the project such as cost of major/minor maintenance works, construction of toll plazas, manpower cost, and incident management costs
- At the time of applying for qualification, the applicant is expected to indicate the estimated project cost for which he wishes to be qualified, which should be more than Rs 200 million
- At the end of the qualification stage, the NHAI gives out a list of qualified applicants along with specific estimated project costs, which qualifies them for participation in the bidding stage. The qualification is typically valid for 12 months
- To be eligible for qualification and shortlisting, an applicant is expected to fulfil certain minimum technical and financial criteria:

Technical capacity – The applicant should have an experience of five financial years, prior to the date of application, of paying or receiving payments for construction or paying for development or collection and appropriation of revenue of PPP projects in the highways* or core sectors* (with capital cost of more than Rs 50 million).

Financial capacity – In the financial year preceding immediately, the applicant is required to have minimum net worth of the following amounts:

For an estimated project cost of less than Rs 20 billion – 25% of the estimated project cost

For an estimated project cost between Rs 20 billion and Rs 30 billion – Rs 5 billion plus 50% of the amount by which the estimated project cost value exceeds Rs 20 billion

For an estimated project cost value of more than Rs 30 billion – Rs 10 billion plus 100% of the amount by which the estimated project cost value exceeds Rs 30 billion

In the case of a consortium, the combined technical and financial capacity of the members is evaluated.

- The concessionaire is required to engage an experienced O&M contractor or hire qualified and trained personnel to undertake operation and maintenance activities
- No separate applications are needed for qualification for OMT projects, which are part of the RFQ
- A pre-application conference is also convened by the NHAI, wherein applicants can seek clarifications as well as make suggestions for consideration by the authority

*** As per the RFQ recently published by the NHAI, the highways sector includes highways, expressways, bridges, tunnels and airfields; core sectors include power, telecom, ports, airports, railways, metro rail, industrial parks/estates, logistic parks, pipelines, irrigation, water supply, sewerage, and real estate development.**

2. Bidding stage

- Unlike the qualification stage, where qualification is evaluated for multiple OMT projects at one go through an RFQ, bidding is carried out separately for each OMT project
- RFP is floated for every OMT project, after which the bidders (applicants qualified at the qualification stage) will be asked to submit financial bids for the projects after detailed analysis of the project's value

Site detail report as well as concession agreements are also given out in this stage for perusal by qualified bidders

The project is awarded to the bidder who quotes the maximum first year concession fee to be paid to the NHAI or the lowest O&M support required (in case toll revenue from the project is lower than operational expenditures). Till date, all awarded projects have resulted in significant concession fees being paid by concessionaires to the NHAI.

Technology used to help tolling industry

1. ETC

It is a system that enables road users to pay highway tolls electronically without stopping at the plazas. The applicable toll amount is deducted from a prepaid account that is linked to the FASTag. The dedicated ETC lanes are colour-coded for immediate recognition. This helps avoid fuel wastage, loss resulting from drivers who avoid payment, and booth attendants taking their cut. It also reduces time delays because of toll payment, thus reducing the resistance for toll payments. In November 2019, MoRTH directed the NHAI that all toll lanes on national highways must have ETC. In December, the ministry relaxed the rule temporarily to have 75% of the lanes to have ETC. However, in February 2021, the ministry mandated compulsory use of FASTag and announced penalty of double payment in case the toll was paid in cash.

2. Weigh-in-motion (WIM)

It is a system integrated with toll operations to ensure users are liable for overloaded vehicles and to provide accurate data for charging users by their vehicle weight and type. WIM's main purpose is to prevent road damage as these get easily damaged when overload vehicles pass over it. The Indian Road Congress has limits – prescribed to each axle – to which each vehicle can be loaded. Hence, WIM is an axle-weight calculator installed on the road near toll plazas, which weighs the vehicles in motion and hastens the weighing process.

3. Static weigh bridge (SWB)

This, too, is a weighing system integrated with toll operations to ensure users are liable for overloaded vehicles and to provide accurate data for charging users by their vehicle weight and type. It differs from WIM as it is used to weigh static vehicles.

4. Automatic vehicle counter-cum-classifier system (AVCC)

It is a system that consists of sensor devices installed in a lane to record the physical characteristics of vehicles to determine their configuration for the purpose of charging the user appropriately.

OMT

The OMT concept was introduced to assure road users of adequate quality and safety. An OMT project entails a contract for the right to collect toll and a contract for the operation and maintenance of the stretch.

Scope of work for OMT contracts under MCA includes the following:

- O&M of the stretch/ section of highway
- Tolling of the section
- Construction of project facilities such as toll plazas, street lighting, medical aid posts, traffic aid posts, and bus shelters
- Any major maintenance work (necessary in long-term contracts, not mandatory in short-term contracts)

This model provides consistent revenue (in terms of concession fee by private parties) to the NHAI as well as just-in-time (JIT) maintenance of the project. It includes performance-based, periodic and routine maintenance (minor repairs, cleaning of carriageways, shoulders, cross drainage structures, etc);

as well as road property and incident management. In this type of arrangement, toll collection rights are given to the private operator, which form the sole source of revenue.

Road development agencies are looking to generate revenue by awarding OMT contracts. Such revenue is planned to be used to upgrade other roads, and/or for maintenance of roads with low-volume traffic. OMT projects provide an opportunity for firms from the private sector who are not willing to take up construction risk and cannot bring in large investments but can take traffic risk.

From a developer's perspective, OMT projects offer an opportunity to synergise existing projects by taking up OMT contracts on the same corridor. From an investor's perspective, such projects are equivalent to design, build, finance, operate and transfer (DBFOT) toll-based concessions in terms of traffic risk, but without the construction risk. Investments in such projects would carry benefits similar to investments in DBFOT (toll) projects during the operation period. However, OMT projects have financial liabilities, principally towards road development agencies, unlike capital-intensive DBFOT (toll) projects, where financial liabilities of the project are borne by the road development agencies as well as by lenders. On the other hand, the ticket size of OMT projects, which is about 1/10th the size of a DBFOT (toll) project, is smaller, so a pool of such projects is required to attract larger investors. The creation of such a pool of projects has other advantages such as the hedging of traffic risk. The medium concession period in OMT projects (5-10 years) is another factor that might attract private equity funds to such schemes.

The typical bidding process for an OMT project is as follows:

Bidding process of state authorities

Like the NHAI, many Indian states such as Bihar, Madhya Pradesh, Andhra Pradesh and Telangana follow a two-stage bidding process (qualification stage followed by bidding stage). In the first stage, the authorities qualify applicants through an RFQ process, based on their technical and financial strength. However, unlike the NHAI, which undertakes qualification of a number of OMT projects in one single process (through an RFQ stage), qualification for every single OMT project of the Madhya Pradesh Road Development Corporation (MPRDC) and the Bihar State Road Development Corporation (BSRDC) is typically carried out separately. In the second stage (the bidding stage), which mirrors the NHAI process, bids are invited from qualified applicants and the project is awarded to the bidder which quotes the maximum concession fee or minimum O&M support from the authority. The Karnataka Road Development Corporation, on the other hand, follows a single-stage bidding process wherein qualification and evaluation of financial bids are undertaken.

TOT

The TOT model is a new PPP model by the NHAI to spur private participation in the roads sector. In this model, globally, the concessionaire pays a one-time concession fee upfront (lump sum) in the operations and tolling phase. The TOT concessionaire will then be allowed to operate and toll the project stretch for the concession period. Any improvement in the road asset required may be taken up by the concessionaire as a part of the agreement in the TOT model. However, in the Indian context, these elements may be modified by the NHAI.

The key differences between the tolling and TOT models are:

❑ In the tolling model, the concession period is typically of a shorter duration (~one year for NHAI projects) whereas in the TOT model, the concession period is longer (15-30 years). The NHAI has reduced the concession period to 15-20 years in the recent tenders pertaining to TOT bundle 5 onwards.

❑ In the TOT model, the concessionaire maintains the project stretch, which is not the case in the tolling model

Over the past four years, the NHAI has been able to successfully monetise ~14,000 km and raise ~Rs 170 billion. However, with the implementation of FASTags, TOT becomes a more attractive as its able to eliminate cash handling and plug leakages in the system.

As of June 2023, the NHAI offered 12 bundles under the TOT framework. NHAI has already invited bids for TOT 11 and TOT 12 and the progress in the same remains to be seen. The National Highways Authority of India (NHAI) has scrapped tenth bundle under the toll, operate and transfer (ToT) model after the highest bid of Rs 1,711 crores placed by Sekura Roads Ltd. NHAI has awarded 72-km highway

stretch on NH19 in Uttar Pradesh under TOT-9 to The National Investment and Infrastructure Fund (NIIF) on its quoted price of Rs. 3144 crores. CDPQ backed Maple Highways announced acquisition of Eastern Peripheral Expressway under TOT Bundle 7 for Rs. 6,267 crores in November 2022. RFPs of TOT 6, 7 and 8 were released in August 2021, and bids were submitted in January 2022. However, TOT 6 and 8 were cancelled in April 2022. The NHAI has so far raised ~Rs. 27,000 crores through the ToT mode of monetisation.

Key initiatives and overview on HAM

The MoRTH released the standard concession agreement and request for a proposal for the much-awaited HAM for private-public partnerships in the road construction sector in June 2016. HAM is a mix of EPC and BOT-annuity models.

The broad contours of the model of operation are as follows:

- ❑ 40% of the total project cost to be funded by the government, and the remaining by the developer
- ❑ The project cost will be linked to inflation
- ❑ The HAM calls for lower equity contribution from developers (15% compared with 25% for BOT-toll projects).
- ❑ Construction support is to be disbursed in five equal instalments of 8% each, and the timing of each such payment will be linked to the percentage of project cost spent by the concessionaire
- ❑ Traffic risk will be borne by the government, with developers receiving fixed annuities
- ❑ Annuities will be linked to bank rate plus 3%
- ❑ 80% of land to be provided prior to the appointed date

Key changes to HAM MCA, 2020

Key changes include the following:

- ❑ Back-ending of premium payment
- ❑ Redefinition of project milestones
- Interest on annuity payments linked to the average one-year MCLR of the top five scheduled commercial banks +1.25%
- 10 milestone payments each, equal to 4% of the bid project cost
- ❑ Lenders receive the first charge on all receivables
- ❑ Deemed termination of projects
- ❑ Maintenance obligations
- ❑ Toll fee notifications

	Old Clause	Revised Clause	Impact
Annuity Payments	Interest on annuity payment linked to RBI determined Bank Rate + 3%	Interest on annuity payment linked to average of one year MCLR of top 5 Scheduled Commercial Banks + 1.25%	Differential between cost of borrowing and interest on annuity reduced, thus preventing erosion of developers' returns due to RBI repo rate changes
Milestone Payments	5 instalments, each equal to 8% of the Bid Project Cost	10 instalments, each equal to 4% of the Bid Project Cost	Quicker payments helping developers' liquidity
Change in ownership	Original sponsor/ concessionaire shall hold at least 26% of equity during construction period and 2 years thereafter	Original sponsor/ concessionaire shall hold at least 26% of equity during construction period and 6 months thereafter	Quicker stake sell-off would ease up developers' balance sheets to bid for new projects
Financial Closure	No clarity on amount on FC	FC to be undertaken for an amount no lower than either: 1. Total Project Cost (60% of BPC); or 2. 10% less than (Estimated Project Cost minus 40% of Bid Project Cost)	Would likely prevent termination of projects due to inadequate financing
Dispute resolution board	In case of a dispute, either party may call upon the Independent Engineer to mediate.	Failing mediation by the IE, either party may require such dispute to be referred to the Dispute Resolution Board (DRB) .	Quicker dispute resolution mechanism to prevent stuck projects.
Others	Interest mobilization advance linked to bank rate. Termination payments based on previous milestone payments.	Interest on mobilization advance linked to MCLR. Termination payments based on new milestone payments.	NA

Impact

HAM will improve private participation, project awards

The elimination of traffic risk will provide stable cash flows to developers and ensure timely debt servicing for bankers.

The HAM shifts the traffic risk to the NHAI from the concessionaires, with developers being provided fixed annuities based on predetermined schedules. Debt servicing, which is generally challenging during the initial years of the concession period for BOT-toll projects, is set to become easier with the receipt of fixed annuity payments.

The elimination of traffic risk is also a positive, given the bitter experience of road developers, where actual base traffic and traffic growth are significantly lower than estimated. Typically, a two-percentage point decline in traffic growth leads to a ~150 bps decline in project IRRs.

Linking construction and maintenance costs to inflation and ensuring the timely availability of land will mitigate cost overrun risks.

In the past, cost overruns severely impacted project returns. An analysis of projects completed between fiscals 2009 and 2014 shows a dramatic 45% cost overrun for a sample of 51 projects, aggregating to ~3,350 km. The aggregate cost overrun works out to ~Rs 100 billion for these projects.

Typically, a one-year reduction in the concession period owing to project completion delays can reduce project returns by 120-150 basis points (bps). Further, a 10% increase in cost can lower project returns by ~100 bps.

Hence, to address the issue of cost overruns, the government has linked construction, and operation and maintenance costs to inflation. Issues related to delays in land acquisition, which have been the industry's Achilles' heel, have also been addressed, with projects being awarded only after 80% of the land required is in possession of the awarding agency.

In the past, there were significant discrepancies between project costs quoted by the NHAI and project loans taken by developers, due to the factoring in of cost overruns by developers into their own cost estimates. This posed a challenge to bankers in the case of project termination, as compensation was provided by the NHAI only on its approved cost. With project costs being dynamically linked to inflation, bankers' risk has been reduced significantly.

Lower equity contribution requirement to increase private players' ability to bid for projects

With the government incurring 40% of the project cost, the HAM calls for lower equity contribution from developers (~15%, compared with ~25% for BOT-toll projects). This is extremely beneficial, given the current weak financial position of road developers. Further, with the NHAI's equity stake in the project, banker comfort in lending to the project increases significantly.

Developers' interest rate risk to reduce significantly

The HAM provides for bi-annual interest rate payments to concessionaires on the reducing balance of project completion cost, at interest rate payments linked to the average one-year MCLR of the top five scheduled commercial banks +1.25%. This significantly lowers the risk for the developer, in terms of interest rate volatility.

Low-risk model to provide moderate returns

We expect low risk and lower capital requirements to attract private players. Hence, we believe developers would target returns of 11-13%, given the lower risk and assuming moderate competition. Lower competition is mainly on account of the stretched financials of many developers.

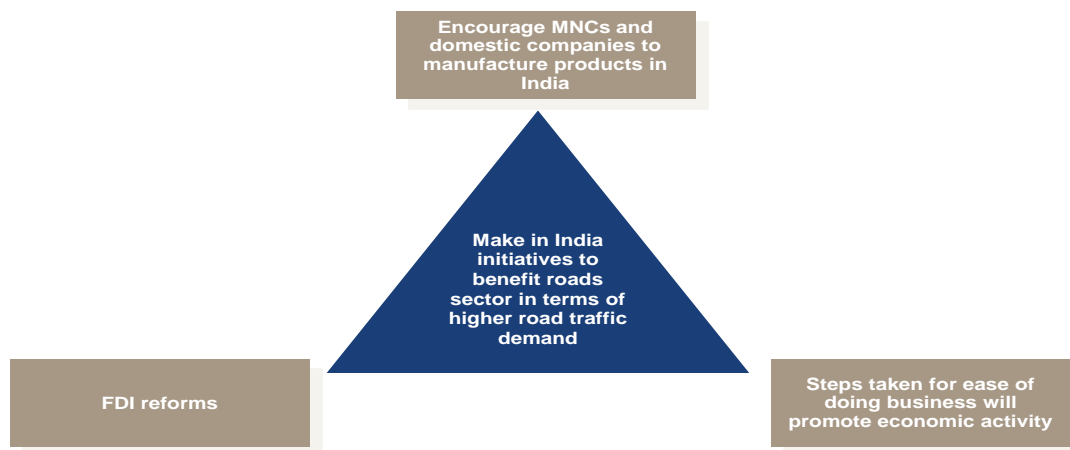
Boost private investments in national highways over the next five years

Because of delays in land acquisition and caution shown by lenders in the initial phases for lending to HAM projects, total awarding declined in fiscal 2019 to 2,222 km, compared with 7,397 km in fiscal 2018. Of the total awarding in fiscals 2018 and 2019, ~2,884 and ~977 km, respectively, were awarded through the HAM. The share of private investment has declined between fiscals 2018 and 2019 from 31% to 24%, respectively, mainly on account of EPC projects. Fiscal 2021 saw increased participation in awarding on account of changes to the HAM bid eligibility and MCA changes. A total of 6,306 km was awarded in fiscal 2022, of which, ~3,468 km was under the HAM, compared with a total 4,818 km in fiscal 2021 (~2,602 km under the HAM).

Impact of the 'Make in India' initiative on the roads sector

The 'Make in India' campaign, launched in September 2014, covers 25 major sectors, including roads and highways. The initiatives under the campaign, such as encouraging multinational companies (MNCs) to manufacture products in India, taking steps to improve the ease of doing business, as well as FDI reforms, are expected to benefit the roads sector in terms of increase in traffic movement.

Impact of 'Make in India' on the roads sector



Source: CRISIL MI&A Consulting

Encourage MNCs and domestic companies to manufacture products in India

MNCs and domestic companies setting up manufacturing plants in India will facilitate increase in passenger as well as freight traffic on roads. Following the announcement of the ‘Make in India’ campaign, the government received several proposals from MNCs interested in manufacturing electronics in India. For instance, Xiaomi, a Chinese mobile phone maker, partnered with Foxconn in August 2015 to manufacture smartphones in a factory in Andhra Pradesh. A few weeks later, Lenovo, a Chinese computer and mobile phone maker, announced its plans to manufacture smartphones in India at its Chennai plant.

Steps to improve ease of doing business will promote economic activity

The measures undertaken for ease of doing business will promote economic activity and, thereby, boost road traffic demand. Some of these key measures are:

- ❑ Applications for environment and forest clearances are to be submitted online through the Ministry of Environment and Forests and Climate Change portals
- ❑ Application forms for industrial licence (IL) and industrial entrepreneur memorandum (IEM) have been simplified
- ❑ Applications for IL and IEM are to be submitted online
- ❑ The eBiz portal has integrated 20 services and will function as a single-window portal to obtain clearances from various governments and government agencies
- ❑ The Ministry of Labour and Employment has launched a unified portal to register units for Labour Identification Number (LIN), report inspections, submit returns, and for grievance redressal

Overview of government initiatives

New tolling policy (2011)

Toll act

The central government is authorised to levy a fee (toll) under Section 7 of the National Highways Act, 1956, for public-funded projects and under Section 8-A of the said Act for private investment projects. The government can levy fees on all sections of national highways (irrespective of four or two lanes), tunnels, bypasses, and bridges with specific cost criteria.

Fee structure

Toll charges are based on rates notified by the government. The fee for use of a section of national highways with four or more lanes for the base year fiscal 2008 shall be the product of the length of such a section multiplied by the rates specified hereunder.

Toll rates for four-lane national highways

Vehicle category	Rs/ km
Car, jeep, van, light motor vehicle	0.65
Light commercial vehicle	1.05
Bus or truck	2.2
3-axle commercial vehicle	2.4
Heavy construction machinery, multi-axle vehicles (MAV) with 4-6 axles	3.45
Oversized vehicles with 7 axles or more	4.2

Source: PIB, Crisil Intelligence

Toll rates for Permanent structures/Bridges

Vehicle category	10 -15 Cr	15 – 100 Cr	100 – 200 Cr	>200 Cr
Car, jeep, van, light motor vehicle	11.00	2.20	1.65	1.10
Light commercial vehicle	16.50	3.30	2.53	1.65
Bus or truck	33.00	6.60	4.95	3.30
3-axle commercial vehicle	48.40	9.90	7.48	4.95
Heavy construction machinery, multi-axle vehicles (MAV) with 4-6 axles	48.40	9.90	7.48	4.95
Oversized vehicles with 7 axles or more	66.00	13.20	9.90	6.60

Source: PIB, Crisil Intelligence

The rates, which will be revised every year, will be an aggregate of the following rules effective April 1, 2016:

- ❑ Increase of 3% without compounding (on base rates of fiscal 2008)
- ❑ Compared with the previous year, 40% of the increase in wholesale price index (WPI)

In previous years, the toll rates were fully linked to the WPI, which led to numerous case where WPI would become negative. The current method of toll rates has been beneficial for private players.

Other features of the new tolling policy include the following:

- ❑ Uniform rates for public- and private-funded projects
- ❑ Fee for a permanent bridge, bypass, or tunnel costing Rs 0.10 billion or more and that of NH length will be calculated separately

In 2013, 2014, 2015, 2019, 2020, and 2022 some amendments were made to the National Highway Fee (determination of rates and collection) Rules 2008, as follows:

- ❑ In the case of a four-lane highway being upgraded to a six-lane one, the increase in rate shall be limited to 75% of the fee specified, revised as per the applicable rules calculated on and from the date of commencement of upgrade-related work to the date of completion of the project, according to the agreement entered into with the concessionaire without any annual revision
- ❑ In certain cases, fee collection is started when the project is 75% complete, but the fee is applicable only to 75% of the operational length
- ❑ No user fee shall be levied on the delayed period between the date of completion as per the agreement entered into with the concessionaire and the date of actual completion of the project. For the purposes of this rule, any provisional completion shall not be treated as completion of the project.
- ❑ The tolls rates are calculated on the basis of the road length, excluding bypass (costing more than 100 million) and structures (more than 60 metre). The road length fee is payable at 100% of the applicable rate for four lanes and at 60% for two lanes with paved shoulders
- ❑ Bypass (costing more than 100 million) length fee is payable at 150% of the applicable rate for four lanes and at 90% for two lanes with paved shoulders
- ❑ Structure (costing more than 100 million) length fee is payable at 100% of the applicable rate for four lanes and at 60% for two lanes with paved shoulders
- ❑ Commercial vehicles registered within the district are tolled at 50% discount, and local non-commercial vehicles are issued a monthly pass for a certain amount
- ❑ The rate of fee for use of an expressway shall be 1.25 times the rate specified in the applicable rule

- ❓ The rate of fee for private investment projects shall be as specified under the applicable rule or as the concessionaire may determine by issuing a public notice to users
- ❓ The following method is used to calculate the rate of fee for highways/expressways with standalone structures and structures forming part of linear highways/expressways:

Length of the structure* (L) X Factor “10” = Length in metres

*** Structure of 60 metres of length or less**

- ❓ To calculate fee for a linear highway/expressway, structures will be considered a part of the normal length of highways/expressways
- ❓ In the December 2013 amendments, the NHAI empowered the concessionaire to collect 10 times the applicable fee from overloaded vehicles. The December 2015 amendments allowed the concessionaire to stop vehicles plying on National Highways unless they cleared their dues. Any vehicle loaded in excess of its maximum permissible gross vehicle weight (GVW) is not permitted to use the National Highway or cross the toll plaza until the excess load is removed or a fee of 10 times the applicable amount is paid. Moreover, the concessionaire can detain the vehicle until all dues are cleared
- ❓ The May 2018 amendment stated that if a vehicle user with a valid, functional FASTag or any such device with sufficient balance in the linked account crossing a fee plaza installed with Electronic Toll Collection infrastructure is not able to pay the user fee through FASTag or any such device because of malfunctioning of Electronic Toll Collection infrastructure, the vehicle user shall be permitted to pass the fee plaza without payment of any user fee
- ❓ In the National Highways Fee (Determination of Rates and Collection) Rules, 2008, in rule 11, in clause (e), the word “disability” should be replaced with “DIVYANGJAN”
- ❓ The fee payable towards discounts shall be paid through pre-paid instruments, smart card or through FASTag or on-board unit (transponder) or any other such device
- ❓ The executing authority or the concessionaire, as the case may be, provide for multiple journeys to cross a toll plaza within the specified period at the rates specified
- ❓ The words “may opt for such pass” shall be omitted
- ❓ “A person who owns a mechanical vehicle”, the words, “with valid functional FASTag,” shall be inserted
- ❓ “A person who owns a commercial vehicle (excluding vehicle plying under National Permit)”, the words “with valid functional FASTag,” shall be inserted.
- ❓ User of the vehicle not fitted with “FASTag” or vehicle without valid, functional “FASTag” entering into “FASTag lane” of the Fee plazas shall pay a fee equivalent to two times of the fee applicable to that category of vehicles
- ❓ closed user fee collection system means a system under which the fee is levied based on the actual distance travelled by a mechanical vehicle, on a national highway or expressway
- ❓ the executing authority or the concessionaire may establish fee plaza on the national highway or expressway on which the closed user fee collection system has been installed
- ❓ Provided further that no such concession shall be provided for commuting on a national highway or expressway on which fees is levied based on the closed user fee collection system.

Financial incentives for road developers

- ❓ Under section 80 IA of the Income Tax Act, profits and gains derived by an undertaking are subject to 100% deduction for 10 consecutive assessment years out of 20, beginning from the year in which the undertaking begins to operate the business, provided such profits and gains are derived from the business of: 1) developing, 2) operating and maintaining, or 3) developing, operating, and maintaining a road, including tolls and bridges, a highway project including housing or other activities being an integral part of the highway project. These criteria shall not apply to any enterprise that starts development or operations and maintenance of the infrastructure facility on or after April 1, 2017, as that enterprise shall be eligible for 100% deduction of capital expenditure under section 35AD
- ❓ Import duty has been completely exempted for public-funded needs on certain identified high-quality construction plants and equipment
- ❓ Import of bitumen is now permitted under the Open General Licence
- ❓ External commercial borrowings are permitted up to 35% of the project cost

Review and outlook of NHAI funding

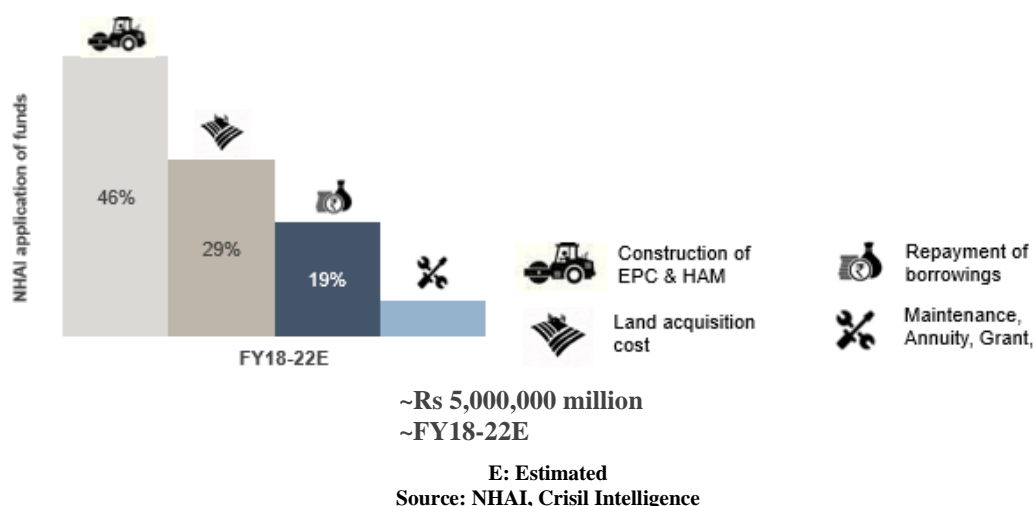
Asset monetisation critical to meet ambitious BMP targets

According to CRISIL INTELLIGENCE estimates, Rs 17,000,000-19,000,000 million will be invested in national highways between fiscals 2023 and 2027, with public funds dominating the overall spending. As more projects are being awarded under HAM and on a cash-contract basis, NHAI is relying more on external borrowings and asset monetisation. While asset monetisation via TOT and InvIT is challenging, raising external funds is increasing NHAI's debt-to-equity ratio, with repayments forming a major part of its outflow. Timely asset monetisation is critical for NHAI to meet its ambitious BMP targets.

As more projects are being awarded under EPC and HAM, NHAI's outflow toward milestone payments formed ~46% of the total met through market borrowings.

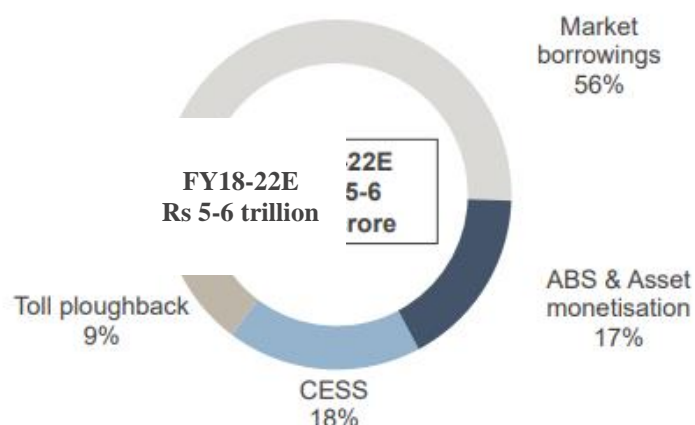
Of the Rs 5,000,000-6,000,000 million spent over the past five years (fiscals 2018-2022), 46% was toward milestone payments for EPC and HAM (40% for HAM) projects, while ~29% was toward land acquisition expenditures and 19% toward interest and repayment of borrowing.

NHAI's application of funds: 46% of NHAI outflow towards construction



While budgetary allocation via toll plough-back and cess constituted 18% and 9%, respectively, to the sources, the maximum amount (56%) of NHAI's funding came from market borrowings. Additional budgetary support (ABS) and asset monetisation amounted to 17% of the total amount. With NHAI's requirements expected to increase amid ambitious construction targets, additional support via monetisation is critical for future requirements.

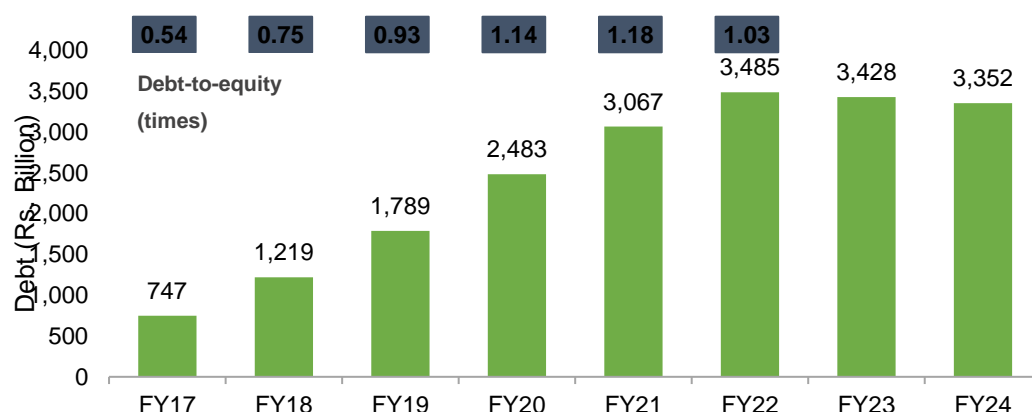
NHAI's sources of funds: Market borrowings account for 56%



Source: NHAI, CRISIL Intelligence

Owing to the high dependence on market borrowings to fund asset creation through EPC and HAM projects, NHAI's debt-to-equity ratio rose to 1.2x in fiscal 2021. Due to the reduction in dependence on external borrowings, NHAI's leverage position saw a sharp improvement. The entity's debt-to-equity ratio dropped from 1.2x in FY21 to 0.75x as of December 2022, attributable to NHAI's strategic importance to the government and the road sector being a key area of reform to eliminate infrastructure bottlenecks and ensure a source of momentum for economic growth. Hence, the sector is witnessing the implementation of significant initiatives, such as the BMP project.

NHAI's borrowings reduce



Source: NHAI PIB - 25 July 2024, CRISIL INTELLIGENCE
Note: Debt-to-equity ratio data for fiscals 2023 and 2024 is unavailable.

To limit the rise in borrowings, NHAI's budgetary support in the form of cess and toll plough-back increased 106% for fiscal 2023 (budgeted), with nil IEBR. The trend continued in fiscal 2024 wherein the IEBR continued to be nil in the budgeted estimates for fiscal 2024. The overall support to NHAI marked a 13% increase over the revised estimate for fiscal 2023. A NHAI press release of August 6, 2024, stated that in a major step to reduce its overall debt liability, the entity achieved a significant financial milestone with the successful pre-payment of bank loan amounting to Rs 157,000 million. Retiring this debt ahead of schedule will result in an estimated interest savings of ~Rs 10,000 million. With this pre-payment, the outstanding debt liability of NHAI dropped to ~Rs 3,200,000 million.

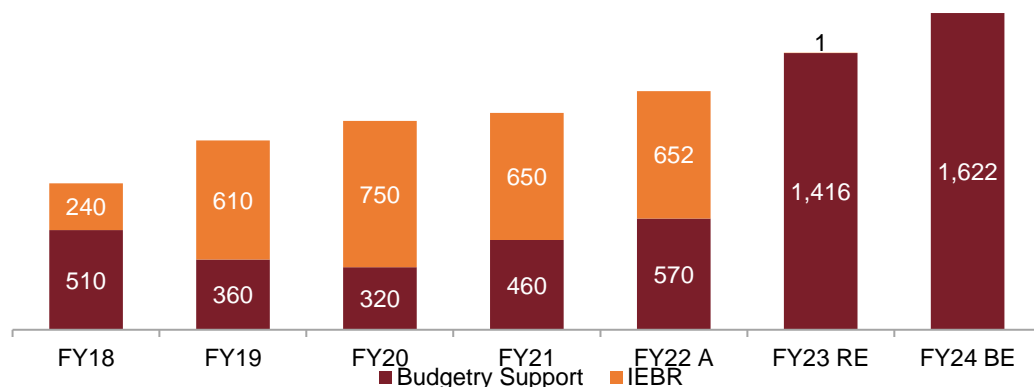
The government directs InvIT monetisation proceeds to be exclusively used for NHAI debt repayment. In fiscal 2024, Rs 157,000 million was generated through InvIT. In fiscal 2025, NHAI intends to monetise projects worth Rs 150,000 – 200,000 million through InvIT. With this, the overall debt liability of NHAI is expected to further reduce to ~Rs 3,000,000 million by the end of fiscal 2025.

As part of the robust debt payment plan and use of InvIT monetisation proceeds, NHAI actively

engaged with lender banks to reduce interest rates. As a result, banks reduced their interest rate from 8.00-8.10% to 7.58-7.59%. In this process, bank loans where interest rates could not be reduced have been repaid Rs 157,000 million and this will result in significant interest savings of around Rs.10,000 million.

Budgetary support to NHAI up 14% vis-a-vis revised estimates of fiscal 2023, IEBR nil in fiscal 2024 budget

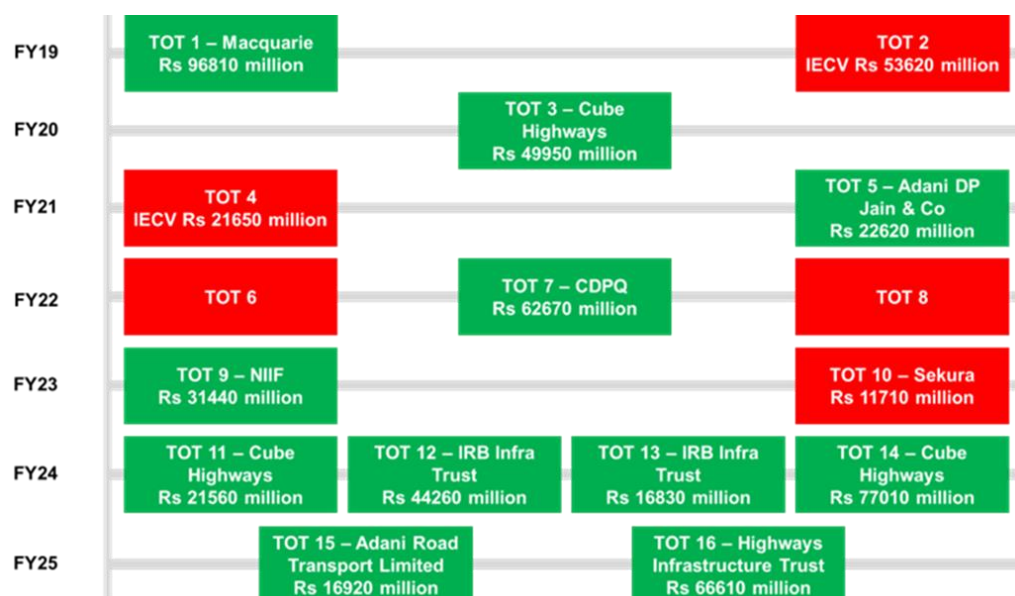
(Rs Billion)



RE: Revised Estimates; BE: Budget Estimates; A: Actual
Source: Budget documents, Crisil Intelligence

Other modes of funding, such as TOT, only saw limited success. With the implementation of FASTag, TOT seems more lucrative as it can eliminate cash handling and plug leakages in the system. However, of late, the awarding of TOT bundles has encountered impediments, with TOT-6, TOT-8 and TOT-10 getting cancelled due to low bids. While NHAI annulled the original bidding process for TOT bundles 11 and 12 due to low valuations, they could subsequently award these bundles in the second round of bidding in fiscal 2024. NHAI also successfully awarded TOT bundles 13 and TOT 14 in the fiscal, while it invited bids for bundles 15 and 16. The convergence of the expectations of the government authorities and the private bidders remain a key monitorable as well as a major requirement for this mode of funding to become truly successful.

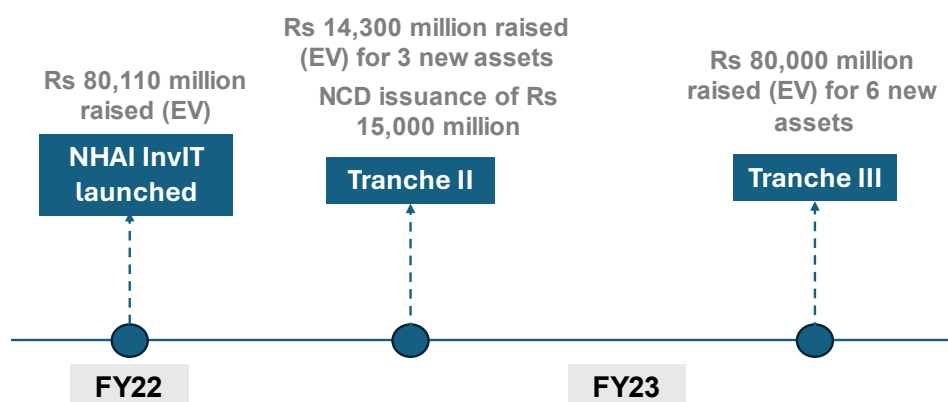
Success of TOT critical to meet ambitious BMP targets



Source: NHAI, Crisil Intelligence

The authority has also tied up debt via SPVs-level funding for the Delhi-Mumbai Expressway, having raised Rs 97,310 million already.

InvITs and SPV-level financing



Source: NHAI, Crisil Intelligence

In the fourth round of acquiring assets, NHIT anticipated to acquire around six highways of a total length of 500 km in Andhra Pradesh, Chhattisgarh, Uttar Pradesh, Rajasthan, Uttarakhand and Gujarat from the NHAI.

For 2024-25, NHAI aims to raise approximately ₹5,40,000 million through the monetisation of operational road assets via InvIT, the Toll-Operate-Transfer (TOT) model, and project-based financing, marking its highest-ever annual fundraising. So far, ₹8,353 crore has been raised this financial year by monetising two road stretches under TOT. For further monetisation through TOT and InvIT, NHAI has identified 34 highway stretches spanning 2,822 km across India for 2024-25.

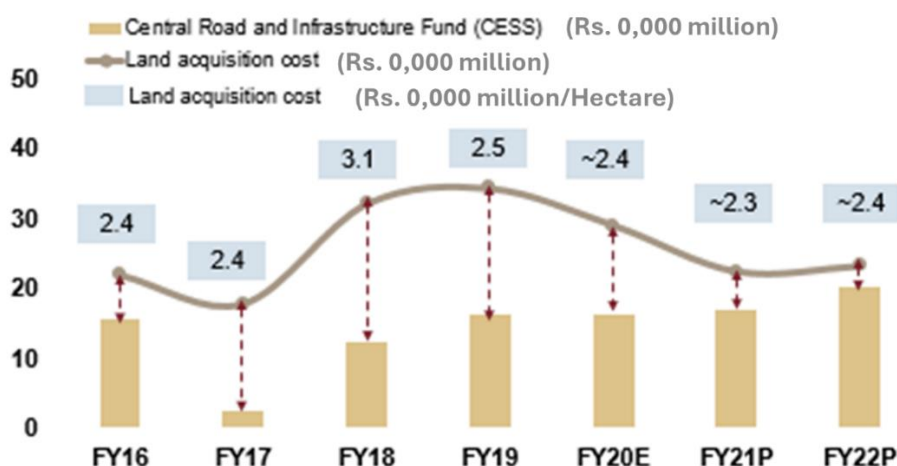
NHAI focuses on clearing land acquisition issues

Historically, cess was allocated towards land acquisition expenditure incurred by the NHAI. After the enactment of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, the shortfall in funds to meet the expenditure widened. However, with the authority's focus on clearing these issues and new greenfield alignments, the problems plaguing land acquisition reduced.

The Union Budget for fiscal 2019 replaced road cess with CRIF. Previously, road cess was split on the basis of a fixed formula, to be directed towards national highway construction, maintenance, railways and PMGSY. So far, there has been no change in the split. However, the share of cess for the roads sector could reduce given the increase in the overall scope from roads to roads and infrastructure, increasing dependence on borrowings.

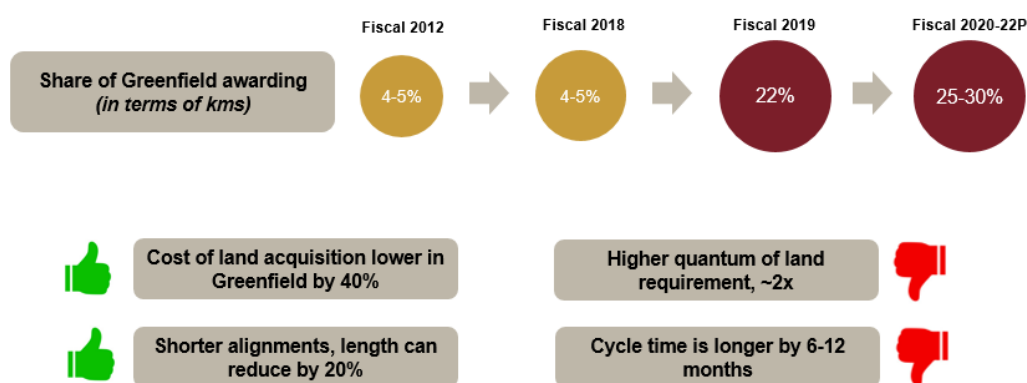
The compensation policy under the current land acquisition law requires NHAI to pay four times the market value for rural land and two times for urban land. This, and the new Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 have almost tripled land acquisition costs. In fiscal 2014, the average cost for acquiring land was Rs 9 million/ha. It increased to ~Rs 30-32 million/ha in fiscal 2019 and declined to Rs 24-25 million/ha in fiscal 2020.

Cost for land acquisition for NHAI drops since fiscal 2020



Source: NHAI, Crisil Intelligence

Greenfield projects offer support:



Source: NHAI, Crisil Intelligence

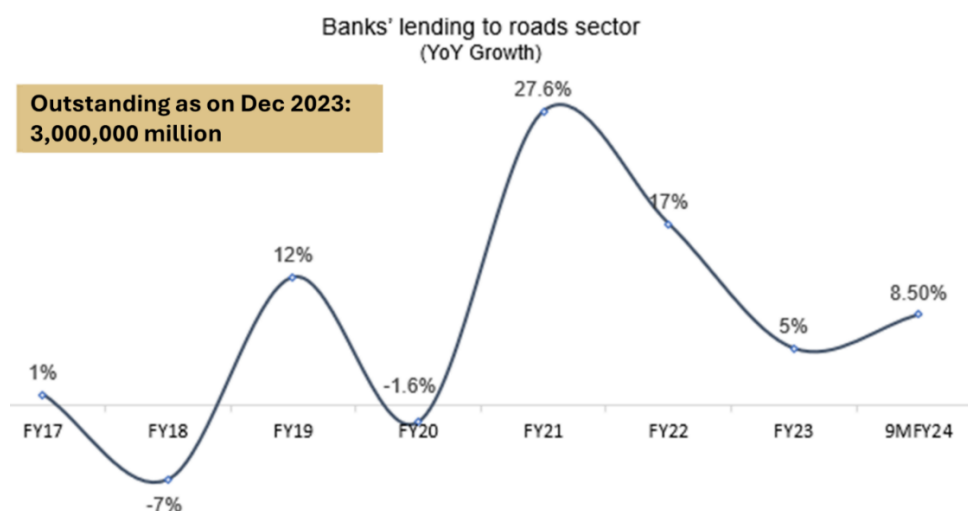
The awarded share of greenfield road projects has been increasing consistently since the past few years, driven by BMP. According to Crisil Intelligence estimates, the awarded share of greenfield projects was above 25% in the past few fiscals. The increase in the share lowers the cost of land acquisition by 40%, compared with brownfield projects. Also, greenfield projects come with shorter alignments and 20% shorter length. That said, a key drawback of greenfield projects is the cycle time, which is longer by six to 12 months, compared with brownfield projects because of the higher design time.

Bank credit growth improves, led by higher HAM execution

After a dip in fiscal 2020, bank credit lending to the roads sector showed a healthy recovery and grew 27% on-year, owing to more projects awarded and increased constructions. The traction continued in fiscal 2022, with lending to the sector witnessing a robust growth of 17% on-year. In fiscal 2023, the growth momentum moderated due to the high base, with the on-year growth rate for the fiscal standing at 5%. At the end of the fiscal, the outstanding bank credit to the roads and highways sector stood at Rs 2,900,000 million.

For projects that were awarded in fiscal 2012, banks approved costs that were much higher than those approved by the NHAI. As a result of the problems faced in these projects, bankers now cautiously evaluate projects and estimate project costs much closer to the NHAI estimates. They demand that at least 80% land acquisition should be completed and all clearances must be obtained at the beginning. While this has increased the time taken by players to achieve financial closure, it will ensure participation only by serious players. However, viable projects and those that have not undergone aggressive bidding should achieve financial closure quite smoothly.

Bank credit growth moderates in fiscal 2023 due to high base



Source: RBI, Crisil Intelligence

Investments in National Highways: Review and outlook

NHAI awarding to revive in fiscal 2025 with the revamped BOT model, likely to account for a sizeable share

NHAI's awarding of projects had increased from merely 2,222 km in fiscal 2019 to 6,003 km in fiscal 2023. Favourable changes in the BOT and HAM agreements, and relaxation of bidder eligibility criteria not only indicated a clear policy shift to improve private-sector participation but also aided the spurt in the projects awarded under HAM. Delays in land acquisition and cautious lending led to a sharp decline in HAM project awards, from 7,397 km in fiscal 2018 to 2,222 km in fiscal 2019. In fiscal 2023, NHAI's awarding volume remained above the 6,000 km-mark for the second consecutive year, with 6,003 km being awarded during the fiscal. The share of projects awarded under HAM rose slightly from 54% in fiscal 2022 to 56% in fiscal 2023. On the other hand, the share of projects awarded under EPC remained unchanged at 43%. However, in fiscal 2024, the awarding momentum was marred by various roadblocks. NHAI's flagship BMP phase 1 witnessed significant cost overrun on account of costlier land acquisition and high inflation. Currently, the estimated cost of BMP phase 1 is almost double the initial estimate and the MoRTH awaits cabinet approval for a revamped programme and additional funds to undertake rapid awarding of projects in the pipeline. As a result, NHAI awarding was ~3,339 km in fiscal 2024.

Notably the share of HAM dipped significantly due to BMP-related issues. The share is expected to revive to ~25-30% in fiscal 2025. Further, on account of amendments in the BOT MCA, awarding of projects under BOT is likely to increase substantially, expected to be supported by the interest of developers in the revamped BOT model, due to the following factors:

HAM was favoured by road developers, owing to lower risk and higher profitability. However, the competition in HAM awarding has increased substantially leading to average bid premiums tumbling from a peak of 15-20% to ~4-6% in the past few fiscals. As a result, share of larger developers dropped substantially since many large developers have refrained from bidding aggressively for HAM projects to protect their margins. Given the amendment in BOT MCA and the scope of higher profitability due to lower bidding competitiveness in BOT, many large developers are keen on taking up BOT projects

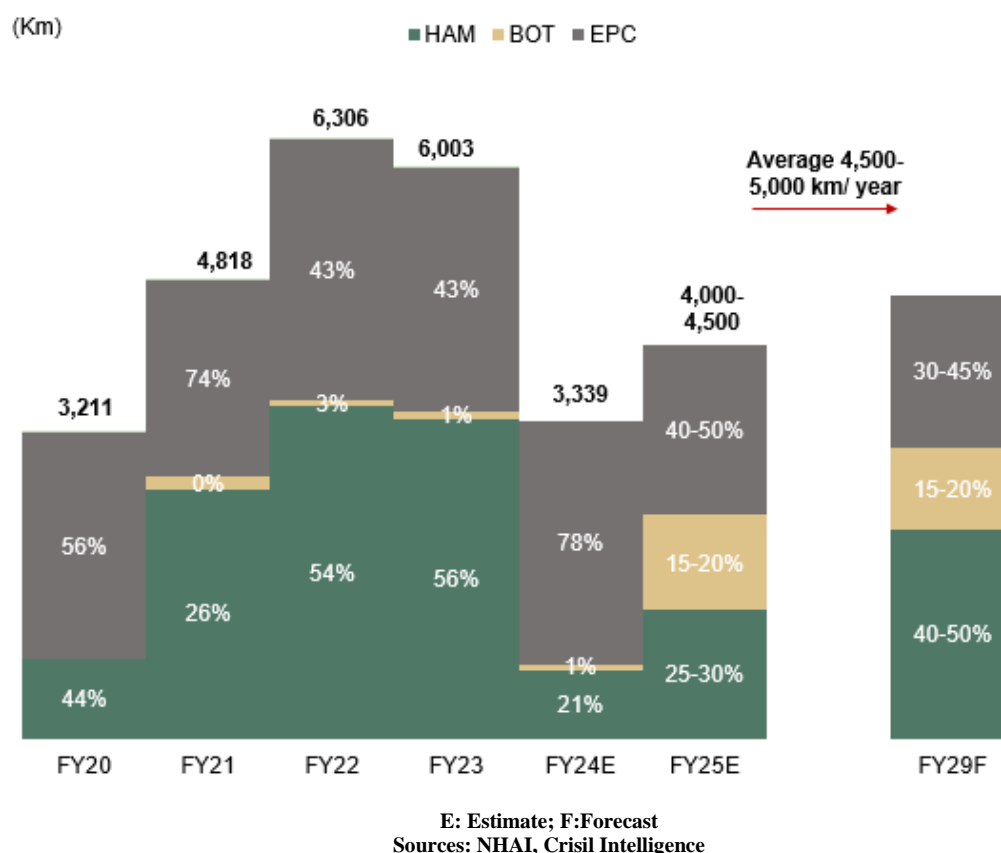
Furthermore, developers are in a comfortable position to undertake BOT projects with high funding requirements, owing to healthy balance sheets

The increased traffic visibility vis-à-vis earlier years also augurs well for BOT projects

The shift towards BOT comes against the backdrop of NHAI facing funding challenges and moderation in growth in the centre's budgetary outlay towards the roads and highways sector. Thus, the shift will

have a two-pronged benefit by not only alleviating funding challenges significantly, but also increasing private investments in the sector.

BOT share in NHAI awarding likely to be ~15-20% in fiscal 2025, owing to amendments in BOT MCA



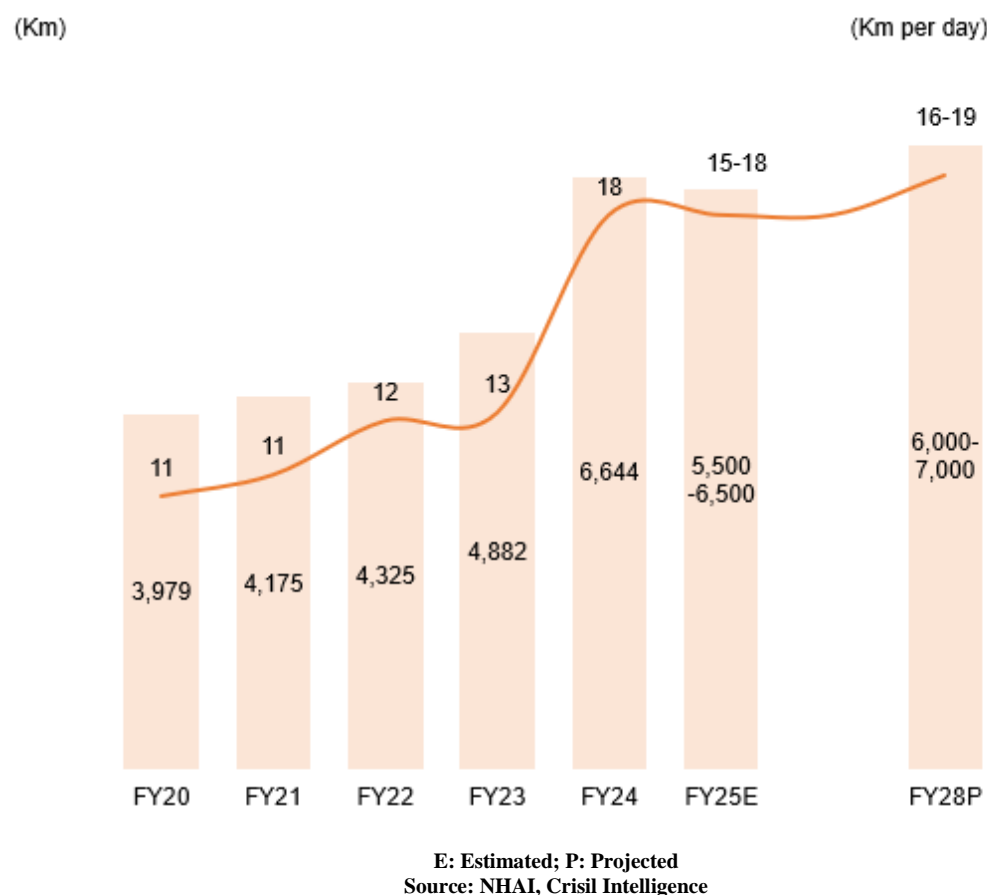
NHAI execution rises steadily, focus on swifter implementation

Despite the construction of the overall national highways at MoRTH level remaining flattish in fiscals 2022 and 2023, NHAI's execution witnessed strong momentum. The execution sequentially rose from 4,175 km in fiscal 2021 to 4,882 km in fiscal 2023.

Acceleration in project awarding, sharper focus on resolving land acquisition issues and Atmanirbhar Bharat initiatives to ease liquidity (monthly milestone payments, release of retention money, reduction in performance security and extension of three to six months in milestones and scheduled commercial operation dates (SCODs)) for EPC road players augured well for the pace of execution of NHAI projects.

Higher awarding of the previous fiscal and many of those projects receiving appointed dates in a timely manner further boosted NHAI's execution in fiscal 2024. As a result, 6,644 km of NHAI projects were executed during the year, with construction of ~18 km per day. Given the healthy orderbooks of the developers, the momentum in the pace of execution is likely to continue in fiscal 2025. Crisil Intelligence expects NHAI execution to be between 5,500-6,500 km in fiscal 2025. Over the medium term, the pace of construction is expected to rise steadily to reach ~19 km per day by fiscal 2028.

NHAI's pace of construction rises steadily, with focus on swifter execution



Policy push boosts HAM share in project awards

NHAI awards roads and highway projects under:

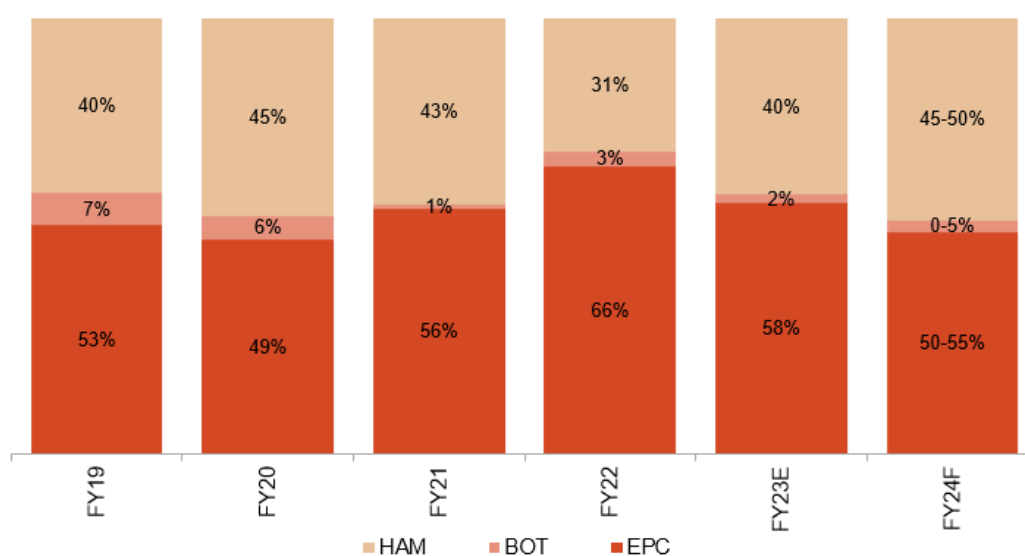
- EPC
- BOT
- HAM

Incorporating suggestions from stakeholders, the ministry and NHAI amended certain parameters in the HAM MCA in October 2020. These were largely aimed at protecting developers' returns and easing their liquidity.

On the back of the higher HAM awards, CRISIL INTELLIGENCE's estimates for the NHAI capex mix indicate that the share of HAM is expected to rise. However, given that EPC has also cornered a large portion of the projects awarded in the previous fiscals, its share in the NHAI capex mix is expected to remain ~50-55% in fiscal 2024. Overall, public funds are likely to make up about 70% of NHAI investments. Therefore, NHAI funding would remain critical to sustain the sector.

As capex under EPC and HAM remains high, public funds are burdened

(NHAI Capex Mix)



E: Estimated; F: Forecast
Source: NHAI, Crisil Intelligence

Number of highway lanes increased over past five fiscals

The NHAI has also focused on increasing the number of lanes on national highways. The share of single-lane roads decreased to 21% of the national highway network in fiscal 2016 from 32% in fiscal 2015, while that of two-lane roads increased to 56% from 47%, and four-lane roads to 25% from 12%.

Lane-wise break-up of national highways

Width of carriage way	FY12		FY13		FY14		FY15		FY16		FY19		FY23	
	Km	%	Km	%	Km	%	Km	%	Km	%	Km	%	Km	%
4 Lane & above	17,700	25%	19,128	24%	18,372	20%	21,201	22%	24,705	25%	31,067	23%	46,179	32%
Two-lane	38,536	54%	40,658	51%	45,399	50%	45,701	47%	55,603	56%	65,123	49%	85,096	58%
One-lane	15,536	22%	19,330	24%	27,516	30%	31,089	32%	20,703	21%	36,310	27%	14,870	10%
Total	71,772	100%	79,116	100%	91,287	100%	97,991	100%	1,01,011	100%	1,32,500	100%	146,145	100%

Note: Data between FY19-FY23 (excluding both years) is not available

Source: PIB, MoRTH

A few HAM projects terminated due to land acquisition issues

Even though the execution of HAM contracts has picked up, delays regarding the appointed date persist. In fact, a few of these projects have also been terminated.

Terminated HAM projects

Name of asset	Concessionaire	Termination effective
Vizag Port road	Sadbhav Infrastructure	Jul-2019
Meensurutti to Chidambaram	KNR Construction	Apr-2019
Puducherry-Poondiyankuppam Highway	IRB Infrastructure	Nov-2019
Poondiyankuppam-Sattanathapuram	IRB Infrastructure	Nov-2019

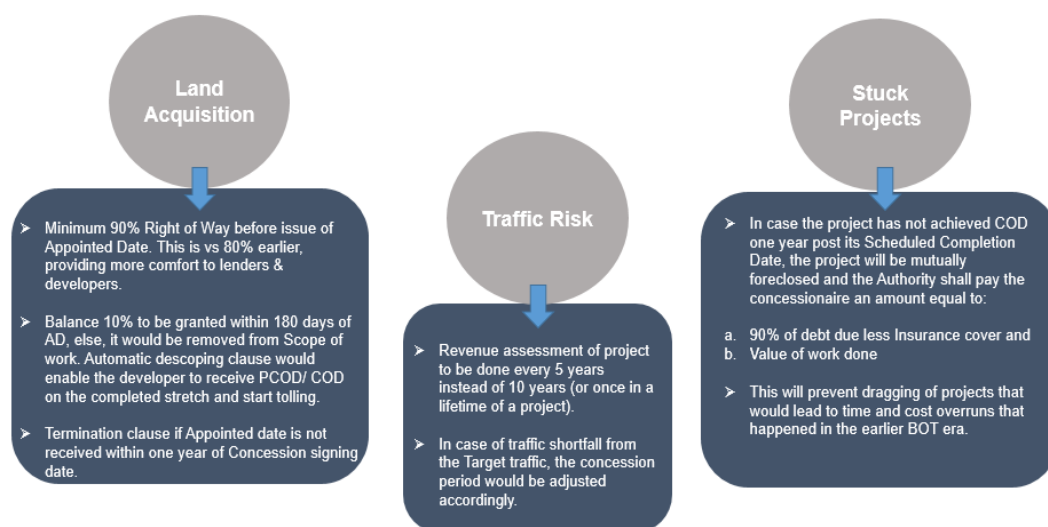
Source: Company report, Crisil Intelligence

Changes made in BOT MCA

To improve private participation via the BOT-toll mode, the NHAI and the ministry tweaked the BOT

MCA to address key issues like land acquisition, revenue assessment in case of traffic shortfall and stuck projects.

BOT MCA revamped to revive interest in the model



Source: MoRTH, NHAI, Crisil Intelligence

Contractual reforms provide clarity and address key issues

The ongoing reforms in contract structures represent a significant stride towards addressing critical issues within the construction sector. They aim to mitigate execution delays by granting access to 90% of the construction zone on the appointed date. Additionally, early intervention to rectify emerging issues, closer monitoring of escrow accounts, and the implementation of new monthly reporting formats, among others, are expected to enhance progress tracking and provide lender protection in the event of concessionaire default during construction. The recent MCA modifications are designed to safeguard against potential traffic diversion due to competing roadways. Notably, provisions allowing for a 10% incremental increase in the concession period, in contrast with the original 20%, offer additional protection against lower-than-anticipated traffic volumes. These adjustments are particularly pertinent given the current network expansion and the emergence of competing multimodal developments. However, there remains a crucial market requirement for better delineation of competing roadways. The inclusion of a clause mandating authority buyback in the event of capacity breaches over consecutive years serves to mitigate risks associated with traffic spikes and ensures timely capacity augmentation, albeit with limitations on potential upside. Furthermore, the reforms address various issues responsible for project disputes and investor apprehension. Clarity on compensation amounts in the event of authority default or force majeure events, as well as transparent methodologies for cost calculations and debt reconciliation, serve to remove ambiguities and foster investor confidence.

Healthier stakeholder ecosystem may reignite private sector interest

A revitalised stakeholder ecosystem is poised to rekindle private sector interest in infrastructure projects. Developers have experienced improved operating cash flows and achieved crucial project milestones, resulting in unlocked capital and bolstered balance sheets through project monetisation. This, coupled with enhanced developer credit profiles and lender-friendly measures, is expected to stimulate a robust financing environment among lenders. While previous BOT-Toll bids attracted interest from a pool of seven to nine bidders, the introduction of TOT mechanisms has broadened the potential bidder pool significantly. In the past five years alone, the TOT framework has attracted 19-20 bidders. With experience in toll asset operation, some of these entities may explore opportunities to undertake construction risk, albeit selectively, focusing on projects with promising returns and under a sound contractual framework.

The bankability imperative

Ensuring the bankability of projects is crucial for attracting private risk capital into BOT-Toll ventures. These projects must exhibit strong traffic potential, sustainable traffic growth prospects, and minimal competition from alternative routes. Leveraging data and analytics, particularly from sources like FASTag and e-way bill data, is imperative to identify optimal project alignments with favourable traffic profiles within the BOT-Toll model. Moreover, securing funding through a prudent capital structure is essential to maximise the benefits of the revamped BOT-Toll contract framework. There is cautious optimism that the NHAI's revised financing approach, combining a revamped BOT-Toll strategy with its existing EPC-HAM model, will reignite private sector interest in infrastructure projects.

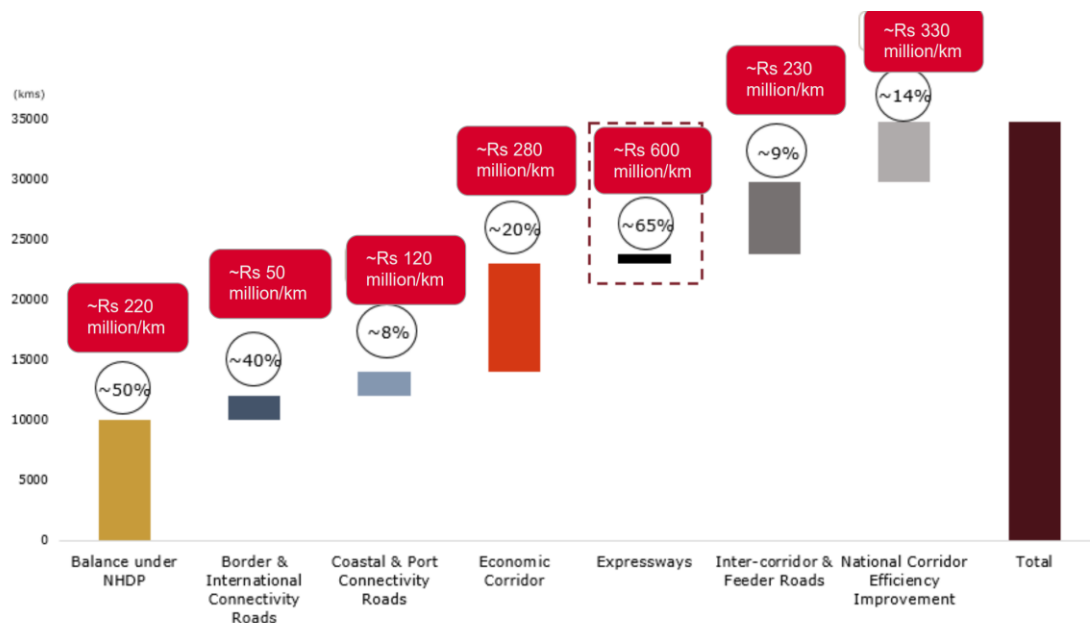
Amendments to EPC contracts effective November 2018

Key implications	Progress
To enable quicker execution by increasing the obligation of the authority	Deadline for approval/ clearance for forest area or a sanctuary lowered to 180 days from 240
	If appointed date is not set within 90 days of signing the agreement, the contract can be terminated. The authority will pay the contractor 1% of the contract price as damages
Ensure effective competition and focus on timely project completion	If the project is not completed within 90 days of specification control drawing (SCD), the contractor will be ineligible to bid for more projects till it is completed
Increase in working capital requirement for contractors	The interest on the mobilisation advance paid to the authority was increased for earlier recovery of mobilisation advance. Also, release of retention money against bank guarantees has been discontinued
Increased maintenance obligation of the contractor	Compensation has been lowered and tenure for maintenance by the contractor increased; defect liability period raised to 10 years from four

Bharatmala Phase 1 awarding focused on expressways: likely to stretch till fiscal 2025

Bharatmala Pariyojana is an umbrella project introduced by the central government in 2015 to improve efficiency in the roads sector. It is expected to supersede the National Highways Development Project (NHDP) and envisages the construction of 65,000 km of highways under the following categories: national corridor roads (north-south, east-west and Golden Quadrilateral), and economic corridor, inter-corridor and feeder roads. As per the ministry, Bharatmala, along with incumbent schemes, would require a total outlay of Rs 6,900,000 million.

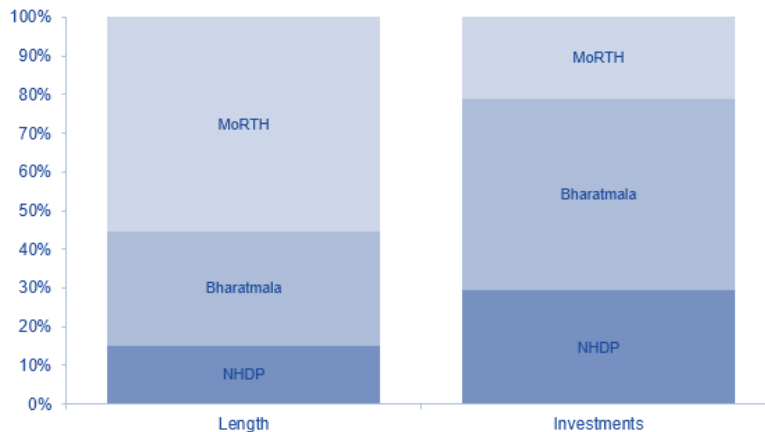
Cost per km for expressways are highest



Note: As of fiscal 2020
Source: NHAI, Crisil Intelligence

Phase I of the scheme envisages development of ~24,800 km of national highways/roads as well as 10,000 km of residual roads between fiscals 2018 and 2022 under NHDP. Awarding under Bharatmala has begun from fiscal 2018 and we believe it will stretch till fiscal 2025 for Phase 1.

Share of different schemes under national highways (fiscals 2023 to 2027P)



P: Projected
Note: National highway investments do not include land acquisition costs
Source: Crisil Intelligence

Awarding under Bharatmala began in fiscal 2018, with Phase 1 expected to stretch till fiscal 2025.

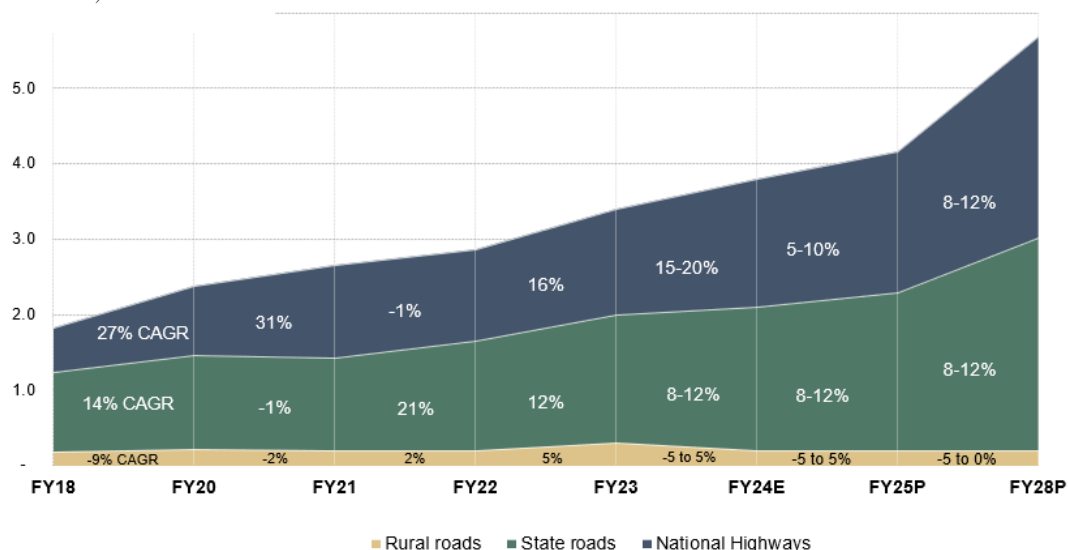
National highway capex to grow sharply in fiscal 2024

Overall road sector capex, comprising of national highways, state highways and rural roads is estimated to have grown at a CAGR of ~14% from ~₹ 1.6 trillion to ~₹ 3.8 trillion between fiscals 2018 and 2024. This growth, driven by Bharatmala and increased state spends on roads, has been achieved despite brief hiccups such as the pandemic and hampered construction due to elongated monsoons. The outlook of the sector also remains firm supported by higher awarding of previous fiscals, Bharatmala, NIP pipeline of DPR-ready projects and steady state capex.

The national highway segment contributes 40-45% of the overall capex. While the execution remained flattish in fiscal 2023 vis-à-vis fiscal 2022, capex grew 16% due to a rise in construction of high value projects and high commodity prices. In fiscal 2024, we expect the national highway capex to grow 15-20% driven primarily by increased execution.

Momentum to continue, supported by Bharatmala and NIP pipeline

(Rs Trillion)



E: Estimated, P: Projected

Note: Investment excludes land acquisition cost

Source: NHAI, MoRTH, state budget documents, Pradhan Mantri Gram Sadak Yojana, Crisil Intelligence

On the low base of fiscal 2021, state spends grew 21% in fiscal 2022 and are estimated to have grown further by 10-13% in fiscal 2023, largely in line with the growth in budgetary outlay. In fiscal 2024, state spends are expected to go up 8-12% as their percentage achievement of budgetary allocations is expected to be largely in line with the historical average.

Outlook of toll collection and remittance on national highways

As per IHMCL data, the electronic toll collection on national highways is estimated to have reached ₹ 496.89 billion in the fiscal year 2024. Further, toll collections are expected to grow at a CAGR of 9.5-10.0% between fiscal years 2023 and 2028 on a like-to-like basis and to grow at 18-19% considering new road additions and subsequent tolling on them over the same period. The growth will be driven by factors such as improvement in overall economic activity, efficiency gains due to removal of check posts post implementation of GST, increase in both passenger and commercial vehicles, strong execution pipeline of road and highway projects, better compliance and blocking of leakages due to electronic toll collection.

Key transactions in road sector

Recent key asset sales and private equity transactions

Date	Target	Buyer	Seller	Deal value (Rs mn)	% sought
Feb-2024	GRICL& Swarna Toll ways	KKR & Co	Macquarie Group	-	-
Jan-2024	Portfolio of 11 HAM & 1 BOT (UPSHA)	KKR & Co	PNC Infrastructure	90,057	100%

Date	Target	Buyer	Seller	Deal value (Rs mn)	% sought
Apr-2023	Kundapur-Surathkal section (90.1 km road project in Karnataka, comprising 74.8 km Kundapur-Surathkal section and 15.3 km Mangaluru-Kerala border section)	KKR & Co	Navayuga Udupi Tollways	9240	NA
Apr-2023	Baharampore-Farakka Highways Ltd	Cube Highways and Infrastructure Pte Ltd	HCC Group	13,230	NA
Mar-2023	Aurang Tollway (section of NH 6 between Aurang in Chhattisgarh and Odisha border)	Macquarie Group	BSCPL	16,000	NA
Feb-2023	5 completed HAM assets (Welspun Delhi Meerut Expressway Pvt Ltd, Welspun Road Infra Pvt Ltd, MBL (CGRG) Road Ltd, MBL (GSY) Road Ltd, Chikhali Tarsod Highways Pvt Ltd) and one operating BOT toll asset (Welspun Infracapacity Pvt Ltd)	Actis and Welspun Enterprises	5 completed HAM assets (Welspun Delhi Meerut Expressway Pvt Ltd, Welspun Road Infra Pvt Ltd, MBL (CGRG) Road Ltd, MBL (GSY) Road Ltd, Chikhali Tarsod Highways Pvt Ltd), and Welspun Infracapacity Pvt Ltd	NA	NA
Nov-2022	Eastern Peripheral Expressway	CDPQ-backed Maple Highways	NHAI	62,670	NA
Oct-2022	InvIT (across 7 states: Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh, Telangana)	CPPIB and Ontario Teachers' Pension Plan Board	National Highways Infra Trust	NA	NA
Aug-2022	SP Jammu-Udhampur Highway Ltd	NIIF	Shapoorji Pallonji Group	22,800	100%
Jul-2022	Navayuga Quazigund Expressway Pvt. Ltd	NIIF	Navayuga Quazigund Expressway Pvt Ltd	30,350	NA
Jun-2022	Six operating highway toll projects	Actis' Long Life Infrastructure Fund	Welspun Enterprises Ltd	60,000	100%
Jun-2022	Five operational road projects	IndInfravit Trust, an InvIT led by Canada Pension Plan Investment Board	Brookfield	93,750	100%

Date	Target	Buyer	Seller	Deal value (Rs mn)	% sought
April – 2022	KKR & Co's road platform in India	Ontario Teachers	Ontario Teachers' Pension Plan Board committed an investment to boost alternative investment company KKR & Co's road platform in India.	Committed Rs 13.33 billion (\$175 million)	-
Jul-2021	One highway concession	KKR Asian Fund III LP	Global Infrastructure Partners	-	39%
Jan-2021	Shree Jagannath Expressways Pvt. Ltd	Indian Highway Concessions Trust	Bharat Road Network	7,300	74%
Dec-2020	Jorabat Shillong Expressway Ltd	Sekura Roads Ltd	IL&FS Transportation Networks Ltd	9,300	100%
Dec-2020	Chenani Nashri Tunnelway Ltd.	Cube Highways and Transport Assets Advisors Private Limited	IL&FS Transportation Networks Ltd	39,000	100%
Jun-2021	Navayuga Road Projects Pvt. Ltd. – two road projects	Sekura Roads Ltd	Navayuga Road Projects Pvt Ltd	-	100%
Feb-2021	Sadbhav Infrastructure Projects Ltd	Allianz Global Investors joined by AMP Capital	-	To raise Rs 7 billion (\$96 million) through NCDs	-
Jan-2021	Chennai Elevated Tollway Ltd	JC Flowers Asset Reconstruction Company	-	Acquire over half of the debt of a stressed road developer at a discount of over 80%	-
Dec-- 2020	Chenani Nashri Tunnelway Ltd Asset, a road tunnel, from Infrastructure Leasing & Financial Services Ltd	Cube Highways and Infrastructure Pvt Ltd	-	Rs 39.0 billion (\$528 million)	-
Sep-2020	Farakka Raiganj Highways Ltd	Cube Highways and Infrastructure Pvt Ltd	Hindustan Construction Company	Rs 15.08 billion (USD 205 million)	-
Jan-2020	KNR Walayar Tollways Pvt Ltd	Cube Highways and Transport Assets Advisors Private Limited	KNR Construction Ltd	6,200	100%
Aug- 2019	Five under construction HAM projects – Dilip Buildcon Ltd	Cube Highways and Transport Assets Advisors Private Limited	Dilip Buildcon Ltd	7,300	100%

Date	Target	Buyer	Seller	Deal value (Rs mn)	% sought
Aug-2019	KNR Shankarampet Projects Pvt Ltd	Cube Highways and Transport Assets Advisors Private Limited	KNR Construction Ltd	1,000	100%
Feb-2019	Two road projects – KNR Construction Ltd	Cube Highways and Transport Assets Advisors Private Limited	KNR Construction Ltd	2,000	100%

Source: Industry, Crisil Intelligence

Overview of investments in road platforms

The Indian Road infrastructure sector has attracted significant foreign investments and sovereign funds, supported by the country's ambitious infrastructure projects and favourable policies. Key international investors, including the CPPIB, KKR and Macquarie Group, have been actively investing in India's transportation and power transmission sectors, aligned with the government's NMP. Notable transactions include Macquarie Group's acquisition of toll collection rights for nine road bundles, contributing Rs 292,000 million to the infrastructure programme since February 2018. Other significant players include Cube Highways and CDPQ.

Sovereign wealth funds and pension funds, such as CPPIB and Ontario Teachers' Pension Plan, have made significant investments in Indian infrastructure. CPPIB and Allianz Capital Partners (ACP) are key investors in the Indinfravit Trust, a private infrastructure investment trust. Indinfravit Trust initially acquired five toll roads constructed by L&T Infrastructure Development Projects Ltd (L&T IDPL) in Karnataka, Telangana, Tamil Nadu and Rajasthan

Road developer IRB Infrastructure announced on August 6, 2019, that Singapore's sovereign wealth fund, GIC, was investing over \$615 million in its road platform. The deal included funding of future construction, in addition to being used for deleveraging the portfolio and equity funding for under-construction projects of the portfolio. IRB's roads portfolio reported \$88 million in revenue in fiscal 2019

As per a press release of February 28, 2019, the Asian Infrastructure Investment Bank and the Government of India signed a \$455 million loan in New Delhi to finance the Andhra Pradesh Rural Roads Project, which will connect some 3,300 habitations with a population of more than 250, and benefit some two million people

As per a press release of December 6, 2023, the Government of India and the Asian Development Bank (ADB) signed a \$175 million loan to improve the connectivity and resilience of roads in Madhya Pradesh

NHIT's 'InvIT Round-3' was particularly significant, raising unit capital of ~Rs 72,720 million and debt of Rs 90,000 million from investors, including the CPPIB and Ontario Teachers' Pension Plan. The monetisation involved road assets with a total enterprise value exceeding Rs 160,000 million

Overview of National Highways Development Project (NHDP)

NHDP encompasses building, upgradation, rehabilitation, and broadening of national highways. The project is executed by NHAI, in coordination with the Public Works Departments of various states. NHAI also collaborates with the Border Roads Organisation to develop certain stretches. NHDP is being implemented in seven phases.

The projects are awarded to private players either on EPC (cash) or on a build-operate-transfer (BOT) basis and now on the hybrid annuity model (HAM). NHDP cash contracts are mainly financed through budgetary allocations from the Central Road Fund (CRF), negative grants/premium received, and toll revenue. Loans and grants are also received from the World Bank and Asian Development Bank.

Bharatmala Pariyojana

Bharat Mala Pariyojna, an umbrella project of the central government since 2015, aims to improve efficiency in the roads sector. It is expected to supersede the National Highways Development Project (NHDP) and envisages the construction of 65,000 km of highways under the national corridor (north-south, east-west, and golden quadrilateral), economic corridor, inter-corridor roads, and feeder roads categories. As per the ministry's announcements in 2017, Bharat Mala, along with the other schemes being undertaken, was estimated to have required a total outlay of Rs 6.9 trillion.

Phase I of the scheme envisages development of 24,800 km of national highways/roads and residual 10,000 km of NHDP between fiscals 2018 and 2022 as per MoRTH Annual Report 2022-23. Awarding under Bharat Mala has begun from fiscal 2018 and will likely stretch until fiscal 2025 for Phase 1, involving development of about 9,000 km of economic corridors, about 6,000 km of inter-corridor and feeder roads, about 5,000 km of national corridors efficiency improvements, about 2,000 km of border and international connectivity roads, about 2,000 km of coastal and port connectivity roads, and about 800 km of expressways. Of the total 34,800 km, around 20,800 km had been awarded as of August 2021.

Components of BMP Phase -I

Category	Description	Total length (Km)	Upgrade proposed in Phase I (Km)
National corridor efficiency improvement	Lane expansion and de-congestion of the national corridor	13,100	5,000
Economic corridor development	Connecting economically important production and consumption centres	26,200	9,000
Inter-corridor and feeder route development	Inter-connection between economic corridors; first and last mile connectivity	15,500	6,000
Border and international roads	Connectivity to border areas and boosting trades with neighbouring countries	5,300	2,000
Coastal and port connectivity roads	Connectivity to coastal areas to enable port-led economic development	4,100	2,000
Expressways	Greenfield expressways	1,900	800
Total		66,100	24,800

Source: NHAI, Crisil Intelligence

Status of BMP-1

National highways measuring 34,800 km in length were planned under BMP phase 1, according to a MoRTH press release, out of which, 26,418 km (76%) were awarded for construction as of December 2023 and ~15,549km have been completed so far. The projects under BMP are mainly funded by the centre, while MoRTH manages resource mobilisation. Andhra Pradesh has seven projects of ~384 km length of roads at the bidding stage at a cost of Rs 65,860 million under BMP. MoRTH has identified corridors measuring 1,719 km in Telangana for development under BMP phase 1, out of which 1,026 km has been awarded. As of December 2023, Rs 4,230,000 million was spent under phase 1 of the project.

State-wise summary of BMP

State	Total project length (km)	Awarded project length (km)	Length completed (km)	State	Total project length (km)	Awarded project length (km)	Length completed (km)
Andhra Pradesh	2,525	1,936	641	Maharashtra	3,029	2,174	1,628
Assam	433	431	312	Manipur	635	635	332
Bihar	1,572	1,152	571	Meghalaya	170	170	81
Chhattisgarh	571	471	134	Mizoram	593	593	363
Delhi	203	203	158	Nagaland	208	208	131
Goa	26	26	26	Odisha	1,586	967	785
Gujarat	1,577	1,194	742	Punjab	1,764	1,553	424
Haryana	1,058	1,058	776	Rajasthan	2,503	2,360	2,152
Himachal Pradesh	167	167	105	Tamil Nadu	2,414	1,476	1,011

State	Total project length (km)	Awarded project length (km)	Length completed (km)	State	Total project length (km)	Awarded project length (km)	Length completed (km)
Jammu & Kashmir	433	251	88	Telangana	1,719	1,026	492
Jharkhand	1,000	801	367	Tripura	94	94	66
Karnataka	2,059	1,603	855	Uttar Pradesh	3,127	2,496	1,612
Kerala	1,126	708	172	Uttarakhand	273	264	112
Madhya Pradesh	3,063	2,017	1,137	West Bengal	874	385	277

Source: MoRTH PIB, CRISIL INTELLIGENCE

Overview of National Highways and Infrastructure Development Corporation Limited (NHIDCL)

The National Highways and Infrastructure Development Corporation Limited (NHIDCL) was established under the MoRTH, on July 18, 2014. It aims to boost construction of national highways and infrastructure in the Northeastern Region and strategic border areas. NHIDCL facilitates economic development in these regions by integrating them more robustly with the mainstream, providing economic benefits to the local population.

As of March 31, 2022, NHIDCL employs 345 individuals across 13 states/UTs and Kathmandu, Nepal. It has also ventured into other infrastructure projects such as multi-level car parking, logistic parks, and bus ports. NHIDCL's projects are enhancing accessibility to remote areas, constructing safer roads, tunnels, and bridges, particularly in challenging terrains like Jammu and Kashmir, Uttarakhand, North-East, West Bengal, and Andaman & Nicobar Islands. Additionally, NHIDCL is contributing to socio-economic growth through skill development programs, improving livelihoods, fostering trade, tourism, and supporting states in by providing financial aid and basic life care ambulances during pandemic.

NHIDCL portfolio for road development in Northeast Regions of India and Jammu & Kashmir

As per PIB's publication dated 31st July 2023 on budget for transport connectivity to North-Eastern States, Ministry has informed that government plans to complete the following road projects in the North-Eastern States to strengthen the connectivity in the region:

A total of 261 road projects under different Schemes of MoRTH with a total sanctioned cost of Rs.1,02,594 crore are under implementation through National Highways Authority of India (NHAI), National Highways & Infrastructure Development Corporation Ltd. (NHIDCL) and State Public Works Departments (PWDs) in the North Eastern States.

In addition, the Ministry of Development of North-Eastern Region, under the erstwhile North-East Road Sector Development Scheme (NERSDS) and the present North-East Special Infrastructure Development Scheme (NESIDS) has sanctioned a total of 77 road projects amounting to Rs.3372.58 crore.

According to order book provided in "Annual report 2022-23" published by NHIDCL, In Jammu and Kashmir, a total of 17 road projects spanning 263 kms of total length is currently under progress and it sums up to total project cost of INR 15,140 Cr. In addition to the ongoing road projects, 352 kms of National Highway length is entrusted. 50 kms of tunnel DPR work, 370 kms of DPR other than Bharatmala Pariyojna, and 116 kms in principle national highway are also in progress.

PM Gati Shakti - National Master Plan for Multi-modal Connectivity

Gati Shakti Scheme or National Master Plan for multi-modal connectivity plan, was unveiled in October 2021, with an objective of curtailing the logistics cost for the country, by coordinating the infrastructure creation activity different government entities. Major characteristics of the scheme are.

- Digital platform for coordination across 16 ministries, including roadways and railways.
- 'Gati Shakti' platform will subsume the infrastructure projects announced under National Infrastructure Pipeline (valued at Rs 111 trillion)

- Existing infrastructure schemes across ministries, such as Bharatmala (Roads), Sagarmala (Ports), UDAN (Air), Inland Waterways, Dry ports etc. will be incorporated in the platform.
- The platform will also provide spatial data and implementation status for different projects.
- Eleven industrial corridors and two defence corridors are also planned in the scheme, covering clusters for textile, pharmaceutical, fishing, electronics, agriculture etc.

Key targets set for different heads under the scheme are:

- Ports: Capacity of the major ports to be increased from 1,282 million tonnes in fiscal 2020 to 1,759 million tonnes in fiscal 2025
- National Waterways: Cargo movement to be ramped from 74 million tonnes to 95 million tonnes during fiscal 2020-25 period.
- Railways: Target of 1,600 million tonnes by fiscal 2025, vis-à-vis 1,210 million tonnes in fiscal 2020
- MMLPs: Indian railways will setup 500 multimodal cargo terminals by fiscal 2025
- Others: Gas pipeline length to be doubled from 17,000 Km to 34,500 Km, incremental renewable capacity of ~150 GW, power line capacity target of ~452,000 circuit Km by fiscal 2025

An integrated platform to monitor the progress of projects and logistics initiatives spanning across different ministries will certainly aid in increasing coordination and planning infrastructure creation and connectivity.

OVERVIEW OF INFRASTRUCTURE INVESTMENT TRUSTS (INVITS) FOR ROADS IN INDIA

Overview of InvITs currently listed in India.

InvITs to deleverage balance sheets and enable capital recycling.

Infrastructure investment trusts (InvITs) will help free up capital of players by divesting stake in operational assets and help recycle this capital to deleverage balance sheets for creating new assets.

Details of InvITs currently registered in India:

Name	Sponsor	Type	Date of registration	Assets
IRB InviT Fund	IRB	EPC Player	Mar-2016	5 toll road assets & 1 HAM asset
Indinfravit Trust	L&T IDPL	EPC Player	Mar-2018	19 BOT-toll, 4 BOT annuity assets
Oriental Infratrast	Oriental Group	EPC Player	Mar-2019	4 toll & 1 annuity assets
IRB Infrastructure Trust (IRB InVIT II)	IRB Infrastructure Trust (IRB InVIT II)	EPC Player	Nov-2019	10 operational toll projects, 1 under construction project & 1 proposed under construction project
Bharat Highways InvIT	G R Infraprojects Limited	EPC Player	Aug-2022	7 HAM assets
Cube Highways Trust	Cube Highways Group	Investor	July-2022	17 toll and 1 annuity asset
Highways Infrastructure Trust	Galaxy Investments II Pte. Ltd	Investor	Mar-2022	5 BOT Toll, 2 Annuity Assets and 3 HAM assets (in process of acquiring 3 other assets)
Indian Highway Concessions Trust	Maple Highways Pte Ltd	Investor	Feb-2020	2 toll assets
National Highways Infra Trust	National Highway Authority of India		Oct-2020	5 BOT Annuity, 3 TOT Toll
Shrem Invit	Shrem Infra Structure Private Limited / Dilip Buildcon limited (DBL)	Investor	Feb-2021	15 NHAI & 1 MoRTH HAM Assets, 2 NHAI toll assets, 10 State (Toll+Annuity) assets and 6 State Annuity Assets
NXT- Infra Trust	Actis-Highway Infra Limited	Investor	Jan-2024	1 toll asset
Roadstar Infra Investment Trust	IL&FS Transportation Networks Ltd	Investor	Apr-2024	4 Assets (2 BOT Annuity and 2 BOT)

Note: Recent details pertaining to Roadstar Infra Investment Trust is currently not available in public domain
Source: Credit Rating Rationale, DRHP, CRISIL INTELLIGENCE

EPC players like IRB, Oriental, GR infrastructure are sponsoring the formation of InvITs. The current market value of IRB InvIT is 52k crores rupees which is the highest in among all formed InvITs. IRB InvIT has launched with 5 Assets in 2016 and now with 15 SPVs in 2024.

Oriental infra trust is one of major EPC player with market valuation of 14.7k crores rupees.

Bharat highway InvITs has valuation of 5.3k crores valuation, Bharat InvIT proposes to enter into a ROFO Agreement with GRIL, pursuant to which GRIL will grant a right of first offer to the InvIT to acquire certain other assets owned and developed by GRIL.

The share of Fair Enterprise Valuation in FY 24 of EPC players is around 42% in overall registered InvITs in India.

Year wise developments in InvITs

InvIT	Year	Progress
Cube Highways Trust	July 2022	As per the SEBI's website, the InvIT filed the final placement memorandum in April 2023. Its portfolio assets include 18 toll assets and one annuity asset, totaling 1,636.5 km
Highway Infrastructure Trust (HIT)	Mar 2022	HIT is sponsored by Galaxy, in which KKR is an investor. It has acquired an initial portfolio of six operational projects with four toll and two annuity roads. It has acquired a portfolio of 11 assets from PNC Infrastructure comprising of 10 HAM & 1 BOT (UPSHA) assets in FY24
National Highways Infra Trust	Nov 2021	Eight road project assets (five in round-1 and three in round-2) have been transferred to the InvIT. It was listed in November 2021. Round-1 assets have received appointed date as December 2021. Round-2 assets were transferred in September 2022.
Shrem InvIT	Feb 2021	As of January 2023, the InvIT's portfolio had 28 projects (24 acquired from Dilip Buildcon Ltd in 2017 and 2018 and four newly acquired SPVs). Six additional SPVs were proposed to be acquired. The projects consist of annuity, state toll & annuity, NHAI HAM, MoRTH HAM and NHAI toll assets across five states. Floated by the sponsor, Shrem Infra Structure Pvt Ltd, Shrem InvIT got SEBI approval in February 2021.
IRB InvIT Fund	Feb 2020	In August 2019, the company had announced signing of definitive agreements with GIC affiliates, for up to Rs 44 billion investment for 49% stake in a portfolio of nine of its assets through private InvIT structure (IRB Infrastructure Trust) with IRB retaining the controlling 51% stake in the trust. The portfolio has 5,900 km in Haryana, Uttar Pradesh, Rajasthan, Gujarat, Maharashtra, and Karnataka. In October 2020, IRB Infrastructure Trust successfully closed the second tranche of fund raising by way of rights Issue of units amounting to Rs 5.1 billion. Being the sponsor and 51% stakeholder, the company contributed Rs 2.6 billion and the GIC affiliates, the balance Rs 2.5 billion. This is part of the total commitment of Rs 44 billion by GIC affiliates for the 49% stake in private InvIT housing nine BOT assets. Of Rs 44 billion, the trust received Rs 37.53 billion in February 2020.
	May 2017	A fresh issue of units of about Rs 43 billion and an offer for sale of about Rs 30 billion. The proceeds from the offer from sale went to the sponsor, IRB, while the proceeds of the fresh issue (about Rs 42 billion) were invested in the six road assets under

InvIT	Year	Progress
		the InvIT in the form of debt. The repayment of existing debt on the SPV to the lenders was completed.
IndInfravit Trust (L&T IDPL)	Jun 2019	Sadbhav Engineering transferred nine operational BOT assets (seven toll and two annuity) to this InvIT. The enterprise value of these assets is Rs 66 billion, which will help deconsolidate Rs 40 billion of Sadbhav's debt. This, in turn, will help unlock funds to bid for newer HAM projects.
	Apr 2018	L&T privately placed the InvIT units. It has transferred five operational assets to this InvIT.
Oriental InfraTrust	Jun 2019	It has five operational road assets of approximately 621 km.
IL&FS Transportation Networks Ltd	Apr 2024	It is a six-lane highway in the Barwa – Adda section of NH-2 from Km. 398.240 to Km. 521.120 (design length of approximately 122.88 km) in the States of Jharkhand and West Bengal under National Highway Development Program Phase-V on a Design-Build-Finance-Operate-Transfer (DBFOT) basis.
NXT- Infra Trust	Jan 2024	Bhagan Toll Plaza is a 8-lane, 71.389 km long section near the Haryana/Delhi border.

Source: Crisil Intelligence

InvITs, as envisaged in Union Budget 2014-15, will own and manage income-generating infrastructure projects. As per regulations, these trusts will be allowed to make only 20% of their investments in under-construction projects. The rest will have to be invested in completed, revenue-generating infrastructure projects. Such trusts are expected to help unlock tied-up capital of developers and attract foreign capital.

In Union Budget 2015-16, the finance minister exempted the capital gains tax on sponsors at the time of listing of units of InvITs. In Union Budget 2016-17, distributions made from special purpose vehicles to InvITs were exempt from the dividend distribution tax.

Additionally, the Union budget (FY21) announcement of scraping dividend distribution tax (DDT) and shifting the taxation of such payouts to investors would prove to be a negative for InvITs. Our interactions with market participants, however, indicate that given this could hurt asset monetisation plans esp. in the roads sector, the government may create a carveout for InvITs to allow them to continue with the earlier regime.

Investment by Public and Private sector (InvITs)

Road InvIT AUM likely to double this fiscal, HAM's share to rise. Stable cash flow, adequate leverage will keep credit profiles strong

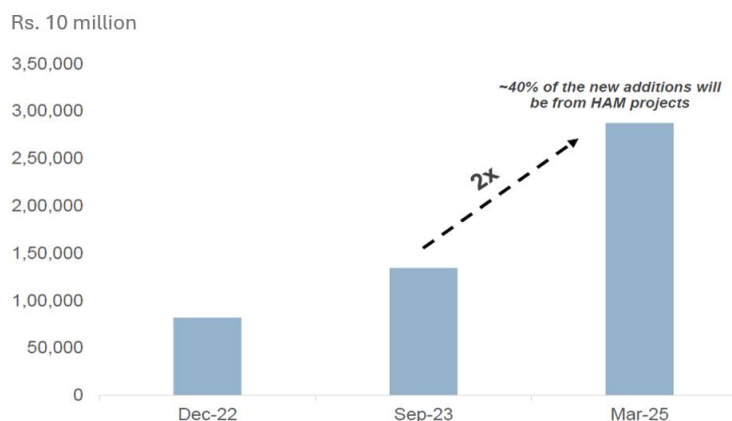
Assets under management (AUM) of InvITs in the road sector are estimated to nearly double by March 2025 from Rs 1,400,000 million currently. The asset composition of these InvITs is expected to change, with the hybrid annuity model (HAM) projects forming a substantial portion of the incremental AUM. The cash flow stability offered by more HAM projects in the InvIT asset pool will offset the marginal increase in leverage, keeping credit profiles strong.

Since its inception in 2016, HAM has been the preferred route used by the National Highways Authority of India (NHAI) for awarding public-private partnership (PPP) projects. A large number of these projects have been completed and, hence, ripe for monetisation. Engineering, procurement and construction (EPC) companies are expected to push for monetisation of these projects to unlock equity.

The share of HAM projects in InvITs AUM is expected to increase to 20-25% by March 2025 from ~7% currently. This is because InvITs are looking to diversify their pool by adding HAM projects in the current toll-heavy portfolios. Additionally, InvITs comprising only HAM projects are also in the

offing. Thus, ~40% of the incremental AUM through next fiscal could come through monetisation of HAM projects. The consolidated loan-to-value ratio of road InvITs, which is an indicator of leverage, is currently at ~41%. As the InvITs have historically shown intent to maintain a balanced mix of debt and equity, leverage is expected to remain comfortable at 45-47% by March 2025

Robust growth expected in road InvITs



Source: Crisil Intelligence

AUM of InvITs, REITs seen topping Rs 7,500,000 million next fiscal. Predictable cash flow, structural safeguards to keep credit profiles stable, as leverage inches up

The AUM of InvITs and REITs in India is seen soaring 15-20% to Rs 7,500,000-8,000,000 million by fiscal 2025. Strong revenue visibility and long life of assets expected to result in robust credit profiles despite a slight increase in leverage.

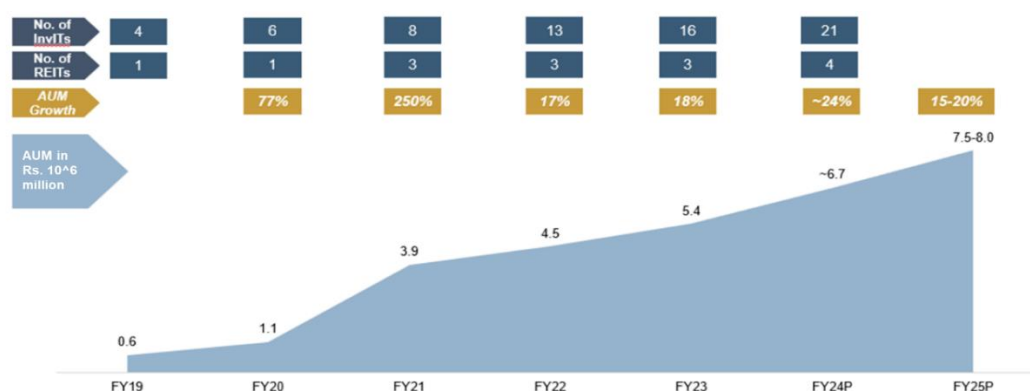
The inherent advantages in the trust structure for developers, investors and lenders, and proactive regulatory changes continue to support the AUM growth of InvITs and REITs. AUM grew multifold between fiscal 2018 – when the first such trust was listed in India – and fiscal 2021, followed by healthy compound annual growth rate of 18% over the two years through fiscal 2023.

The momentum has continued in this fiscal with Rs ~1,300,000 million added to AUM. Of this, 55% was from six new trusts and the remaining through asset acquisitions in the existing ones. Fiscal 2024 also saw new sectors, such as retail malls, warehouses and renewables, come into the fold, even as the road sector accounted for almost half of the AUM addition.

The road sector will continue to dominate, accounting for almost three-fourths of the Rs 1,000,000-1,500,000 million additional AUM expected in fiscal 2025. This is due to the strong availability of road assets, driven by the healthy pace of infrastructure creation and many assets being ripe for monetisation. The inherent advantages of trusts that allow developers to unlock equity, deleverage balance sheets, gain access to long-term institutional investors and derive tax benefits will continue to support the AUM growth across sectors. The consolidated leverage of InvITs and REITs has increased from 40% in fiscal 2021 to ~46% currently and is expected to be 47-48% by fiscal 2025. Still, credit profiles are expected to be strong, supported by stable and predictable cash flows, long life and diverse pool of assets and moderate to low counterparty risks.

Other fundamental features of the trusts, such as cap on leverage, mandatory distribution of 90% cash flow and the limit on proportion of under-construction assets, benefit both investors and lenders. Currently, ~50% of the equity in trusts is held by foreign investors. That said, participation by domestic investors is on the rise, supported by proactive regulatory changes, such as allowing investments by insurance and pension funds and decreasing the lot size to increase retail participation. Shareholding by retail investors in publicly listed trusts increased to 18% in first half of fiscal 2024 from 12% in fiscal 2021. With regulatory leverage (ratio of debt to AUM) increased from 49% to 70%, the expansion in AUM has been accompanied by a modest rise in leverage, as the existing trusts have funded new acquisitions largely through debt.

Growth of AUM under REITs and InvITs in FY25



Note: FY24P and FY25P are projected figures

Source: Crisil Intelligence

Healthy pipeline across EPC, HAM and BOT augurs well for monetisation potential

National Highways construction in India increased at 5.3% CAGR between FY14-FY23. Under Bharatmala Pariyojna approved projects the share of EPC: HAM: BOT modes are 56%:43%:1% respectively. The Expected share of HAM Projects is 45-50% by FY 28. NHAI has identified a total of 53 highway projects worth Rs 2.1 trillion rupees to be developed through Built Operate Transfer (BOT) model which will be announced in coming years, out of which the authority has invited bids for 15 BOT toll projects spanning 937kms and worth of 44,412 Crores in the current FY. These BOT projects are in Maharashtra, Madhya Pradesh, Telangana, Uttar Pradesh, Asam and Jammu Kashmir.

STATE ROADS

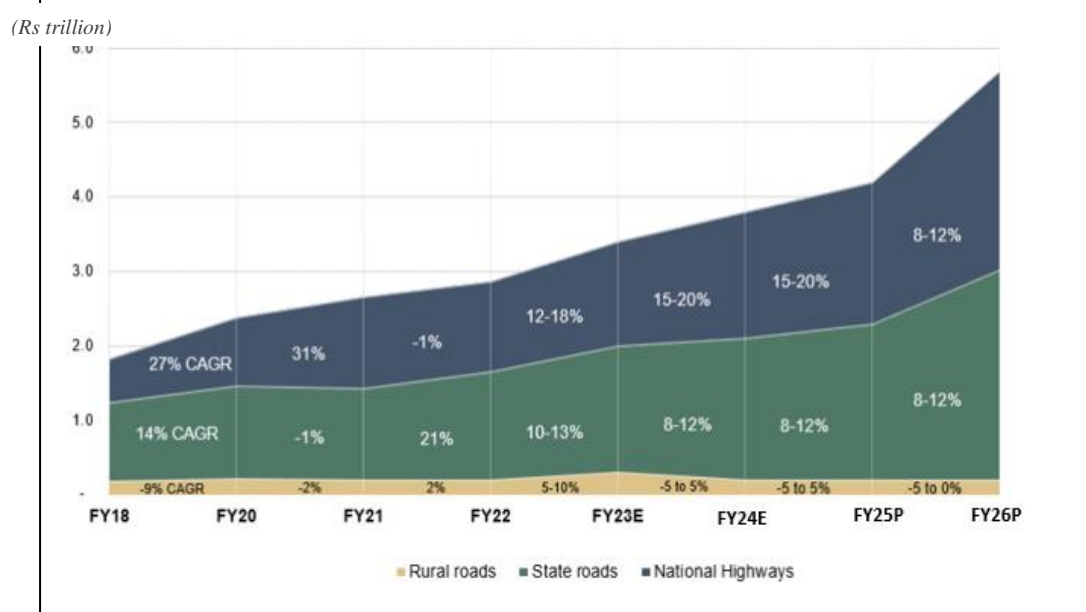
Review and Outlook of State Road

State road capex to continue its growth this fiscal, albeit at a slightly lower pace

Crisil Intelligence's analysis of state-road budgets indicates that state road capex forms 45-50% of the sector. State capex on roads and highways sector remained flattish in fiscal 2021, due to constrained state funds. On this low base, the capex grew 21% in fiscal 2022 and is estimated to have further grown 10-13% in fiscal 2023, largely in line with the growth in budgetary outlay. Subsequently, growth is expected to moderate slightly to 8-12% over the next two years.

Our interactions with market participants indicate that state road projects funded by external agencies, such as World Bank or ADB, or have private/bank funding, such as Expressways under UPEIDA, have not had much impact due to Covid-19, compared with state-funded projects.

State road capex to witness slight moderation in growth on the high base of last fiscal



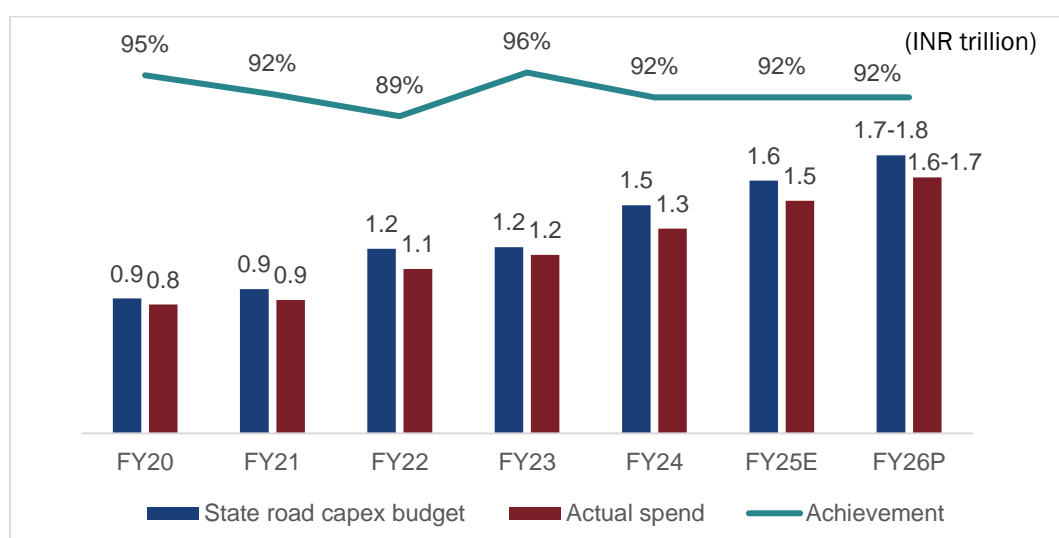
P: Projected

Source: State budget documents, Crisil Intelligence

State roads, which include highways, major district roads and rural roads that do not come under the purview of the Pradhan Mantri Gram Sadak Yojana, constitute over 20% of the country's road network and handle ~40% of road traffic. These play an important role in the economic development of mid-sized towns and rural areas, and aid industrial development by enabling the movement of raw material and products to and from the hinterland.

Spending on road infrastructure by the top 15 states is projected to increase by 10-12% in the upcoming fiscal year, continuing from a strong base established in the current year. Over the previous five fiscal years, the budget achievement ratio has consistently remained high at 93%, indicating that a substantial portion of the budget increase planned for the next fiscal year is expected to be effectively utilized

FY24 budgets for the top 15 states is 17% higher on-year, even on the high base of last year



Note: E: Estimated; State budget data for 15 states that account for 85% of total state road capex outlay
Source: State budget documents, Crisil Intelligence

Looking at the state-wise expenditures on the roads & highways sectors, it is evident that the top spenders on roads & highways sector have budgeted for higher capital outlay this fiscal as well. The top 3 states, Uttar Pradesh, Maharashtra and Tamil Nadu, together account for close to 50% of the total state outlay on the roads and highways sector. On the other hand, the top five states together account for 70% of the total state capital outlay on the roads and highways sector. Given these states have relatively strong fiscal deficit profiles as well, the actual expenditure by these states is also likely to be high, leading to new investment opportunities.

Laggard states with superior fiscal deficit profiles have typically budgeted for higher road spending this fiscal

	FY25BE Capital Outlay (Rs. 0,000 million)	Growth in Roads Capex		Fiscal deficit	
		FY19-24RE	FY25BE	FY24RE	FY25BE
Uttar Pradesh	34	33%	-1%	4.0%	3.5%
Maharashtra	29	35%	13%	2.7%	2.5%
Tamil Nadu	18	15%	7%	3.0%	3.3%
Odisha	16	11%	21%	2.9%	3.0%
Gujarat	17	13%	150%	1.5%	1.8%
Karnataka	7	10%	11%	2.5%	2.2%
Madhya Pradesh	7	0%	28%	3.6%	4.0%
Rajasthan	9	-7%	-1%	4.3%	4.0%
Jharkhand	6	-10%	61%	2.3%	2.8%
West Bengal	5	6%	18%	4.0%	3.8%
Telangana	3	13%	2%	3.2%	2.7%
Bihar	4	4%	4%	8.8%	3.0%
Andhra Pradesh	3	13%	24%	3.6%	3.8%
Haryana	3	19%	24%	3.3%	3.0%
Punjab	2	6%	58%	5.2%	5.0%

Note: Fiscal deficit: <3% green, 3-3.6% yellow and >3.6% red; BE: Budget Estimate; RE: Revised Estimate
Source: State budget documents, Crisil Intelligence

NHAI vs state HAM

Few states such as Maharashtra, Madhya, Karnataka and Rajasthan have implemented the HAM model in awarding of state highway projects. Maharashtra's model is similar to that of NHAI, while those of Madhya Pradesh, Karnataka & Rajasthan.

Maharashtra's HAM similar to NHAI's model

Parameter	NHAI	Maharashtra	Madhya Pradesh	Karnataka	Rajasthan
Equity contribution by developer					
Operational Period					
Termination payment pre COD					
Termination payment post COD					
Cash flow in initial years					
Mobilization advance					
Overall riskiness					

Source: State budget documents, Crisil Intelligence

State roads financed by state governments, private participation in state-level HAM projects, a monitorable

State roads are largely financed through budgetary allocations by respective state governments. These are supplemented by funds from the National Bank for Agriculture and Rural Development (Nabard), Housing and Urban Development Corporation Ltd, Rural Infrastructure Development Fund, and the state's portion of Central Road Fund (CRF).

State governments will finance most state road projects (via budgetary allocation, external assistance, and CRF). Some states have a favourable policy framework to attract private participation. Going forward, the share of private participation in state roads is expected to be at 12-15% as the success of the HAM projects introduced across various states are monitorable.

Budgetary support and lender comfort — key success factors for states

	NHAI	Maharashtra	Madhya Pradesh	Karnataka	Rajasthan
Number of bidders	5-6 bidders	6-7 bidders	4-5 bidders	2-3 bidders	2-3 bidders
Bid Project Cost vs Authority Cost	10-15% above	Almost at par	Almost at par	15-20% above	8-10% above
Awarded projects (kms) till date	>7000	~10000	280	420	750
Average size of Project	~Rs 1,100 crore	~Rs 200 crore	~Rs 150 crore	~Rs 1,000 crore	~Rs 500 crore
Cost per km	Rs 20 crore per km	Rs 2.5-3 crore per km	Rs 3-3.5 crore per km	Rs 7 crore per km	Rs 2-2.5 crore per km
Key players	Dilip Buildcon, Ashoka Buildcon, PNC Infratech, Sadbhav, IRB	Rajpath Infra, SB Deshmukh, Harsh Construction, Welspun,	Ravi Infra, Shreeji, Path, RCL	Sadbhav, KNR	Dineshchandra R Agarwal, GR Infra, Gawar Construction
	Awarding began in FY16	Awarding began in FY18, future pipeline in line with Govt. budget allocation	Awarding began in FY20, future pipeline of ~1300 kms	Awarded in FY19, no future pipeline	Awarded in FY18, future awarding potential of 750 kms in FY21
Funding	Budgetary allocation + IEBR	Budgetary allocation of Rs 30-35 billion per year	\$ 490 mn from ADB	\$ 346 mn from ADB approved for KSHIP Land acquisition & funding issues due to change in Govt.	\$ 190 mn from ADB
Key findings		GoM deposits 50% of its grant in escrow account maintained by bank to ensure no delayed payments	Awarded in Jan 2020 after approval for ADB loan	Projects awarded in June 2018 have only now achieved FC. Appointed date given with 65% land to KNR	750 kms awarded in FY18 under RSHIP-1 with ADB funding. RSHIP Tranche-2 now approved

Source: State budget documents, Crisil Intelligence

Central assistance to state roads

State roads come under the jurisdiction of the respective state governments. However, the central government may provide financial assistance to state governments through various schemes for the development of the road network. The responsibility of awarding contracts for road development is entrusted with two state government divisions, namely, the PWD and Road Development Corporation (RDC). Generally, cash contracts are awarded by the state PWDs, while BOT-annuity and BOT-toll contracts are awarded by state RDCs.

The central government has set up the CRF to provide financial assistance to state governments for road development and railway safety works within the states.

THREATS AND CHALLENGES

Fiscal Constraints and Rising Public debt

- The Indian road sector relies heavily on government funding through budgetary allocations and sovereign-backed financing. However, a high fiscal deficit and competing national priorities (such as healthcare, education, and social welfare) may limit infrastructure spending.

Interest Rate Volatility and Financing Risks

- The road sector is capital-intensive, requiring long-term debt financing. Rising interest rates increase borrowing costs for developers, making projects less financially viable and reducing private sector participation. Additionally, refinancing risks emerge as developers struggle with higher debt servicing costs, leading to potential project delays or cancellations.

Land Acquisition and Right of Way (RoW) Issues

- Land acquisition remains one of the most significant hurdles in road project implementation. Complex land ownership patterns, legal disputes, and resistance from local communities often result in cost overruns and project delays.
- The Right to Fair Compensation and Transparency in Land Acquisition Act (2013), while ensuring fair compensation, has made land acquisition more time-consuming and expensive.

Encroachments and Rehabilitation Challenges

- Unauthorized encroachments along highways create legal and operational challenges, requiring intervention from multiple authorities. Issues include:
 - Delays in clearing encroachments, leading to stalled or incomplete road projects.
 - Obstructions in urban expansion projects, affecting city infrastructure integration.

Operational and Maintenance Challenges

- Poor road engineering and design, resulting in accident-prone zones.
- Lack of enforcement of traffic regulations, leading to reckless driving and overloading.

Environmental and Sustainability Concerns

- Large-scale road construction projects often result in deforestation, loss of biodiversity, and ecosystem disruptions.
- Compliance with environmental norms remains weak, leading to long-term environmental degradation.
- Lack of climate-resilient design strategies, making roads vulnerable to extreme conditions.

COMPETITIVE LANDSCAPE FOR EPC PLAYERS

Operational Parameters

GR Infra Projects Limited

G R Infra projects Limited (GRIL) is a prominent player in India's infrastructure sector, specializing in engineering, procurement, and construction services. With over 25 years of experience, the company focuses on developing highways, bridges, airport runways, railways, metro projects, power transmission lines, and tunnels. The company has a presence in 23 states and has 8 manufacturing units. As of 2024, their portfolio includes 28 projects, of which 5 are currently operational, 14 are under construction and 9 are awaiting approval.

Gawar Construction Limited

Gawar Construction Limited (GCL) is a prominent infrastructure development company in India, actively engaged in various significant projects of expressways, highways, tunnels, and bridges across

the country. They have collaborated with various government bodies to contribute to over 12,000 lane kilometers across. They have built around 10 highways projects.

Dilip Buildcon Limited

Dilip Buildcon Limited (DBL), founded in 1987 by Dilip Suryavanshi, is a leading Indian construction and infrastructure development company based in Bhopal, Madhya Pradesh. Specializing in Engineering, Procurement, and Construction (EPC) projects, DBL operates across various sectors, including roads and highways, bridges, tunnels, mining, irrigation, and urban development. With a robust presence spanning multiple states in India, DBL has successfully completed numerous projects that enhance the nation's infrastructure. The portfolio includes, 15 completed Roads and Highways projects, 2 completed airport projects, 3 ongoing rail projects and 3 ongoing tunnel projects.

Financial Parameters (FY 2019-24)

GR Infra Projects Limited

GR Infra: Financial Analysis

Parameters	2019	2020	2021	2022	2023	2024
Revenue	49514.30	60304.02	72478.36	79317.57	81557.90	77949.09
EBITDA	10103.40	12442.47	13230.39	12948.01	13147.36	11423.94
EBITDA Margin	20.41%	20.63%	18.25%	16.32%	16.12%	14.66%
PAT	5957.15	6887.68	7806.09	7608.15	8517.68	19774.32
PAT Margin	12.03%	11.42%	10.77%	9.59%	10.44%	25.37%
Total Debt	10606.82	10739.63	13511.10	11019.86	10758.80	7389.32
Net Debt	4542.61	2336.75	8095.59	9702.98	9429.85	3283.09
Ratios						
ROE%	32.42	27.77	24.31	19.11	17.79	31.87
ROCE%	36.35	32.25	26.92	21.55	21.01	34.56
Asset Turnover	4.93	4.409	4.06	3.52	3.23	2.95
Total Debt/ EBITDA	1.05	0.86	1.02	0.85	0.82	0.65
Net Debt/EBITDA	0.45	0.19	0.61	0.75	0.72	0.29

Note: All the values are in millions

Source: MCA database, CRISIL INTELLIGENCE

Gawar Construction Limited

GCL: Financial Analysis

Parameters	2019	2020	2021	2022	2023	2024
Revenue	38,237.09	40,525.35	59,011.07	64,418.67	69,575.69	72,869.01
EBITDA	4,843.14	5,970.47	8,660.93	8,497.60	9,361.23	9,608.02
EBITDA Margin	12.67	14.73	14.68	13.19	13.45	13.19
PAT	4,046.87	4,399.58	6,928.58	6,928.87	6,517.30	7,838.23
PAT Margin	10.58	10.86	11.74	10.76	9.37	10.76
Total Debt	1,435.72	1,753.61	874.26	882.39	1,478.79	2,981.23
Net Debt	(995.64)	(1,828.92)	(3,429.16)	(3,803.19)	(6,339.68)	(4,786.83)
Ratios						
ROE%	46.28	34.39	37.86	27.43	20.36	19.99
ROCE%	53.35	42.59	48.18	35.96	27.93	26.04
Asset Turnover	9.47	9.91	14.76	14.42	14.20	13.88
Total Debt/ EBITDA	0.30	0.29	0.10	0.10	0.16	0.31
Net Debt/EBITDA	-0.21	-0.31	-0.40	-0.45	-0.68	-0.50

Note: All the values are in millions

Source: MCA database, CRISIL INTELLIGENCE

Dilip Buildcon Limited

Dilip Buildcon Limited: Financial Analysis

Parameters	2019	2020	2021	2022	2023	2024
Revenue	91283.20	89581.75	92070.39	90040.26	101059.02	105372.99
EBITDA	16269.19	15734.99	14743.09	7675.52	8023.49	12991.38
EBITDA Margin	17.82%	17.56%	16.01%	8.52%	7.94%	12.33%
PAT	7649.41	4249.75	3192.93	-952.18	2217.75	4220.31
Total Debt	35763.48	32562.19	33910.40	30717.60	26857.33	18665.52
Net Debt	35366.17	31757.69	33614.89	30382.48	26566.95	15149.17
Ratios						
ROE%	27.20	12.59	8.54	(2.32)	4.97	8.63
ROCE%	21.74	17.47	15.51	6.10	10.98	15.88
Asset Turnover	2.93	2.49	2.37	2.25	2.57	2.79
Total Debt/ EBITDA	2.20	2.07	2.30	4.00	3.35	1.44
Net Debt/EBITDA	2.17	2.02	2.28	3.96	3.31	1.17

Note: All the values are in millions

Source: MCA database, CRISIL INTELLIGENCE

BUSINESS

Some of the information in this section, including information with respect to our plans, strengths, and strategies, contain forward-looking statements that involve risks and uncertainties. You should read “Forward-Looking Statements” on page 16 for a discussion on the risks and uncertainties related to those statements and also “Risk Factors”, and “Discussion and Analysis by the Directors of the Investment Manager of the Financial Condition, Results of Operations and Cash Flows of the Project SPVs of the Trust” on pages 66 and 349 respectively, and the “Special Purpose Combined Financial Statements” and the “Projections of Revenue From Operations and Cash Flow from Operating Activities” attached as Annexure C and Annexure D respectively, for a discussion of certain factors that may affect our business, financial condition, or results of operations. Our actual results may differ materially from those expressed in or implied by these forward-looking statements.

Unless otherwise stated or the context requires otherwise, the financial information included herein is based on our Special Purpose Combined Financial Statements included in this Draft Offer Document. For further details, see “Special Purpose Combined Financial Statements” attached as Annexure C. Unless otherwise stated or the context requires otherwise, references in this section to “we”, “our”, or “us” are to the Trust along with the Project SPVs. However, for the purpose of the Special Purpose Combined Financial Statements, references to “we”, “us”, and “our” refers to the Project SPVs. We have included various operational and financial performance indicators in this section, some of which may not have been derived from our Special Purpose Combined Financial Statements.

The manner in which such operational and financial indicators are calculated and presented, and the assumptions and estimates used in such calculations, may vary from that used by other entities in the business similar to ours. Investors are accordingly cautioned against placing undue reliance on such information in making an investment decision and must evaluate such information in the context of the Special Purpose Combined Financial Statements.

Industry and market data used in this section have been extracted from the CRISIL Report. For further details in relation to the CRISIL Report, please see the section entitled “Industry Overview” on page 173.

Additionally, for further details and risks in relation to CRISIL Report, please see the section entitled “Risk Factors” on page 66.

Overview

Anantam Highways Trust (the “**Trust**”) is an Indian infrastructure investment trust which proposes to invest in road infrastructure assets. The Trust is sponsored by Alpha Alternatives Fund Advisors LLP (the “**Sponsor**”). The Sponsor established the Trust on July 24, 2024 and the Trust was registered with SEBI on August 19, 2024 as an InvIT in accordance with the InvIT Regulations.

The Sponsor is a multi-asset class multi-strategy asset management entity that creates investment solutions across various asset-classes, including but not limited to, infrastructure, credit, real estate, equities, commodities, and fixed income. As on date, the Sponsor is a subsidiary of Alpha Alternatives Holdings Private Limited. For further details in relation to the Sponsor, please see the section entitled “*Parties to the Trust-The Sponsor and Sponsor Group*” on page 113.

The Trust will have an initial portfolio consisting of the nine Project SPVs having an aggregate of 359.73 kms (1,434.86 lane kms), located across five states and one union territory in India. The Trust, subject to receipt of certain approvals, will directly or indirectly hold 100.00% equity interest in eight Project SPVs and 49.00% equity interest in one Project SPV (“**Projects**”).

Our Projects

Our initial portfolio of assets include the following nine Projects, which comprises national highways that are located in the states of Karnataka, Telangana, Gujarat, Bihar, Tamil Nadu and one union territory of Puducherry proposed to be acquired by way of 100% shareholding in eight Project SPVs and 49% shareholding in one Project SPV:

- The Dhrol Bhadra Highways Limited (“**DBHL**”) Project, a four lane highway with an aggregate length of 50.45 kms, comprising NH-151A* of Dhrol – Bhadra Patiya section (between Ex. km 5+700 to km

13+600 of SH-25) and Bhadra Patiya – Pipaliya section (between Ex. km 73+000 to km 44+800 and Ex. km 38+350 to km 24+000 of CSH-6) on hybrid annuity model in Gujarat, operated by the National Highways Authority of India (“NHAI”);

- The Dodaballapur Hoskote Highways Limited (“**DHHL**”) Project, a four lane highway with an aggregate length of 38.00 kms, comprising NH-648* from km 42.00 to km 80.00 of Dodaballapur Bypass to Hoskote section on Hybrid Annuity Mode in Karnataka, operated by NHAI;
- The Repallewada Highways Limited (“**RHL**”) Project, a four lane highway with an aggregate length of 52.60 kms, comprising NH-363* from km 42.00 (existing km 288.51) to km 94.60 (existing km 342.00) on the Repallewada to Telangana/Maharashtra Border on Hybrid Annuity Mode in Telangana, operated by NHAI;
- The Viluppuram Highways Limited (“**VHL**”) Project, a four lane highway with an aggregate length of 29.00 kms, comprising Viluppuram- Puducherry section of NH-45A (new NH-332*) from km 0.00 to km 29.00 under Bharatmala Priyोजना Phase I on Hybrid Annuity Mode in Tamil Nadu and Puducherry, operated by NHAI;
- The Narenpur Purnea Highways Limited (“**NPHL**”) Project, a four lane and two lane highway with an aggregate length of 47.40 kms, comprising NH-131A* of Narenpur - Purnea section comprising of 4 (four) lane standard between km 34.60 (design Ch. 6.00) to km 79.97 (design Ch. 53.00) and 2 (two) lane with paved shoulders standard between km 79.97 (design Ch. 53.00) to km 82.00 (design Ch. 55.00) on Hybrid Annuity Mode in Bihar, operated by NHAI; and
- The Bangalore Malur Highways Limited (“**BMHL**”) Project, a four lane highway with an aggregate length of 27.100 kms, comprising from km 0.000 to km 26.400 (along with 0.700 km approach towards NH 207 with interchange on NH4 at start point) of Bangalore to Malur section of Bangalore Chennai Expressway on Hybrid Annuity Mode under Bharatmala Pariyोजना, in the state of Karnataka (Phase-I Package-I), operated by NHAI;
- The Malur Bangarpet Highways Limited (“**MBHL**”) Project, a four lane highway with an aggregate length of 27.10 kms, comprising Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpet section of Bangalore Chennai Expressway on Hybrid Annuity Mode under Bharatmala Pariyोजना in the state of Karnataka (Phase I-Package II), operated by NHAI;
- The Poondiyanakuppam Highways Limited (“**PHL**”) Project, a four lane highway with an aggregate length of 38.00 kms, comprising Puducherry-Poondiyanakuppam section of NH-45A (new NH-332*) from Km 29.00 to Km 67.00 under Bharatmala Pariyोजना Phase I on Hybrid Annuity Mode in Tamil Nadu and Puducherry, operated by NHAI;
- The DPJ Pollachi HAM Project Private Limited (“**DPHPPL**”) Project, a four lane highway with an aggregate length of 50.08 kms, comprising Madathukulam to Pollachi section of NH-209 (new NH-83*) from Km 74.38 to Km 116.95 under Bharatmala Pariyोजना Phase I on Hybrid Annuity Mode in Tamil Nadu, operated by NHAI.

**Note: The NH numbers and chainages mentioned in this Draft Offer Document may be old NH numbers and chainages, as per the concession agreements. The actual NH numbers and chainages at site may differ based on subsequent changes.*

The revenue from operations of the Project SPVs for the nine month period ended December 31, 2024 was ₹ 7,410.85 million and Fiscals 2024, 2023, 2022 was ₹ 27,185.05 million, ₹ 27,687.01 million and ₹ 21,891.56 million, respectively.

The Projects are based on public private partnership (“**PPP**”) on a hybrid annuity mode (“**HAM**”). HAM was introduced in January 2016 by the Government with an intent to share the financial risk with the developers, given that infrastructure projects are capital intensive in nature. In a HAM project, the concessioning authority shares a portion of the total project cost during the construction phase. As a mix of EPC and annuity models, HAM reduces the financial burden of a concessionaire during the project construction phase and provides an assured revenue in form of annuities, interest on reducing balance of completion cost (BCC) and O&M payments

both linked to inflation in the operational phase. Annuity payments eliminate the risk of income fluctuations resulting from changes in traffic volumes. The concessioning authority for all the Projects is NHAI.

For further details, please see the section entitled “*Industry Overview*” on page 173.

The map below illustrates the locations of the Projects:

Note: Please note that as on the date of this Draft Offer Document, PHL is yet to receive the PCOD certificate

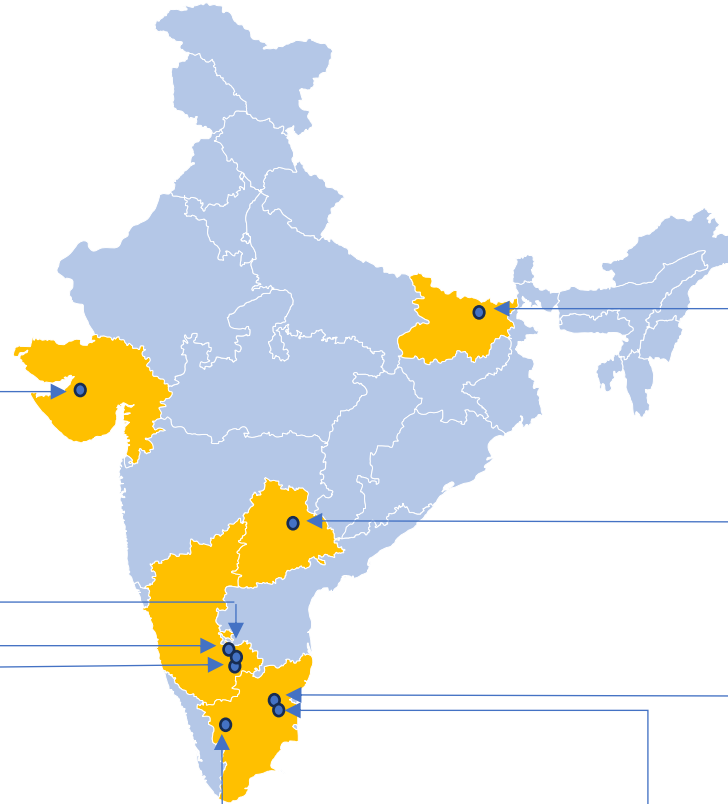
DHROL BHADRA	
Lanes / Length	4 Lanes / 50.45 Kms
Pavement Type	Rigid
PCOD	September 25, 2023

DODABALLAPUR	
Lanes / Length	4 Lanes / 38.0 Kms
Pavement Type	Flexible
PCOD	July 21, 2023

BANGALORE MALUR	
Lanes / Length	4 Lanes / 27.1 Kms
Pavement Type	Flexible
PCOD	May 15, 2024

MALUR BANGARPET	
Lanes / Length	4 Lanes / 27.1 Kms
Pavement Type	Flexible
PCOD	May 16, 2024

Re_Balance
Completion Cost Wor



NARENPUR PURNIA	
Lanes / Length	4 Lanes / 49.0 Kms
Pavement Type	Flexible
PCOD	Mar 29, 2024

Re_Balance

REPALLEWADA	
Lanes / Length	4 Lanes / 52.6 Kms
Pavement Type	Flexible
COD	October 20, 2023

Re_Balance

VILLUPURAM	
Lanes / Length	4 Lanes / 29 Kms
Pavement Type	Rigid
PCOD	April 04, 2024

Re_Balance

POONDIYANKUPPAM	
Lanes / Length	4 Lanes / 38 Kms
Pavement Type	Rigid
PCOD (Expected)	-

Re_Balance

Completion Cost Wor

MADATHUKULAM - POLLACHI	
Lanes / Length	4 Lanes / 50.08 Kms
Pavement Type	Flexible
PCOD (Partial)	Oct 05, 2023 (36.5 Kms)

Re_Balance

Completion Cost Wor

Pursuant to the ‘right of first offer agreements’ to be entered into between the (i). Trustee (acting on behalf of the Trust), the Investment Manager, DBL, and such other parties as may be required (the “**DBL ROFO Agreement**”); and (ii). the Trustee (acting on behalf of the Trust), the Investment Manager, Build India Infrastructure Fund and such other funds managed by the Sponsor and other parties as may be required (the “**Alpha ROFO Agreement**”) (collectively, the “**ROFO Agreements**”), the Trust has a ‘right of first offer’ to acquire projects developed by DBL (including its affiliates) and Build India Infrastructure Fund and/or such other funds set up by the Sponsor and/or such other parties as maybe required for investing in eligible road infrastructure projects for a period starting from the Listing Date until five years from the Listing Date. For further details on the ROFO Agreement, please see sections entitled “*Related Party Transactions*” and “*Corporate Governance*” on pages 373 and 156.

For further details of the Sponsor, the Investment Manager, the Project Manager and the Trustee, please see the section entitled “*Parties to the Trust*” on page 113.

Strengths

The Investment Manager believes the following to be the key strengths of the Trust:

Attractive industry sector with strong underlying fundamentals and favourable government policies

Further development of the infrastructure sector, in particular road infrastructure, is a priority for the GoI and many state governments and has been the subject of enhanced investment from the public sector through traditional means of public investment and new channels such as PPPs. Roads have been the key focus area for budget allocations over the years. As per the Industry Report, the overall gross budgetary outlay for the Ministry of Road Transport and Highways doubled from ₹ 1.29 lakh crore in fiscal 2019 to ₹ 2.75 lakh crore in fiscal 2024. Overall road sector capex, comprising of National Highways, State Highways & rural roads is estimated to have grown at a CAGR of 14% between fiscals 2018 & 2023. This growth, driven by Bharatmala and increased state spends on roads has been achieved despite brief hiccups such as the pandemic and hampered construction due to elongated monsoons. The outlook of the sector also remains firm supported by higher awarding of previous fiscals, Bharatmala, NIP pipeline of DPR ready projects and steady state capex. Through the PPP model, among others, the Investment Manager believes that the Trust has acquired, and will continue to capture through further acquisitions, a sizeable share in the PPP format of the road infrastructure sector.

4. *Lower equity contribution requirement to increase private players’ ability to bid for projects:* With the government incurring 40% of the project cost, the HAM calls for lower equity contribution from developers (15% compared with 25% for BOT-toll projects). This is beneficial, given the current weak financial position of road developers. Further, with the NHAI’s equity stake in the project, banker comfort in lending to the project increases significantly. (Source: CRISIL Report)
5. *Low-risk model to provide moderate returns:* We expect low risk and lower capital requirements to attract private players. Hence, we believe developers would target returns of 11-13%, given the lower risk and assuming moderate competition. Lower competition is mainly on account of the stretched financials of many developers. (Source: CRISIL Report)
6. *Boost private investments in national highways over the next five years:* Because of delays in land acquisition and caution shown by lenders in the initial phases for lending to HAM projects, total awarding declined in fiscal 2019 to 2,222 km, compared with 7,397 km in fiscal 2018. Of the total awarding in fiscals 2018 and 2019, 2,884 and 977 km, respectively, were awarded through the HAM. The share of private investment has declined between fiscals 2018 and 2019 from 31% to 24%, respectively, mainly on account of EPC projects. Fiscal 2021 saw increased participation in awarding on account of changes to the HAM bid eligibility and MCA changes. A total of 6,306 km was awarded in fiscal 2022, of which, 3,468 km was under the HAM, compared with a total 4,818 km in fiscal 2021 (2,602 km under the HAM). (Source: CRISIL Report)

For further details on the market opportunity for the road infrastructure industry in India, please see the section entitled “*Industry Overview*” on page 173.

Sizeable portfolio of long-term, stable, revenue-generating assets

The Trust shall have a sizeable initial portfolio of completed and revenue-generating assets, comprising of nine Projects with an aggregate length of over 1434.86 lane kilometers, located across five states and one union territory in India, covering key geographies such as Karnataka, Telangana, Gujarat, Bihar, Tamil Nadu and Puducherry.

Each Project SPV has entered into a long-term concession agreement with the concessioning authority, being NHAI, having concession periods of 17 years comprising of two years of construction and operational periods of 15 years, with each such concession period commencing from the appointed date of the relevant Project. Project SPVs are comprising of 9 road stretches. On a collective basis, the Projects have a residual concession period ranging from 13.56 years to 14.38 years, as of December 31, 2024. The Projects are well positioned to provide long-term cash flows to the Trust.

We believe that the sizable portfolio of assets will provide us with steady cash flow during the course of the year. Majority of our revenue from operations received in cash in the period ended December 31, 2024 came from annuities paid by NHAI. Our hybrid annuity-based Project SPVs have predictable cash flows and are well positioned to bring stable income to the Trust. The hybrid annuity mode shifts the traffic risk to the NHAI from the concessionaires, with developers being provided fixed annuities based on predetermined schedules.

Strong support from the Sponsor, Dilip Buildcon Limited, Project Manager and Investment Manager

We intend to leverage the experience and expertise of the Sponsor, Project Manager, Investment Manager and its affiliates, within the asset management industry focusing on infrastructure sectors, including the road infrastructure industry. Our Sponsor is engaged in investment management activities primarily with an objective of generating stable returns and earning long term capital appreciation. Our Sponsor is affiliated with funds, vehicles and/or entities managed and/or advised by Sponsor and its affiliates.

Further, we intend to leverage the experience and expertise of DBL, seller of the eight project SPVs and one of the largest players in the Indian road construction sector in terms of scale of operations and order book size with well diversified EPC infrastructure. DBL is also engaged in various other sectors such as metros, irrigation, water supply, special bridge, urban developments, airports, tunnels and coal miner developer and operator. DBL has demonstrated strong execution capability over the past few years. DBL bids for projects after factoring synergetic benefits arising from clustering of projects and stretches with relatively lower hurdles of land acquisition and clearances.

Growth opportunities and rights to expand portfolio of assets

The Sponsor and its associates, have significant experience in the infrastructure space which the Trust can utilise to negotiate acquisitions, which may generate profit and create growth opportunities for the Trust.

Through the ROFO Agreements, we will have a right of first offer to acquire certain assets of DBL (and/or its affiliates), including the projects currently owned by DBL (and/or its affiliates), or which may be acquired or developed by DBL, the Sponsor and Build India Infrastructure Fund along with their respective affiliates. We believe that this access to future road assets of DBL, the Sponsor and Build India Infrastructure Fund along with their respective affiliates will be an important source of growth of the InvIT in the future.

Skilled and experienced management team with a focus on corporate governance

We have a skilled management team with several years of experience in the infrastructure sector providing us an ability to pursue our growth strategies in a seamless manner. We draw on the knowledge of our Board of Directors and key personnel, who bring us expertise in the areas of risk management, business strategy and operational and financial capabilities, amongst others. We believe this will be key to the execution of our growth strategies. Our Board comprises of six directors, as on the date of this Draft Offer Document with extensive experience in management, finance and infrastructure. For further details on the experience of the management team of the investment manager in the infrastructure sector in India, please see the section entitled “Parties to the Trust- The Investment Manager – Alpha Alternatives Fund-Infra Advisors Private Limited” on page 128.

We believe that the experience of our management team (Investment Manager and Project Manager) in the infrastructure sector will ensure that the Project SPVs and the Trust are operated and managed in an efficient manner. The team is supported by other qualified operational personnel, through appropriate contractual arrangements, who have an in-depth understanding of the sector in which we operate. We have entered into contracts with a significant number of qualified personnel (including the experienced contractors and service provider identified by the Investment Manager and the Project Manager) who are engaged in operating and managing our projects as on the date of this Draft Offer Document.

With the aim of enshrining principles of good corporate governance and effective management and operations of the Trust, the Investment Manager has constituted various committees and adopted policies such as whistle-blower and vigil mechanism policy, risk management policy, policy on code of conduct for Board of Directors and Senior Management Personnel, policy to promote diversity of Board of Directors, amongst others, to manage the activities of the Trust. The Investment Manager has further created separate risk management committee for managing the decision-making process for the Trust. In accordance with the InvIT Regulations, the Investment Manager has also adopted the (a) distributions policy pursuant to which distributions are required to be made to the Unitholders after Allotment and (b) borrowing policy which aims to outline the borrowing thresholds and process in relation to the Trust.

Further, the Investment Manager has also adopted appointment of auditor and valuer policy which aims at formulating a structure for ensuring compliance by the Trust in appointment of its auditor and the auditing standards followed and the appointment of its valuer, in accordance with applicable law including the InvIT Regulations and has adopted a code of conduct policy which aims at formulating a framework for ensuring interest of the Unitholders and proper conduct in carrying out the business and affairs of the Trust in accordance with InvIT Regulations. For details in relation to the corporate governance framework of the Investment Manager, please see the section entitled “*Corporate Governance*” on page 156.

We believe that our governance process will ensure adherence and enforcement of principles of sound corporate governance with the objectives of fairness, transparency, professionalism, trusteeship and accountability, while facilitating effective management of the businesses and efficiency in operations.

Strong O&M Support and favorable O&M structure

Pursuant to the O&M Agreements, DBL has been or is proposed to be appointed as the O&M contractor in respect of the Project SPVs (the “**O&M Contractor**”). DBL was the original bidder for the Project SPVs (except DPHPPL) and was also the EPC contractor for the construction and development of each of such Projects.

DBL, being a leading Indian construction and infrastructure development company specializes in engineering, procurement, and construction. DBL operates across various sectors, including roads and highways, bridges, tunnels, mining, irrigation, and urban development. With a robust presence spanning multiple states in India, DBL has successfully completed numerous projects that has enhanced the nation’s infrastructure. The portfolio includes, 15 completed Roads and Highways projects, 2 completed airport projects, 3 ongoing rail projects and 3 ongoing tunnel projects. Pursuant to the terms of the O&M Agreements, DBL will be responsible for discharging all the O&M responsibilities required to be discharged under the concession agreements by the Project SPVs. For further details, please see the section entitled “*Business*” on page 258. The Investment Manager believes that the Trust will benefit from DBL’s engagement as the O&M Contractor for the Project SPVs, given that DBL was the original owner and developer of such Projects (except DPHPPL) and has extensive experience in the road infrastructure sector.

Hedge against adverse interest rate movements

The HAM Projects have a natural hedge against the risk of adverse interest rate movement. In addition to the annuity payments due under such concession agreements during the operations period, the relevant concession agreements for HAM Projects require the relevant concessioning authority to pay interest on the reducing balance of the completion cost throughout the operation period at the rate of either 3% above the prevailing bank rate or 1.25% over the average one-year MCLR of top 5 schedule commercial banks and published by NHAI on regular basis, depending on the time during which concession was awarded. Accordingly, any increase in operating and financing costs is likely to be offset by the increased revenues earned by us on such HAM Projects.

Business Strategies

The Investment Manager believes the following to be the key strategies of the Trust:

Continue to pursue accretive growth by expanding the portfolio of road infrastructure assets

The Investment Manager intends to be selective with respect to any projects it acquires in the future and will consider factors such as access to important locations in the vicinity, connecting roads, remaining life of the assets, total costs of the projects, their O&M and MMR obligations, ports, availability of the relevant approvals, presence of counter-parties and, ease of complying with laws.

The Investment Manager believes that it will be able to leverage the Sponsor's and DBL's established network of relationships and contacts, extensive knowledge and experience in the roads sector in India to implement its acquisition strategy where by the Investment Manager shall be responsible for overseeing loans and investments of the Trust, including, considering any proposal for acquisition of assets and such other acts as may be required for implementation of the investment strategy of the Trust. The Investment Manager intends to expand the portfolio of road projects without compromising on the returns on investment from the Projects while providing attractive cash flows and yields, and opportunities for future income and capital growth.

In addition, the Investment Manager believes that due to trends in the industry, a number of acquisition opportunities may be available. These trends include the potential divestment of assets by highly leveraged private companies and by financial and private equity investors seeking to exit their investments. The Investment Manager hopes to take advantage of these opportunities by actively sourcing and acquiring quality assets from such third parties and the Government on a case-by-case basis.

Maintain optimum capital structure to maximise distributions to Unitholders

We focus on achieving an optimal capital structure for our projects and will continue to draw upon the experience, relationship and expertise of our Sponsor and its affiliates in sourcing funds from multiple sources, both from domestic and international markets. The Trust's total outstanding consolidated net debt after full utilization of the Issue Proceeds, will be within the regulatory requirement upon completion of the Issue (net of cash and cash equivalents) as specified under the InvIT Regulations.

We also intend to optimise our leverage to retain enough flexibility to provide sustainable and predictable cash flows while also evaluating potential acquisition opportunities in the future. After the completion of the Issue, we believe that we will have sufficient equity capital and ability to add additional debt to support acquisition of additional assets while maintaining an optimum capital structure. We will seek to employ appropriate financing policies and also diversify our funding sources with an objective of minimising our overall cost of capital.

We will seek to optimise our debt and equity mix in such a manner that the aggregate consolidated borrowings and deferred payments of the Trust, net of cash and cash equivalents does not exceed the regulatory requirements at any time subject to the approval of the Unitholders as provided in accordance with the InvIT Regulations. Further, any additional debt beyond 25 % of the value of the Trust Assets will be raised only upon compliance with the conditions set out in the InvIT Regulations. If it is in the interests of the Unitholders, the Investment Manager may also pursue growth opportunities that require raising additional capital through the issuance of new Units.

Continue to ensure efficient and active operation and management of our projects

We intend to continue to manage our road assets through the services of the Project Manager and the O&M Contractor with guidance from the Investment Manager. The Project Manager and the O&M Contractor will be responsible for providing routine O&M services pursuant to the provisions of the Project Implementation and Management Agreements and O&M Agreements. For further details in respect of our O&M arrangements, please see the section entitled "*Business – Key O&M Agreements*" on page 281.

Structure of the Trust

The Sponsor has set up the Trust on July 24, 2024, a contributory, determinate, irrevocable trust, under the provisions of the Indian Trusts Act, 1882. The Trust was registered as an infrastructure investment trust under the InvIT Regulations on August 19, 2024, having registration number IN/InvIT/24-25/0031. The Trust's principal investment objective is to carry on the activity of an infrastructure investment trust under the InvIT Regulations. Investment by the Trust shall be in any manner permissible under, and in accordance with, the InvIT Regulations and Applicable Law, including in such Holdcos and/or SPVs, securities in India as permitted under the InvIT Regulations and the Investment Strategy.

The Trust will acquire the initial portfolio asset which comprises the Project SPVs consisting of the Projects. The Trust will, subject to receiving the requisite approvals, acquire the Projects through the acquisition of 100.00% of the issued and paid-up equity share capital of eight Project SPVs from AAHPL and/or DBL, DBL Infraventures Private Limited, Spectrum Edge LLP, Build India Infrastructure Fund, nominees of DBL and acquire PHL through acquisition of 49.00% of the issued and paid-up equity share capital from DBL, DBL Infraventures Private Limited, AAHPL, Spectrum Edge LLP, Build India Infrastructure Fund and nominees of DBL. Please see the section entitled “*Formation Transactions in relation to the Trust*” on page 22, for a graphical representation of the structure of the Trust.

Brief description of the Projects

The initial portfolio of the Trust comprises nine Projects that are operated and maintained by the Project SPVs. The Project SPVs have undertaken or are undertaking their respective Projects on a HAM (“**Hybrid Annuity Model**”) basis, pursuant to which they design, build, operate and transfer the Projects pursuant to concession agreements with the relevant Concessioneing Authorities.

The table below sets forth details of the Project SPVs:

S. No.	Project SPV	Type of Project model	Length (in km)	No. of lanes	State	Authority	PCOD	Commencement of concession period/ appointed date	End of Concession Period (in years)	Residual Concession Period as of December 31, 2024 (in years)	Revenue for period ended December, 31 2024 (in ₹ million)
1.	Dodaballapur Hoskote Highways Limited	HAM	38.00	4	Karnataka	NHAI	July 21, 2023	February 22, 2021	17	13.56	789.36
2.	Repallewada Highways Limited**	HAM	52.60	4	Telangana	NHAI	October 20, 2023	March 1, 2021	17	13.81	746.94
3.	Narenpur Purnea Highways Limited	HAM	49.00	4	Bihar	NHAI	March 29, 2024	March 18, 2021	17	14.25	1,689.34
4.	Dhrol Bhadra Highways Limited	HAM	50.45	4	Gujarat	NHAI	September 25, 2023	October 28, 2021	17	13.74	652.24
5.	Bangalore Malur Highways Limited	HAM	27.10	4	Karnataka	NHAI	May 15, 2024	September 15, 2023	17	14.38	854.57
6.	Malur Bangarpet Highways Limited	HAM	27.10	4	Karnataka	NHAI	May 15, 2024	September 20, 2021	17	14.38	846.03
7.	Viluppuram Highways Limited	HAM	29.00	4	Tamil Nadu	NHAI	April 4, 2024	November 25, 2021	17	14.27	1,411.14
8.	Poondiyankuppam Highways Limited	HAM	38.00	4	Tamil Nadu	NHAI	Yet to be received	November 15, 2021	17	15.00	1,367.38
9.	DP Jain Pollachi HAM Projects Private Limited	HAM	50.08	4	Tamil Nadu	NHAI	October 5, 2023*	December 4, 2020	17	13.77	421.23

* The PCOD for DP Jain Pollachi HAM Projects Private Limited has only been achieved for 36.50 kms out of 50.08 kms.

** RHL has received completion certificate dated June 5, 2024 issued by Satra Services and Solutions Pvt. Ltd. Certifying June 5, 2024 as the date for completion of commercial operation of the project highway.

The Projects

Dodaballapur Hoskote Highways Limited (“DHHL”)

Concession agreement

The NHAI and DHHL entered into the concession agreement dated October 29, 2020 (the “**DHHL Concession Agreement**”). DHHL was engaged on design, build, operate and transfer basis under the DHHL Concession Agreement to widen NH-648* (Old NH-207) road from Dodaballapur Bypass to Hoskote in the State of Karnataka by four Laning thereof from km 42.00 to km 80.00 (the “**Project**”). This shall be partly financed by DHHL who shall recover its investment and costs through payments to be made by the NHAI, in accordance with the terms and conditions to be set forth in the DHHL Concession Agreement.

The DHHL Concession Agreement was granted for a period of 17 years (construction period of 730 days from the appointed date and operation period of 15 years commencing from the commercial operations date). NHAI has paid a portion of the completion cost, as specified in the DHHL Concession Agreement, as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the DHHL Concession Agreement, shall be paid along with the interest as specified in the DHHL Concession Agreement. For further details on the DHHL Concession Agreement, please see the section entitled “*Summary of the Concession Agreements- Dodaballapur Hoskote Highways Limited (“DHHL”)*” on page 288.

Shareholding pattern

The shareholding pattern of DHHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder’s Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	1,41,997	50.98
2.	DBL Infraventures Private Limited	8,355	2.99
3.	Alpha Alternatives Infrastructure Fund	56,561	20.30
4.	Alpha Alternatives Financial Services Private Limited	5,942	2.14
5.	Build India Infrastructure Fund	35,891	12.89
6.	Spectrum Edge LLP	29,727	10.67
7.	Bharat Singh*	10	negligible
8.	Sandeep Chandrakant Deshpande*	10	negligible
9.	Pradeep Suryavanshi*	10	negligible
10.	Javed Khan*	10	negligible
11.	Pankaj Rai*	10	negligible
Total		2,78,523	100.00

**Shares held as nominee on behalf of Dilip Buildcon Limited*

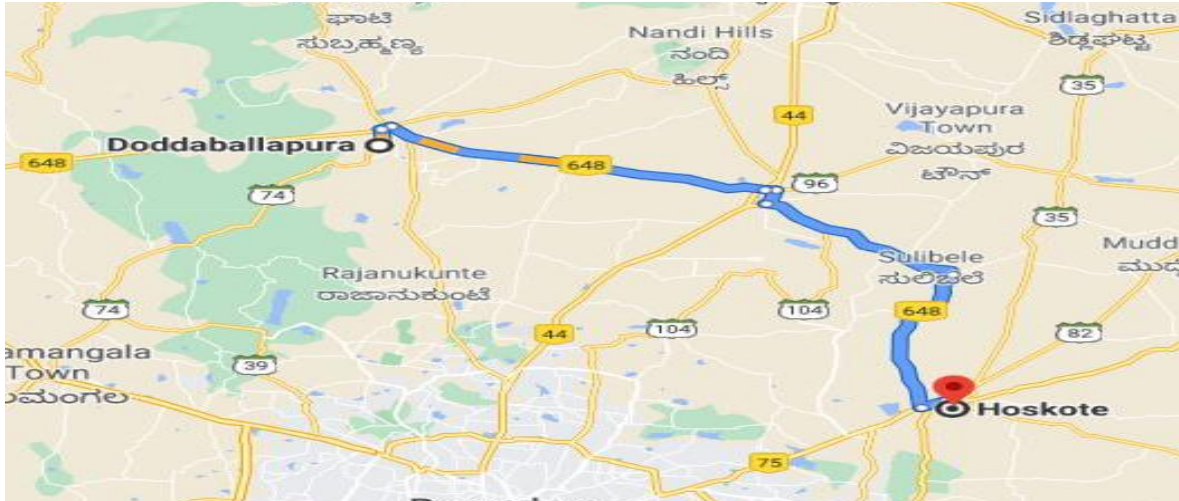
Commissioning

As per the provisional certificate, DHHL achieved commercial operations date on July 21, 2023.

Corridor description

DHHL Project, part of NH-648*, runs from Dodaballapur Bypass to Hoskote in the State of Karnataka.

The map below illustrates the location of the Project and the corridor it covers:



Note: Subsequent to signing of the DHHL Concession Agreement, the National Highway number has been revised to NH-648.

Operation and maintenance

For details, please see the sections entitled “*Summary of the Concession Agreements- Dodaballapur Hoskote Highways Limited (“DHHL”)*” and “*Business – Key O&M Agreements*” on pages 288 and 281.

Financing

As of February 28, 2025, the debt outstanding to lenders was ₹ 4,841.00 million. For details in relation to the debt outstanding, please see the section entitled “*Financial Indebtedness and Deferred Payments*” on page 339.

Note: The NH numbers and chainages mentioned in this Draft Offer Document may be old NH numbers and chainages, as per the concession agreements. The actual NH numbers and chainages at site may differ based on subsequent changes.

Dhrol Bhadra Highways Limited (“DBHL”)

Concession agreement

The NHAH and DBHL entered into the concession agreement dated July 29, 2021 (the “**DBHL Concession Agreement**”). DBHL was engaged, on a design, build, operate and transfer basis, under the DBHL Concession Agreement to augment the existing road from Dhrol-Bhadra Patiya section of NH- 151 A* (Between Ex. km 5+70 to km 13+60 of SH-25) and Bhadra Patiya - Pipaliya section of NH-151 A* (Between Ex. km 73+00 to km. 44+80 and Ex. km. 38+35 to 24+00 of CSH-6) in the State of Gujarat by Four-Laning thereof (the “**Project**”). This shall be partly financed by DBHL who shall recover its investment and costs through payments to be made by the NHAH, in accordance with the terms and conditions to be set forth in the DBHL Concession Agreement.

The DBHL Concession Agreement was granted for a period of 17 years (construction period of 730 days from the appointed date and operation period of 15 years commencing from the commercial operations date). NHAH has paid a portion of the completion cost, as specified in the DBHL Concession Agreement, as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the DBHL Concession Agreement, shall be paid along with the interest as specified in the DBHL Concession Agreement. For further details on the DBHL Concession Agreement, please see the section entitled “*Summary of the Concession Agreements- Dhrol Bhadra Highways Limited (“DBHL”)*” on page 283.

Shareholding pattern

The shareholding pattern of DBHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	1,41,377	50.98
2.	DBL Infraventures Private Limited	8,319	2.99
3.	Alpha Alternatives Infrastructure Fund	56,313	20.30
4.	Alpha Alternatives Financial Services Private Limited	5,917	2.14
5.	Build India Infrastructure Fund	35,734	12.89
6.	Spectrum Edge LLP	29,597	10.67
7.	Bharat Singh*	10	negligible
8.	Sandeep Chandrakant Deshpande*	10	negligible
9.	Pradeep Suryavanshi*	10	negligible
10.	Devendra Jain*	10	negligible
11.	Seema Suryavanshi*	10	negligible
Total		2,77,307	100.00

*Shares held as nominee on behalf of Dilip Buildcon Limited

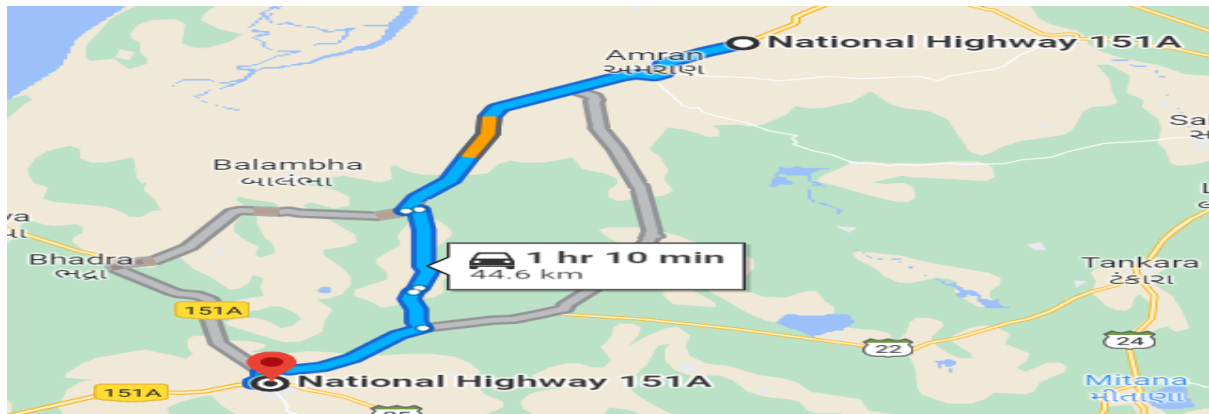
Commissioning

As per the provisional certificate, DBHL achieved commercial operations date on September 25, 2023.

Corridor description

DBHL Project, part of NH-151A*, runs between Dhrol-Bhadra Patiya section and Bhadra Patiya-Pipaliya section in the state of Gujarat.

The map below illustrates the location of the Project and the corridor it covers:



Operation and maintenance

For details, please see the sections entitled “Summary of the Concession Agreements- Dhrol Bhadra Highways Limited (“DBHL”)” and “Business – Key O&M Agreements” on pages 283 and 281.

Financing

As of February 28, 2025, debt outstanding to lenders was ₹ 4,927.70 million. For details in relation to the debt outstanding, please see the section entitled “Financial Indebtedness and Deferred Payments” on page 339.

Note: The NH numbers and chainages mentioned in this Draft Offer Document may be old NH numbers and chainages, as per the concession agreements. The actual NH numbers and chainages at site may differ based on subsequent changes.

Repallewada Highways Limited (“RHL”)

Concession agreement

The NHAI and RHL entered into the concession agreement dated November 5, 2020 (the “**RHL Concession Agreement**”). RHL was engaged, on a design, build, operate and transfer basis, under the RHL Concession Agreement to augment the existing road from km 288.51 to km 342.00 (Design Length 52.60 km) on the Repallewada to Telangana/Maharashtra Border section of NH-363* in the State of Telangana by Four- Laning thereof (the “**Project**”). This shall be partly financed by RHL who shall recover its investment and costs through payments to be made by the NHAI, in accordance with the terms and conditions to be set forth in the RHL Concession Agreement.

The RHL Concession Agreement was granted for a period of 17 years (construction period of 730 days from the appointed date and operation period of 15 years commencing from the commercial operations date). NHAI has paid a portion of the completion cost, as specified in the RHL Concession Agreement, as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the RHL Concession Agreement, shall be paid along with the interest as specified in the RHL Concession Agreement. For further details on the RHL Concession Agreement, please see the section entitled “*Summary of the Concession Agreements- Repallewada Highways Limited (“RHL”)*” on page 293.

Shareholding pattern

The shareholding pattern of RHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder’s Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	4,00,684	50.98
2.	DBL Infraventures Private Limited	23,571	2.99
3.	Alpha Alternatives Infrastructure Fund	1,59,566	20.30
4.	Alpha Alternatives Financial Services Private Limited	16,764	2.14
5.	Build India Infrastructure Fund	1,01,253	12.89
6.	Spectrum Edge LLP	83,863	10.67
7.	Pankaj Rai*	10	negligible
8.	Dilip Suryavanshi*	10	negligible
9.	Bharat Singh*	10	negligible
10.	Sandeep Chandrakant Deshpande*	10	negligible
11.	Pradeep Suryavanshi*	10	negligible
Total		7,85,751	100.00

**Shares held as nominee on behalf of Dilip Buildcon Limited*

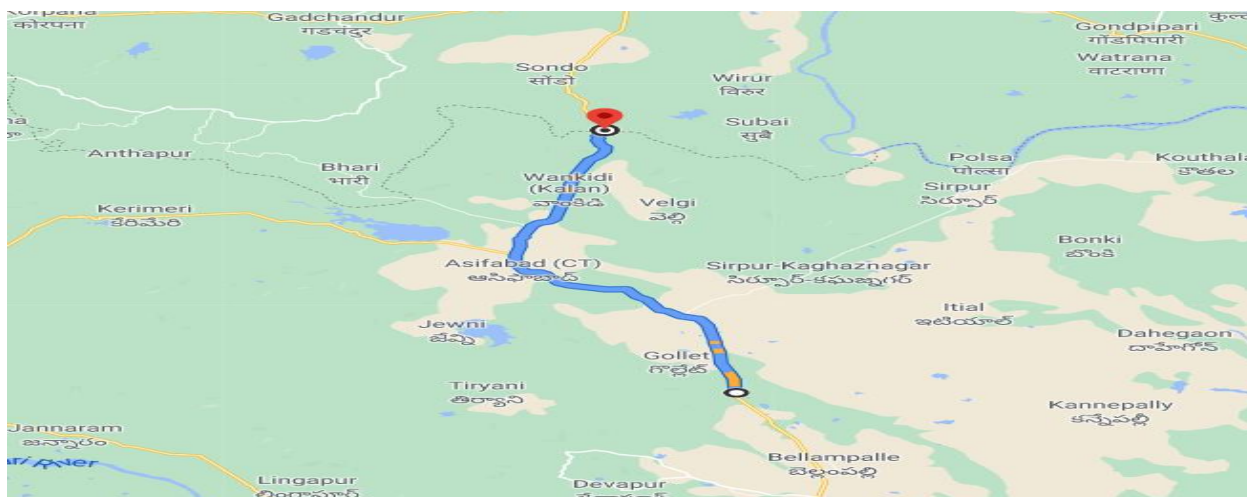
Commissioning

As per the provisional certificate, RHL achieved commercial operations date on October 20, 2023. Further, RHL has received completion certificate dated June 5, 2024 issued by Satra Services and Solutions Pvt. Ltd. Certifying June 5, 2024 as the date for completion of commercial operation of the Project.

Corridor description

RHL Project, part of NH-363*, runs from Repallewada to Telangana/Maharashtra Border section of NH-363 in the State of Telangana.

The map below illustrates the location of the Project and the corridor it covers:



Operation and maintenance

For details, please see the sections entitled “Summary of the Concession Agreements- Repallewada Highways Limited (“RHL”)” and “Business – Key O&M Agreements” on pages 293 and 281.

Financing

As of February 28, 2025, the debt outstanding to lenders was ₹ 4,206.20 million. For details in relation to the debt outstanding, please see the section entitled “Financial Indebtedness and Deferred Payments” on page 339.

Note: The NH numbers and chainages mentioned in this Draft Offer Document may be old NH numbers and chainages, as per the concession agreements. The actual NH numbers and chainages at site may differ based on subsequent changes.

Viluppuram Highways Limited (“VHL”)

Concession agreement

The NHAI and VHL entered into the concession agreement dated May 17, 2021 (the “**VHL Concession Agreement**”). VHL was engaged on a design, build, operate and transfer basis, under the VHL Concession Agreement for development, maintenance and management of Four-Laning of Viluppuram Puducherry section of NH-45A (new NH-332*) from km 0.00 to km 29.00 (Design Chainage) under Bharatmala Pariyojana Phase I (Residual NHDP IV works) on HAM in the State of Tamil Nadu and Union Territory of Puducherry (the “**Project**”). This shall be partly financed by VHL who shall recover its investment and costs through payments to be made by the NHAI, in accordance with the terms and conditions to be set forth in the VHL Concession Agreement.

The VHL Concession Agreement was granted for a period of 17 years (construction period of 730 days from the appointed date and operation period of 15 years commencing from the commercial operations date). NHAI has paid a portion of the completion cost as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the VHL Concession Agreement, shall be paid along with the interest as specified in the VHL Concession Agreement. For further details on the VHL Concession Agreement, please see the section entitled “Summary of the Concession Agreements- Viluppuram Highways Limited (“VHL”)” on page 299.

Shareholding pattern

The shareholding pattern of VHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder’s Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	1,14,596	50.98

2.	DBL Infraventures Private Limited	6,743	2.99
3.	Alpha Alternatives Infrastructure Fund	45,654	20.30
4.	Alpha Alternatives Financial Services Private Limited	4,797	2.14
5.	Build India Infrastructure Fund	28,970	12.89
6.	Spectrum Edge LLP	23,994	10.67
7.	Bharat Singh*	10	negligible
8.	Sandeep Chandrakant Deshpande*	10	negligible
9.	Pradeep Suryavanshi*	10	negligible
10.	Seema Suryavanshi*	10	negligible
11.	Pankaj Rai*	10	negligible
12.	Devendra Jain*	10	negligible
Total		2,24,814	100.00

* Shares held as nominee on behalf of Dilip Buildcon Limited

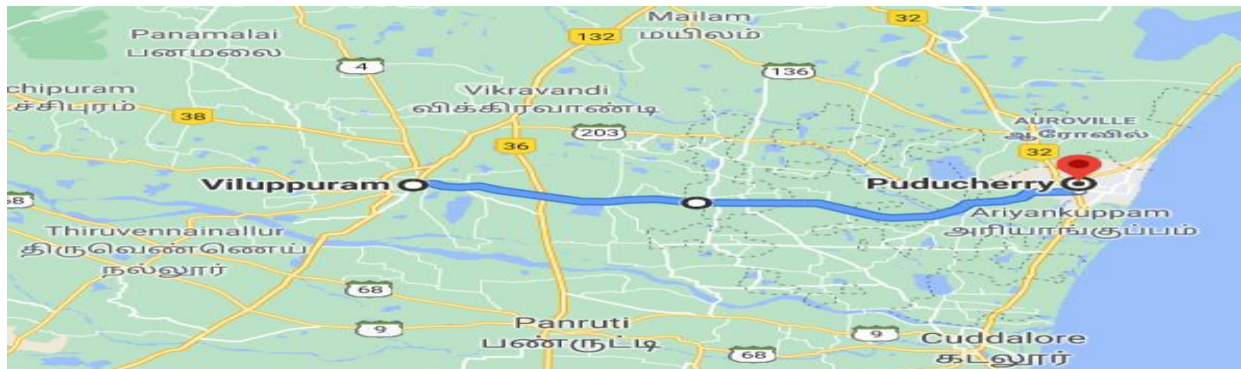
Commissioning

As per the provisional certificate, VHL achieved commercial operations date on April 4, 2024.

Corridor description

VHL Project, part of NH-45A (new NH-332*), comprises of the Viluppuram – Puducherry section in the State of Tamil Nadu and Union Territory of Puducherry.

The map below illustrates the location of the Project and the corridor it covers:



Operation and maintenance

For details, please see the sections entitled “Summary of the Concession Agreements- Viluppuram Highways Limited (“VHL”)” and “Business – Key O&M Agreements” on pages 299 and 281.

Financing

As of February 28, 2025, the debt outstanding to lenders was ₹ 5,236.90 million. For details in relation to the debt outstanding, please see the section entitled “Financial Indebtedness and Deferred Payments” on page 339.

Note: The NH numbers and chainages mentioned in this Draft Offer Document may be old NH numbers and chainages, as per the concession agreements. The actual NH numbers and chainages at site may differ based on subsequent changes.

Narenpur Purnea Highways Limited (“NPHL”)

Concession agreement

The NHAI and NPHL entered into the concession agreement dated October 24, 2020 (the “**NPHL Concession Agreement**”). NPHL was engaged, on a design, build, operate and transfer basis, under the NPHL Concession Agreement to augment the existing road from km 34.60 near Narenpur to km 82.00 (approximately 49.00 km) near Purnea on NH-131A* in the State of Bihar by four lane and two lane with paved shoulder thereof (the “**Project**”). This shall be partly financed by NPHL who shall recover its investment and costs through payments to be made by the NHAI, in accordance with the terms and conditions to be set forth in the NPHL Concession Agreement.

The NPHL Concession Agreement was granted for a period of 17 years (construction period of 730 days from the appointed date and operation period of 15 years commencing from the commercial operations date). NHAI has paid a portion of the completion cost as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the NPHL Concession Agreement, shall be paid along with the interest as specified in the NPHL Concession Agreement. For further details on the NPHL Concession Agreement, please see the section entitled “*Summary of the Concession Agreements- Narenpur Purnea Highways Limited (“NPHL”)*” on page 304.

Shareholding pattern

The shareholding pattern of NPHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder’s Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	1,26,429	50.98
2.	DBL Infraventures Private Limited	7,439	2.99
3.	Alpha Alternatives Infrastructure Fund	50,360	20.30
4.	Alpha Alternatives Financial Services Private Limited	5,291	2.14
5.	Spectrum Edge LLP	26,468	10.67
6.	Build India Infrastructure Fund	31,957	12.89
7.	Pankaj Rai*	10	negligible
8.	Bharat Singh*	10	negligible
9.	Sandeep Chandrakant Deshpande*	10	negligible
10.	Pradeep Suryavanshi*	10	negligible
11.	Javed Khan*	6	negligible
Total		2,47,990	100.00

** Shares held as nominee on behalf of Dilip Buildcon Limited*

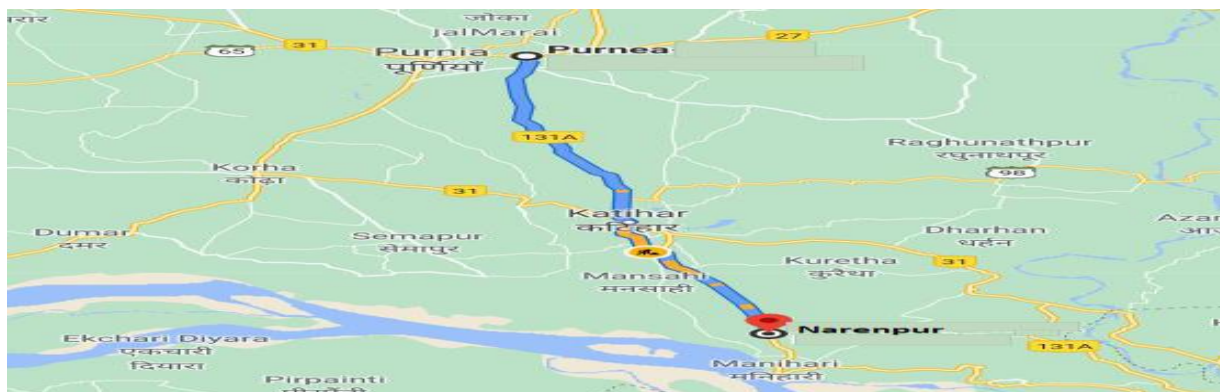
Commissioning

As per the provisional certificate, NPHL achieved commercial operations date on March 29, 2024.

Corridor description

NPHL Project, part of NH-131 A*, comprises stretch from near Narenpur to Purnea in the state of Bihar.

The map below illustrates the location of the Project and the corridor it covers:



Operation and maintenance

For details, please see the sections entitled “*Summary of the Concession Agreements- Narenpur Purnea Highways Limited (“NPHL”)*” and “*Business – Key O&M Agreements*” on pages 304 and 281.

Financing

As of February 28, 2025, the debt outstanding to lenders was ₹ 6,950.80 million. For details in relation to the debt outstanding, please see the section entitled “*Financial Indebtedness and Deferred Payments*” on page 339.

Note: The NH numbers and chainages mentioned in this Draft Offer Document may be old NH numbers and chainages, as per the concession agreements. The actual NH numbers and chainages at site may differ based on subsequent changes.

Bangalore Malur Highways Limited (“BMHL”)

Concession agreement

The NHAI and BMHL entered into the concession agreement dated May 17, 2021 (the “**BMHL Concession Agreement**”). BMHL was engaged on design, build, operate and transfer basis under the BMHL Concession Agreement for construction and O&M of the Project at the site, comprising Bangalore – Malur section (between Km 0.00 to Km 26.400 (along with 0.700 Km approach towards National Highway No. 207 with interchange on National Highway No. 4 at start point)) of Bangalore Chennai Expressway, in the state of Karnataka together with the project facilities and its subsequent development, and augmentation in accordance with the BMHL Concession Agreement (the “**Project**”). This shall be partly financed by BMHL who shall recover its investment and costs through payments to be made by the NHAI, in accordance with the terms and conditions to be set forth in the BMHL Concession Agreement.

The BMHL Concession Agreement was granted for a period of 17 years (construction period of 730 days from the appointed date and operation period of 15 years commencing from the commercial operations date). NHAI has paid a portion of the completion cost, as specified in the BMHL Concession Agreement, as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the BMHL Concession Agreement, shall be paid along with the interest as specified in the BMHL Concession Agreement. For further details on the BMHL Concession Agreement, please see the section entitled “*Summary of the Concession Agreements- Bangalore Malur Highways Limited (“BMHL”)*” on page 310.

Shareholding pattern

The shareholding pattern of BMHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	4,39,635	50.98
2.	DBL Infraventures Private Limited	25,864	2.99
3.	Alpha Alternatives Infrastructure Fund	1,75,081	20.30
4.	Alpha Alternatives Financial Services Private Limited	18,392	2.14
5.	Spectrum Edge LLP	92,017	10.67
6.	Build India Infrastructure Fund	1,11,098	12.89
7.	Bharat Singh*	10	negligible
8.	Sandeep Chandrakant Deshpande*	10	negligible
9.	Pankaj Rai*	10	negligible
10.	Devendra Jain*	10	negligible
11.	Seema Suryavanshi*	10	negligible
12.	Pradeep Suryavanshi*	10	negligible
Total		8,62,147	100.00

* Shares held as nominee on behalf of Dilip Buildcon Limited

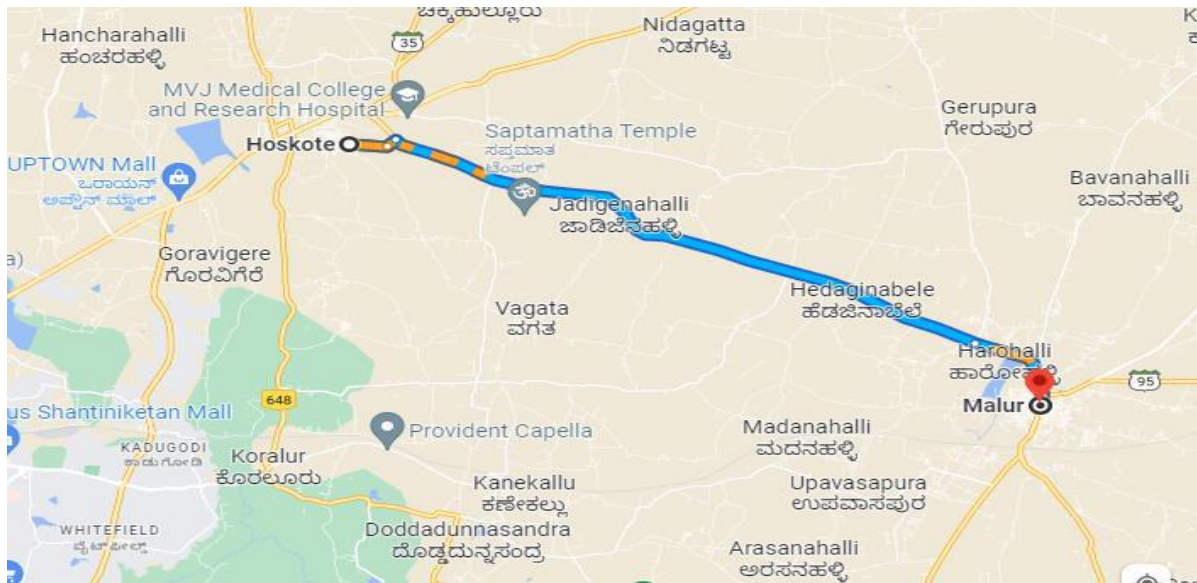
Commissioning

As per the provisional certificate, BMHL achieved commercial operations date on May 15, 2024.

Corridor description

BMHL Project, part of NH-207 with interchange NH-04*, runs from Bangalore to Malur in the State of Karnataka.

The map below illustrates the location of the Project and the corridor it covers:



Operation and maintenance

For details, please see the sections entitled “Summary of the Concession Agreements- Bangalore Malur Highways Limited (“BMHL”)” and “Business – Key O&M Agreements” on pages 310 and 281.

Financing

As of February 28, 2025, the debt outstanding to lenders was ₹ 4,650.30 million. For details in relation to the debt outstanding, please see the section entitled “Financial Indebtedness and Deferred Payments” on page 339.

Note: The NH numbers and chainages mentioned in this Draft Offer Document may be old NH numbers and chainages, as per the concession agreements. The actual NH numbers and chainages at site may differ based on subsequent changes.

Malur Bangarpet Highways Limited (“MBHL”)

Concession agreement

The NHAI and MBHL entered into the concession agreement dated September 17, 2021 (the “**MBHL Concession Agreement**”). MBHL was engaged on a design, build, operate and transfer basis, under the MBHL Concession Agreement to undertake 4 (four) laning of Malur-Bangarpet section (between Ex. Km 26.400 to Km 53.500 of Bangalore Chennai Expressway, in the state of Karnataka, on HAM basis (phase-I package-II) (the “**Project**”). This shall be partly financed by MBHL who shall recover its investment and costs through payments to be made by the NHAI, in accordance with the terms and conditions to be set forth in the MBHL Concession Agreement.

The MBHL Concession Agreement was granted for a period of 17 years (construction period of 730 days from the appointed date and operation period of 15 years commencing from the commercial operations date). NHAI has paid a portion of the completion cost as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the MBHL Concession Agreement, shall be paid along with the interest as specified in the MBHL Concession Agreement. For further details on the MBHL Concession Agreement, please see the section entitled “*Summary of the Concession Agreements- Malur Bangarpet Highways Limited (“MBHL”)*” on page 315.

Shareholding pattern

The shareholding pattern of MBHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder’s Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	5,88,782	50.98
2.	DBL Infraventures Private Limited	34,637	2.99
3.	Alpha Alternatives Infrastructure Fund	2,34,470	20.30
4.	Alpha Alternatives Financial Services Private Limited	24,631	2.14
5.	Spectrum Edge LLP	1,23,229	10.67
6.	Build India Infrastructure Fund	1,48,782	12.89
7.	Bharat Singh*	10	negligible
8.	Sandeep Chandrakant Deshpande*	10	negligible
9.	Pankaj Rai*	10	negligible
10.	Devendra Jain*	10	negligible
11.	Seema Suryavanshi*	10	negligible
12.	Pradeep Suryavanshi*	10	negligible
Total		11,54,591	100.00

* Shares held as nominee on behalf of Dilip Buildcon Limited

Commissioning

As per the provisional certificate, MBHL achieved commercial operations date on May 15, 2024.

Corridor description

MBHL Project, part of Bangalore-Chennai Expressway, comprises stretch from near Malur to Bangarpet in the state of Karnataka.

The map below illustrates the location of the Project and the corridor it covers:



Operation and maintenance

For details, please see the sections entitled “*Summary of the Concession Agreements- Malur Bangarpet Highways Limited (“MBHL”)*” and “*Business – Key O&M Agreements*” on pages 315 and 285.

Financing

As of February 28, 2025, the debt outstanding to lenders was ₹ 5,241.40 million. For details in relation to the debt outstanding, please see the section entitled “*Financial Indebtedness and Deferred Payments*” on page 339.

Note: The NH numbers and chainages mentioned in this Draft Offer Document may be old NH numbers and chainages, as per the concession agreements. The actual NH numbers and chainages at site may differ based on subsequent changes.

Poondiyankuppam Highways Limited (“PHL”)

Concession agreement

The NHAI and PHL entered into the concession agreement dated May 17, 2021 (the “**PHL Concession Agreement**”). PHL was engaged on a design, build, operate and transfer basis, under the PHL Concession to augment the existing road from km 29.00 near Puducherry to km 67.00 (approximately 38.00 km) near Poondiyankuppam on NH-45A (New NH-32) in the State of Tamil Nadu by Four Laning thereof (the “**Project**”). This shall be partly financed by PHL who shall recover its investment and costs through payments to be made by the NHAI, in accordance with the terms and conditions to be set forth in the PHL Concession Agreement.

The PHL Concession Agreement was granted for a period of 17 years (construction period of 730 days from the appointed date and operation period of 15 years commencing from the commercial operations date). NHAI has paid a portion of the completion cost as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the PHL Concession Agreement, shall be paid along with the interest as specified in the PHL Concession Agreement. For further details on the PHL Concession Agreement, please see the section entitled “*Summary of the Concession Agreements- Poondiyankuppam Highways Limited (“PHL”)*” on page 320.

Currently, only 49% of the issued, subscribed and paid-up share capital of PHL is proposed to be transferred to the Trust due to restrictions pertaining to change in entire shareholding as per concession agreement.

Shareholding pattern

The shareholding pattern of PHL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder's Name	No. of Equity Shares	Percentage Shareholding (%)
1.	Dilip Buildcon Limited	82,610	51.97
2.	DBL Infraventures Private Limited	36,557	23.00
3.	Alpha Alternatives Financial Services Private Limited	2,274	1.43
4.	Spectrum Edge LLP	16,965	10.67
5.	Build India Infrastructure Fund	20,482	12.89
6.	Bharat Singh*	10	negligible
7.	Sandeep Chandrakant Deshpande*	10	negligible
8.	Pankaj Rai*	10	negligible
9.	Devendra Jain*	10	negligible
10.	Seema Suryavanshi*	10	negligible
11.	Pradeep Suryavanshi*	10	negligible
Total		1,58,948	100.00

* Shares held as nominee on behalf of Dilip Buildcon Limited.

Note: As on the date of the Draft Offer Document, PHL is held 51.97% by Dilip Buildcon Limited, 23.00% by DBL Infraventures Private Limited, negligible % of shares by nominees of Dilip Buildcon Limited, 1.43% by Alpha Alternatives Financial Services Private Limited, 10.67% by Spectrum Edge LLP and 12.89% by Build India Infrastructure Fund (Collectively, 24.99% by Alpha Alternatives Holdings Private Limited, Spectrum Edge LLP, and Build India Infrastructure Fund ("Alpha entities")). Prior to filing of the Offer Document, the Alpha entities will hold 26% in PHL. Thereafter, 49% of PHL is proposed to be transferred to the Trust, accordingly, the Trust is proposed to acquire 26% from AAHPL and/or its affiliates and 23% from DBL and/or its affiliates. For risks in relation to 49% of PHL being transferred to the Trust, please refer to the section entitled "Risk Factors – We intend to acquire 100% of the issued, subscribed and paid-up share capital of PHL pursuant to the PHL Securities Purchase Agreement and any failure to acquire such percentage of PHL could have a material adverse effect on our business, financial condition and results of operations" on page 69.

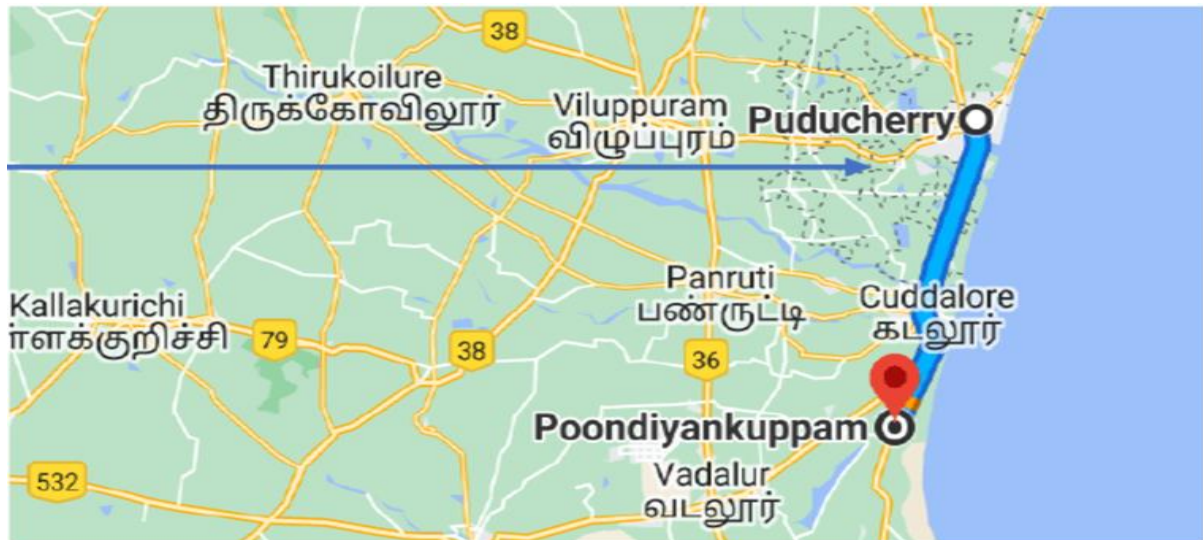
Commissioning

As on the date of this Draft Offer Document, PHL is yet to receive the PCOD certificate.

Corridor description

PHL Project, part of NH 45A (New NH-32), comprises of Puducherry – Poondiyankuppam section in the state of Tamil Nadu and Union Territory of Puducherry

The map below illustrates the location of the PHL Project and the corridor it covers:



Operation and maintenance

For details, please see the sections entitled “*Summary of the Concession Agreements- Poondiyankuppam Highways Limited (“PHL”)*” and “*Business – Key O&M Agreements*” on pages 320 and 281.

Financing

As of February 28, 2025, the debt outstanding to lenders was ₹ 5,932.30 million. For details in relation to the debt outstanding, please see the section entitled “*Financial Indebtedness and Deferred Payments*” on page 339.

Note: The NH numbers and chainages mentioned in this Draft Offer Document may be old NH numbers and chainages, as per the concession agreements. The actual NH numbers and chainages at site may differ based on subsequent changes.

DPJ Pollachi HAM Project Private Limited (“DPHPPL”)

Concession agreement

The NHAH and DPHPPL entered into the concession agreement dated December 5, 2019 (the “**DPHPPL Concession Agreement**”). DPHPPL was engaged on a design, build, operate and transfer basis, under the DPHPPL Concession Agreement for development, maintenance and management of Four-Laning of Madathukulam Pollachi section of NH-209 (New NH-83) from km 74.38 to km 116.95 (Design Chainage) under Bharatmala Pariyojana Phase-1 under the category of Residual Works of NHDP on HAM in the State of Tamil Nadu (the “Project”). This shall be partly financed by DPHPPL who shall recover its investment and costs through payments to be made by the NHAH, in accordance with the terms and conditions to be set forth in the DPHPPL Concession Agreement.

The DPHPPL Concession Agreement was granted for a period of 17 years (construction period of 730 days from the appointed date and operation period of 15 years commencing from the commercial operations date). NHAH has paid a portion of the completion cost as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the DPHPPL Concession Agreement, shall be paid along with the interest as specified in the DPHPPL Concession Agreement. For further details on the DPHPPL Concession Agreement, please see the section entitled “*Summary of the Concession Agreements- DPJ Pollachi HAM Project Private Limited (“DPHPPL”)*” on page 326.

Shareholding pattern

The shareholding pattern of DPHPPL as on the date of this Draft Offer Document is provided below:

S. No.	Shareholder’s Name	No. of Equity Shares	Percentage Shareholding (%)
1.	D P Jain And Co Infrastructure Pvt Ltd	7,24,09,999	99.99
2.	Girish Jain*	1	negligible
Total		7,24,10,000	100.00

* Shares held as nominee on behalf of D P Jain and Co Infrastructure Pvt Ltd

Note: Alpha Alternatives is in process of acquiring 100% stake in DPHPPL

Commissioning

As per the provisional certificate, DPHPPL achieved partial commercial operations date for 36.50 Kms on October 05, 2023, out of 50.08 kms.

Corridor description

DPHPPL Project, part of NH-209 (New NH-83), comprises stretch Madathukulam Pollachi in the state of Tamil Nadu.

The map below illustrates the location of the DPHPPL Project and the corridor it covers:

For further details in relation the Project Implementation and Management Agreement, please refer to the section entitled “*Parties to the Trust - Key terms of the Project Implementation and Management Agreement*” on page 146.

Environment, health and safety

The Project SPVs are required to meet certain health, safety and environmental specifications and standards in the operation and maintenance of the Projects and are subject to a number of laws and regulations relating to health, safety and environmental protection. The Project SPVs are also required to adhere to various labour and workplace related laws and regulations in India. The Project SPVs have policies and procedures in place to ensure that the operation and maintenance of the Projects conform to existing health, safety and environmental regulatory standards and that, amongst others, adequate workmen’s compensation and group accidental insurance policy are maintained.

We are committed to ensuring that our business activities are conducted safely, the health of our employees, contractors and the public are protected and the environmental impact resulting from our operations and maintenance are minimized, energy resources are utilized in a responsible and efficient manner to reduce emissions and statutory and regulatory requirements concerning health, safety and environment are complied with.

We have also adopted certain standards for health, safety and environmental and social sustainability and put in place policies and system in order to comply with such standards, including adequate safeguards for operational and personal safety of our employees and contractors, adverse impact on environment and risks to the community that arise due to our operations, responsible, waste disposal measures and compliance with statutory requirements on health, safety and environment. We also seek to improve our environmental practices and performance by reviewing and updating our systems and procedures regularly, conducting internal and external audits, investigating incidents relating to health, safety and environment and implementing corrective measures and training our employees and contractors as needed. We believe that our health, safety and environment systems are comparable to international standards and enables us to remain in compliance in all material respects with Indian legislation in relation to environment laws and regulations and employee health and safety.

Competition

The Trust faces competition from other road operators, financial investors, private equity funds and from other InvITs, in acquiring lucrative concessions for existing and future projects. While service quality, technological capacity and performance, health and safety records and personnel, as well as reputation and experience, are important considerations in client decisions, price is a major factor for such acquisitions.

Insurance

The Project SPVs maintain project-specific insurance coverage with various insurers in India. Some of the major risks covered in their all-risk policies for their assets, include, the risk of fire and natural calamities, machinery breakdown, electronic equipment cover etc.

Properties

Under the terms of the concession agreements, title to the roads and related infrastructure such as toll plazas and monitoring posts remains with the concessioning authority for the duration of the concession period. During the concession period, the Project SPVs are licensed to use the roads and the related infrastructure which constitute the concession assets. Upon the expiration of a concession period, each Project SPV is required to transfer possession of its concession assets to the relevant concessioning authority.

Employees

As on December 31, 2024, the Project SPVs approximately have 662 permanent employees. Further, employees of the Investment Manager and Project Manager will be engaged in managing the Trust. For further details, please see section entitled “*Parties to the Trust*” on page 113.

SUMMARY OF CONCESSION AGREEMENTS

Set out below are summaries of the concession agreements entered into by the Project SPVs in relation to their respective businesses. The descriptions and summaries of the agreements below are indicative and are not and nor do they purport to be complete descriptions or summaries of all terms of such agreements. Certain terms used in this section have the meaning as assigned to such terms in the respective concession agreements. Copies of these concession agreements have been made available for inspection at the office of the Anantam Highways Trust at its registered office. For further details, please see the section entitled 'Material Contracts and Documents for Inspection' on page 452.

I. Dhrol Bhadra Highways Limited ("DBHL")

The concession agreement has been executed between DBHL and NHAI dated July 29, 2021 (the "**DBHL Concession Agreement**"). The scope of the Project under the DBHL Concession Agreement includes the construction, O&M of the Project at the site, comprising National Highway No. 151A of Dhrol – Bhadra Patiya section (between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Pipaliya section (between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) (i.e., approximately 50.45 (fifty decimal four five zero) Kms) together with the project facilities, and its operation and maintenance in accordance with the DBHL Concession Agreement ("**Project**") and the performance of all incidental activities in accordance with the terms of the DBHL Concession Agreement. Development of the Project includes the construction of the four-lane Project.

A summary of key terms of the DBHL Concession Agreement has been set below-

1. Bid Project Cost and Annuity Payments

The bid project cost, as defined in the DBHL Concession Agreement ("**Bid Project Cost**"), is Rs. 8,820 million and is subject to variation in the price index occurring between the reference index date immediately preceding the bid date and reference index date preceding the date of invoice.

The party has paid a portion of the completion cost, as specified in the DBHL Concession Agreement ("**Completion Cost**") as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date ("**Annuity Payments**"). Each of the biannual installments, as provided in the DBHL Concession Agreement, shall be paid along with the interest as specified in the DBHL Concession Agreement.

2. Change of Scope

NHAI may require the provision of additional works and services which are not included in the scope of the Project as contemplated by the DBHL Concession Agreement (the "**Change of Scope**"). Within 7 days, NHAI shall make an advance payment to DBHL in a sum equal to 20% of the cost of Change of Scope, and in the event of a dispute, 20% of the cost assessed by the independent engineer, as defined in the DBHL Concession Agreement ("**Independent Engineer**"). NHAI shall disburse to DBHL such amounts as are certified by the Independent Engineer, as reasonable and after making a proportionate deduction for the advance payment made. DBHL shall be entitled to nullify any Change of Scope order if it causes the cumulative costs relating to all the Change of Scope orders to exceed 10% of the Bid Project Cost in any continuous period of 3 years immediately preceding the date of such Change of Scope order or if such cumulative costs exceed 25% of the Bid Project Cost at any time during the concession period.

3. O&M

DBHL shall operate and maintain the Project, in accordance with the DBHL Concession Agreement either by itself, or through the O&M contractor, as defined in the DBHL Concession Agreement ("**O&M Contractor**"), and if required, modify, repair or otherwise make improvements to the Project to comply with provisions of the DBHL Concession Agreement applicable laws, applicable permits and conform to specifications, standards and good industry practice. The obligations of DBHL, among other things, shall include:

- procuring and ensuring safe, smooth and uninterrupted use of the Project, including prevention

- of loss or damage thereto, during normal operating conditions;
- carrying out periodic preventive maintenance of the Project;
- undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, markings, lighting, signage and other control devices;
- undertaking major maintenance such as resurfacing, repairs to structures, and repairs and refurbishment of system and equipment;
- protection of the environment and provision of equipment and materials therefor; and
- operation and maintenance of all communication, control and administrative systems necessary for the efficient operation of the Project and for providing safe, smooth and uninterrupted use of the Project.

4. *Maintenance manual*

No later than 90 days prior to the scheduled completion date, as defined in the DBHL Concession Agreement, DBHL shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual, as defined in the DBHL Concession Agreement (the “**Maintenance Manual**”), for the regular and preventive maintenance of the Project in conformity with the specifications and standards, maintenance requirements, safety requirements and good industry practice. The Maintenance Manual shall be revised and updated once every three years.

5. *Maintenance programme*

On or before COD and no later than 45 days prior to the beginning of each accounting year during the operation period, as defined in the DBHL Concession Agreement, DBHL shall provide to NHAI and the Independent Engineer its proposed annual programme of preventive, urgent and other scheduled maintenance (the “**Maintenance Programme**”) to comply with the maintenance requirements, Maintenance Manual and safety requirements. Such Maintenance Programme shall include the following:

- preventive maintenance schedule;
- arrangements and procedures for carrying out urgent repairs;
- criteria to be adopted for deciding maintenance needs;
- intervals and procedures for carrying out inspection of all elements of the Project;
- intervals at which DBHL shall carry out periodic maintenance;
- arrangements and procedures for carrying out safety related measures; and
- intervals for major maintenance works and the scope thereof.

6. *Obligations relating to change in ownership*

DBHL shall not undertake or permit any change in ownership, except with the prior written approval of NHAI. Notwithstanding anything to the contrary contained in the DBHL Concession Agreement, DBHL agrees and acknowledges that:

- all acquisitions of equity by an acquirer, either by himself or with any person acting in concert, directly or indirectly, including by transfer of the direct or indirect legal or beneficial ownership or control of any equity, in aggregate of 25% or more of the total equity of DBHL; or
- acquisition of any control directly or indirectly of the board of directors of DBHL by any person either by himself or together with any person or persons acting in concert with him, shall constitute a change in ownership requiring prior approval of NHAI from national security and public interest perspective, the decision of NHAI in this behalf being final, conclusive and binding on DBHL, and undertakes that it shall not give effect to any such acquisition of equity or control of the board of directors of DBHL without such prior approval of NHAI. It has been expressly agreed that approval of NHAI hereunder shall be limited to national security and public interest perspective, and NHAI shall endeavour to convey its decision thereon expeditiously. It has also been agreed that NHAI shall not be liable in any manner on account of grant or otherwise of such approval and that such approval or denial thereof shall not in any manner absolve DBHL from any liability or obligation under the DBHL Concession Agreement.

7. *Indemnities*

- DBHL shall indemnify, defend, save and hold harmless NHAI and its officers, servants, agents, government instrumentalities and government owned and/or controlled entities/enterprises, (the “**NHAI Indemnified Persons**”) against any and all suits, proceedings, actions, demands and claims from third parties for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by DBHL of any of its obligations under the DBHL Concession Agreement or any related agreement or on account of any defect or deficiency in the provision of services by DBHL to NHAI or to any user or from any negligence of DBHL under contract or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of the DBHL Concession Agreement on the part of NHAI Indemnified Persons.
- DBHL shall fully indemnify, hold harmless and defend NHAI and NHAI Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:
 - failure of DBHL to comply with applicable laws and applicable permits, each as defined in the DBHL Concession Agreement (“**Applicable Laws**” and “**Applicable Permits**”);
 - payment of taxes required to be made by DBHL in respect of the income or other taxes of DBHL’s contractors, suppliers and representatives; or
 - non-payment of amounts due as a result of materials or services furnished to DBHL or any of its contractors which are payable by DBHL or any of its contractors.
- DBHL shall fully indemnify, hold harmless and defend NHAI Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which NHAI Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by DBHL or by DBHL’s contractors in performing the obligations of DBHL or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, DBHL shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, DBHL shall promptly make every reasonable effort to secure for NHAI a licence, at no cost to NHAI, authorising continued use of the infringing work. If DBHL is unable to secure such licence within a reasonable time, DBHL shall, at its own expense, and without impairing the specifications and standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

8. *Suspension of DBHL’s rights*

Upon occurrence of a DBHL default, as defined in the DBHL Concession Agreement (“**DBHL Default**”), NHAI shall be entitled, without prejudice to its other rights and remedies under the DBHL Concession Agreement including its rights of termination, as defined in the DBHL Concession Agreement (“**Termination**”), thereunder, to (i) suspend all rights of DBHL under the DBHL Concession Agreement, and pursuant hereto, and (ii) exercise such rights itself and perform the obligations hereunder or authorise any other person to exercise or perform the same on its behalf during such suspension (“**Suspension**”). Suspension hereunder shall be effective forthwith upon issue of notice by NHAI to DBHL and may extend up to a period not exceeding 180 days from the date of issue of such notice; provided that upon written request from DBHL and the lenders’ representative, as defined in the DBHL Concession Agreement (“**Lenders’ Representative**”), NHAI shall extend the aforesaid period of 180 days by a further period not exceeding 90 days. At any time during the period of Suspension, the Lenders’ Representative, on behalf of senior lenders, as defined in the DBHL Concession Agreement (“**Senior Lenders**”), shall be entitled to substitute DBHL under and in accordance with the substitution agreement, as defined in the DBHL Concession Agreement (“**Substitution Agreement**”), and upon receipt of notice thereunder from the Lenders’ Representative, NHAI shall withhold Termination for a period not exceeding 180 days from the date of Suspension, and any extension thereof, for enabling the Lenders’ Representative to exercise its rights of substitution on behalf of Senior Lenders.

9. *Effect of force majeure event on the Concession*

- Upon the occurrence of any force majeure event prior to the appointed date, each as defined in the DBHL Concession Agreement (“**Force Majeure Event**” and “**Appointed Date**”), the period for fulfilment of conditions precedent and achieving financial close, as defined in the DBHL Concession Agreement (“**Conditions Precedent**”), shall be extended by a period equal in length to the duration of the Force Majeure Event.
- At any time after the Appointed Date, if any Force Majeure Event occurs:
 - before COD, the construction period and the dates set forth in the project completion schedule, as defined in the DBHL Concession Agreement (“**Project Completion Schedule**”) shall be extended by a period equal in length to the duration for which such Force Majeure Event subsists; or
 - after COD, DBHL shall be entitled to receive Annuity Payments plus interest due and payable under the DBHL Concession Agreement.
Provided any payment to be made under this clause shall be subject to deduction of outstanding dues of NHAI, if any.

10. Allocation of costs arising out of Force Majeure

- Upon occurrence of any Force Majeure Event prior to the Appointed Date, the parties to the DBHL Concession Agreement shall bear their respective costs and no party shall be required to pay to the other party any costs thereof.
- Upon occurrence of a Force Majeure Event after the Appointed Date, the costs incurred and attributable to such event and directly relating to the project (“**Force Majeure Costs**”) shall be allocated and paid as follows:
 - upon occurrence of a non-political event, as defined in the DBHL Concession Agreement (“**Non-Political Event**”), the parties shall bear their respective Force Majeure Costs and neither party shall be required to pay to the other party any costs thereof;
 - upon occurrence of an indirect political event, as defined in the DBHL Concession Agreement (“**Indirect Political Event**”), all Force Majeure Costs attributable to such Indirect Political Event, and not exceeding the insurance cover for such Indirect Political Event, shall be borne by DBHL, and to the extent Force Majeure Costs exceed such insurance cover, one half of such excess amount shall be reimbursed by NHAI to DBHL; and
 - upon occurrence of a political event, as defined in the DBHL Concession Agreement (“**Political Event**”), all Force Majeure Costs attributable to such Political Event shall be reimbursed by NHAI to DBHL.

Force Majeure Costs may include interest payments on debt due, O&M expenses, any increase in the cost of construction works on account of inflation and all other costs directly attributable to the Force Majeure Event, but shall not include any costs which are expressly under any provision of the DBHL Concession Agreement or debt repayment obligations, and for determining such costs, information contained in the financial package, as defined in the DBHL Concession Agreement (“**Financial Package**”), may be relied upon to the extent that such information is relevant.

11. Divestment Requirements

Upon Termination of DBHL Concession Agreement, DBHL shall comply with and conform to the following requirements, amongst others:-

- notify NHAI forthwith the location and particulars of all project assets, as defined in the DBHL Concession Agreement (“**Project Assets**”);
- deliver forthwith the actual or constructive possession of the Project, free and clear of all encumbrances, save and except to the extent set forth in the Substitution Agreement;
- cure all Project Assets, including the road, bridges, structures and equipment, of all defects and deficiencies so that the Project is compliant with the maintenance requirements, provided that in the event of Termination during the construction period, all Project Assets shall be handed over on ‘as is here is’ basis after bringing them to a safe condition;

- deliver and transfer relevant records, reports, intellectual property and other licences pertaining to the Project and its design, engineering, construction, operation and maintenance, including all programmes and manuals pertaining thereto, and complete ‘as built’ drawings as on the transfer date, as defined in the DBHL Concession Agreement (“**Transfer Date**”);
- transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws;
- execute such deeds, conveyance, documents and other writings as NHAI may reasonably require for conveying, divesting and assigning all the rights, title and interest of DBHL in the Project Assets, including manufacturers’ warranties in respect of any plant or equipment and the right to receive outstanding insurance claims to the extent due and payable to NHAI, absolutely unto NHAI or its nominee; and
- comply with all other requirements as may be prescribed or required under Applicable Laws for completing the divestment and assignment of all rights, title and interest of DBHL in the Project, free from all encumbrances, absolutely unto NHAI or to its nominees.

12. *Termination for DBHL Default*

Subject to the provisions of the DBHL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and DBHL fails to cure the default within the mentioned cure period set forth below, or where no cure period is specified, then within a cure period of 60 days, DBHL shall be deemed to be in default of the DBHL Concession Agreement (the “**DBHL Default**”), unless the default has occurred as a result of any breach of the DBHL Concession Agreement by NHAI or due to Force Majeure Event. The defaults referred to shall include, among other things, the following:

- The performance security, as defined in the DBHL Concession Agreement (“**Performance Security**”), has been encashed and appropriated in accordance with the DBHL Concession Agreement and DBHL fails to replenish or provide fresh Performance Security within a cure period of 15 days;
- subsequent to the replenishment or furnishing of fresh Performance Security in accordance with the DBHL Concession Agreement, DBHL fails to meet any Condition Precedent or cure the DBHL Default, as the case may be, for which whole or part of the Performance Security was appropriated, within a cure period of 120 days;
- DBHL does not achieve the latest outstanding project milestone due in accordance with the provisions of the DBHL Concession Agreement and continues to be in default for 120 days;
- upon occurrence of a financial default, as defined in the DBHL Concession Agreement (“**Financial Default**”), the Lenders’ Representative has by notice required NHAI to undertake Suspension or Termination, as the case may be, in accordance with the Substitution Agreement and DBHL fails to cure the default within the cure period specified;
- DBHL abandons or manifests intention to abandon the construction or operation of the Project without the prior written consent of NHAI;
- DBHL is in breach of the maintenance requirements or the safety requirements as the case may be;
- DBHL has failed to fulfil any obligation, for which failure termination has been specified in the DBHL Concession Agreement;
- DBHL has failed to make any payment to NHAI within the period specified in the DBHL Concession Agreement; and
- a change in ownership has occurred in breach of the provisions of the DBHL Concession Agreement.

Upon occurrence of a DBHL Default, NHAI shall be entitled to terminate the DBHL Concession Agreement by issuing a termination notice, as defined in DBHL Concession Agreement (“**Termination Notice**”), to DBHL; provided that before issuing the Termination Notice, NHAI shall by a notice inform DBHL of its intention to issue such Termination Notice and grant 15 days to DBHL to make a representation, and may, after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

13. *Termination for NHAI Default*

DBHL may terminate the DBHL Concession Agreement on account of occurrence of a default by the NHAI which is not rectified within the cure period of 90 days or such longer period as has been expressly provided in this DBHL Concession Agreement (the “**NHAI Default**”) and includes – (i) material default

causing a material adverse effect on DBHL; (ii) the failure to make any payment due to DBHL; (iii) repudiation of the DBHL Concession Agreement etc.

DBHL may, under the DBHL Concession Agreement, upon occurrence of a NHAI Default, subject to the provisions of Substitution Agreement, terminate the DBHL Concession Agreement by issuing a Termination Notice to NHAI; provided that before issuing the Termination Notice, DBHL shall by notice inform NHAI of its intentions to issue the Termination Notice and grant 15 days to NHAI to make a representation, and may after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

14. *Defects liability after termination*

DBHL shall be responsible for all defects and deficiencies in the Project for a period of 120 days after Termination, and it shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies observed by the Independent Engineer in the Project during this period. In the event that DBHL fails to repair or rectify such defect or deficiency within a period of 15 days from the date of notice issued by NHAI, NHAI shall be entitled to get the same repaired or rectified at the risk and cost of DBHL so as to make the Project conform to the maintenance requirements. All costs incurred by NHAI in this regard shall be reimbursed by DBHL to NHAI within 15 days of receipt of demand thereof, and in the event of default in reimbursing such costs, NHAI shall be entitled to recover the same from the funds retained in the escrow account or from the performance guarantee, in accordance with the provisions of the DBHL Concession Agreement. A sum equal to 15% of the Annuity Payment due and payable immediately preceding the Transfer Date will be retained in the escrow account for a period of 120 days after Termination for meeting the liabilities, arising out of or in connection with the DBHL Concession Agreement. Independent Engineer will carry out an inspection of the Project at any time between 210 and 180 days prior to the Termination and if it recommends that the status of the Project is such that a sum larger than the amount of 15% as stipulated above will be retained in the escrow account and for a period longer than the aforesaid 120 days, the amount recommended by the Independent Engineer shall be retained in the escrow account for the period specified by it. DBHL will have option to provide to NHAI a performance bank guarantee of equal amount in lieu of retention in accordance with the DBHL Concession Agreement.

II. **Dodaballapur Hoskote Highways Limited (“DHHL”)**

The concession agreement has been executed between DHHL and NHAI dated October 29, 2020 (the “**DHHL Concession Agreement**”). The scope of the Project under the DHHL Concession Agreement includes the construction, O&M of the Project at the site comprising National Highway No. 648 from Km 42.000 to Km 80.000 together with the project facilities and its operation and maintenance in accordance with the DHHL Concession Agreement (“**Project**”) and the performance of all incidental activities in accordance with the terms of the DHHL Concession Agreement. Development of the Project includes the construction of the four-lane Project.

A summary of key terms of the DHHL Concession Agreement has been set below-

1. *Bid Project Cost and Annuity Payments*

The bid project cost, as defined in the DHHL Concession Agreement (“**Bid Project Cost**”), is Rs. 12,780 million and is subject to variation in the price index occurring between the reference index date immediately preceding the bid date and reference index date preceding the date of invoice.

The party has paid a portion of the completion cost, as specified in the DHHL Concession Agreement (“**Completion Cost**”), as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the DHHL Concession Agreement, shall be paid along with the interest as specified in the DHHL Concession Agreement.

2. *Change of Scope*

NHAI may require the provision of additional works and services which are not included in the scope of the project as contemplated by the DHHL Concession Agreement (the “**Change of Scope**”). Within 7

days, NHAH shall make an advance payment to DHHL in a sum equal to 20% of the cost of Change of Scope, and in the event of a dispute, 20% of the cost assessed by the independent engineer, as defined in the DHHL Concession Agreement (“**Independent Engineer**”). NHAH shall disburse to DHHL such amounts as are certified by the Independent Engineer, as reasonable and after making a proportionate deduction for the advance payment made. DHHL shall be entitled to nullify any Change of Scope order if it causes the cumulative costs relating to all the Change of Scope orders to exceed 10% of the Bid Project Cost in any continuous period of 3 years immediately preceding the date of such Change of Scope order or if such cumulative costs exceed 25% of the Bid Project Cost at any time during the concession period.

3. *O&M*

DHHL shall operate and maintain the Project in accordance with the DHHL Concession Agreement either by itself, or through the O&M contractor, as defined in the DHHL Concession Agreement (“**O&M Contractor**”), and if required, modify, repair or otherwise make improvements to the Project, to comply with provisions of the DHHL Concession Agreement applicable laws, applicable permits and conform to specifications, standards and good industry practice. The obligations of DHHL, among other things, shall include:

- procuring and ensuring safe, smooth and uninterrupted use of the Project, including prevention of loss or damage thereto, during normal operating conditions;
- carrying out periodic preventive maintenance of the Project;
- undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, markings, lighting, signage and other control devices;
- undertaking major maintenance such as resurfacing, repairs to structures, and repairs and refurbishment of system and equipment;
- protection of the environment and provision of equipment and materials therefor; and
- operation and maintenance of all communication, control and administrative systems necessary for the efficient operation of the Project and for providing safe, smooth and uninterrupted use of the Project.

4. *Maintenance manual*

No later than 90 days prior to the scheduled completion date, as defined in the DHHL Concession Agreement, DHHL shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual, as defined in the DHHL Concession Agreement (the “**Maintenance Manual**”), for the regular and preventive maintenance of the Project in conformity with the specifications and standards, maintenance requirements, safety requirements and good industry practice. The Maintenance Manual shall be revised and updated once every three years.

5. *Maintenance programme*

On or before COD and no later than 45 days prior to the beginning of each accounting year during the operation period, as defined in the DHHL Concession Agreement, DHHL shall provide to NHAH and the Independent Engineer its proposed annual programme of preventive, urgent and other scheduled maintenance (the “**Maintenance Programme**”) to comply with the maintenance requirements, Maintenance Manual and safety requirements. Such Maintenance Programme shall include the following:

- preventive maintenance schedule;
- arrangements and procedures for carrying out urgent repairs;
- criteria to be adopted for deciding maintenance needs;
- intervals and procedures for carrying out inspection of all elements of the Project;
- intervals at which DHHL shall carry out periodic maintenance;
- arrangements and procedures for carrying out safety related measures; and
- intervals for major maintenance works and the scope thereof.

6. *Obligations relating to change in ownership*

DHHL shall not undertake or permit any change in ownership, except with the prior written approval of NHAH. Notwithstanding anything to the contrary contained in the DHHL Concession Agreement, DHHL agrees and acknowledges that:

- all acquisitions of equity by an acquirer, either by himself or with any person acting in concert, directly or indirectly, including by transfer of the direct or indirect legal or beneficial ownership or control of any equity, in aggregate of 25% or more of the total equity of DHHL; or
- acquisition of any control directly or indirectly of the board of directors of DHHL by any person either by himself or together with any person or persons acting in concert with him, shall constitute a change in ownership requiring prior approval of NHAH from national security and public interest perspective, the decision of NHAH in this behalf being final, conclusive and binding on DHHL, and undertakes that it shall not give effect to any such acquisition of equity or control of the board of directors of DHHL without such prior approval of NHAH. It has been expressly agreed that approval of NHAH hereunder shall be limited to national security and public interest perspective, and NHAH shall endeavour to convey its decision thereon expeditiously. It has also been agreed that NHAH shall not be liable in any manner on account of grant or otherwise of such approval and that such approval or denial thereof shall not in any manner absolve DHHL from any liability or obligation under the DHHL Concession Agreement.

7. *Indemnities*

- DHHL shall indemnify, defend, save and hold harmless NHAH and its officers, servants, agents, government instrumentalities and government owned and/or controlled entities/enterprises, (the “**NHAH Indemnified Persons**”) against any and all suits, proceedings, actions, demands and claims from third parties for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by DHHL of any of its obligations under the DHHL Concession Agreement or any related agreement or on account of any defect or deficiency in the provision of services by DHHL to NHAH or to any user or from any negligence of GEPL under contract or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of the DHHL Concession Agreement on the part of NHAH Indemnified Persons.
- DHHL shall fully indemnify, hold harmless and defend NHAH and NHAH Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:
 - failure of DHHL to comply with applicable laws and applicable permits, each as defined in the DHHL Concession Agreement (“**Applicable Laws**” and “**Applicable Permits**”);
 - payment of taxes required to be made by DHHL in respect of the income or other taxes of DHHL’s contractors, suppliers and representatives; or
 - non-payment of amounts due as a result of materials or services furnished to DHHL or any of its contractors which are payable by DHHL or any of its contractors.
- DHHL shall fully indemnify, hold harmless and defend NHAH Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which NHAH Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by DHHL or by DHHL’s contractors in performing the obligations of DHHL or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, DHHL shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, DHHL shall promptly make every reasonable effort to secure for NHAH a licence, at no cost to NHAH, authorising continued use of the infringing work. If DHHL is unable to secure such licence within a reasonable time, DHHL shall, at its own expense, and without impairing the specifications and standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process or modify the same so that it becomes non-infringing.

8. *Suspension of DHHL's rights*

Upon occurrence of a DHHL default, as defined in the DHHL Concession Agreement (“**DHHL Default**”), NHAI shall be entitled, without prejudice to its other rights and remedies under the DHHL Concession Agreement including its rights of termination, as defined in the DHHL Concession Agreement (“**Termination**”), thereunder, to (i) suspend all rights of DHHL under the DHHL Concession Agreement, and pursuant hereto, and (ii) exercise such rights itself and perform the obligations hereunder or authorise any other person to exercise or perform the same on its behalf during such suspension (“**Suspension**”). Suspension hereunder shall be effective forthwith upon issue of notice by NHAI to DHHL and may extend up to a period not exceeding 180 days from the date of issue of such notice; provided that upon written request from DHHL and the lenders’ representative, as defined in the DHHL Concession Agreement (“**Lenders’ Representative**”) NHAI shall extend the aforesaid period of 180 days by a further period not exceeding 90 days. At any time during the period of Suspension, the Lenders’ Representative, on behalf of senior lenders, as defined in the DHHL Concession Agreement (“**Senior Lenders**”), shall be entitled to substitute DHHL under and in accordance with the substitution agreement, as defined in the DHHL Concession Agreement (“**Substitution Agreement**”), and upon receipt of notice thereunder from the Lenders’ Representative, NHAI shall withhold Termination for a period not exceeding 180 days from the date of Suspension, and any extension thereof, for enabling the Lenders’ Representative to exercise its rights of substitution on behalf of Senior Lenders.

9. *Effect of force majeure event on the Concession*

- Upon the occurrence of any force majeure event prior to the appointed date, each as defined in the DHHL Concession Agreement (“**Force Majeure Event**” and “**Appointed Date**”), the period for fulfilment of conditions precedent and achieving financial close, as defined in the DHHL Concession Agreement (“**Conditions Precedent**”), shall be extended by a period equal in length to the duration of the Force Majeure Event.
- At any time after the Appointed Date, if any Force Majeure Event occurs:
 - before COD, the construction period and the dates set forth in the Project Completion Schedule shall be extended by a period equal in length to the duration for which such Force Majeure Event subsists; or
 - after COD, DHHL shall be entitled to receive Annuity Payments plus interest due and payable under the DHHL Concession Agreement.
Provided any payment to be made under this clause shall be subject to deduction of outstanding dues of NHAI, if any.

10. *Allocation of costs arising out of Force Majeure*

- Upon occurrence of any Force Majeure Event prior to the Appointed Date, the parties to the DHHL Concession Agreement shall bear their respective costs and no party shall be required to pay to the other party any costs thereof.
- Upon occurrence of a Force Majeure Event after the Appointed Date, the costs incurred and attributable to such event and directly relating to the project (“**Force Majeure Costs**”) shall be allocated and paid as follows:
 - upon occurrence of a non-political event, as defined in the DHHL Concession Agreement (“**Non-Political Event**”), the parties shall bear their respective Force Majeure Costs and neither party shall be required to pay to the other party any costs thereof;
 - upon occurrence of an indirect political event, as defined in the DHHL Concession Agreement (“**Indirect Political Event**”), all Force Majeure Costs attributable to such Indirect Political Event, and not exceeding the insurance cover for such Indirect Political Event, shall be borne by DHHL, and to the extent Force Majeure Costs exceed such insurance cover, one half of such excess amount shall be reimbursed by NHAI to DHHL; and

- upon occurrence of a political event, as defined in the DHHL Concession Agreement (“**Political Event**”), all Force Majeure Costs attributable to such Political Event shall be reimbursed by NHAI to DHHL.

Force Majeure Costs may include interest payments on debt due, O&M expenses, any increase in the cost of construction works on account of inflation and all other costs directly attributable to the Force Majeure Event, but shall not include any costs which are expressly under any provision of the DHHL Concession Agreement or debt repayment obligations, and for determining such costs, information contained in the financial package, as defined in the DHHL Concession Agreement (“**Financial Package**”), may be relied upon to the extent that such information is relevant.

11. *Divestment Requirements*

Upon Termination of DHHL Concession Agreement, DHHL shall comply with and conform to the following requirements, amongst others: -

- notify NHAI forthwith the location and particulars of all project assets, as defined in the DHHL Concession Agreement (“**Project Assets**”);
- deliver forthwith the actual or constructive possession of the Project, free and clear of all encumbrances, save and except to the extent set forth in the Substitution Agreement;
- cure all Project Assets, including the road, bridges, structures and equipment, of all defects and deficiencies so that the Project is compliant with the maintenance requirements, provided that in the event of Termination during the construction period, all Project Assets shall be handed over on ‘as is here is’ basis after bringing them to a safe condition;
- deliver and transfer relevant records, reports, intellectual property and other licences pertaining to the Project and its design, engineering, construction, operation and maintenance, including all programmes and manuals pertaining thereto, and complete ‘as built’ drawings as on the transfer date, as defined in the DHHL Concession Agreement (“**Transfer Date**”);
- transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws;
- execute such deeds, conveyance, documents and other writings as NHAI may reasonably require for conveying, divesting and assigning all the rights, title and interest of DHHL in the Project Assets, including manufacturers’ warranties in respect of any plant or equipment and the right to receive outstanding insurance claims to the extent due and payable to NHAI, absolutely unto NHAI or its nominee; and
- comply with all other requirements as may be prescribed or required under Applicable Laws for completing the divestment and assignment of all rights, title and interest of DHHL in the Project, free from all encumbrances absolutely unto NHAI or to its nominees.

12. *Termination for DHHL Default*

Subject to the provisions of the DHHL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and DHHL fails to cure the default within the mentioned cure period set forth below, or where no cure period is specified, then within a cure period of 60 days, DHHL shall be deemed to be in default of the DHHL Concession Agreement (the “DHHL Default”), unless the default has occurred as a result of any breach of the DHHL Concession Agreement by NHAI or due to Force Majeure Event. The defaults referred to shall include, among other things, the following:

- the performance security, as defined in the DHHL Concession Agreement (“**Performance Security**”), has been encashed and appropriated in accordance with the DHHL Concession Agreement and DHHL fails to replenish or provide fresh Performance Security within a cure period of 15 days;
- subsequent to the replenishment or furnishing of fresh Performance Security in accordance with the DHHL Concession Agreement, DHHL fails to meet any Condition Precedent or cure the DHHL Default, as the case may be, for which whole or part of the Performance Security was appropriated, within a cure period of 120 days;
- DHHL does not achieve the latest outstanding project milestone due in accordance with the provisions of the DHHL Concession Agreement and continues to be in default for 120 days;
- upon occurrence of a financial default, as defined in the DHHL Concession Agreement (“**Financial Default**”), the Lenders’ Representative has by notice required NHAI to undertake

Suspension or Termination, as the case may be, in accordance with the Substitution Agreement and DHHL fails to cure the default within the cure period specified;

- DHHL abandons or manifests intention to abandon the construction or operation of the Project without the prior written consent of NHAI;
- DHHL is in breach of the maintenance requirements or the safety requirements as the case may be;
- DHHL has failed to fulfil any obligation, for which failure termination has been specified in the DHHL Concession Agreement;
- DHHL has failed to make any payment to NHAI within the period specified in the DHHL Concession Agreement; and
- a change in ownership has occurred in breach of the provisions of the DHHL Concession Agreement.

Upon occurrence of a DHHL Default, NHAI shall be entitled to terminate the DHHL Concession Agreement by issuing a termination notice, as defined in DHHL Concession Agreement (“**Termination Notice**”), to DHHL; provided that before issuing the Termination Notice, NHAI shall by a notice inform DHHL of its intention to issue such Termination Notice and grant 15 days to DHHL to make a representation, and may, after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

13. *Termination for NHAI Default*

DHHL may terminate the DHHL Concession Agreement on account of occurrence of a default by the NHAI which is not rectified within the cure period of 90 days or such longer period as has been expressly provided in this DHHL Concession Agreement (the “NHAi Default”) and includes – (i) material default causing a material adverse effect on DHHL; (ii) the failure to make any payment due to DHHL; (iii) repudiation of the DHHL Concession Agreement etc.

DHHL may, under the DHHL Concession Agreement, upon occurrence of a NHAI Default, subject to the provisions of Substitution Agreement, terminate the DHHL Concession Agreement by issuing a Termination Notice to NHAI; provided that before issuing the Termination Notice, DHHL shall by notice inform NHAI of its intentions to issue the Termination Notice and grant 15 days to NHAI to make a representation, and may after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

14. *Defects liability after termination*

DHHL shall be responsible for all defects and deficiencies in the Project for a period of 120 days after Termination and it shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies observed by the Independent Engineer in the Project during this period. In the event that DHHL fails to repair or rectify such defect or deficiency within a period of 15 days from the date of notice issued by NHAI, NHAI shall be entitled to get the same repaired or rectified at the risk and cost of DHHL so as to make the Project conform to the maintenance requirements. All costs incurred by NHAI in this regard shall be reimbursed by DHHL to NHAI within 15 days of receipt of demand thereof, and in the event of default in reimbursing such costs, NHAI shall be entitled to recover the same from the funds retained in the escrow account or from the performance guarantee, in accordance with the provisions of the DHHL Concession Agreement. A sum equal to 15% of the Annuity Payment due and payable immediately preceding the Transfer Date will be retained in the escrow account for a period of 120 days after Termination for meeting the liabilities, arising out of or in connection with the DHHL Concession Agreement. Independent Engineer will carry out an inspection of the Project at any time between 210 and 180 days prior to the Termination and if it recommends that the status of the Project is such that a sum larger than the amount of 15% as stipulated above will be retained in the escrow account and for a period longer than the aforesaid 120 days, the amount recommended by the Independent Engineer shall be retained in the escrow account for the period specified by it. DHHL will have option to provide to NHAI a performance bank guarantee of equal amount in lieu of retention in accordance with the DHHL Concession Agreement.

III. Repallewada Highways Limited (“RHL”)

The concession agreement has been executed between RHL and NHAI dated November 5, 2020 (the

“RHL Concession Agreement”). The scope of the Project under the RHL Concession Agreement includes the construction, O&M of the Project at the site, comprising National Highway No. 363 from Km 42.000 to Km 94.602 on the Repallewada to Telangana/Maharashtra Border together with the project facilities and its operation and maintenance in accordance with the RHL Concession Agreement (**“Project”**) and the performance of all incidental activities in accordance with the terms of the RHL Concession Agreement. Development of the Project includes the construction of the four-lane Project.

A summary of key terms of the RHL Concession Agreement has been set below-

1. *Bid Project Cost and Annuity Payments*

The bid project cost, as defined in the RHL Concession Agreement (**“Bid Project Cost”**), is Rs. 11,405 million and is subject to variation in the price index occurring between the reference index date immediately preceding the bid date and reference index date preceding the date of invoice.

The party has paid a portion of the completion cost as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (**“Annuity Payments”**). Each of the biannual installments, as provided in the RHL Concession Agreement, shall be paid along with the interest as specified in the RHL Concession Agreement.

2. *Change of Scope*

NHAI may require the provision of additional works and services which are not included in the scope of the project as contemplated by the RHL Concession Agreement (the **“Change of Scope”**). Within 7 days, NHAI shall make an advance payment to RHL in a sum equal to 20% of the cost of Change of Scope, and in the event of a dispute, 20% of the cost assessed by the independent engineer, as defined in the RHL Concession Agreement (**“Independent Engineer”**). NHAI shall disburse to RHL such amounts as are certified by the Independent Engineer, as reasonable and after making a proportionate deduction for the advance payment made. RHL shall be entitled to nullify any Change of Scope order if it causes the cumulative costs relating to all the Change of Scope orders to exceed 10% of the Bid Project Cost in any continuous period of 3 years immediately preceding the date of such Change of Scope order or if such cumulative costs exceed 25% of the Bid Project Cost at any time during the concession period.

3. *O&M*

RHL shall operate and maintain the Project in accordance with the RHL Concession Agreement either by itself, or through the O&M contractor, as defined in the RHL Concession Agreement (**“O&M Contractor”**), and if required, modify, repair or otherwise make improvements to the Project to comply with provisions of the RHL Concession Agreement applicable laws, applicable permits and conform to specifications, standards and good industry practice. The obligations of RHL, among other things, shall include:

- procuring and ensuring safe, smooth and uninterrupted use of the Project, including prevention of loss or damage thereto, during normal operating conditions;
- carrying out periodic preventive maintenance of the Project;
- undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, markings, lighting, signage and other control devices;
- undertaking major maintenance such as resurfacing, repairs to structures, and repairs and refurbishment of system and equipment;
- protection of the environment and provision of equipment and materials therefor; and
- operation and maintenance of all communication, control and administrative systems necessary for the efficient operation of the Project and for providing safe, smooth and uninterrupted use of the Project.

4. *Maintenance manual*

No later than 90 days prior to the scheduled completion date, as defined in the RHL Concession Agreement, RHL shall, in consultation with the Independent Engineer, evolve a repair and maintenance

manual, as defined in the RHL Concession Agreement (the “**Maintenance Manual**”), for the regular and preventive maintenance of the Project in conformity with the specifications and standards, maintenance requirements, safety requirements and good industry practice. The Maintenance Manual shall be revised and updated once every three years.

5. *Maintenance programme*

On or before COD and no later than 45 days prior to the beginning of each accounting year during the operation period, as defined in the RHL Concession Agreement, RHL shall provide to NHAI and the Independent Engineer its proposed annual programme of preventive, urgent and other scheduled maintenance (the “Maintenance Programme”) to comply with the maintenance requirements, Maintenance Manual and safety requirements. Such Maintenance Programme shall include the following:

- preventive maintenance schedule;
- arrangements and procedures for carrying out urgent repairs;
- criteria to be adopted for deciding maintenance needs;
- intervals and procedures for carrying out inspection of all elements of the Project;
- intervals at which RHL shall carry out periodic maintenance;
- arrangements and procedures for carrying out safety related measures; and
- intervals for major maintenance works and the scope thereof.

6. *Obligations relating to change in ownership*

RHL shall not undertake or permit any change in ownership, except with the prior written approval of NHAI. Notwithstanding anything to the contrary contained in the RHL Concession Agreement, RHL agrees and acknowledges that:

- all acquisitions of equity by an acquirer, either by himself or with any person acting in concert, directly or indirectly, including by transfer of the direct or indirect legal or beneficial ownership or control of any equity, in aggregate of 25% or more of the total equity of RHL; or
- acquisition of any control directly or indirectly of the board of directors of RHL by any person either by himself or together with any person or persons acting in concert with him, shall constitute a change in ownership requiring prior approval of NHAI from national security and public interest perspective, the decision of NHAI in this behalf being final, conclusive and binding on RHL, and undertakes that it shall not give effect to any such acquisition of Equity or control of the board of directors of RHL without such prior approval of NHAI. It has been expressly agreed that approval of NHAI hereunder shall be limited to national security and public interest perspective, and NHAI shall endeavour to convey its decision thereon expeditiously. It has also been agreed that NHAI shall not be liable in any manner on account of grant or otherwise of such approval and that such approval or denial thereof shall not in any manner absolve RHL from any liability or obligation under the RHL Concession Agreement.

7. *Indemnities*

- RHL shall indemnify, defend, save and hold harmless NHAI and its officers, servants, agents, government instrumentalities and government owned and/or controlled entities/enterprises, (the “**NHAI Indemnified Persons**”) against any and all suits, proceedings, actions, demands and claims from third parties for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by RHL of any of its obligations under the RHL Concession Agreement or any related agreement or on account of any defect or deficiency in the provision of services by RHL to NHAI or to any user or from any negligence of RHL under contract or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of the RHL Concession Agreement on the part of NHAI Indemnified Persons.
- RHL shall fully indemnify, hold harmless and defend NHAI and NHAI Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:

- failure of RHL to comply with applicable laws and applicable permits, each as defined in the RHL Concession Agreement (“**Applicable Laws**” and “**Applicable Permits**”);
 - payment of taxes required to be made by RHL in respect of the income or other taxes of RHL’s contractors, suppliers and representatives; or
 - non-payment of amounts due as a result of materials or services furnished to RHL or any of its contractors which are payable by RHL or any of its contractors.
- RHL shall fully indemnify, hold harmless and defend NHAI Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which NHAI Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by RHL or by RHL’s contractors in performing the obligations of RHL or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, RHL shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, RHL shall promptly make every reasonable effort to secure for NHAI a licence, at no cost to NHAI, authorising continued use of the infringing work. If RHL is unable to secure such licence within a reasonable time, RHL shall, at its own expense, and without impairing the specifications and standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process or modify the same so that it becomes non-infringing.

8. *Suspension of RHL’s rights*

Upon occurrence of a RHL default, as defined in RHL Concession Agreement (“**RHL Default**”), NHAI shall be entitled, without prejudice to its other rights and remedies under the RHL Concession Agreement including its rights of termination, as defined in the RHL Concession Agreement (“**Termination**”), thereunder, to (i) suspend all rights of RHL under the RHL Concession Agreement, and pursuant hereto, and (ii) exercise such rights itself and perform the obligations hereunder or authorise any other person to exercise or perform the same on its behalf during such suspension (“**Suspension**”). Suspension hereunder shall be effective forthwith upon issue of notice by NHAI to RHL and may extend up to a period not exceeding 180 days from the date of issue of such notice; provided that upon written request from RHL and the lenders’ representative, as defined in the RHL Concession Agreement (“**Lenders’ Representative**”), NHAI shall extend the aforesaid period of 180 days by a further period not exceeding 90 days. At any time during the period of Suspension, the Lenders’ Representative, on behalf of senior lenders, as defined in the RHL Concession Agreement (“**Senior Lenders**”), shall be entitled to substitute RHL under and in accordance with the substitution agreement, as defined in the RHL Concession Agreement (“**Substitution Agreement**”), and upon receipt of notice thereunder from the Lenders’ Representative, NHAI shall withhold Termination for a period not exceeding 180 days from the date of Suspension, and any extension thereof, for enabling the Lenders’ Representative to exercise its rights of substitution on behalf of Senior Lenders.

9. *Effect of force majeure event on the Concession*

- Upon the occurrence of any force majeure event prior to the appointed date, each as defined in the RHL Concession Agreement (“**Force Majeure Event**” and “**Appointed Date**”), the period for fulfilment of conditions precedent and achieving financial close, as defined in the RHL Concession Agreement (“**Conditions Precedent**”), shall be extended by a period equal in length to the duration of the Force Majeure Event.
- At any time after the Appointed Date, if any Force Majeure Event occurs:
 - before COD, the construction period and the dates set forth in the Project Completion Schedule shall be extended by a period equal in length to the duration for which such Force Majeure Event subsists; or
 - after COD, RHL shall be entitled to receive Annuity Payments plus interest due and payable under the RHL Concession Agreement.

Provided any payment to be made under this clause shall be subject to deduction of outstanding dues of NHAI, if any.

10. *Allocation of costs arising out of Force Majeure*

- Upon occurrence of any Force Majeure Event prior to the Appointed Date, the parties, to the RHL Concession Agreement shall bear their respective costs and no party shall be required to pay to the other party any costs thereof.
- Upon occurrence of a Force Majeure Event after the Appointed Date, the costs incurred and attributable to such event and directly relating to the project (“**Force Majeure Costs**”) shall be allocated and paid as follows:
 - upon occurrence of a non-political event, as defined in the RHL Concession Agreement (“**Non-Political Event**”), the parties shall bear their respective Force Majeure Costs and neither party shall be required to pay to the other party any costs thereof;
 - upon occurrence of an indirect political event, as defined in the RHL Concession Agreement (“**Indirect Political Event**”), all Force Majeure Costs attributable to such Indirect Political Event, and not exceeding the insurance cover for such Indirect Political Event, shall be borne by RHL, and to the extent Force Majeure Costs exceed such insurance cover, one half of such excess amount shall be reimbursed by NHAI to RHL; and
 - upon occurrence of a political event, as defined in the RHL Concession Agreement (“**Political Event**”), all Force Majeure Costs attributable to such Political Event shall be reimbursed by NHAI to RHL.

Force Majeure Costs may include interest payments on debt due, O&M expenses, any increase in the cost of construction works, on account of inflation and all other costs directly attributable to the Force Majeure Event, but shall not include any costs which are expressly under any provision of the RHL Concession Agreement or debt repayment obligations, and for determining such costs, information contained in the financial package, as defined in the RHL Concession Agreement (“**Financial Package**”), may be relied upon to the extent that such information is relevant.

11. *Divestment Requirements*

Upon Termination of RHL Concession Agreement, RHL shall comply with and conform to the following requirements, amongst others: -

- notify NHAI forthwith the location and particulars of all project assets, as defined in the RHL Concession Agreement (“**Project Assets**”);
- deliver forthwith the actual or constructive possession of the Project, free and clear of all encumbrances, save and except to the extent set forth in the Substitution Agreement;
- cure all Project Assets, including the road, bridges, structures and equipment, of all defects and deficiencies so that the Project is compliant with the maintenance requirements, provided that in the event of Termination during the construction period, all Project Assets shall be handed over on ‘as is here is’ basis after bringing them to a safe condition;
- deliver and transfer relevant records, reports, intellectual property and other licences pertaining to the Project and its design, engineering, construction, operation and maintenance, including all programmes and manuals pertaining thereto, and complete ‘as built’ drawings as on the transfer date, as defined in the RHL Concession Agreement (“**Transfer Date**”);
- transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws;
- execute such deeds, conveyance, documents and other writings as NHAI may reasonably require for conveying, divesting and assigning all the rights, title and interest of RHL in the Project Assets, including manufacturers’ warranties in respect of any plant or equipment and the right to receive outstanding insurance claims to the extent due and payable to NHAI, absolutely unto NHAI or its nominee; and
- comply with all other requirements as may be prescribed or required under Applicable Laws for completing the divestment and assignment of all rights, title and interest of RHL in the Project, free from all encumbrances absolutely unto NHAI or to its nominees.

12. *Termination for RHL Default*

Subject to the provisions of the RHL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and RHL fails to cure the default within the mentioned cure period set forth below, or where no cure period is specified, then within a cure period of 60 days, RHL shall be deemed to be in default of the RHL Concession Agreement (the “RHL Default”), unless the default has occurred as a result of any breach of the RHL Concession Agreement by NHAI or due to Force Majeure Event. The defaults referred to shall include, among other things, the following:

- the performance security, as defined in the RHL Concession Agreement (“**Performance Security**”), has been encashed and appropriated in accordance with the RHL Concession Agreement and RHL fails to replenish or provide fresh Performance Security within a cure period of 15 days;
- subsequent to the replenishment or furnishing of fresh Performance Security in accordance with the RHL Concession Agreement, RHL fails to meet any Condition Precedent or cure the RHL Default, as the case may be, for which whole or part of the Performance Security was appropriated, within a cure period of 120 days;
- RHL does not achieve the latest outstanding project milestone due in accordance with the provisions of the RHL Concession Agreement and continues to be in default for 120 days;
- upon occurrence of a financial default, as defined in the RHL Concession Agreement (“**Financial Default**”), the Lenders’ Representative has by notice required NHAI to undertake Suspension or Termination, as the case may be, in accordance with the Substitution Agreement, and RHL fails to cure the default within the Cure Period specified;
- RHL abandons or manifests intention to abandon the construction or operation of the Project without the prior written consent of NHAI;
- RHL is in breach of the maintenance requirements or the safety requirements as the case may be;
- RHL has failed to fulfil any obligation, for which failure termination has been specified in the RHL Concession Agreement;
- RHL has failed to make any payment to NHAI within the period specified in the RHL Concession Agreement; and
- a change in ownership has occurred in breach of the provisions of the RHL Concession Agreement.

Upon occurrence of a RHL Default, NHAI shall be entitled to terminate the RHL Concession Agreement by issuing a termination notice, as defined in RHL Concession Agreement (“**Termination Notice**”), to RHL; provided that before issuing the Termination Notice, NHAI shall by a notice inform RHL of its intention to issue such Termination Notice and grant 15 days to RHL to make a representation, and may, after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

13. *Termination for NHAI Default*

RHL may terminate the RHL Concession Agreement on account of occurrence of a default by the NHAI which is not rectified within the cure period of 90 days or such longer period as has been expressly provided in this RHL Concession Agreement (the “NHAH Default”) and includes – (i) material default causing a material adverse effect on RHL; (ii) the failure to make any payment due to RHL; (iii) repudiation of the RHL Concession Agreement etc.

RHL may, under the DBHL Concession Agreement, upon occurrence of a NHAI Default, subject to the provisions of Substitution Agreement, terminate the RHL Concession Agreement by issuing a Termination Notice to NHAI; provided that before issuing the Termination Notice, RHL shall by notice inform NHAI of its intentions to issue the Termination Notice and grant 15 days to NHAI to make a representation, and may after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

14. *Defects liability after termination*

RHL shall be responsible for all defects and deficiencies in the Project for a period of 120 days after Termination and it shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies observed by the Independent Engineer in the Project during this period. In the event that RHL fails to repair or rectify such defect or deficiency within a period of 15 days from the date of notice issued by

NHAI, NHAI shall be entitled to get the same repaired or rectified at the risk and cost of RHL so as to make the Project conform to the maintenance requirements. All costs incurred by NHAI in this regard shall be reimbursed by RHL to NHAI within 15 days of receipt of demand thereof, and in the event of default in reimbursing such costs, NHAI shall be entitled to recover the same from the funds retained in the escrow account or from the performance guarantee, in accordance with the provisions of the RHL Concession Agreement. A sum equal to 15% of the Annuity Payment due and payable immediately preceding the Transfer Date will be retained in the escrow account for a period of 120 days after Termination for meeting the liabilities, arising out of or in connection with the RHL Concession Agreement. Independent Engineer will carry out an inspection of the Project at any time between 210 and 180 days prior to the Termination and if it recommends that the status of the Project is such that a sum larger than the amount of 15% as stipulated above will be retained in the escrow account and for a period longer than the aforesaid 120 days, the amount recommended by the Independent Engineer shall be retained in the escrow account for the period specified by it. RHL will have option to provide to NHAI a performance bank guarantee of equal amount in lieu of retention in accordance with the RHL Concession Agreement.

IV. Viluppuram Highways Limited (“VHL”)

The concession agreement has been executed between VHL and dated May 17, 2021 (the “**VHL Concession Agreement**”). The scope of the Project under the VHL Concession Agreement includes the construction, operation and maintenance of the Project at the site comprising National Highway No. 45A (new NH 332) from km 0.000 to km 29.000 under Bharatmala Priyोजना Phase I on HAM in the state of Tamil Nadu and Union Territory of Puducherry together with the project facilities and its operation and maintenance in accordance with the VHL Concession Agreement (“**Project**”) and the performance of all incidental activities in accordance with the terms of the VHL Concession Agreement. Development of the Project includes the construction of the four-lane Project.

A summary of key terms of the VHL Concession Agreement has been set below-

1. *Bid Project Cost and Annuity Payments*

The bid project cost, as defined in the VHL Concession Agreement (“**Bid Project Cost**”), is Rs. 12,790 million and is subject to variation in the price index occurring between the reference index date immediately preceding the bid date and reference index date preceding the date of invoice.

The party has paid a portion of the completion cost as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the VHL Concession Agreement, shall be paid along with the interest as specified in the VHL Concession Agreement.

2. *Change of Scope*

NHAI may require the provision of additional works and services which are not included in the scope of the project as contemplated by the VHL Concession Agreement (the “**Change of Scope**”). Within 7 days, NHAI shall make an advance payment to VHL in a sum equal to 20% of the cost of Change of Scope, and in the event of a dispute, 20% of the cost assessed by the independent engineer, as defined in the VHL Concession Agreement (“**Independent Engineer**”). NHAI shall disburse to VHL such amounts as are certified by the Independent Engineer, as reasonable and after making a proportionate deduction for the advance payment made. VHL shall be entitled to nullify any Change of Scope order if it causes the cumulative costs relating to all the Change of Scope orders to exceed 10% of the Bid Project Cost in any continuous period of 3 (three) years immediately preceding the date of such Change of Scope order or if such cumulative costs exceed 25% of the Bid Project Cost at any time during the concession period.

3. *O&M*

VHL shall operate and maintain the Project in accordance with the VHL Concession Agreement either by itself, or through the O&M contractor, as defined in the VHL Concession Agreement (“**O&M Contractor**”), and if required, modify, repair or otherwise make improvements to the Project to comply with provisions of the VHL Concession Agreement applicable laws, applicable permits and conform to

specifications, standards and good industry practice. The obligations of VHL, among other things, shall include:

- procuring and ensuring safe, smooth and uninterrupted use of the Project, including prevention of loss or damage thereto, during normal operating conditions;
- carrying out periodic preventive maintenance of the Project;
- undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, markings, lighting, signage and other control devices;
- undertaking major maintenance such as resurfacing, repairs to structures, and repairs and refurbishment of system and equipment;
- protection of the environment and provision of equipment and materials therefor; and
- operation and maintenance of all communication, control and administrative systems necessary for the efficient operation of the Project and for providing safe, smooth and uninterrupted use of the Project.

4. *Maintenance manual*

No later than 90 days prior to the scheduled completion date, as defined in the VHL Concession Agreement, VHL shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual, as defined in the VHL Concession Agreement (the “**Maintenance Manual**”), for the regular and preventive maintenance of the Project in conformity with the specifications and standards, maintenance requirements, safety requirements and good industry practice. The Maintenance Manual shall be revised and updated once every three years.

5. *Maintenance programme*

On or before COD and no later than 45 days prior to the beginning of each accounting year during the operation period, as defined in the VHL Concession Agreement, VHL shall provide to NHAI and the Independent Engineer its proposed annual programme of preventive, urgent and other scheduled maintenance (the “**Maintenance Programme**”) to comply with the maintenance requirements, Maintenance Manual and safety requirements. Such Maintenance Programme shall include the following:

- preventive maintenance schedule;
- arrangements and procedures for carrying out urgent repairs;
- criteria to be adopted for deciding maintenance needs;
- intervals and procedures for carrying out inspection of all elements of the Project;
- intervals at which VHL shall carry out periodic maintenance;
- arrangements and procedures for carrying out safety related measures; and
- intervals for major maintenance works and the scope thereof.

6. *Obligations relating to change in ownership*

VHL shall not undertake or permit any change in ownership, except with the prior written approval of NHAI. Notwithstanding anything to the contrary contained in the VHL Concession Agreement, VHL agrees and acknowledges that:

- all acquisitions of equity by an acquirer, either by himself or with any person acting in concert, directly or indirectly, including by transfer of the direct or indirect legal or beneficial ownership or control of any equity, in aggregate of 25% or more of the total equity of VHL; or
- acquisition of any control directly or indirectly of the board of directors of VHL by any person either by himself or together with any person or persons acting in concert with him, shall constitute a change in ownership requiring prior approval of NHAI from national security and public interest perspective, the decision of NHAI in this behalf being final, conclusive and binding on VHL, and undertakes that it shall not give effect to any such acquisition of equity or control of the board of directors of VHL without such prior approval of NHAI. It has been expressly agreed that approval of NHAI hereunder shall be limited to national security and public interest perspective, and NHAI shall endeavour to convey its decision thereon

expeditiously. It has also been agreed that NHAH shall not be liable in any manner on account of grant or otherwise of such approval and that such approval or denial thereof shall not in any manner absolve VHL from any liability or obligation under the VHL Concession Agreement.

7. Indemnities

- VHL shall indemnify, defend, save and hold harmless NHAH and its officers, servants, agents, government instrumentalities and government owned and/or controlled entities/enterprises, (the “**NHAH Indemnified Persons**”) against any and all suits, proceedings, actions, demands and claims from third parties for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by VHL of any of its obligations under the VHL Concession Agreement or any related agreement or on account of any defect or deficiency in the provision of services by VHL to NHAH or to any user or from any negligence of VHL under contract or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of the VHL Concession Agreement on the part of NHAH Indemnified Persons.
- VHL shall fully indemnify, hold harmless and defend NHAH and NHAH Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:
 - failure of VHL to comply with applicable laws and applicable permits each as defined in the VHL Concession Agreement (“**Applicable Laws**” and “**Applicable Permits**”);
 - payment of taxes required to be made by VHL in respect of the income or other taxes of VHL’s contractors, suppliers and representatives; or
 - non-payment of amounts due as a result of materials or services furnished to VHL or any of its contractors which are payable by VHL or any of its contractors.
- VHL shall fully indemnify, hold harmless and defend NHAH Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which NHAH Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by VHL or by VHL’s contractors in performing the obligations of VHL or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, VHL shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, VHL shall promptly make every reasonable effort to secure for NHAH a licence, at no cost to NHAH, authorising continued use of the infringing work. If VHL is unable to secure such licence within a reasonable time, VHL shall, at its own expense, and without impairing the specifications and standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process or modify the same so that it becomes non-infringing.

8. Suspension of VHL’s rights

Upon occurrence of a VHL default, as defined in the VHL Concession Agreement (“**VHL Default**”), NHAH shall be entitled, without prejudice to its other rights and remedies under the VHL Concession Agreement including its rights of termination, as defined in the VHL Concession Agreement (“**Termination**”), thereunder, to (i) suspend all rights of VHL under the VHL Concession Agreement, and pursuant hereto, and (ii) exercise such rights itself and perform the obligations hereunder or authorise any other person to exercise or perform the same on its behalf during such suspension (“**Suspension**”). Suspension hereunder shall be effective forthwith upon issue of notice by NHAH to VHL and may extend up to a period not exceeding 180 days from the date of issue of such notice; provided that upon written request from VHL and the lenders’ representative, as defined in the VHL Concession Agreement (“**Lenders’ Representative**”), NHAH shall extend the aforesaid period of 180 days by a further period not exceeding 90 days. At any time during the period of Suspension, the Lenders’ Representative, on behalf of senior lenders, as defined in the VHL Concession Agreement (“**Senior Lenders**”), shall be entitled to substitute VHL under and in accordance with the substitution agreement, as defined in the

VHL Concession Agreement (“**Substitution Agreement**”), and upon receipt of notice thereunder from the Lenders’ Representative, NHAI shall withhold Termination for a period not exceeding 180 days from the date of Suspension, and any extension thereof, for enabling the Lenders’ Representative to exercise its rights of substitution on behalf of Senior Lenders.

9. *Effect of force majeure event on the Concession*

- Upon the occurrence of any force majeure event prior to the appointed date, each as defined in the VHL Concession Agreement (“**Force Majeure Event**” and “**Appointed Date**”), the period for fulfilment of conditions precedent and achieving financial close, as defined in the VHL Concession Agreement (“**Conditions Precedent**”), shall be extended by a period equal in length to the duration of the Force Majeure Event.
- At any time after the Appointed Date, if any Force Majeure Event occurs:
 - before COD, the construction period and the dates set forth in the Project Completion Schedule shall be extended by a period equal in length to the duration for which such Force Majeure Event subsists; or
 - after COD, VHL shall be entitled to receive Annuity Payments, plus interest due and payable under the VHL Concession Agreement.
 Provided any payment to be made under this clause shall be subject to deduction of outstanding dues of NHAI, if any.

10. *Allocation of costs arising out of Force Majeure*

- Upon occurrence of any Force Majeure Event prior to the Appointed Date, the parties to the VHL Concession Agreement shall bear their respective costs and no party shall be required to pay to the other party any costs thereof.
- Upon occurrence of a Force Majeure Event after the Appointed Date, the costs incurred and attributable to such event and directly relating to the project (“**Force Majeure Costs**”) shall be allocated and paid as follows:
 - upon occurrence of a non-political event, as defined in the VHL Concession Agreement (“**Non-Political Event**”), the parties shall bear their respective Force Majeure Costs and neither party shall be required to pay to the other party any costs thereof;
 - upon occurrence of an indirect political event, as defined in the VHL Concession Agreement (“**Indirect Political Event**”), all Force Majeure Costs attributable to such Indirect Political Event, and not exceeding the insurance cover for such Indirect Political Event, shall be borne by VHL, and to the extent Force Majeure Costs exceed such insurance cover, one half of such excess amount shall be reimbursed by NHAI to VHL; and
 - upon occurrence of a political event, as defined in the VHL Concession Agreement (“**Political Event**”), all Force Majeure Costs attributable to such Political Event shall be reimbursed by NHAI to VHL.

Force Majeure Costs may include interest payments on debt due, O&M expenses, any increase in the cost of construction works on account of inflation and all other costs directly attributable to the Force Majeure Event, but shall not include any costs which are expressly under any provision of the VHL Concession Agreement or debt repayment obligations, and for determining such costs, information contained in the financial package, as defined in the VHL Concession Agreement (“**Financial Package**”), may be relied upon to the extent that such information is relevant.

11. *Divestment Requirements*

Upon Termination of VHL Concession Agreement, VHL shall comply with and conform to the following requirements, amongst others: -

- notify NHAI forthwith the location and particulars of all project assets, as defined in the VHL Concession Agreement (“**Project Assets**”);

- deliver forthwith the actual or constructive possession of the Project, free and clear of all encumbrances, save and except to the extent set forth in the Substitution Agreement;
- cure all Project Assets, including the road, bridges, structures and equipment, of all defects and deficiencies so that the Project is compliant with the maintenance requirements, provided that in the event of Termination during the construction period, all Project Assets shall be handed over on 'as is here is' basis after bringing them to a safe condition.;
- deliver and transfer relevant records, reports, intellectual property and other licences pertaining to the Project and its design, engineering, construction, operation and maintenance, including all programmes and manuals pertaining thereto, and complete 'as built' drawings as on the transfer date, as defined in the VHL Concession Agreement ("**Transfer Date**");
- transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws;
- execute such deeds, conveyance, documents and other writings as NHAI may reasonably require for conveying, divesting and assigning all the rights, title and interest of VHL in the Project Assets, including manufacturers' warranties in respect of any plant or equipment and the right to receive outstanding insurance claims to the extent due and payable to NHAI, absolutely unto NHAI or its nominee; and
- comply with all other requirements as may be prescribed or required under Applicable Laws for completing the divestment and assignment of all rights, title and interest of VHL in the Project, free from all encumbrances, absolutely unto NHAI or to its nominees.

12. *Termination for VHL Default*

Subject to the provisions of the VHL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and VHL fails to cure the default within the mentioned cure period set forth below, or where no cure period is specified, then within a cure period of 60 days, VHL shall be deemed to be in default of the VHL Concession Agreement (the "VHL Default"), unless the default has occurred as a result of any breach of the VHL Concession Agreement by NHAI or due to Force Majeure Event. The defaults referred to shall include, among other things, the following:

- the performance security, as defined in the VHL Concession Agreement ("**Performance Security**"), has been encashed and appropriated in accordance with the VHL Concession Agreement and VHL fails to replenish or provide fresh Performance Security within a cure period of 15 days;
- subsequent to the replenishment or furnishing of fresh Performance Security in accordance with the VHL Concession Agreement, VHL fails to meet any Condition Precedent or cure the VHL Default, as the case may be, for which whole or part of the Performance Security was appropriated, within a cure period of 120 days;
- VHL does not achieve the latest outstanding project milestone, due in accordance with the provisions of the VHL Concession Agreement and continues to be in default for 120 days;
- upon occurrence of a financial default, as defined in the VHL Concession Agreement ("**Financial Default**"), the Lenders' Representative has by notice required NHAI to undertake Suspension or Termination, as the case may be, in accordance with the Substitution Agreement and VHL fails to cure the default within the cure period specified;
- VHL abandons or manifests intention to abandon the construction or operation of the Project without the prior written consent of NHAI;
- VHL is in breach of the maintenance requirements or the safety requirements as the case may be;
- VHL has failed to fulfil any obligation, for which failure termination has been specified in the DBHL Concession Agreement;
- VHL has failed to make any payment to NHAI within the period specified in the VHL Concession Agreement; and
- a change in ownership has occurred in breach of the provisions of the VHL Concession Agreement.

Upon occurrence of a VHL Default, NHAI shall be entitled to terminate the VHL Concession Agreement by issuing a termination notice, as defined in VHL Concession Agreement ("**Termination Notice**"), to VHL; provided that before issuing the Termination Notice, NHAI shall by a notice inform VHL of its intention to issue such Termination Notice and grant 15 days to VHL to make a representation, and may, after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

13. *Termination for NHAI Default*

VHL may terminate the VHL Concession Agreement on account of occurrence of a default by the NHAI which is not rectified within the cure period of 90 days or such longer period as has been expressly provided in this VHL Concession Agreement (the “NHAIDefault”) and includes – (i) material default causing a material adverse effect on VHL (ii) the failure to make any payment due to VHL; (iii) repudiation of the VHL Concession Agreement etc.

VHL may, under the VHL Concession Agreement, upon occurrence of a NHAI Default, subject to the provisions of Substitution Agreement, terminate the DBHL Concession Agreement by issuing a Termination Notice to NHAI; provided that before issuing the Termination Notice, VHL shall by notice inform NHAI of its intentions to issue the Termination Notice and grant 15 days to NHAI to make a representation, and may after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

14. *Defects liability after termination*

VHL shall be responsible for all defects and deficiencies in the Project for a period of 120 days after Termination and it shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies observed by the Independent Engineer in the Project during this period. In the event that VHL fails to repair or rectify such defect or deficiency within a period of 15 days from the date of notice issued by NHAI, NHAI shall be entitled to get the same repaired or rectified at the risk and cost of VHL so as to make the Project conform to the maintenance requirements. All costs incurred by NHAI in this regard shall be reimbursed by VHL to NHAI within 15 days of receipt of demand thereof, and in the event of default in reimbursing such costs, NHAI shall be entitled to recover the same from the funds retained in the escrow account or from the performance guarantee, in accordance with the provisions of the VHL Concession Agreement. A sum equal to 15% of the Annuity Payment due and payable immediately preceding the Transfer Date will be retained in the Escrow Account for a period of 120 days after Termination for meeting the liabilities, arising out of or in connection with the VHL Concession Agreement. Independent Engineer will carry out an inspection of the Project at any time between 210 and 180 days prior to the Termination and if it recommends that the status of the Project is such that a sum larger than the amount of 15% as stipulated above will be retained in the escrow account and for a period longer than the aforesaid 120 days, the amount recommended by the Independent Engineer shall be retained in the escrow account for the period specified by it. VHL will have option to provide to NHAI a performance bank guarantee of equal amount in lieu of retention in accordance with the VHL Concession Agreement.

V. **Narenpur Purnea Highways Limited (“NPHL”)**

The concession agreement has been executed between NPHL and NHAI dated October 24, 2020 (the “**NPHL Concession Agreement**”). The scope of the Project under the NPHL Concession Agreement includes the construction, O&M of the Project at the site comprising National Highway No. 131A of Narenpur - Purnea section comprising of 4 (four) lane between km 34.600 (design Ch. 6.000) to km 79.970 (design Ch. 53.000) and Purnea section comprising of 2 (two) lane with paved shoulders standard between km 79.970 (design Ch. 53.000) to km 82.000 (design Ch. 55.000) together with the project facilities and its operation and maintenance in accordance with the NPHL Concession Agreement (“**Project**”) along with the performance of all incidental activities in accordance with the terms of the NPHL Concession Agreement. Development of the Project includes the construction of the four-lane and two lane along with paved shoulders of the Project as set forth in NPHL Concession Agreement.

A summary of key terms of the NPHL Concession Agreement has been set below -

1. *Bid Project Cost and Annuity Payments*

The bid project cost, as defined in the NPHL Concession Agreement (“**Bid Project Cost**”), is Rs. 19,050 million and is subject to variation in the price index occurring between the reference index date immediately preceding the bid date and reference index date preceding the date of invoice.

The party has paid a portion of the completion cost as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from

commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the NPHL Concession Agreement, shall be paid along with the interest as specified in the NPHL Concession Agreement.

2. *Change of Scope*

NHAI may require the provision of additional works and services which are not included in the scope of the project as contemplated by the NPHL Concession Agreement (the “**Change of Scope**”). Within 7 days, NHAI shall make an advance payment to NPHL in a sum equal to 20% of the cost of Change of Scope, and in the event of a dispute, 20% of the cost assessed by the independent engineer, as defined in the NPHL Concession Agreement (“**Independent Engineer**”). NHAI shall disburse to NPHL such amounts as are certified by the Independent Engineer, as reasonable and after making a proportionate deduction for the advance payment made. NPHL shall be entitled to nullify any Change of Scope order if it causes the cumulative costs relating to all the Change of Scope orders to exceed 10% of the Bid Project Cost in any continuous period of 3 years immediately preceding the date of such Change of Scope order or if such cumulative costs exceed 25% of the Bid Project Cost at any time during the concession period.

3. *O&M*

NPHL shall operate and maintain the Project in accordance with the NPHL Concession Agreement either by itself, or through the O&M contractor, as defined in the NPHL Concession Agreement (“**O&M Contractor**”), and if required, modify, repair or otherwise make improvements to the Project, to comply with provisions of the NPHL Concession Agreement applicable laws, applicable permits and conform to specifications, standards and good industry practice. The obligations of NPHL, among other things, shall include:

- procuring and ensuring safe, smooth and uninterrupted use of the Project, including prevention of loss or damage thereto, during normal operating conditions;
- carrying out periodic preventive maintenance of the Project;
- undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, markings, lighting, signage and other control devices;
- undertaking major maintenance such as resurfacing, repairs to structures, and repairs and refurbishment of system and equipment;
- protection of the environment and provision of equipment and materials therefor; and
- operation and maintenance of all communication, control and administrative systems necessary for the efficient operation of the Project and for providing safe, smooth and uninterrupted use of the Project.

4. *Maintenance manual*

No later than 90 days prior to the scheduled completion date, as defined in the NPHL Concession Agreement, NPHL shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual, as defined in the NPHL Concession Agreement (the “**Maintenance Manual**”), for the regular and preventive maintenance of the Project in conformity with the specifications and standards, maintenance requirements, safety requirements and good industry practice. The Maintenance Manual shall be revised and updated once every three years.

5. *Maintenance programme*

On or before COD and no later than 45 days prior to the beginning of each accounting year during the operation period, as defined in the NPHL Concession Agreement NPHL shall provide to NHAI and the Independent Engineer its proposed annual programme of preventive, urgent and other scheduled maintenance (the “**Maintenance Programme**”) to comply with the maintenance requirements, Maintenance Manual and safety requirements. Such Maintenance Programme shall include the following:

- preventive maintenance schedule;
- arrangements and procedures for carrying out urgent repairs;
- criteria to be adopted for deciding maintenance needs;

- intervals and procedures for carrying out inspection of all elements of the Project;
- intervals at which NPHL shall carry out periodic maintenance;
- arrangements and procedures for carrying out safety related measures; and
- intervals for major maintenance works and the scope thereof.

6. *Obligations relating to change in ownership*

NPHL shall not undertake or permit any change in ownership, except with the prior written approval of NHAI. Notwithstanding anything to the contrary contained in the NPHL Concession Agreement, NPHL agrees and acknowledges that:

- all acquisitions of equity by an acquirer, either by himself or with any person acting in concert, directly or indirectly, including by transfer of the direct or indirect legal or beneficial ownership or control of any equity, in aggregate of 25% or more of the total equity of NPHL; or
- acquisition of any control directly or indirectly of the board of directors of NPHL by any person either by himself or together with any person or persons acting in concert with him, shall constitute a change in ownership requiring prior approval of NHAI from national security and public interest perspective, the decision of NHAI in this behalf being final, conclusive and binding on NPHL, and undertakes that it shall not give effect to any such acquisition of equity or control of the board of directors of NPHL without such prior approval of NHAI. It has been expressly agreed that approval of NHAI hereunder shall be limited to national security and public interest perspective, and NHAI shall endeavour to convey its decision thereon expeditiously. It has also been agreed that NHAI shall not be liable in any manner on account of grant or otherwise of such approval and that such approval or denial thereof shall not in any manner absolve NPHL from any liability or obligation under the NPHL Concession Agreement.

7. *Indemnities*

- NPHL shall indemnify, defend, save and hold harmless NHAI and its officers, servants, agents, government instrumentalities and government owned and/or controlled entities/enterprises, (the “**NHAI Indemnified Persons**”) against any and all suits, proceedings, actions, demands and claims from third parties for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by NPHL of any of its obligations under the NPHL Concession Agreement or any related agreement or on account of any defect or deficiency in the provision of services by NPHL to NHAI or to any user or from any negligence of NPHL under contract or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of the NPHL Concession Agreement on the part of NHAI Indemnified Persons.
- NPHL shall fully indemnify, hold harmless and defend NHAI and NHAI Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:
 - failure of NPHL to comply with applicable laws and applicable permits, as defined in the NPHL Concession Agreement (“**Applicable Laws**” and “**Applicable Permits**”);
 - payment of taxes required to be made by NPHL in respect of the income or other taxes of NPHL’s contractors, suppliers and representatives; or
 - non-payment of amounts due as a result of materials or services furnished to NPHL or any of its contractors which are payable by NPHL or any of its contractors.
- NPHL shall fully indemnify, hold harmless and defend NHAI Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which NHAI Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by NPHL or by NPHL’s contractors in performing the obligations of NPHL or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, NPHL shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure

the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, NPHL shall promptly make every reasonable effort to secure for NHAI a licence, at no cost to NHAI, authorising continued use of the infringing work. If NPHL is unable to secure such licence within a reasonable time, NPHL shall, at its own expense, and without impairing the specifications and standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process or modify the same so that it becomes non-infringing.

8. *Suspension of NPHL's rights*

Upon occurrence of a NPHL default, as defined in the NPHL Concession Agreement ("**NPHL Default**"), NHAI shall be entitled, without prejudice to its other rights and remedies under the NPHL Concession Agreement including its rights of termination, as defined in the NPHL Concession Agreement ("**Termination**"), thereunder, to (i) suspend all rights of NPHL under the NPHL Concession Agreement, and pursuant hereto, and (ii) exercise such rights itself and perform the obligations hereunder or authorise any other person to exercise or perform the same on its behalf during such suspension ("**Suspension**"). Suspension hereunder shall be effective forthwith upon issue of notice by NHAI to NPHL and may extend up to a period not exceeding 180 days from the date of issue of such notice; provided that upon written request from NPHL and the lenders' representative, as defined in the NPHL Concession Agreement ("**Lenders' Representative**"), NHAI shall extend the aforesaid period of 180 days by a further period not exceeding 90 days. At any time during the period of Suspension, the Lenders' Representative, on behalf of senior lenders, as defined in the NPHL Concession Agreement ("**Senior Lenders**"), shall be entitled to substitute NPHL under and in accordance with the substitution agreement, as defined in the NPHL Concession Agreement ("**Substitution Agreement**") and upon receipt of notice thereunder from the Lenders' Representative, NHAI shall withhold Termination for a period not exceeding 180 days from the date of Suspension, and any extension thereof, for enabling the Lenders' Representative to exercise its rights of substitution on behalf of Senior Lenders.

9. *Effect of force majeure event on the Concession*

- Upon the occurrence of any force majeure event prior to the appointed date, each as defined in the NPHL Concession Agreement ("**Force Majeure Event**" and "**Appointed Date**"), the period for fulfilment of conditions precedent and achieving financial close, as defined in the NPHL Concession Agreement ("**Conditions Precedent**"), shall be extended by a period equal in length to the duration of the Force Majeure Event.
- At any time after the Appointed Date, if any Force Majeure Event occurs:
 - before COD, the construction period and the dates set forth in the Project Completion Schedule shall be extended by a period equal in length to the duration for which such Force Majeure Event subsists; or
 - after COD, NPHL shall be entitled to receive Annuity Payments plus interest due and payable under the NPHL Concession Agreement.

Provided any payment to be made under this clause shall be subject to deduction of outstanding dues of NHAI, if any.

10. *Allocation of costs arising out of Force Majeure*

- Upon occurrence of any Force Majeure Event prior to the Appointed Date, the parties to the NPHL Concession Agreement shall bear their respective costs and no party shall be required to pay to the other party any costs thereof.
- Upon occurrence of a Force Majeure Event after the Appointed Date, the costs incurred and attributable to such event and directly relating to the project ("**Force Majeure Costs**") shall be allocated and paid as follows:
 - upon occurrence of a non-political event, as defined in the NPHL Concession Agreement ("**Non-Political Event**"), the parties shall bear their respective Force Majeure Costs and neither party shall be required to pay to the other party any costs thereof;

- upon occurrence of an indirect political event, as defined in the NPHL Concession Agreement (“**Indirect Political Event**”), all Force Majeure Costs attributable to such Indirect Political Event, and not exceeding the insurance cover for such Indirect Political Event, shall be borne by NPHL, and to the extent Force Majeure Costs exceed such insurance cover, one half of such excess amount shall be reimbursed by NHAI to NPHL; and
- upon occurrence of a political event, as defined in the NPHL Concession Agreement (“**Political Event**”), all Force Majeure Costs attributable to such Political Event shall be reimbursed by NHAI to NPHL.

Force Majeure Costs may include interest payments on debt due, O&M expenses, any increase in the cost of construction works, on account of inflation and all other costs directly attributable to the Force Majeure Event, but shall not include any costs which are expressly under any provision of the NPHL Concession Agreement or debt repayment obligations, and for determining such costs, information contained in the financial package, as defined in the NPHL Concession Agreement (“**Financial Package**”), may be relied upon to the extent that such information is relevant.

11. *Divestment Requirements*

Upon Termination of NPHL Concession Agreement, NPHL shall comply with and conform to the following requirements, amongst others: -

- notify NHAI forthwith the location and particulars of all project assets, as defined in the NPHL Concession Agreement (“**Project Assets**”);
- deliver forthwith the actual or constructive possession of the Project, free and clear of all encumbrances, save and except to the extent set forth in the Substitution Agreement;
- cure all Project Assets, including the road, bridges, structures and equipment, of all defects and deficiencies so that the Project is compliant with the maintenance requirements, provided that in the event of Termination during the construction period, all Project Assets shall be handed over on ‘as is here is’ basis after bringing them to a safe condition.;
- deliver and transfer relevant records, reports, intellectual property and other licences pertaining to the Project and its design, engineering, construction, operation and maintenance, including all programmes and manuals pertaining thereto, and complete ‘as built’ drawings as on the transfer date, as defined in the NPHL Concession Agreement (“**Transfer Date**”);
- transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws;
- execute such deeds, conveyance, documents and other writings as NHAI may reasonably require for conveying, divesting and assigning all the rights, title and interest of NPHL in the Project Assets, including manufacturers’ warranties in respect of any plant or equipment and the right to receive outstanding insurance claims to the extent due and payable to NHAI, absolutely unto NHAI or its nominee; and
- comply with all other requirements as may be prescribed or required under Applicable Laws for completing the divestment and assignment of all rights, title and interest of NPHL in the Project, free from all encumbrances absolutely unto NHAI or to its nominees.

12. *Termination for NPHL Default*

Subject to the provisions of the NPHL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and NPHL fails to cure the default within the mentioned cure period set forth below, or where no cure period is specified, then within a cure period of 60 days, NPHL shall be deemed to be in default of the NPHL Concession Agreement (the “**NPHL Default**”), unless the default has occurred as a result of any breach of the NPHL Concession Agreement by NHAI or due to Force Majeure Event. The defaults referred to shall include, among other things, the following:

- the performance security, as defined in the NPHL Concession Agreement (“**Performance Security**”), has been encashed and appropriated in accordance with the NPHL Concession Agreement and NPHL fails to replenish or provide fresh Performance Security within a cure period of 15 days;
- subsequent to the replenishment or furnishing of fresh Performance Security in accordance with the NPHL Concession Agreement, NPHL fails to meet any Condition Precedent or cure the NPHL

Default, as the case may be, for which whole or part of the Performance Security was appropriated, within a cure period of 120 days;

- NPHL does not achieve the latest outstanding project milestone, due in accordance with the provisions of the NPHL Concession Agreement and continues to be in default for 120 days;
- upon occurrence of a financial default, as defined in the NPHL Concession Agreement (“**Financial Default**”), the Lenders’ Representative has by notice required NHAI to undertake Suspension or Termination, as the case may be, in accordance with the Substitution Agreement and NPHL fails to cure the default within the cure period specified;
- NPHL abandons or manifests intention to abandon the construction or operation of the Project without the prior written consent of NHAI;
- NPHL is in breach of the maintenance requirements or the safety requirements as the case may be;
- NPHL has failed to fulfil any obligation, for which failure termination has been specified in the NPHL Concession Agreement;
- NPHL has failed to make any payment to NHAI within the period specified in the NPHL Concession Agreement; and
- a change in ownership has occurred in breach of the provisions of the NPHL Concession Agreement.

Upon occurrence of a NPHL Default, NHAI shall be entitled to terminate the NPHL Concession Agreement by issuing a termination notice, as defined in NPHL Concession Agreement (“**Termination Notice**”), to NPHL; provided that before issuing the Termination Notice, NHAI shall by a notice inform NPHL of its intention to issue such Termination Notice and grant 15 days to NPHL to make a representation, and may, after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

13. *Termination for NHAI Default*

NPHL may terminate the NPHL Concession Agreement on account of occurrence of a default by the NHAI which is not rectified within the cure period of 90 days or such longer period as has been expressly provided in this NPHL Concession Agreement (the “**NHAI Default**”) and includes – (i) material default causing a material adverse effect on NPHL; (ii) the failure to make any payment due to NPHL; (iii) repudiation of the NPHL Concession Agreement etc.

NPHL may, under the NPHL Concession Agreement, upon occurrence of a NHAI Default, subject to the provisions of Substitution Agreement, terminate the NPHL Concession Agreement by issuing a Termination Notice to NHAI; provided that before issuing the Termination Notice, NPHL shall by notice inform NHAI of its intentions to issue the Termination Notice and grant 15 days to NHAI to make a representation, and may after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

14. *Defects liability after termination*

NPHL shall be responsible for all defects and deficiencies in the Project for a period of 120 days after Termination and it shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies observed by the Independent Engineer in the Project during this period. In the event that NPHL fails to repair or rectify such defect or deficiency within a period of 15 days from the date of notice issued by NHAI, NHAI shall be entitled to get the same repaired or rectified at the risk and cost of NPHL so as to make the Project conform to the maintenance requirements. All costs incurred by NHAI in this regard shall be reimbursed by NPHL to NHAI within 15 days of receipt of demand thereof, and in the event of default in reimbursing such costs, NHAI shall be entitled to recover the same from the funds retained in the escrow account or from the performance guarantee, in accordance with the provisions of the NPHL Concession Agreement. A sum equal to 15% of the Annuity Payment due and payable immediately preceding the Transfer Date will be retained in the escrow account for a period of 120 days after Termination for meeting the liabilities, arising out of or in connection with the NPHL Concession Agreement. Independent Engineer will carry out an inspection of the Project at any time between 210 and 180 days prior to the Termination and if it recommends that the status of the Project is such that a sum larger than the amount of 15% as stipulated above will be retained in the escrow account and for a period longer than the aforesaid 120 days, the amount recommended by the Independent Engineer shall be retained in the escrow account for the period specified by it. NPHL will have option to provide to

NHAI a performance bank guarantee of equal amount in lieu of retention in accordance with the NPHL Concession Agreement.

VI. Bangalore Malur Highways Limited (“BMHL”)

The concession agreement has been executed between BMHL and NHAI dated May 17, 2021 (the “**BMHL Concession Agreement**”). The scope of the Project under the BMHL Concession Agreement includes the construction, O&M of the Project at the site, comprising Bangalore – Malur section (between Km 0.00 to Km 26.400 (along with 0.700 Km approach towards National Highway No. 207 with interchange on National Highway No. 4 at start point)) of Bangalore Chennai Expressway, in the state of Karnataka together with the project facilities and its operation and maintenance in accordance with the BMHL Concession Agreement (“**Project**”) and the performance of all incidental activities in accordance with the terms of the BMHL Concession Agreement. Development of the Project includes the construction of the four-lane Project.

A summary of key terms of the BMHL Concession Agreement has been set below-

1. *Bid Project Cost and Annuity Payments*

The bid project cost, as defined in the BMHL Concession Agreement (“**Bid Project Cost**”), is Rs. 11,600 million and is subject to variation in the price index occurring between the reference index date immediately preceding the bid date and reference index date preceding the date of invoice.

The party has paid a portion of the completion cost, as specified in the BMHL Concession Agreement (“**Completion Cost**”) as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the BMHL Concession Agreement, shall be paid along with the interest as specified in the BMHL Concession Agreement.

2. *Change of Scope*

NHAI may require the provision of additional works and services which are not included in the scope of the Project as contemplated by the BMHL Concession Agreement (the “**Change of Scope**”). Within 7 days, NHAI shall make an advance payment to BMHL in a sum equal to 20% of the cost of Change of Scope, and in the event of a dispute, 20% of the cost assessed by the independent engineer, as defined in the BMHL Concession Agreement (“**Independent Engineer**”). NHAI shall disburse to BMHL such amounts as are certified by the Independent Engineer, as reasonable and after making a proportionate deduction for the advance payment made. BMHL shall be entitled to nullify any Change of Scope order if it causes the cumulative costs relating to all the Change of Scope orders to exceed 10% of the Bid Project Cost in any continuous period of 3 years immediately preceding the date of such Change of Scope order or if such cumulative costs exceed 25% of the Bid Project Cost at any time during the concession period.

3. *O&M*

BMHL shall operate and maintain the Project, in accordance with the BMHL Concession Agreement either by itself, or through the O&M contractor, as defined in the BMHL Concession Agreement (“**O&M Contractor**”), and if required, modify, repair or otherwise make improvements to the Project, to comply with provisions of the BMHL Concession Agreement applicable laws, applicable permits and conform to specifications, standards and good industry practice. The obligations of BMHL, among other things, shall include:

- procuring and ensuring safe, smooth and uninterrupted use of the Project, including prevention of loss or damage thereto, during normal operating conditions;
- carrying out periodic preventive maintenance of the Project;
- undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, markings, lighting, signage and other control devices;
- undertaking major maintenance such as resurfacing, repairs to structures, and repairs and

- refurbishment of system and equipment;
- protection of the environment and provision of equipment and materials therefor; and
- operation and maintenance of all communication, control and administrative systems necessary for the efficient operation of the Project and for providing safe, smooth and uninterrupted use of the Project.

4. *Maintenance manual*

No later than 90 days prior to the scheduled completion date, as defined in the BMHL Concession Agreement, BMHL shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual, as defined in the BMHL Concession Agreement (the “**Maintenance Manual**”), for the regular and preventive maintenance of the Project in conformity with the specifications and standards, maintenance requirements, safety requirements and good industry practice. The Maintenance Manual shall be revised and updated once every three years.

5. *Maintenance programme*

On or before COD and no later than 45 days prior to the beginning of each accounting year during the operation period, as defined in the BMHL Concession Agreement, BMHL shall provide to NHAI and the Independent Engineer its proposed annual programme of preventive, urgent and other scheduled maintenance (the “**Maintenance Programme**”) to comply with the maintenance requirements, Maintenance Manual and safety requirements. Such Maintenance Programme shall include the following:

- preventive maintenance schedule;
- arrangements and procedures for carrying out urgent repairs;
- criteria to be adopted for deciding maintenance needs;
- intervals and procedures for carrying out inspection of all elements of the Project;
- intervals at which BMHL shall carry out periodic maintenance;
- arrangements and procedures for carrying out safety related measures; and
- intervals for major maintenance works and the scope thereof.

6. *Obligations relating to change in ownership*

BMHL shall not undertake or permit any change in ownership, except with the prior written approval of NHAI. Notwithstanding anything to the contrary contained in the BMHL Concession Agreement, BMHL agrees and acknowledges that:

- all acquisitions of equity by an acquirer, either by himself or with any person acting in concert, directly or indirectly, including by transfer of the direct or indirect legal or beneficial ownership or control of any equity, in aggregate of 25% or more of the total equity of BMHL; or
- acquisition of any control directly or indirectly of the board of directors of BMHL by any person either by himself or together with any person or persons acting in concert with him, shall constitute a change in ownership requiring prior approval of NHAI from national security and public interest perspective, the decision of NHAI in this behalf being final, conclusive and binding on BMHL, and undertakes that it shall not give effect to any such acquisition of equity or control of the board of directors of BMHL without such prior approval of NHAI. It has been expressly agreed that approval of NHAI hereunder shall be limited to national security and public interest perspective, and NHAI shall endeavour to convey its decision thereon expeditiously. It has also been agreed that NHAI shall not be liable in any manner on account of grant or otherwise of such approval and that such approval or denial thereof shall not in any manner absolve BMHL from any liability or obligation under the BMHL Concession Agreement.

7. *Indemnities*

- BMHL shall indemnify, defend, save and hold harmless NHAI and its officers, servants, agents, government instrumentalities and government owned and/or controlled entities/enterprises, (the “**NHAI Indemnified Persons**”) against any and all suits, proceedings, actions, demands and claims from third parties for any loss, damage, cost and expense of whatever kind and nature,

whether arising out of any breach by BMHL of any of its obligations under the BMHL Concession Agreement or any related agreement or on account of any defect or deficiency in the provision of services by BMHL to NHAI or to any user or from any negligence of BMHL under contract or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of the BMHL Concession Agreement on the part of NHAI Indemnified Persons.

- BMHL shall fully indemnify, hold harmless and defend NHAI and NHAI Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:
 - failure of BMHL to comply with applicable laws and applicable permits, each as defined in the BMHL Concession Agreement (“**Applicable Laws**” and “**Applicable Permits**”);
 - payment of taxes required to be made by BMHL in respect of the income or other taxes of BMHL’s contractors, suppliers and representatives; or
 - non-payment of amounts due as a result of materials or services furnished to BMHL or any of its contractors which are payable by BMHL or any of its contractors.
- BMHL shall fully indemnify, hold harmless and defend NHAI Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which NHAI Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by BMHL or by BMHL’s contractors in performing the obligations of BMHL or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, BMHL shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, BMHL shall promptly make every reasonable effort to secure for NHAI a licence, at no cost to NHAI, authorising continued use of the infringing work. If BMHL is unable to secure such licence within a reasonable time, BMHL shall, at its own expense, and without impairing the specifications and standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

8. *Suspension of BMHL’s rights*

Upon occurrence of a BMHL default, as defined in the BMHL Concession Agreement (“**BMHL Default**”), NHAI shall be entitled, without prejudice to its other rights and remedies under the BMHL Concession Agreement including its rights of termination, as defined in the BMHL Concession Agreement (“**Termination**”), thereunder, to (i) suspend all rights of BMHL under the BMHL Concession Agreement, and pursuant hereto, and (ii) exercise such rights itself and perform the obligations hereunder or authorise any other person to exercise or perform the same on its behalf during such suspension (“**Suspension**”). Suspension hereunder shall be effective forthwith upon issue of notice by NHAI to BMHL and may extend up to a period not exceeding 180 days from the date of issue of such notice; provided that upon written request from BMHL and the lenders’ representative, as defined in the BMHL Concession Agreement (“**Lenders’ Representative**”), NHAI shall extend the aforesaid period of 180 days by a further period not exceeding 90 days. At any time during the period of Suspension, the Lenders’ Representative, on behalf of senior lenders, as defined in the BMHL Concession Agreement (“**Senior Lenders**”), shall be entitled to substitute BMHL under and in accordance with the substitution agreement, as defined in the BMHL Concession Agreement (“**Substitution Agreement**”), and upon receipt of notice thereunder from the Lenders’ Representative, NHAI shall withhold Termination for a period not exceeding 180 days from the date of Suspension, and any extension thereof, for enabling the Lenders’ Representative to exercise its rights of substitution on behalf of Senior Lenders.

9. *Effect of force majeure event on the Concession*

- Upon the occurrence of any force majeure event prior to the appointed date, each as defined in the BMHL Concession Agreement (“**Force Majeure Event**” and “**Appointed Date**”), the period for fulfilment of conditions precedent and achieving financial close, as defined in the BMHL

Concession Agreement (“**Conditions Precedent**”) shall be extended by a period equal in length to the duration of the Force Majeure Event.

- At any time after the Appointed Date, if any Force Majeure Event occurs:
 - before COD, the construction period and the dates set forth in the project completion schedule, as defined in the BMHL Concession Agreement (“**Project Completion Schedule**”) shall be extended by a period equal in length to the duration for which such Force Majeure Event subsists; or
 - after COD, BMHL shall be entitled to receive Annuity Payments plus interest due and payable under the BMHL Concession Agreement.
Provided any payment to be made under this clause shall be subject to deduction of outstanding dues of NHAI, if any.

10. *Allocation of costs arising out of Force Majeure*

- Upon occurrence of any Force Majeure Event prior to the Appointed Date, the parties to the BMHL Concession Agreement shall bear their respective costs and no party shall be required to pay to the other party any costs thereof.
- Upon occurrence of a Force Majeure Event after the Appointed Date, the costs incurred and attributable to such event and directly relating to the project (“**Force Majeure Costs**”) shall be allocated and paid as follows:
 - upon occurrence of a non-political event, as defined in the BMHL Concession Agreement (“**Non-Political Event**”), the parties shall bear their respective Force Majeure Costs and neither party shall be required to pay to the other party any costs thereof;
 - upon occurrence of an indirect political event, as defined in the BMHL Concession Agreement (“**Indirect Political Event**”), all Force Majeure Costs attributable to such Indirect Political Event, and not exceeding the insurance cover for such Indirect Political Event, shall be borne by BMHL, and to the extent Force Majeure Costs exceed such insurance cover, one half of such excess amount shall be reimbursed by NHAI to BMHL; and
 - upon occurrence of a political event, as defined in the BMHL Concession Agreement (“**Political Event**”), all Force Majeure Costs attributable to such Political Event shall be reimbursed by NHAI to BMHL.

Force Majeure Costs may include interest payments on debt due, O&M expenses, any increase in the cost of construction works on account of inflation and all other costs directly attributable to the Force Majeure Event, but shall not include any costs which are expressly under any provision of the BMHL Concession Agreement or debt repayment obligations, and for determining such costs, information contained in the financial package, as defined in the BMHL Concession Agreement (“**Financial Package**”), may be relied upon to the extent that such information is relevant.

11. *Divestment Requirements*

Upon Termination of BMHL Concession Agreement, BMHL shall comply with and conform to the following requirements, amongst others:-

- notify NHAI forthwith the location and particulars of all project assets, as defined in the BMHL Concession Agreement (“**Project Assets**”);
- deliver forthwith the actual or constructive possession of the Project, free and clear of all encumbrances, save and except to the extent set forth in the Substitution Agreement;
- cure all Project Assets, including the road, bridges, structures and equipment, of all defects and deficiencies so that the Project is compliant with the maintenance requirements, provided that in the event of Termination during the construction period, all Project Assets shall be handed over on ‘as is here is’ basis after bringing them to a safe condition;
- deliver and transfer relevant records, reports, intellectual property and other licences pertaining to the Project and its design, engineering, construction, operation and maintenance, including all programmes and manuals pertaining thereto, and complete ‘as built’ drawings as on the transfer date, as defined in the BMHL Concession Agreement (“**Transfer Date**”);
- transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws;

- execute such deeds, conveyance, documents and other writings as NHAI may reasonably require for conveying, divesting and assigning all the rights, title and interest of BMHL in the Project Assets, including manufacturers' warranties in respect of any plant or equipment and the right to receive outstanding insurance claims to the extent due and payable to NHAI, absolutely unto NHAI or its nominee; and
- comply with all other requirements as may be prescribed or required under Applicable Laws for completing the divestment and assignment of all rights, title and interest of BMHL in the Project, free from all encumbrances, absolutely unto NHAI or to its nominees.

12. *Termination for BMHL Default*

Subject to the provisions of the BMHL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and BMHL fails to cure the default within the mentioned cure period set forth below, or where no cure period is specified, then within a cure period of 60 days, BMHL shall be deemed to be in default of the BMHL Concession Agreement (the “**BMHL Default**”), unless the default has occurred as a result of any breach of the BMHL Concession Agreement by NHAI or due to Force Majeure Event. The defaults referred to shall include, among other things, the following:

- The performance security, as defined in the BMHL Concession Agreement (“**Performance Security**”), has been encashed and appropriated in accordance with the BMHL Concession Agreement and BMHL fails to replenish or provide fresh Performance Security within a cure period of 15 days;
- subsequent to the replenishment or furnishing of fresh Performance Security in accordance with the BMHL Concession Agreement, BMHL fails to meet any Condition Precedent or cure the BMHL Default, as the case may be, for which whole or part of the Performance Security was appropriated, within a cure period of 120 days;
- BMHL does not achieve the latest outstanding project milestone due in accordance with the provisions of the BMHL Concession Agreement and continues to be in default for 120 days;
- upon occurrence of a financial default, as defined in the BMHL Concession Agreement (“**Financial Default**”), the Lenders' Representative has by notice required NHAI to undertake Suspension or Termination, as the case may be, in accordance with the Substitution Agreement and BMHL fails to cure the default within the cure period specified;
- BMHL abandons or manifests intention to abandon the construction or operation of the Project without the prior written consent of NHAI;
- BMHL is in breach of the maintenance requirements or the safety requirements as the case may be;
- BMHL has failed to fulfil any obligation, for which failure termination has been specified in the BMHL Concession Agreement;
- BMHL has failed to make any payment to NHAI within the period specified in the BMHL Concession Agreement; and
- a change in ownership has occurred in breach of the provisions of the BMHL Concession Agreement.

Upon occurrence of a BMHL Default, NHAI shall be entitled to terminate the BMHL Concession Agreement by issuing a termination notice, as defined in BMHL Concession Agreement (“**Termination Notice**”), to BMHL; provided that before issuing the Termination Notice, NHAI shall by a notice inform BMHL of its intention to issue such Termination Notice and grant 15 days to BMHL to make a representation, and may, after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

13. *Termination for NHAI Default*

BMHL may terminate the BMHL Concession Agreement on account of occurrence of a default by the NHAI which is not rectified within the cure period of 90 days or such longer period as has been expressly provided in this BMHL Concession Agreement (the “**NHAI Default**”) and includes – (i) material default causing a material adverse effect on BMHL; (ii) the failure to make any payment due to BMHL; (iii) repudiation of the BMHL Concession Agreement etc.

BMHL may, under the BMHL Concession Agreement, upon occurrence of a NHAI Default, subject to the provisions of Substitution Agreement, terminate the BMHL Concession Agreement by issuing a

Termination Notice to NHAI; provided that before issuing the Termination Notice, BMHL shall by notice inform NHAI of its intentions to issue the Termination Notice and grant 15 days to NHAI to make a representation, and may after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

14. *Defects liability after termination*

BMHL shall be responsible for all defects and deficiencies in the Project for a period of 120 days after Termination, and it shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies observed by the Independent Engineer in the Project during this period. In the event that BMHL fails to repair or rectify such defect or deficiency within a period of 15 days from the date of notice issued by NHAI, NHAI shall be entitled to get the same repaired or rectified at the risk and cost of BMHL so as to make the Project conform to the maintenance requirements. All costs incurred by NHAI in this regard shall be reimbursed by BMHL to NHAI within 15 days of receipt of demand thereof, and in the event of default in reimbursing such costs, NHAI shall be entitled to recover the same from the funds retained in the escrow account or from the performance guarantee, in accordance with the provisions of the BMHL Concession Agreement. A sum equal to 15% of the Annuity Payment due and payable immediately preceding the Transfer Date will be retained in the escrow account for a period of 120 days after Termination for meeting the liabilities, arising out of or in connection with the BMHL Concession Agreement. Independent Engineer will carry out an inspection of the Project at any time between 210 and 180 days prior to the Termination and if it recommends that the status of the Project is such that a sum larger than the amount of 15% as stipulated above will be retained in the escrow account and for a period longer than the aforesaid 120 days, the amount recommended by the Independent Engineer shall be retained in the escrow account for the period specified by it. BMHL will have option to provide to NHAI a performance bank guarantee of equal amount in lieu of retention in accordance with the BMHL Concession Agreement.

VII. Malur Bangarpet Highways Limited (“MBHL”)

The concession agreement has been executed between MBHL and NHAI dated September 17, 2021 (the “**MBHL Concession Agreement**”). The scope of the Project under the MBHL Concession Agreement includes the construction, O&M of the Project at the site, comprising Malur to Bangarpet section of Bangalore Chennai Expressway (between Ex. Km 26.400 to Km 53.500) together with the project facilities and its operation and maintenance in accordance with the MBHL Concession Agreement (“**Project**”) and the performance of all incidental activities in accordance with the terms of the MBHL Concession Agreement. Development of the Project includes the construction of the four-lane Project.

A summary of key terms of the MBHL Concession Agreement has been set below-

1. *Bid Project Cost and Annuity Payments*

The bid project cost, as defined in the MBHL Concession Agreement (“**Bid Project Cost**”), is Rs. 12,790 million and is subject to variation in the price index occurring between the reference index date immediately preceding the bid date and reference index date preceding the date of invoice.

The party has paid a portion of the completion cost, as specified in the MBHL Concession Agreement (“**Completion Cost**”) as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the MBHL Concession Agreement, shall be paid along with the interest as specified in the MBHL Concession Agreement.

2. *Change of Scope*

NHAI may require the provision of additional works and services which are not included in the scope of the Project as contemplated by the MBHL Concession Agreement (the “**Change of Scope**”). Within 7 days, NHAI shall make an advance payment to MBHL in a sum equal to 20% of the cost of Change of Scope, and in the event of a dispute, 20% of the cost assessed by the independent engineer, as defined in the MBHL Concession Agreement (“**Independent Engineer**”). NHAI shall disburse to MBHL such amounts as are certified by the Independent Engineer, as reasonable and after making a proportionate

deduction for the advance payment made. MBHL shall be entitled to nullify any Change of Scope order if it causes the cumulative costs relating to all the Change of Scope orders to exceed 10% of the Bid Project Cost in any continuous period of 3 years immediately preceding the date of such Change of Scope order or if such cumulative costs exceed 25% of the Bid Project Cost at any time during the concession period.

3. *O&M*

MBHL shall operate and maintain the Project, in accordance with the MBHL Concession Agreement either by itself, or through the O&M contractor, as defined in the MBHL Concession Agreement (“**O&M Contractor**”), and if required, modify, repair or otherwise make improvements to the Project, to comply with provisions of the MBHL Concession Agreement applicable laws, applicable permits and conform to specifications, standards and good industry practice. The obligations of MBHL, among other things, shall include:

- procuring and ensuring safe, smooth and uninterrupted use of the Project, including prevention of loss or damage thereto, during normal operating conditions;
- carrying out periodic preventive maintenance of the Project;
- undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, markings, lighting, signage and other control devices;
- undertaking major maintenance such as resurfacing, repairs to structures, and repairs and refurbishment of system and equipment;
- protection of the environment and provision of equipment and materials therefor; and
- operation and maintenance of all communication, control and administrative systems necessary for the efficient operation of the Project and for providing safe, smooth and uninterrupted use of the Project.

4. *Maintenance manual*

No later than 90 days prior to the scheduled completion date, as defined in the MBHL Concession Agreement MBHL shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual, as defined in the MBHL Concession Agreement (the “**Maintenance Manual**”), for the regular and preventive maintenance of the Project in conformity with the specifications and standards, maintenance requirements, safety requirements and good industry practice. The Maintenance Manual shall be revised and updated once every three years.

5. *Maintenance programme*

On or before COD and no later than 45 days prior to the beginning of each accounting year during the operation period, as defined in the MBHL Concession Agreement, MBHL shall provide to NHAI and the Independent Engineer its proposed annual programme of preventive, urgent and other scheduled maintenance (the “**Maintenance Programme**”) to comply with the maintenance requirements, Maintenance Manual and safety requirements Such Maintenance Programme shall include the following:

- preventive maintenance schedule;
- arrangements and procedures for carrying out urgent repairs;
- criteria to be adopted for deciding maintenance needs;
- intervals and procedures for carrying out inspection of all elements of the Project;
- intervals at which MBHL shall carry out periodic maintenance;
- arrangements and procedures for carrying out safety related measures; and
- intervals for major maintenance works and the scope thereof.

6. *Obligations relating to change in ownership*

MBHL shall not undertake or permit any change in ownership, except with the prior written approval of NHAI. Notwithstanding anything to the contrary contained in the MBHL Concession Agreement, MBHL agrees and acknowledges that:

- all acquisitions of equity by an acquirer, either by himself or with any person acting in concert,

directly or indirectly, including by transfer of the direct or indirect legal or beneficial ownership or control of any equity, in aggregate of 25% or more of the total equity of MBHL; or

- acquisition of any control directly or indirectly of the board of directors of MBHL by any person either by himself or together with any person or persons acting in concert with him, shall constitute a change in ownership requiring prior approval of NHAI from national security and public interest perspective, the decision of NHAI in this behalf being final, conclusive and binding on MBHL, and undertakes that it shall not give effect to any such acquisition of equity or control of the board of directors of MBHL without such prior approval of NHAI. It has been expressly agreed that approval of NHAI hereunder shall be limited to national security and public interest perspective, and NHAI shall endeavour to convey its decision thereon expeditiously. It has also been agreed that NHAI shall not be liable in any manner on account of grant or otherwise of such approval and that such approval or denial thereof shall not in any manner absolve MBHL from any liability or obligation under the MBHL Concession Agreement.

7. Indemnities

- MBHL shall indemnify, defend, save and hold harmless NHAI and its officers, servants, agents, government instrumentalities and government owned and/or controlled entities/enterprises, (the “**NHAI Indemnified Persons**”) against any and all suits, proceedings, actions, demands and claims from third parties for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by MBHL of any of its obligations under the MBHL Concession Agreement or any related agreement or on account of any defect or deficiency in the provision of services by MBHL to NHAI or to any user or from any negligence of MBHL under contract or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of the MBHL Concession Agreement on the part of NHAI Indemnified Persons.
- MBHL shall fully indemnify, hold harmless and defend NHAI and NHAI Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:
 - failure of MBHL to comply with applicable laws and applicable permits, each as defined in the MBHL Concession Agreement (“**Applicable Laws**” and “**Applicable Permits**”);
 - payment of taxes required to be made by MBHL in respect of the income or other taxes of MBHL’s contractors, suppliers and representatives; or
 - non-payment of amounts due as a result of materials or services furnished to MBHL or any of its contractors which are payable by MBHL or any of its contractors.
- MBHL shall fully indemnify, hold harmless and defend NHAI Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which NHAI Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by MBHL or by MBHL’s contractors in performing the obligations of MBHL or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, MBHL shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, MBHL shall promptly make every reasonable effort to secure for NHAI a licence, at no cost to NHAI, authorising continued use of the infringing work. If MBHL is unable to secure such licence within a reasonable time, MBHL shall, at its own expense, and without impairing the specifications and standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

8. Suspension of MBHL’s rights

Upon occurrence of a MBHL default, as defined in the MBHL Concession Agreement (“**MBHL Default**”), NHAI shall be entitled, without prejudice to its other rights and remedies under the MBHL

Concession Agreement including its rights of termination, as defined in the MBHL Concession Agreement (“**Termination**”), thereunder, to (i) suspend all rights of MBHL under the MBHL Concession Agreement, and pursuant hereto, and (ii) exercise such rights itself and perform the obligations hereunder or authorise any other person to exercise or perform the same on its behalf during such suspension (“**Suspension**”). Suspension hereunder shall be effective forthwith upon issue of notice by NHAI to MBHL and may extend up to a period not exceeding 180 days from the date of issue of such notice; provided that upon written request from MBHL and the lenders’ representative, as defined in the MBHL Concession Agreement (“**Lenders’ Representative**”), NHAI shall extend the aforesaid period of 180 days by a further period not exceeding 90 days. At any time during the period of Suspension, the Lenders’ Representative, on behalf of senior lenders, as defined in the MBHL Concession Agreement (“**Senior Lenders**”), shall be entitled to substitute MBHL under and in accordance with the substitution agreement, as defined in the MBHL Concession Agreement (“**Substitution Agreement**”), and upon receipt of notice thereunder from the Lenders’ Representative, NHAI shall withhold Termination for a period not exceeding 180 days from the date of Suspension, and any extension thereof, for enabling the Lenders’ Representative to exercise its rights of substitution on behalf of Senior Lenders.

9. *Effect of force majeure event on the Concession*

- Upon the occurrence of any force majeure event prior to the appointed date, each as defined in the MBHL Concession Agreement (“**Force Majeure Event**” and “**Appointed Date**”), the period for fulfilment of conditions precedent and achieving financial close, as defined in the MBHL Concession Agreement (“**Conditions Precedent**”) shall be extended by a period equal in length to the duration of the Force Majeure Event.
- At any time after the Appointed Date, if any Force Majeure Event occurs:
 - before COD, the construction period and the dates set forth in the project completion schedule, as defined in the MBHL Concession Agreement (“**Project Completion Schedule**”) shall be extended by a period equal in length to the duration for which such Force Majeure Event subsists; or
 - after COD, MBHL shall be entitled to receive Annuity Payments plus interest due and payable under the MBHL Concession Agreement.
Provided any payment to be made under this clause shall be subject to deduction of outstanding dues of NHAI, if any.

10. *Allocation of costs arising out of Force Majeure*

- Upon occurrence of any Force Majeure Event prior to the Appointed Date, the parties to the MBHL Concession Agreement shall bear their respective costs and no party shall be required to pay to the other party any costs thereof.
- Upon occurrence of a Force Majeure Event after the Appointed Date, the costs incurred and attributable to such event and directly relating to the project (“**Force Majeure Costs**”) shall be allocated and paid as follows:
 - upon occurrence of a non-political event, as defined in the MBHL Concession Agreement (“**Non-Political Event**”), the parties shall bear their respective Force Majeure Costs and neither party shall be required to pay to the other party any costs thereof;
 - upon occurrence of an indirect political event, as defined in the MBHL Concession Agreement (“**Indirect Political Event**”), all Force Majeure Costs attributable to such Indirect Political Event, and not exceeding the insurance cover for such Indirect Political Event, shall be borne by MBHL, and to the extent Force Majeure Costs exceed such insurance cover, one half of such excess amount shall be reimbursed by NHAI to MBHL; and
 - upon occurrence of a political event, as defined in the MBHL Concession Agreement (“**Political Event**”), all Force Majeure Costs attributable to such Political Event shall be reimbursed by NHAI to MBHL.

Force Majeure Costs may include interest payments on debt due, O&M expenses, any increase in the cost of construction works on account of inflation and all other costs directly attributable to the Force Majeure Event, but shall not include any costs which are expressly under any provision of the MBHL

Concession Agreement or debt repayment obligations, and for determining such costs, information contained in the financial package, as defined in the MBHL Concession Agreement (“**Financial Package**”), may be relied upon to the extent that such information is relevant.

11. *Divestment Requirements*

Upon Termination of MBHL Concession Agreement, MBHL shall comply with and conform to the following requirements, amongst others:-

- notify NHAI forthwith the location and particulars of all project assets, as defined in the MBHL Concession Agreement (“**Project Assets**”);
- deliver forthwith the actual or constructive possession of the Project, free and clear of all encumbrances, save and except to the extent set forth in the Substitution Agreement;
- cure all Project Assets, including the road, bridges, structures and equipment, of all defects and deficiencies so that the Project is compliant with the maintenance requirements, provided that in the event of Termination during the construction period, all Project Assets shall be handed over on ‘as is here is’ basis after bringing them to a safe condition;
- deliver and transfer relevant records, reports, intellectual property and other licences pertaining to the Project and its design, engineering, construction, operation and maintenance, including all programmes and manuals pertaining thereto, and complete ‘as built’ drawings as on the transfer date, as defined in the MBHL Concession Agreement (“**Transfer Date**”);
- transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws;
- execute such deeds, conveyance, documents and other writings as NHAI may reasonably require for conveying, divesting and assigning all the rights, title and interest of MBHL in the Project Assets, including manufacturers’ warranties in respect of any plant or equipment and the right to receive outstanding insurance claims to the extent due and payable to NHAI, absolutely unto NHAI or its nominee; and
- comply with all other requirements as may be prescribed or required under Applicable Laws for completing the divestment and assignment of all rights, title and interest of MBHL in the Project, free from all encumbrances, absolutely unto NHAI or to its nominees.

12. *Termination for MBHL Default*

Subject to the provisions of the MBHL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and MBHL fails to cure the default within the mentioned cure period set forth below, or where no cure period is specified, then within a cure period of 60 days, MBHL shall be deemed to be in default of the MBHL Concession Agreement (the “**MBHL Default**”), unless the default has occurred as a result of any breach of the MBHL Concession Agreement by NHAI or due to Force Majeure Event. The defaults referred to shall include, among other things, the following:

- The performance security, as defined in the MBHL Concession Agreement (“**Performance Security**”), has been encashed and appropriated in accordance with the MBHL Concession Agreement and MBHL fails to replenish or provide fresh Performance Security within a cure period of 15 days;
- subsequent to the replenishment or furnishing of fresh Performance Security in accordance with the MBHL Concession Agreement, MBHL fails to meet any Condition Precedent or cure the MBHL Default, as the case may be, for which whole or part of the Performance Security was appropriated, within a cure period of 120 days;
- MBHL does not achieve the latest outstanding project milestone due in accordance with the provisions of the MBHL Concession Agreement and continues to be in default for 120 days;
- upon occurrence of a financial default, as defined in the MBHL Concession Agreement (“**Financial Default**”), the Lenders’ Representative has by notice required NHAI to undertake Suspension or Termination, as the case may be, in accordance with the Substitution Agreement and MBHL fails to cure the default within the cure period specified;
- MBHL abandons or manifests intention to abandon the construction or operation of the Project without the prior written consent of NHAI;
- MBHL is in breach of the maintenance requirements or the safety requirements as the case may be;
- MBHL has failed to fulfil any obligation, for which failure termination has been specified in the MBHL Concession Agreement;

- MBHL has failed to make any payment to NHAI within the period specified in the MBHL Concession Agreement; and
- a change in ownership has occurred in breach of the provisions of the MBHL Concession Agreement.

Upon occurrence of a MBHL Default, NHAI shall be entitled to terminate the MBHL Concession Agreement by issuing a termination notice, as defined in MBHL Concession Agreement (“**Termination Notice**”), to MBHL; provided that before issuing the Termination Notice, NHAI shall by a notice inform MBHL of its intention to issue such Termination Notice and grant 15 days to MBHL to make a representation, and may, after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

13. *Termination for NHAI Default*

MBHL may terminate the MBHL Concession Agreement on account of occurrence of a default by the NHAI which is not rectified within the cure period of 90 days or such longer period as has been expressly provided in this MBHL Concession Agreement (the “**NHAI Default**”) and includes – (i) material default causing a material adverse effect on MBHL; (ii) the failure to make any payment due to MBHL; (iii) repudiation of the MBHL Concession Agreement etc.

MBHL may, under the MBHL Concession Agreement, upon occurrence of a NHAI Default, subject to the provisions of Substitution Agreement, terminate the MBHL Concession Agreement by issuing a Termination Notice to NHAI; provided that before issuing the Termination Notice, MBHL shall by notice inform NHAI of its intentions to issue the Termination Notice and grant 15 days to NHAI to make a representation, and may after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

14. *Defects liability after termination*

MBHL shall be responsible for all defects and deficiencies in the Project for a period of 120 days after Termination, and it shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies observed by the Independent Engineer in the Project during this period. In the event that MBHL fails to repair or rectify such defect or deficiency within a period of 15 days from the date of notice issued by NHAI, NHAI shall be entitled to get the same repaired or rectified at the risk and cost of MBHL so as to make the Project conform to the maintenance requirements. All costs incurred by NHAI in this regard shall be reimbursed by MBHL to NHAI within 15 days of receipt of demand thereof, and in the event of default in reimbursing such costs, NHAI shall be entitled to recover the same from the funds retained in the escrow account or from the performance guarantee, in accordance with the provisions of the MBHL Concession Agreement. A sum equal to 15% of the Annuity Payment due and payable immediately preceding the Transfer Date will be retained in the escrow account for a period of 120 days after Termination for meeting the liabilities, arising out of or in connection with the MBHL Concession Agreement. Independent Engineer will carry out an inspection of the Project at any time between 210 and 180 days prior to the Termination and if it recommends that the status of the Project is such that a sum larger than the amount of 15% as stipulated above will be retained in the escrow account and for a period longer than the aforesaid 120 days, the amount recommended by the Independent Engineer shall be retained in the escrow account for the period specified by it. MBHL will have option to provide to NHAI a performance bank guarantee of equal amount in lieu of retention in accordance with the MBHL Concession Agreement.

VIII. **Poondiyankuppam Highways Limited (“PHL”)**

The concession agreement has been executed between PHL and NHAI dated May 17, 2021 (the “**PHL Concession Agreement**”). The scope of the Project under the PHL Concession Agreement includes the construction, O&M of the Project at the site, comprising National Highway No. 45A of Puducherry – Poondiyankuppam section (between Km 29.000 to Km 67.000) (i.e., approximately 38.000 (thirty eight decimal zero zero zero) Kms), in the state of Tamil Nadu and Union Territory of Puducherry together with the project facilities, and its operation and maintenance in accordance with the PHL Concession Agreement (“**Project**”) and the performance of all incidental activities in accordance with the terms of the PHL Concession Agreement. Development of the Project includes the construction of the four-lane Project.

A summary of key terms of the PHL Concession Agreement has been set below-

1. *Bid Project Cost and Annuity Payments*

The bid project cost, as defined in the PHL Concession Agreement (“**Bid Project Cost**”), is Rs. 12,280 million and is subject to variation in the price index occurring between the reference index date immediately preceding the bid date and reference index date preceding the date of invoice.

The party has paid a portion of the completion cost, as specified in the PHL Concession Agreement (“**Completion Cost**”) as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the PHL Concession Agreement, shall be paid along with the interest as specified in the PHL Concession Agreement.

2. *Change of Scope*

NHAI may require the provision of additional works and services which are not included in the scope of the Project as contemplated by the PHL Concession Agreement (the “**Change of Scope**”). Within 7 days, NHAI shall make an advance payment to PHL in a sum equal to 20% of the cost of Change of Scope, and in the event of a dispute, 20% of the cost assessed by the independent engineer, as defined in the PHL Concession Agreement (“**Independent Engineer**”). NHAI shall disburse to PHL such amounts as are certified by the Independent Engineer, as reasonable and after making a proportionate deduction for the advance payment made. PHL shall be entitled to nullify any Change of Scope order if it causes the cumulative costs relating to all the Change of Scope orders to exceed 10% of the Bid Project Cost in any continuous period of 3 years immediately preceding the date of such Change of Scope order or if such cumulative costs exceed 25% of the Bid Project Cost at any time during the concession period.

3. *O&M*

PHL shall operate and maintain the Project, in accordance with the PHL Concession Agreement either by itself, or through the O&M contractor, as defined in the PHL Concession Agreement (“**O&M Contractor**”), and if required, modify, repair or otherwise make improvements to the Project, to comply with provisions of the PHL Concession Agreement applicable laws, applicable permits and conform to specifications, standards and good industry practice. The obligations of PHL, among other things, shall include:

- procuring and ensuring safe, smooth and uninterrupted use of the Project, including prevention of loss or damage thereto, during normal operating conditions;
- carrying out periodic preventive maintenance of the Project;
- undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, markings, lighting, signage and other control devices;
- undertaking major maintenance such as resurfacing, repairs to structures, and repairs and refurbishment of system and equipment;
- protection of the environment and provision of equipment and materials therefor; and
- operation and maintenance of all communication, control and administrative systems necessary for the efficient operation of the Project and for providing safe, smooth and uninterrupted use of the Project.

4. *Maintenance manual*

No later than 90 days prior to the scheduled completion date, as defined in the PHL Concession Agreement, PHL shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual, as defined in the PHL Concession Agreement (the “**Maintenance Manual**”), for the regular and preventive maintenance of the Project in conformity with the specifications and standards, maintenance requirements, safety requirements and good industry practice. The Maintenance Manual shall be revised and updated once every three years.

5. *Maintenance programme*

On or before COD and no later than 45 days prior to the beginning of each accounting year during the operation period, as defined in the PHL Concession Agreement, PHL shall provide to NHAI and the Independent Engineer its proposed annual programme of preventive, urgent and other scheduled maintenance (the “**Maintenance Programme**”) to comply with the maintenance requirements, Maintenance Manual and safety requirements. Such Maintenance Programme shall include the following:

- preventive maintenance schedule;
- arrangements and procedures for carrying out urgent repairs;
- criteria to be adopted for deciding maintenance needs;
- intervals and procedures for carrying out inspection of all elements of the Project;
- intervals at which PHL shall carry out periodic maintenance;
- arrangements and procedures for carrying out safety related measures; and
- intervals for major maintenance works and the scope thereof.

6. *Obligations relating to change in ownership*

PHL shall not undertake or permit any change in ownership, except with the prior written approval of NHAI. Notwithstanding anything to the contrary contained in the PHL Concession Agreement, PHL agrees and acknowledges that:

- all acquisitions of equity by an acquirer, either by himself or with any person acting in concert, directly or indirectly, including by transfer of the direct or indirect legal or beneficial ownership or control of any equity, in aggregate of 25% or more of the total equity of PHL; or
- acquisition of any control directly or indirectly of the board of directors of PHL by any person either by himself or together with any person or persons acting in concert with him, shall constitute a change in ownership requiring prior approval of NHAI from national security and public interest perspective, the decision of NHAI in this behalf being final, conclusive and binding on PHL, and undertakes that it shall not give effect to any such acquisition of equity or control of the board of directors of PHL without such prior approval of NHAI. It has been expressly agreed that approval of NHAI hereunder shall be limited to national security and public interest perspective, and NHAI shall endeavour to convey its decision thereon expeditiously. It has also been agreed that NHAI shall not be liable in any manner on account of grant or otherwise of such approval and that such approval or denial thereof shall not in any manner absolve PHL from any liability or obligation under the PHL Concession Agreement.

7. *Indemnities*

- PHL shall indemnify, defend, save and hold harmless NHAI and its officers, servants, agents, government instrumentalities and government owned and/or controlled entities/enterprises, (the “**NHAI Indemnified Persons**”) against any and all suits, proceedings, actions, demands and claims from third parties for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by PHL of any of its obligations under the PHL Concession Agreement or any related agreement or on account of any defect or deficiency in the provision of services by PHL to NHAI or to any user or from any negligence of PHL under contract or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of the PHL Concession Agreement on the part of NHAI Indemnified Persons.
- PHL shall fully indemnify, hold harmless and defend NHAI and NHAI Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:
 - failure of PHL to comply with applicable laws and applicable permits, each as defined in the PHL Concession Agreement (“**Applicable Laws**” and “**Applicable Permits**”);
 - payment of taxes required to be made by PHL in respect of the income or other taxes of PHL’s contractors, suppliers and representatives; or
 - non-payment of amounts due as a result of materials or services furnished to PHL or any of its contractors which are payable by PHL or any of its contractors.

- PHL shall fully indemnify, hold harmless and defend NHAI Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which NHAI Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by PHL or by PHL's contractors in performing the obligations of PHL or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, PHL shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, PHL shall promptly make every reasonable effort to secure for NHAI a licence, at no cost to NHAI, authorising continued use of the infringing work. If PHL is unable to secure such licence within a reasonable time, PHL shall, at its own expense, and without impairing the specifications and standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

8. *Suspension of PHL's rights*

Upon occurrence of a PHL default, as defined in the PHL Concession Agreement ("**PHL Default**"), NHAI shall be entitled, without prejudice to its other rights and remedies under the PHL Concession Agreement including its rights of termination, as defined in the PHL Concession Agreement ("**Termination**"), thereunder, to (i) suspend all rights of PHL under the PHL Concession Agreement, and pursuant hereto, and (ii) exercise such rights itself and perform the obligations hereunder or authorise any other person to exercise or perform the same on its behalf during such suspension ("**Suspension**"). Suspension hereunder shall be effective forthwith upon issue of notice by NHAI to PHL and may extend up to a period not exceeding 180 days from the date of issue of such notice; provided that upon written request from PHL and the lenders' representative, as defined in the PHL Concession Agreement ("**Lenders' Representative**"), NHAI shall extend the aforesaid period of 180 days by a further period not exceeding 90 days. At any time during the period of Suspension, the Lenders' Representative, on behalf of senior lenders, as defined in the PHL Concession Agreement ("**Senior Lenders**"), shall be entitled to substitute PHL under and in accordance with the substitution agreement, as defined in the PHL Concession Agreement ("**Substitution Agreement**"), and upon receipt of notice thereunder from the Lenders' Representative, NHAI shall withhold Termination for a period not exceeding 180 days from the date of Suspension, and any extension thereof, for enabling the Lenders' Representative to exercise its rights of substitution on behalf of Senior Lenders.

9. *Effect of force majeure event on the Concession*

- Upon the occurrence of any force majeure event prior to the appointed date, each as defined in the PHL Concession Agreement ("**Force Majeure Event**" and "**Appointed Date**"), the period for fulfilment of conditions precedent and achieving financial close, as defined in the PHL Concession Agreement ("**Conditions Precedent**"). shall be extended by a period equal in length to the duration of the Force Majeure Event.
- At any time after the Appointed Date, if any Force Majeure Event occurs:
 - before COD, the construction period and the dates set forth in the project completion schedule, as defined in the PHL Concession Agreement ("**Project Completion Schedule**") shall be extended by a period equal in length to the duration for which such Force Majeure Event subsists; or
 - after COD, PHL shall be entitled to receive Annuity Payments plus interest due and payable under the PHL Concession Agreement.
Provided any payment to be made under this clause shall be subject to deduction of outstanding dues of NHAI, if any.

10. *Allocation of costs arising out of Force Majeure*

- Upon occurrence of any Force Majeure Event prior to the Appointed Date, the parties to the PHL Concession Agreement shall bear their respective costs and no party shall be required to pay to the other party any costs thereof.
- Upon occurrence of a Force Majeure Event after the Appointed Date, the costs incurred and attributable to such event and directly relating to the project (“**Force Majeure Costs**”) shall be allocated and paid as follows:
 - upon occurrence of a non-political event, as defined in the PHL Concession Agreement (“**Non-Political Event**”), the parties shall bear their respective Force Majeure Costs and neither party shall be required to pay to the other party any costs thereof;
 - upon occurrence of an indirect political event, as defined in the PHL Concession Agreement (“**Indirect Political Event**”), all Force Majeure Costs attributable to such Indirect Political Event, and not exceeding the insurance cover for such Indirect Political Event, shall be borne by PHL, and to the extent Force Majeure Costs exceed such insurance cover, one half of such excess amount shall be reimbursed by NHAI to PHL; and
 - upon occurrence of a political event, as defined in the PHL Concession Agreement (“**Political Event**”), all Force Majeure Costs attributable to such Political Event shall be reimbursed by NHAI to PHL.

Force Majeure Costs may include interest payments on debt due, O&M expenses, any increase in the cost of construction works on account of inflation and all other costs directly attributable to the Force Majeure Event, but shall not include any costs which are expressly under any provision of the PHL Concession Agreement or debt repayment obligations, and for determining such costs, information contained in the financial package, as defined in the PHL Concession Agreement (“**Financial Package**”), may be relied upon to the extent that such information is relevant.

11. *Divestment Requirements*

Upon Termination of PHL Concession Agreement, PHL shall comply with and conform to the following requirements, amongst others:-

- notify NHAI forthwith the location and particulars of all project assets, as defined in the PHL Concession Agreement (“**Project Assets**”);
- deliver forthwith the actual or constructive possession of the Project, free and clear of all encumbrances, save and except to the extent set forth in the Substitution Agreement;
- cure all Project Assets, including the road, bridges, structures and equipment, of all defects and deficiencies so that the Project is compliant with the maintenance requirements, provided that in the event of Termination during the construction period, all Project Assets shall be handed over on ‘as is here is’ basis after bringing them to a safe condition;
- deliver and transfer relevant records, reports, intellectual property and other licences pertaining to the Project and its design, engineering, construction, operation and maintenance, including all programmes and manuals pertaining thereto, and complete ‘as built’ drawings as on the transfer date, as defined in the PHL Concession Agreement (“**Transfer Date**”);
- transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws;
- execute such deeds, conveyance, documents and other writings as NHAI may reasonably require for conveying, divesting and assigning all the rights, title and interest of PHL in the Project Assets, including manufacturers’ warranties in respect of any plant or equipment and the right to receive outstanding insurance claims to the extent due and payable to NHAI, absolutely unto NHAI or its nominee; and
- comply with all other requirements as may be prescribed or required under Applicable Laws for completing the divestment and assignment of all rights, title and interest of PHL in the Project, free from all encumbrances, absolutely unto NHAI or to its nominees.

12. *Termination for PHL Default*

Subject to the provisions of the PHL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and PHL fails to cure the default within the mentioned cure period set forth below, or where no cure period is specified, then within a cure period of 60 days, PHL shall be deemed to be in default of the PHL Concession Agreement (the “**PHL Default**”), unless the default has occurred as a result of any breach of the PHL Concession Agreement by NHAI or due to Force Majeure

Event. The defaults referred to shall include, among other things, the following:

- The performance security, as defined in the PHL Concession Agreement (“**Performance Security**”), has been encashed and appropriated in accordance with the PHL Concession Agreement and PHL fails to replenish or provide fresh Performance Security within a cure period of 15 days;
- subsequent to the replenishment or furnishing of fresh Performance Security in accordance with the PHL Concession Agreement, PHL fails to meet any Condition Precedent or cure the PHL Default, as the case may be, for which whole or part of the Performance Security was appropriated, within a cure period of 120 days;
- PHL does not achieve the latest outstanding project milestone due in accordance with the provisions of the PHL Concession Agreement and continues to be in default for 120 days;
- upon occurrence of a financial default, as defined in the PHL Concession Agreement (“**Financial Default**”), the Lenders’ Representative has by notice required NHAI to undertake Suspension or Termination, as the case may be, in accordance with the Substitution Agreement and PHL fails to cure the default within the cure period specified;
- PHL abandons or manifests intention to abandon the construction or operation of the Project without the prior written consent of NHAI;
- PHL is in breach of the maintenance requirements or the safety requirements as the case may be; PHL has failed to fulfil any obligation, for which failure termination has been specified in the PHL Concession Agreement;
- PHL has failed to make any payment to NHAI within the period specified in the PHL Concession Agreement; and
- a change in ownership has occurred in breach of the provisions of the PHL Concession Agreement.

Upon occurrence of a PHL Default, NHAI shall be entitled to terminate the PHL Concession Agreement by issuing a termination notice, as defined in PHL Concession Agreement (“**Termination Notice**”), to PHL; provided that before issuing the Termination Notice, NHAI shall by a notice inform PHL of its intention to issue such Termination Notice and grant 15 days to PHL to make a representation, and may, after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

13. *Termination for NHAI Default*

PHL may terminate the PHL Concession Agreement on account of occurrence of a default by the NHAI which is not rectified within the cure period of 90 days or such longer period as has been expressly provided in this PHL Concession Agreement (the “**NHAI Default**”) and includes – (i) material default causing a material adverse effect on PHL; (ii) the failure to make any payment due to PHL; (iii) repudiation of the PHL Concession Agreement etc.

PHL may, under the PHL Concession Agreement, upon occurrence of a NHAI Default, subject to the provisions of Substitution Agreement, terminate the PHL Concession Agreement by issuing a Termination Notice to NHAI; provided that before issuing the Termination Notice, PHL shall by notice inform NHAI of its intentions to issue the Termination Notice and grant 15 days to NHAI to make a representation, and may after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

14. *Defects liability after termination*

PHL shall be responsible for all defects and deficiencies in the Project for a period of 120 days after Termination, and it shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies observed by the Independent Engineer in the Project during this period. In the event that PHL fails to repair or rectify such defect or deficiency within a period of 15 days from the date of notice issued by NHAI, NHAI shall be entitled to get the same repaired or rectified at the risk and cost of PHL so as to make the Project conform to the maintenance requirements. All costs incurred by NHAI in this regard shall be reimbursed by PHL to NHAI within 15 days of receipt of demand thereof, and in the event of default in reimbursing such costs, NHAI shall be entitled to recover the same from the funds retained in the escrow account or from the performance guarantee, in accordance with the provisions of the PHL Concession Agreement. A sum equal to 15% of the Annuity Payment due and payable

immediately preceding the Transfer Date will be retained in the escrow account for a period of 120 days after Termination for meeting the liabilities, arising out of or in connection with the PHL Concession Agreement. Independent Engineer will carry out an inspection of the Project at any time between 210 and 180 days prior to the Termination and if it recommends that the status of the Project is such that a sum larger than the amount of 15% as stipulated above will be retained in the escrow account and for a period longer than the aforesaid 120 days, the amount recommended by the Independent Engineer shall be retained in the escrow account for the period specified by it. PHL will have option to provide to NHAI a performance bank guarantee of equal amount in lieu of retention in accordance with the DBHL Concession Agreement.

IX. DPJ Pollachi HAM Project Private Limited (“DPHPPL”)

The concession agreement has been executed between DPHPPL and NHAI dated December 5, 2019 (the “**DPHPPL Concession Agreement**”). The scope of the Project under the DPHPPL Concession Agreement includes the construction, O&M of the Project at the site, comprising National Highway 45A (new NH-83) from Km 74.38 to Km 116.95 under Bharatmala Pariyojana Phase I on Hybrid Annuity Mode in Tamil Nadu and Puducherry together with the project facilities, and its operation and maintenance in accordance with the DPHPPL Concession Agreement (“**Project**”) and the performance of all incidental activities in accordance with the terms of the DPHPPL Concession Agreement. Development of the Project includes the construction of the four-lane Project.

A summary of key terms of the DPHPPL Concession Agreement has been set below-

1. Bid Project Cost and Annuity Payments

The bid project cost, as defined in the DPHPPL Concession Agreement (“**Bid Project Cost**”), is Rs. 7,240 million and is subject to variation in the price index occurring between the reference index date immediately preceding the bid date and reference index date preceding the date of invoice.

The party has paid a portion of the completion cost, as specified in the DPHPPL Concession Agreement (“**Completion Cost**”) as payments during construction period. The remaining shall be due and payable in biannual installments over a period of 15 years commencing from commercial operation date (“**Annuity Payments**”). Each of the biannual installments, as provided in the DPHPPL Concession Agreement, shall be paid along with the interest as specified in the DPHPPL Concession Agreement.

2. Change of Scope

NHAI may require the provision of additional works and services which are not included in the scope of the Project as contemplated by the DPHPPL Concession Agreement (the “**Change of Scope**”). Within 7 days, NHAI shall make an advance payment to DPHPPL in a sum equal to 20% of the cost of Change of Scope, and in the event of a dispute, 20% of the cost assessed by the independent engineer, as defined in the DPHPPL Concession Agreement (“**Independent Engineer**”). NHAI shall disburse to DPHPPL such amounts as are certified by the Independent Engineer, as reasonable and after making a proportionate deduction for the advance payment made. DPHPPL shall be entitled to nullify any Change of Scope order if it causes the cumulative costs relating to all the Change of Scope orders to exceed 10% of the Bid Project Cost in any continuous period of 3 years immediately preceding the date of such Change of Scope order or if such cumulative costs exceed 25% of the Bid Project Cost at any time during the concession period.

3. O&M

DPHPPL shall operate and maintain the Project, in accordance with the DPHPPL Concession Agreement either by itself, or through the O&M contractor, as defined in the DPHPPL Concession Agreement (“**O&M Contractor**”), and if required, modify, repair or otherwise make improvements to the Project, to comply with provisions of the DPHPPL Concession Agreement applicable laws, applicable permits and conform to specifications, standards and good industry practice. The obligations of DPHPPL, among other things, shall include:

- procuring and ensuring safe, smooth and uninterrupted use of the Project, including prevention of loss or damage thereto, during normal operating conditions;

- carrying out periodic preventive maintenance of the Project;
- undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, markings, lighting, signage and other control devices;
- undertaking major maintenance such as resurfacing, repairs to structures, and repairs and refurbishment of system and equipment;
- protection of the environment and provision of equipment and materials therefor; and
- operation and maintenance of all communication, control and administrative systems necessary for the efficient operation of the Project and for providing safe, smooth and uninterrupted use of the Project.

4. *Maintenance manual*

No later than 90 days prior to the scheduled completion date, as defined in the DPHPPL Concession Agreement, DPHPPL shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual, as defined in the DPHPPL Concession Agreement (the “**Maintenance Manual**”), for the regular and preventive maintenance of the Project in conformity with the specifications and standards, maintenance requirements, safety requirements and good industry practice. The Maintenance Manual shall be revised and updated once every three years.

5. *Maintenance programme*

On or before COD and no later than 45 days prior to the beginning of each accounting year during the operation period, as defined in the DPHPPL Concession Agreement, DPHPPL shall provide to NHAI and the Independent Engineer its proposed annual programme of preventive, urgent and other scheduled maintenance (the “**Maintenance Programme**”) to comply with the maintenance requirements, Maintenance Manual and safety requirements. Such Maintenance Programme shall include the following:

- preventive maintenance schedule;
- arrangements and procedures for carrying out urgent repairs;
- criteria to be adopted for deciding maintenance needs;
- intervals and procedures for carrying out inspection of all elements of the Project;
- intervals at which DPHPPL shall carry out periodic maintenance;
- arrangements and procedures for carrying out safety related measures; and
- intervals for major maintenance works and the scope thereof.

6. *Obligations relating to change in ownership*

DPHPPL shall not undertake or permit any change in ownership, except with the prior written approval of NHAI. Notwithstanding anything to the contrary contained in the DPHPPL Concession Agreement, DPHPPL agrees and acknowledges that:

- all acquisitions of equity by an acquirer, either by himself or with any person acting in concert, directly or indirectly, including by transfer of the direct or indirect legal or beneficial ownership or control of any equity, in aggregate of 25% or more of the total equity of DPHPPL; or
- acquisition of any control directly or indirectly of the board of directors of DPHPPL by any person either by himself or together with any person or persons acting in concert with him, shall constitute a change in ownership requiring prior approval of NHAI from national security and public interest perspective, the decision of NHAI in this behalf being final, conclusive and binding on DPHPPL, and undertakes that it shall not give effect to any such acquisition of equity or control of the board of directors of DPHPPL without such prior approval of NHAI. It has been expressly agreed that approval of NHAI hereunder shall be limited to national security and public interest perspective, and NHAI shall endeavour to convey its decision thereon expeditiously. It has also been agreed that NHAI shall not be liable in any manner on account of grant or otherwise of such approval and that such approval or denial thereof shall not in any manner absolve DPHPPL from any liability or obligation under the DPHPPL Concession Agreement.

7. *Indemnities*

- DPHPPL shall indemnify, defend, save and hold harmless NHAI and its officers, servants, agents, government instrumentalities and government owned and/or controlled entities/enterprises, (the “**NHAI Indemnified Persons**”) against any and all suits, proceedings, actions, demands and claims from third parties for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by DPHPPL of any of its obligations under the DPHPPL Concession Agreement or any related agreement or on account of any defect or deficiency in the provision of services by DPHPPL to NHAI or to any user or from any negligence of DPHPPL under contract or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of the DPHPPL Concession Agreement on the part of NHAI Indemnified Persons.
- DPHPPL shall fully indemnify, hold harmless and defend NHAI and NHAI Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:
 - failure of DPHPPL to comply with applicable laws and applicable permits, each as defined in the DPHPPL Concession Agreement (“**Applicable Laws**” and “**Applicable Permits**”);
 - payment of taxes required to be made by DPHPPL in respect of the income or other taxes of DPHPPL’s contractors, suppliers and representatives; or
 - non-payment of amounts due as a result of materials or services furnished to DPHPPL or any of its contractors which are payable by DPHPPL or any of its contractors.
- DPHPPL shall fully indemnify, hold harmless and defend NHAI Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which NHAI Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by DPHPPL or by DPHPPL’s contractors in performing the obligations of DPHPPL or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, DPHPPL shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, DPHPPL shall promptly make every reasonable effort to secure for NHAI a licence, at no cost to NHAI, authorising continued use of the infringing work. If DPHPPL is unable to secure such licence within a reasonable time, DPHPPL shall, at its own expense, and without impairing the specifications and standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

8. *Suspension of DPHPPL’s rights*

Upon occurrence of a DPHPPL default, as defined in the DPHPPL Concession Agreement (“**DPHPPL Default**”), NHAI shall be entitled, without prejudice to its other rights and remedies under the DPHPPL Concession Agreement including its rights of termination, as defined in the DPHPPL Concession Agreement (“**Termination**”), thereunder, to (i) suspend all rights of DPHPPL under the DPHPPL Concession Agreement, and pursuant hereto, and (ii) exercise such rights itself and perform the obligations hereunder or authorise any other person to exercise or perform the same on its behalf during such suspension (“**Suspension**”). Suspension hereunder shall be effective forthwith upon issue of notice by NHAI to DPHPPL and may extend up to a period not exceeding 180 days from the date of issue of such notice; provided that upon written request from DPHPPL and the lenders’ representative, as defined in the DPHPPL Concession Agreement (“**Lenders’ Representative**”), NHAI shall extend the aforesaid period of 180 days by a further period not exceeding 90 days. At any time during the period of Suspension, the Lenders’ Representative, on behalf of senior lenders, as defined in the DPHPPL Concession Agreement (“**Senior Lenders**”), shall be entitled to substitute DPHPPL under and in accordance with the substitution agreement, as defined in the DPHPPL Concession Agreement (“**Substitution Agreement**”), and upon receipt of notice thereunder from the Lenders’ Representative, NHAI shall withhold Termination for a period not exceeding 180 days from the date of Suspension, and any extension thereof, for enabling the Lenders’ Representative to exercise its rights of substitution on behalf of Senior Lenders.

9. *Effect of force majeure event on the Concession*

- Upon the occurrence of any force majeure event prior to the appointed date, each as defined in the DPHPPL Concession Agreement (“**Force Majeure Event**” and “**Appointed Date**”), the period for fulfilment of conditions precedent and achieving financial close, as defined in the DPHPPL Concession Agreement (“**Conditions Precedent**”), shall be extended by a period equal in length to the duration of the Force Majeure Event.
- At any time after the Appointed Date, if any Force Majeure Event occurs:
 - before COD, the construction period and the dates set forth in the project completion schedule, as defined in the DPHPPL Concession Agreement (“**Project Completion Schedule**”) shall be extended by a period equal in length to the duration for which such Force Majeure Event subsists; or
 - after COD, DPHPPL shall be entitled to receive Annuity Payments plus interest due and payable under the DPHPPL Concession Agreement.
Provided any payment to be made under this clause shall be subject to deduction of outstanding dues of NHAI, if any.

10. *Allocation of costs arising out of Force Majeure*

- Upon occurrence of any Force Majeure Event prior to the Appointed Date, the parties to the DPHPPL Concession Agreement shall bear their respective costs and no party shall be required to pay to the other party any costs thereof.
- Upon occurrence of a Force Majeure Event after the Appointed Date, the costs incurred and attributable to such event and directly relating to the project (“**Force Majeure Costs**”) shall be allocated and paid as follows:
 - upon occurrence of a non-political event, as defined in the DPHPPL Concession Agreement (“**Non-Political Event**”), the parties shall bear their respective Force Majeure Costs and neither party shall be required to pay to the other party any costs thereof;
 - upon occurrence of an indirect political event, as defined in the DPHPPL Concession Agreement (“**Indirect Political Event**”), all Force Majeure Costs attributable to such Indirect Political Event, and not exceeding the insurance cover for such Indirect Political Event, shall be borne by DPHPPL, and to the extent Force Majeure Costs exceed such insurance cover, one half of such excess amount shall be reimbursed by NHAI to DPHPPL; and
 - upon occurrence of a political event, as defined in the DPHPPL Concession Agreement (“**Political Event**”), all Force Majeure Costs attributable to such Political Event shall be reimbursed by NHAI to DPHPPL.

Force Majeure Costs may include interest payments on debt due, O&M expenses, any increase in the cost of construction works on account of inflation and all other costs directly attributable to the Force Majeure Event, but shall not include any costs which are expressly under any provision of the DPHPPL Concession Agreement or debt repayment obligations, and for determining such costs, information contained in the financial package, as defined in the DPHPPL Concession Agreement (“**Financial Package**”), may be relied upon to the extent that such information is relevant.

11. *Divestment Requirements*

Upon Termination of DPHPPL Concession Agreement, DPHPPL shall comply with and conform to the following requirements, amongst others:-

- notify NHAI forthwith the location and particulars of all project assets, as defined in the DPHPPL Concession Agreement (“**Project Assets**”);
- deliver forthwith the actual or constructive possession of the Project, free and clear of all encumbrances, save and except to the extent set forth in the Substitution Agreement;
- cure all Project Assets, including the road, bridges, structures and equipment, of all defects and deficiencies so that the Project is compliant with the maintenance requirements, provided that in

the event of Termination during the construction period, all Project Assets shall be handed over on 'as is here is' basis after bringing them to a safe condition;

- deliver and transfer relevant records, reports, intellectual property and other licences pertaining to the Project and its design, engineering, construction, operation and maintenance, including all programmes and manuals pertaining thereto, and complete 'as built' drawings as on the transfer date, as defined in the DPHPPL Concession Agreement ("**Transfer Date**");
- transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws;
- execute such deeds, conveyance, documents and other writings as NHAI may reasonably require for conveying, divesting and assigning all the rights, title and interest of DPHPPL in the Project Assets, including manufacturers' warranties in respect of any plant or equipment and the right to receive outstanding insurance claims to the extent due and payable to NHAI, absolutely unto NHAI or its nominee; and
- comply with all other requirements as may be prescribed or required under Applicable Laws for completing the divestment and assignment of all rights, title and interest of DPHPPL in the Project, free from all encumbrances, absolutely unto NHAI or to its nominees.

12. *Termination for DPHPPL Default*

Subject to the provisions of the DPHPPL Concession Agreement, in the event that any of the defaults specified below shall have occurred, and DPHPPL fails to cure the default within the mentioned cure period set forth below, or where no cure period is specified, then within a cure period of 60 days, DPHPPL shall be deemed to be in default of the DPHPPL Concession Agreement (the "**DPHPPL Default**"), unless the default has occurred as a result of any breach of the DPHPPL Concession Agreement by NHAI or due to Force Majeure Event. The defaults referred to shall include, among other things, the following:

- The performance security, as defined in the DPHPPL Concession Agreement ("**Performance Security**"), has been encashed and appropriated in accordance with the DPHPPL Concession Agreement and DPHPPL fails to replenish or provide fresh Performance Security within a cure period of 15 days;
- subsequent to the replenishment or furnishing of fresh Performance Security in accordance with the DPHPPL Concession Agreement, DPHPPL fails to meet any Condition Precedent or cure the DPHPPL Default, as the case may be, for which whole or part of the Performance Security was appropriated, within a cure period of 120 days;
- DPHPPL does not achieve the latest outstanding project milestone due in accordance with the provisions of the DPHPPL Concession Agreement and continues to be in default for 120 days;
- upon occurrence of a financial default, as defined in the DPHPPL Concession Agreement ("**Financial Default**"), the Lenders' Representative has by notice required NHAI to undertake Suspension or Termination, as the case may be, in accordance with the Substitution Agreement and DPHPPL fails to cure the default within the cure period specified;
- DPHPPL abandons or manifests intention to abandon the construction or operation of the Project without the prior written consent of NHAI;
- DPHPPL is in breach of the maintenance requirements or the safety requirements as the case may be;
- DPHPPL has failed to fulfil any obligation, for which failure termination has been specified in the DPHPPL Concession Agreement;
- DPHPPL has failed to make any payment to NHAI within the period specified in the DPHPPL Concession Agreement; and
- a change in ownership has occurred in breach of the provisions of the DPHPPL Concession Agreement.

Upon occurrence of a DPHPPL Default, NHAI shall be entitled to terminate the DPHPPL Concession Agreement by issuing a termination notice, as defined in DPHPPL Concession Agreement ("**Termination Notice**"), to DPHPPL; provided that before issuing the Termination Notice, NHAI shall by a notice inform DPHPPL of its intention to issue such Termination Notice and grant 15 days to DPHPPL to make a representation, and may, after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

13. *Termination for NHAI Default*

DPHPPL may terminate the DPHPPL Concession Agreement on account of occurrence of a default by the NHAI which is not rectified within the cure period of 90 days or such longer period as has been expressly provided in this DPHPPL Concession Agreement (the “**NHAI Default**”) and includes – (i) material default causing a material adverse effect on DPHPPL; (ii) the failure to make any payment due to DPHPPL; (iii) repudiation of the DPHPPL Concession Agreement etc.

DPHPPL may, under the DPHPPL Concession Agreement, upon occurrence of a NHAI Default, subject to the provisions of Substitution Agreement, terminate the DPHPPL Concession Agreement by issuing a Termination Notice to NHAI; provided that before issuing the Termination Notice, PHL shall by notice inform NHAI of its intentions to issue the Termination Notice and grant 15 days to NHAI to make a representation, and may after the expiry of such 15 days, whether or not it is in receipt of such representation, issue the Termination Notice.

14. *Defects liability after termination*

DPHPPL shall be responsible for all defects and deficiencies in the Project for a period of 120 days after Termination, and it shall have the obligation to repair or rectify, at its own cost, all defects and deficiencies observed by the Independent Engineer in the Project during this period. In the event that DPHPPL fails to repair or rectify such defect or deficiency within a period of 15 days from the date of notice issued by NHAI, NHAI shall be entitled to get the same repaired or rectified at the risk and cost of DPHPPL so as to make the Project conform to the maintenance requirements. All costs incurred by NHAI in this regard shall be reimbursed by DPHPPL to NHAI within 15 days of receipt of demand thereof, and in the event of default in reimbursing such costs, NHAI shall be entitled to recover the same from the funds retained in the escrow account or from the performance guarantee, in accordance with the provisions of the DPHPPL Concession Agreement. A sum equal to 15% of the Annuity Payment due and payable immediately preceding the Transfer Date will be retained in the escrow account for a period of 120 days after Termination for meeting the liabilities, arising out of or in connection with the DPHPPL Concession Agreement. Independent Engineer will carry out an inspection of the Project at any time between 210 and 180 days prior to the Termination and if it recommends that the status of the Project is such that a sum larger than the amount of 15% as stipulated above will be retained in the escrow account and for a period longer than the aforesaid 120 days, the amount recommended by the Independent Engineer shall be retained in the escrow account for the period specified by it. DPHPPL will have option to provide to NHAI a performance bank guarantee of equal amount in lieu of retention in accordance with the DPHPPL Concession Agreement.

INFORMATION CONCERNING THE UNITS

Unit holding of the Trust

Particulars	Number of Units
Units issued and outstanding prior to this Issue	Up to [●]
Units issued and outstanding after this Issue	Up to [●]*

* To be updated in the Final Offer Document prior to filing with SEBI and the Stock Exchange.

Unitholders holding more than 5% of the Units

Sr. No.	Name of Unit Holders*	Pre-Issue*		Post-Issue**	
		Number of Units	Percentage of holding (%)	Number of Units	Percentage of holding (%)
1.	[●]	Up to [●]	[●]	Up to [●]	[●]

* To be updated in the Final Offer Document prior to filing with SEBI and the Stock Exchange.

Unitholding of the Sponsor, Sponsor Group, Investment Manager, Project Manager and Trustee

The Sponsor and certain Sponsor Group entities will be allotted Units of the Trust pursuant to the Securities Purchase Agreements, after the Bid/Issue Closing Date and prior to Allotment of Units in the Issue, which shall be equivalent to at least 15% of the total Units of the Trust on a post-Issue basis to comply with the requirement under Regulations 12(3) and 12(3A) of the SEBI InvIT Regulations.

The Trustee, Investment Manager and Project Manager do not hold any Units and shall not acquire any Units in this Issue.

Unitholding of the directors of the Investment Manager

As on the date of this Draft Offer Document, none of the directors of the Investment Manager hold any Units or propose to hold any Units in the Trust.

Sponsor and Sponsor Group lock-in

Under the InvIT Regulations, the Sponsor and Sponsor Group are required to, collectively, hold a minimum of 15% of our Units on a post- Issue basis for a minimum period of three years from the date of listing pursuant to the initial offer and the balance of their unitholding in the Trust is required to be locked in for a period of not less than one year from the date of listing of the Units.

Further, in accordance with the InvIT Regulations, the Sponsor and the Sponsor Group are required to lock-in our Units as follows:

From the beginning of 4 th year after the date of listing pursuant to the initial offer and till the end of 5 th year from the date of listing pursuant to the initial offer	5% of total Units on a post- Issue basis or ₹ 500 crores, whichever is lower*
From the beginning of 6 th year after the date of listing pursuant to the initial offer and till the end of 10 th year from the date of listing pursuant to the initial offer	3% of total Units on a post- Issue basis or ₹ 500 crores, whichever is lower*
From the beginning of 11 th year after the date of listing pursuant to the initial offer and till the end of 20 th year from the date of listing pursuant to the initial offer	2% of total Units on a post- Issue basis or ₹ 500 crores, whichever is lower*
After completion of the 20 th year from the date of listing pursuant to the initial offer	1% of total Units on a post- Issue basis or ₹ 500 crores, whichever is lower*

* Provided that the maximum value of Units to be held by the Sponsor and Sponsor Group for compliance with the above shall not exceed ₹500 crores or such other value as may be decided by SEBI from time to time wherein such valuation shall be based on the latest available asset value of the Trust.

In terms of the InvIT Regulations, the Sponsor and Sponsor Group shall, collectively, hold not less than 15% of Units on a post-Issue basis, aggregating up to [●] Units (being, [●] % of the unitholding). 15% of the Sponsor's and Sponsor Group's unitholding, collectively, shall be locked-in for a period of three years from the date of listing of the Units. Further, the Sponsor and Sponsor Group, undertake and agree to lock-in its unitholding in the manner specified above for the period subsequent to the three years after Listing, in the manner as may be mutually agreed.

Additionally, any unitholding held by the Sponsor and Sponsor Group exceeding the 15% of Units on a post-Issue basis set out above, shall be locked in for a period of not less than one year from the date of listing of the Units. Any person other than the Sponsor holding units of the Trust prior to the initial offer shall hold the units for a period of not less than one year from the date of listing of the Units.

Anchor Investor lock-in

Any Units Allotted to Anchor Investors in the Issue shall be locked-in for a period of 30 days from the date of Allotment.

Strategic Investor lock-in

The Units Allotted to Strategic Investors in the Issue shall be locked-in for a period of one year from the date of Allotment.

Other Lock-In Requirements

Any pre-Issue unitholding in the Trust held by any unitholders other than the Sponsor will be locked in for a period of one year in accordance with the InvIT Regulations.

USE OF PROCEEDS

The Issue

The proceeds of the Issue available to the Trust will be up to ₹ 4,000.00 million out of which the net proceeds will be ₹ [●] million (“**Net Proceeds**”).

The Net Proceeds will be utilised towards the following objects:

- (i) providing loans to the Project SPVs for repayment or pre-payment of debt, in part or in full, including any accrued interest, of their respective outstanding borrowings; and
- (ii) general purposes.

Requirements of Funds

The Net Proceeds are proposed to be utilised in accordance with the details provided in the following table:

<i>(In ₹ million)</i>		
S. No.	Particulars	Estimated Amount
(i)	Providing loans to the Project SPVs for repayment or pre-payment of debt, in part or in full including any accrued interest, of their respective outstanding borrowing.	3,800.00
(ii)	General purposes*	[●]
	TOTAL	[●]

**To be updated in the Final Offer Document prior to filing with SEBI and the Stock Exchange.*

The Investment Manager believes that providing a loan to the Project SPVs for repayment or pre-payment of debt, including any accrued interest, availed by the Project SPVs, will help reduce outstanding indebtedness of the Anantam Highways Trust (“**Trust**”) on a consolidated basis and assist the Trust in maintaining a favourable debt-equity ratio, which will enable the Trust to raise further resources in the future to fund potential business development opportunities and plans to grow and expand its business in the future thereby enabling the Trust to meet its commitment towards distributions to Unitholders.

The fund requirements mentioned above and the proposed deployment are based on the estimates of the Investment Manager and have not been appraised by any bank, financial institution or any other external agency. The fund requirements may vary, including due to factors beyond the Investment Manager’s control, such as market conditions, competitive environment, interest rate and exchange rate fluctuations. Consequently, the fund requirements are subject to revisions, in the future, at the discretion of the Investment Manager.

Details of Utilisation of the Net Proceeds

The details of utilisation of the Net Proceeds are set forth herein below:

- (i) ***Providing loans to certain Project SPVs for repayment or pre-payment of debt, including any accrued interest, for their respective outstanding borrowings***

The Trust proposes to utilise an estimated aggregate amount of ₹ 3800 million from the Net Proceeds to provide loans to the Project SPVs for repayment or pre-payment of debt, including any accrued interest, availed by the Project SPVs, as described below:

Sr. No.	Name of the Project SPV	Name of the Lender	Amount Outstanding as at February 28, 2025 (in ₹ million)
1.	Bangalore Malur Highways Limited	State Bank of India	4,099.00
2.	Malur Bangarpet Highways Limited	State Bank of India	4,602.00

Sr. No.	Name of the Project SPV	Name of the Lender	Amount Outstanding as at February 28, 2025 (in ₹ million)
3.	Viluppuram Highways Limited	State Bank of India	5,229.80
4.	Repallewada Highways Limited	State Bank of India	4,132.20
5.	Dodaballapur Hoskote Highways Limited	State Bank of India	4,841.00
6.	Dhrol Bhadra Highways Limited	State Bank of India	4,172.00
7.	Narenpur Purenea Highways Limited	Union Bank of India	5,627.50
8.	Poondiyankupam Highways Limited	UCO Bank	1875.90
		Bank of Baroda	2638.30
9.	DPJ Pollachi HAM Project Private Limited	State Bank of India	2,807.93
10.	Total		40,025.63

For further details on borrowing availed by the Project SPVs, please see the section entitled “*Financial Indebtedness and Deferred Payments*” on page 339.

Trust Loan Agreement

Upon the listing of the Units, the Investment Manager, acting on behalf of the Trust proposes to utilize the Net Proceeds, as set out above, to provide secured or unsecured loans, as the case maybe to the Project SPVs (“**Trust Loans**”) through facility agreements proposed to be entered into between the Trustee (on behalf of the Trust)], the Investment Manager, and the Project SPVs (the “**Trust Loan Agreements**”).

The indicative terms of the proposed Trust Loan Agreements are set out below and may be subject to change and shall be finalised upon execution of such Trust Loan Agreements:

Sr. No.	Parameter	Description
a)	Borrowers	Project SPVs
b)	Lender	Anantam Highways Trust
c)	Purpose of Facility	This facility is proposed to be utilized by the Project SPVs for repayment, pre-payment, in full or part of senior debt outstanding in the Project SPVs including any accrued interest as specified in the Trust Loan Agreements.
d)	Facility Amount	This facility amount, being, a secured non-convertible debenture facility of up to ₹ [●] million (Tranche 1) and an unsecured non-convertible debenture facility of up to ₹ [●] million (Tranche 2)
e)	Prepayment Penalty	No prepayment penalty will be imposed for prepayment by the Project SPVs and prepayment may be carried out at any time.
f)	Repayment schedule and Tenor	As may be mutually agreed with the Project SPVs under the Trust Loan Agreement. If the repayment is not possible as per the agreed repayment schedule due to any reason, this shall not be a default, and the unpaid amount shall be paid no later than the date of expiry of the final maturity date (as defined in the Trust Loan Agreement).

Sr. No.	Parameter	Description
		Please note that the detailed terms of the trust loan will contain an indicative schedule, setting out the amount of the principal payable under the Trust Loan Agreement on a periodic basis.
g)	Interest Rate	<p>Fixed rate of 14% per annum payable monthly.</p> <p>The rate of interest may be reset at the discretion of the Trustee or the Investment Manager.</p> <p><u>Interest Payment Date</u> - The interest shall be payable on monthly basis or, on any such other period as may be communicated by the Investment Manager to the Borrower with a prior written reasonable notice. Interest shall accrue but shall be payable only when adequate funds are available with the Borrower.</p>
h)	Security	Secured by way of all the rights, assets, cash flows, escrow of the Projects SPVs. This facility will also have substitution rights of the concession agreement governing the project of the SPVs. This Facility may share the security with other lending from the Trust to the Project SPVs which will replace the senior secured loan of the Project SPVs
i)	Representations and Warranties	<p>The Project SPVs shall represent to the Trust that, amongst other things:</p> <ul style="list-style-type: none"> a) they are a company, duly incorporated and validly existing under the laws of India and has all corporate powers and all material governmental licenses, authorizations, consents and approvals required to carry on its business. b) they have complied with all Applicable Laws in relation to the conduct of its business and is not subject to any present, potential or threatened liability by reason of non-compliance with such Applicable Law, which will have a material impact on the Project SPVs, its business or its obligations under the agreement. c) each certified copy of a document provided to the Trustee or Investment Manager pursuant to the terms of the Transaction Documents is a true, complete and accurate copy of the original document and the original document was in full force and effect, in each case as at the date any such document is provided.
j)	Negative Covenants	<p>The Project SPVs shall not, without the prior approval of the Trustee or the Investment Manager:</p> <ul style="list-style-type: none"> a) amend any of the Transaction Documents, as defined in the Trust Loan Agreement; and b) create any Lien over or sell, transfer or dispose of, all or part of its assets. <p>Provided that the Project SPVs shall be permitted to create such encumbrance over its assets as may be required by the InvIT Lenders, and if required by the Lender.</p>
k)	Events of Defaults	<p>The proposed Trust Debenture Deeds shall contain events of default affecting the Project SPVs as may be required by the Lender, including but not limited to:</p> <ul style="list-style-type: none"> a) failure to pay any sum under the Trust Loan Agreement (i.e. failure to pay when they have sufficient cash available); b) breach of covenants and undertakings set out in the Trust Loan

Sr. No.	Parameter	Description
		<p>Agreements; and</p> <p>c) any change in ownership or management control, shareholding of the Project SPVs, at sole discretion, without the prior written approval of Trustee (in its capacity as the trustee to the Trust) or the Investment Manager.</p> <p>Upon occurrence of an event of default, the Trustee may (subject to applicable law and without prejudice to any other rights it may have under applicable law) accelerate the repayment of Term Loan and all other amounts outstanding in relation thereto.</p> <p>The Events of Default structure shall be subject to change as may be decided by the Lender with the InvIT Lenders.</p>
l)	Governing Laws and Jurisdiction	Laws of India
m)	Others	There may be additional conditions under the financing proposed to be availed by the InvIT which may require corresponding conditions to be included in the Trust Loan Agreement to be executed amongst the InvIT and the Project SPV. For instance, in the event that the InvIT financing documents prescribe any conditions in relation to mandatory prepayments by the InvIT, corresponding provisions for mandatory prepayment shall also be included in the Trust Loan Agreement.

(ii) General purposes

In terms of the InvIT Regulations, the Investment Manager shall, at its discretion, deploy the balance Issue Proceeds (excluding the Issue Expenses) aggregating up to ₹ [●] million towards general expenses for the operation of the Trust, subject to such utilization not exceeding 10% of the Issue Proceeds, in compliance with the InvIT Regulations. The general purposes for which the Trust proposes to utilise Issue Proceeds include meeting exigencies and expenses incurred in the ordinary course of business. In addition, the Trust may utilise the Issue Proceeds towards other expenditure (in the ordinary course of business) considered expedient and as approved by the Investment Manager or the Trustee, as the case may be, subject to compliance with applicable law.

In case of a shortfall in Issue Proceeds, the Investment Manager may, in compliance with the InvIT Regulations, have the flexibility to meet such shortfall including, by utilising the Trust's internal accruals or availing facilities from lenders. The Investment Manager, in accordance with the Investment Objectives of the Trust, policies of its board of directors of the Investment Manager and the InvIT Regulations, will have flexibility in utilising any surplus amounts.

Issue Expenses

The total expenses of this Issue are estimated to be approximately ₹ [●] million ("Issue Expenses"). The Issue Expenses will consist of fee and commissions payable to the Lead Manager, fee payable to legal counsels, fee payable to Escrow Collection Bank and Registrar, fee payable to Trustee, Valuer, SEBI (filing of the Offer Documents), Technical Consultants, Auditor and such other intermediaries, printing and stationary costs, and all other incidental and miscellaneous expenses for undertaking the Formation Transactions and for listing the Units on the Stock Exchanges. The Issue Expenses shall be borne by the Trust. The break-up for the Issue Expenses is as follows:

(In ₹ million)

Activity	Estimated Expenses*	As a % of the total estimated Issue Expenses*	As a % of the total Issue Size*
Fee and commission to advisors to this Issue	[●]	[●]	[●]
Fee payable to others	[●]	[●]	[●]

Total estimated Issue Expenses	[●]	[●]	[●]
--------------------------------	-----	-----	-----

**To be determined on finalisation of the Issue Price and updated in the Final Offer Document prior to filing with SEBI and the Stock Exchanges.*

For ease of operations, if required, the expenses in relation to the Issue as stated above, at the outset, may be borne by the Sponsor and/or the Investment Manager and/or such other parties on behalf of the Trust, and the Investment Manager (on behalf of the Trust) agrees that it will reimburse the Sponsor and/or the Investment Manager and/ or such other parties for all such expenses as may be incurred by the Sponsor or the Investment Manager on actual basis, from the Issue Expenses or the future cash flows of the Trust. In the event the actual Issue Expenses differ from the estimated Issue Expenses, the Investment Manager will have the flexibility to utilize such a difference, subject to applicable law.

Any changes in the utilization of Issue Proceeds, shall be made by the Investment Manager in accordance with applicable law and in compliance with InvIT Regulations.

Selling Commissions

Selling commission on the Non-Institutional Investor Portion which are procured by Members of the Syndicate (including their Sub-syndicate Members), SCSBs, RTAs and CDPs would be as set forth:

[●]

No processing fees shall be payable to the SCSBs on the applications directly procured by them. Any additional amounts to be paid by the Trust shall be, as mutually agreed upon the Lead Manager, their affiliate Syndicate Member(s) and the Investment Manager (on behalf of the Trust) prior to the Bid/ Issue Opening Date.

ASBA Processing Fees to SCSBs

Processing fees payable to the SCSBs on the Non-Institutional Investor Portion (excluding UPI Bids) which are procured by the Members of the Syndicate/ Sub-syndicate/ Registered Brokers/ RTAs/ CDPs and submitted to SCSBs for blocking would be as set forth:

[●]

SCSBs will be entitled to a processing fee of ₹ [●] (plus applicable taxes), per valid ASBA Form, for processing ASBA Forms procured by Members of the Syndicate, Sub-Syndicate Member(s), Registered Brokers, RTAs or CDPs from Non-Institutional Bidders submitted to the SCSBs.

Retention of oversubscription in the Issue, if any

The Investment Manager, in consultation with the Lead Manager, reserves the right to retain oversubscription of up to 25% of the Issue Size in accordance with the SEBI InvIT Regulations. In the event that the Investment Manager, in consultation with the Lead Manager, exercises the aforesaid right, the proceeds from the Allotment pursuant to such oversubscription shall be utilized in a manner that is proportional to the proposed utilisation of the Issue Proceeds and towards the same objects. However, in compliance with the InvIT Regulations, proceeds from the Allotment pursuant to such oversubscription shall not be utilized towards general purposes.

FINANCIAL INDEBTEDNESS AND DEFERRED PAYMENTS

The details of indebtedness of the Trust and the Project SPVs as at February 28, 2025, together with a brief description of certain material covenants of the relevant financing agreements, are provided below:

(Amounts in ₹ million)

Category of borrowing	Pre-Issue Principal Amount outstanding, as on February 28, 2025	Post-Issue Principal Amount outstanding^
DHHL		
Secured borrowings	4,841.00	[●]
Unsecured borrowings	-	[●]
Total Borrowings	4,841.00	[●]
DBHL		
Secured borrowings	4,172.00	[●]
Unsecured borrowings	755.70	[●]
Total Borrowings	4,927.70	[●]
RHL		
Secured borrowings	4,132.20	[●]
Unsecured borrowings	74.00	[●]
Total Borrowings	4,206.20	[●]
VHL		
Secured borrowings	5,229.80	[●]
Unsecured borrowings	7.10	[●]
Total Borrowings	5,236.90	[●]
BMHL		
Secured borrowings	4,099.00	[●]
Unsecured borrowings	551.30	[●]
Total Borrowings	4,650.30	[●]
MBHL		
Secured borrowings	4,602.00	[●]
Unsecured borrowings	639.40	[●]
Total Borrowings	5,241.40	[●]
NPHL		
Secured borrowings	5,627.50	[●]
Unsecured borrowings	1,323.30	[●]
Total Borrowings	6,950.80	[●]
PHL		
Secured borrowings	4,514.20	[●]
Unsecured borrowings	1,418.10	[●]
Total Borrowings	5,932.30	[●]
DPHPPL		
Secured borrowings	2,807.93	[●]
Unsecured borrowings	905.36	[●]
Total Borrowings	3,713.29	[●]
Total	45,699.89	[●]

^Will be determined upon completion of the Issue. To be updated in the Final Offer Document prior to filing with SEBI and the Stock Exchange.

Principal terms of the borrowings availed by the Project SPVs from external lenders:

- a) *Security:* The borrowings availed by the Project SPVs, are secured by, amongst others, a *pari passu* charge over:
 - (i) a first charge over all movable assets of the Project SPVs (both present and future) save and except the project assets;
 - (ii) a first charge over all bank accounts of the Project SPVs, including, but not limited to the escrow account and the sub-accounts required to be maintained/opened under any of the transaction documents and all its receivables;
 - (iii) a first charge over all intangible assets of Project SPVs including but not limited to goodwill, rights, undertakings, intellectual property and uncalled capital, excluding the project assets;
 - (iv) assignment/charge of all the rights, title and interests of Project SPVs (A) under the project documents, (B) under all the clearances, (C) in any letter of credit or guarantee, and (D) under all insurance contracts;
 - (v) pledge over 30% (thirty percent) to 51% (fifty one percent) of the paid-up and voting equity share capital and preference share capital, as applicable as per the project documents, of the Project SPVs subject to restrictions, if any, under the project documents.
- b) *Pre-payment:* Project SPVs shall make prepayment of the principal amount of the loans without any prepayment premium on occurrence of certain events which include, amongst others:
 - (i). any liquidated damages/penalties paid under any of the project documents to the extent not applied to pay penalties or to pay for completion of work contemplated by such project documents;
 - (ii). any insurance proceeds to the extent not applied to repair, renovate, restore or re-instate the project assets;
 - (iii). the proceeds of any termination payments/ buy-out payments received under the transaction documents;
 - (iv). the proceeds resulting from the expropriation or other takeover event by any government authority of the project assets of each of the Project SPVs;
 - (v). the proceeds resulting from an arbitral or judicial award in connection with any of the project documents in relation to claims lodged post first disbursement; and
 - (vi). the prepayment of part or full amount of the loans is made at the instance of the rupee lenders.
- c) *Interest and commissions:* The facilities availed by the Project SPVs typically have a benchmark floating rate of interest specified by the lender plus an applicable spread which may be altered by the lender upon occurrence of certain events as specified in the financing agreements. The applicable spread varies amongst different loans and is subject to reset in a manner specified in the relevant financing agreements.
- d) *Restrictive Covenants:* The borrowing arrangements entered into by the Project SPVs contain standard restrictive covenants affecting the Project SPVs, which prevent them from undertaking certain actions until the final settlement date, without prior written consent of certain lenders, which include, amongst others:
 - (i) any change in its capital structure (including any change in the shareholding pattern) other than as contemplated under the financing documents;

- (ii) enter into any transaction or formulate any scheme of merger, de merger, consolidation, re-organisation, scheme of arrangement or compromise;
 - (iii) undertake any new project or investment resulting in breach of financial covenants or diversion of working capital funds for financing long-term assets;
 - (iv) invest by share capital in or grant loans, lend or advance funds to or place deposits with any other concern (including group companies or any other person) resulting in breach of financial covenants;
 - (v) be liable for any debt or enter in any borrowing arrangements except permitted indebtedness;
 - (vi) undertake any guarantee obligations on behalf of any other person or company except as permitted under financing documents;
 - (vii) sale, lease, transfer, assignment, mortgage or otherwise dispose of its secured property. (*Provided* that the fixed assets to the extent of 5% (five percent) of gross block may be sold in any fiscal year);
 - (viii) transfer any controlling interest or making any drastic change in the management;
 - (ix) amend transaction documents unless expressly provided in any financing document and no project document may be amended, supplemented or modified if it results in material adverse effect; and
 - (x) amend constitutional documents which adversely affects the rights of the secured or the obligations of the borrower towards the secured parties under the financing documents.
- e) *Events of Default:* The borrowing arrangements entered into by the Project SPVs contain standard events of default affecting the Project SPVs, including, amongst others:
- (i) default in payment of principal and/or interest and/or other amounts;
 - (ii) any breach or default on part of borrower or sponsor in performance of any material covenant or financial covenant;
 - (iii) inability to pay debts;
 - (iv) failure to perfect security within the time period and provisions stipulated in the financing documents;
 - (v) sale, disposal and removal of the assets comprising secured proprieties otherwise as permitted;
 - (vi) appointment of receiver trustee, custodian or similar officer in relation to all or part of any asset;
 - (vii) upon occurrence of an event of force majeure leading to material adverse effect;
 - (viii) proceedings under IBC;
 - (ix) failure to maintain/renew insurance cover over the property and asset in accordance with transaction documents or any insurance contract which ceases to apply or is avoided by the insurance company;
 - (x) downgrade in credit rating below investment grade BBB; and
 - (xi) any change in shareholding held of the sponsor.
 - (xii) Occurrence of cross default.

- f) *Consequences of default:* In terms of the borrowing arrangements entered into by the Project SPVs, the following, amongst others, are the consequences of default:
- (i) declare the unpaid principal amount and unpaid interest in respect of the loans and secured obligations payable;
 - (ii) exercise all or any rights or remedies of the borrower under one or more project documents;
 - (iii) accelerate or part accelerate the maturity of the rupee facility;
 - (iv) charge additional interest on the outstanding secured obligations;
 - (v) appointment of one nominee director/observer on the board of directors of the borrower; and
 - (vi) convert whole or part of the defaulted amounts of the loan into fully paid-up equity shares with voting rights.

This is an indicative list of the terms of the borrowings availed by the Project SPVs and there may be additional terms, conditions and requirements under the various borrowing arrangements entered into by the Project SPVs.

Given the nature of these borrowings and the terms of prepayment, the aggregate outstanding borrowing amounts may vary from time to time. In addition to the above, the Project SPVs may, from time to time, enter into re-financing arrangements and draw down funds thereunder, prior to the filing of this Draft Offer Document.

Principal terms of the borrowing to be availed by the Trust

The Investment Manager has, pursuant to a resolution passed by its board of directors dated March 25, 2025, is proposing to avail credit facilities by the Trust, subject to receipt of any requisite third-party approvals and the finalisation of the terms of the relevant financing documentation. The indicative terms of such proposed borrowings may be:

Sr. No.	Parameter	Description
a)	Lender	National Bank for Financing Infrastructure and Development
b)	Borrower	Anantam Highways Trust
c)	Security Trustee	Axis Trustee Services Pvt. Ltd.
d)	Facility Amount	This facility amount, being, facility of up to ₹ 32, 980 million
n)	Purpose of Facility	This facility is proposed to be utilized by the Trust to infuse the facility in Project SPVs to refinance the existing senior secure debt.
o)	Transaction Documents	<p>Following Documents would be executed prior to availing the disbursement from the Lenders:</p> <ol style="list-style-type: none"> (i) Accepted Sanction Letter of Lender (ii) Facility Agreement (iii) Security Trustee Agreement; <p>Following Documents would be executed after availing the disbursement from the Lenders:</p> <ol style="list-style-type: none"> (i) Deed of Hypothecation (ii) Pledge Agreement for pledging shares of Project SPVs
p)	Tenor	Door to Door tenor of 13 years 4 months from date of disbursement ending May 2038
q)	Availability Period	December 31, 2025, or any latter date as agreed by Lenders
r)	Security	<p>The obligations of the Borrower under the Facility, all interest and other monies in respect thereof shall be secured by a first ranking security interest including, but not limited to following:</p> <ul style="list-style-type: none"> • First pari passu charge on all the moveable assets and the receivables

Sr. No.	Parameter	Description
		<p>of the Trust present and future including but not limited to receivables of the Trust from Project SPVs</p> <ul style="list-style-type: none"> • Charge over rights of the Trust under the loans/NCDs advanced by Trust to Project SPVs and securities created in favour of the Trust to secure the loans advanced by the Trust to Project SPVs. • First pari passu charge on all the immovable assets of the Borrower (if any and if permitted under law) • First pari passu charge on the InvIT Escrow Account (except Distribution sub - account) opened by the Trust in which the free cash flows of the Project SPVs owned by the Trust will be deposited • First pari passu charge over DSRA • First pari passu charge over rights of the Loans advanced by Trust to Project SPVs <p>Security creation, pledge creation, security sharing and perfection timeline shall be in accordance with the Term Sheet.</p>
s)	Borrower Undertaking	<ol style="list-style-type: none"> 1. Any acquisition of new projects or special purpose vehicles, other than the current Project SPVs and/or Security sharing with incoming lenders of newly acquired SPVs, shall be done without prior approval of InvIT Lenders, if: <ol style="list-style-type: none"> a. Credit Rating of the Borrower is retained at AAA upon such acquisition; b. Debt/EV condition is within prescribed threshold as per InvIT guidelines c. Facilities should not have been accelerated by the Lenders d. No subsisting Event of Default notice should have been served by the InvIT Lenders <p>All lenders of InvIT (current or future) shall have pari passu charge on all assets of the Borrower, including but not limited to:</p> <ol style="list-style-type: none"> 2. Not to incur indebtedness higher than as prescribed in Permitted Indebtedness clause 3. Not to induct into its governing board a person whose names appears in the wilful defaulters list of RBI/CICs. In case such a person is already on the governing board, it would take immediate steps for removal of that person from its governing board/Board 4. The Borrower should maintain adequate books of accounts, as per applicable accounting practices and standards, and should not radically change its accounting system without notice to the Facility Agent 5. Not to make any material amendments to the Trust Documents which shall have a Material Adverse Effect on the performance of their obligations under the financing agreement 6. Creation of charge over Borrower's rights under SPV loans in favour of Security Trustee
t)	Undertaking from Project SPVs	<p>The following, amongst others, are undertaking by Project SPVs</p> <ol style="list-style-type: none"> 1. No modifications are made to the Project Agreements which causes a material adverse effect. 2. Financing documents of each Project SPV (i.e. Facility Agreement between the InvIT and each Project SPV) shall have definitive repayment schedule. 3. Insurance to be in full force or effect for all the Project SPVs 4. Not to induct into its governing board a person whose names appears in the wilful defaulters list of RBI/CICs. In case such a person is already on the governing board, it would take immediate steps for removal of that person from its governing board/Board

Borrowings by the Project SPVs from the Trust

Please see the section entitled “*Use of Proceeds- Details of Utilisation of the Net Proceeds- Trust Loan Agreement*” on page 335 for a description of the proposed terms of the Trust Loan Agreement.

The terms of the borrowing by the Project SPVs from the Trust shall be similar to the principal terms of the borrowing availed by the Trust as mentioned above.

Principal terms of the non-convertible debentures issued by certain Project SPVs namely, BMHL, DBHL, MBHL, NPHL, RHL, DPHPPL

- (i) Please see below the terms of NCDs issued by certain Project SPVs namely BMHL, DBHL, MBHL, NPHL, RHL, as per their respective NCDs’ purchase agreements:

Sr. No.	Parameter	Description
1.	Issuer	Dhrol Bhadra Highways Limited; Malur Bangarpet Highways Limited, Dhrol Bhadra Highways Limited, Narenpur Purenea Highways Limited, Repallewada Highways Limited, pursuant to their respective NCDs purchase agreements.
3.	Coupon Rate	The Project SPVs shall pay interest/coupon rate on the Debentures at the rate of 0.01% per annum.
4.	Mode of Issuance	Private Placement
5.	Nature of Debentures	Unsecured Debentures
6.	Issue Amount / Issue Size	Issue of NCDs in the range of ₹ 6 million to ₹ 1,323.3 million , with a face value ₹ 0.1 million.
7.	Purpose	To be utilized towards refinancing the existing financial debt and other general purposes.
8.	Tenor	NCDs shall have a tenor in the range of 13 years 3 months to 13 years 3 months 3 days.
9.	Permitted Indebtedness	Any Indebtedness pursuant to the debenture documents; and any working capital facilities availed by the Issuer in connection with the Project;
10.	Conditions Precedent	The following, including but not limited, are conditions precedent: a) Execution of necessary and relevant debenture documents and effective in accordance with its respective terms; b) Submission of latest constitutional documents, certified true copies of resolution of the shareholders of the Project SPVs authorizing the issue
11.	Condition Subsequent	Within 15 days from the date of allotment for the NCDs, filing of the return of allotment with Registrar of Companies, in accordance with Form PAS-3, as required under Companies Act, 2013.
12.	Events of Default and consequences of Event of Default	Event of Default and consequence thereof shall be in accordance with the definitive document executed by NCD investor and Issuer
13.	Governing Law	Indian and jurisdiction to be Bhopal

- (ii) Please see below the terms of NCDs issued by DPHPPL:

Sr. No.	Parameter	Description
1.	Issuer	DPJ Pollachi HAM Project Private Limited
2.	Coupon Rate	The Project SPVs shall pay interest/coupon rate on the Debentures at the rate of 0.01% per annum.
3.	Mode of Issuance	Private Placement
4.	Nature of Debentures	Unsecured Debentures
5.	Issue Amount / Issue Size	Issue of NCDs of ₹ 887.50 million, with a face value ₹ 0.1 million.

Sr. No.	Parameter	Description
6.	Purpose	To be utilized towards refinancing the existing financial debt and other general purposes
7.	Tenor	NCDs shall have a tenor of 13 years 3 months.
8.	Permitted Indebtedness	Any Indebtedness pursuant to the debenture documents; and any working capital facilities availed by the Issuer in connection with the Project;
9.	Conditions Precedent	The following, including but not limited, are conditions precedent: <ul style="list-style-type: none"> i. Execution of necessary and relevant debenture documents and effective in accordance with its respective terms; ii. Submission of latest constitutional documents, certified true copies of resolution of the shareholders of the Project SPVs authorizing the issue.
10.	Condition Subsequent	Within 15 days from the date of allotment for the NCDs, filing of the return of allotment with Registrar of Companies, in accordance with Form PAS-3, as required under Companies Act, 2013.
11.	Events of Default and consequences of Event of Default	Event of Default and consequence thereof shall be in accordance with the definitive document executed by NCD investor and Issuer
12.	Governing Law	Indian Law

Leverage:

In accordance with and subject to the InvIT Regulations, the provisions of the Trust Deed, and the Borrowing Policy adopted by the Investment Manager, the aggregate consolidated borrowings and deferred payments of the Trust may be up to 70% of the aggregate of the value of the InvIT Assets.

Post-Issue Indebtedness of the Trust

The post-Issue consolidated borrowings and deferred payments of the Trust will be formulated and approved by the Investment Manager in accordance with the Borrowing Policy. Upon full utilization of the Issue Proceeds, and drawdown of additional debt, the indebtedness and deferred payments of the Trust, net of cash and cash equivalents, on a consolidated basis, shall not exceed 49% of the aggregate value of the InvIT Assets, subject to any additional indebtedness incurred after listing of Units in accordance with applicable law.

Status of lender Consents:

The Project SPVs have availed debt from certain external lenders and financial institutions and consents from the respective lenders and financial institutions are required for and in connection with the Issue. As on the date of this Draft Offer Document, the Project SPVs have received certain lender consents and applied for additional consents, which are awaited from the relevant lenders in relation to the Issue. For further details, please see the section entitled “*Risk Factors*” and “*Regulatory Approvals*” on page 66 and 389 respectively.

Borrowing Policy

The Investment Manager shall ensure that all funds borrowed in relation to the Trust are in compliance with the InvIT Regulations. Accordingly, the Investment Manager has formulated a borrowing policy to outline the process for borrowing monies in relation to the Trust. For further details, please see the section entitled “*Corporate Governance – Investment Manager – Policies of the Board of Directors of the Investment Manager in relation to the Trust – Borrowing Policy*” on page 162.

DISTRIBUTION

Statements contained in this section entitled “Distribution” that are not historical facts are forward-looking statements. Such statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those that may be projected. Under no circumstances should the inclusion of such information herein be regarded as a representation, warranty or prediction with respect to the accuracy of the underlying assumptions by the Trustee, the Sponsor, the Investment Manager, the Lead Manager or any other person. Bidders are cautioned not to place undue reliance on these forward-looking statements that are stated only as at the date of this Draft Offer Document. For details in relation to such forward-looking statements, please see the section entitled “Forward-Looking Statements” on page 16.

The net distributable cash flows of the Trust (the “**Distributable Income**”) are based on the cash flows generated from the underlying operations undertaken by the InvIT Assets. For details of the business and operations presently undertaken by the InvIT Assets, please see the section entitled “*Business*” on page 258. Presently, cash flows receivable by the Trust may be in the form of dividend, interest income or principal repayment received from the InvIT Assets in relation to any debt sanctioned by the Trust, or a combination of both.

In terms of the InvIT Regulations, not less than 90% of the net distributable cash flows of the Project SPVs, shall be distributed to the Trust in proportion of its holding in such Project SPVs, subject to applicable provisions in the Companies Act, 2013, as amended, and not less than 90% of the net distributable cash flows of the Trust shall be distributed to the Unitholders.

Further, in terms of the InvIT Regulations, with regard to distribution of net distributable cash flows by any Holding Company to the Trust, 100% of cash flows received by the Holding Company from underlying SPVs shall be distributed to the Trust (net of any expenses and applicable taxes including withholding taxes) and with respect to the cash flows generated by a Holding Company on its own, not less than 90% of such net distributable cash flows shall be distributed by the Holding Company to the Trust.

Pursuant to the InvIT Regulations and the Distribution Policy, the Trust shall declare and distribute at least 90% of the Distributable Income to the Unitholders at least once every six months in every financial year and shall be made within five working days from the record date. However, if any infrastructure asset is sold by the Trust or the Project SPVs, or if the equity shares or interest in the Project SPVs are sold by the Trust; if the Trust proposes to re-invest the sale proceeds into another infrastructure asset, it shall not be required to distribute any sales proceeds to the Trust or to the Unitholders. Further, if the Trust proposes not to invest the sale proceeds into any other infrastructure asset within one year, it shall be required to distribute the same in the manner specified above. In accordance with the InvIT Regulations, distributions by the Trust shall be made within five working days from the record date, being two working days from the date of declaration of distribution, excluding the date of declaration and the record date. The distribution, when made, shall be made in Indian Rupees. Any amount remaining unclaimed or unpaid out of the distributions declared by the Trust shall be transferred to the ‘Investor Protection and Education Fund’ constituted by SEBI, in such manner as may be specified by SEBI. For details on the risks relating to distribution, please see the section entitled “*Risk Factors*” on page 66.

Distribution Policy

Method of calculation of Distributable Income

The Distributable Income of Trust shall be calculated in accordance with the InvIT Regulations and any circular, notification or guidance issued thereunder. Presently, Trust proposes to calculate distributable income in the manner provided below:

a. Calculation of net distributable cash flows at the HoldCo / SPV level:

Particulars
Cash flow from operating activities as per Cash Flow Statement of SPV
Add: Cash Flows received from SPV’s which represent distributions of NDCF computed as per relevant framework (relevant in case of HoldCos)

Particulars
Add: Treasury income / income from investing activities (interest income received from FD, tax refund, any other income in the nature of interest, profit on sale of Mutual funds, investments, assets etc., dividend income etc., excluding any Ind AS adjustments. Further clarified that these amounts will be considered on a cash receipt basis)
Add: Proceeds from sale of infrastructure investments, infrastructure assets or shares of SPVs or Investment Entity adjusted for the following: <ul style="list-style-type: none"> • Applicable capital gains and other taxes • Related debts settled or due to be settled from sale proceeds • Directly attributable transaction costs • Proceeds reinvested or planned to be reinvested as per Regulation 18(7) of InvIT Regulations or any other relevant provisions of the InvIT Regulations
Add: Proceeds from sale of infrastructure investments, infrastructure assets or sale of shares of SPVs or Investment Entity not distributed pursuant to an earlier plan to reinvest as per Regulation 18(7) of InvIT Regulations or any other relevant provisions of the InvIT Regulations, if such proceeds are not intended to be invested subsequently
Less: Finance cost on Borrowings, excluding amortisation of any transaction costs as per Profit and Loss Account and any shareholder debt / loan from Trust
Less: Debt repayment (to include principal repayments as per scheduled EMI's except if refinanced through new debt including overdraft facilities and to exclude any debt repayments / debt refinanced through new debt, in any form or equity raise as well as repayment of any shareholder debt / loan from Trust)
Less: any reserve required to be created under the terms of, or pursuant to the obligations arising in accordance with, any: <ul style="list-style-type: none"> (i). loan agreement entered with banks / financial institution from whom the Trust or any of its SPVs/ HoldCos have availed debt, or (ii). terms and conditions, covenants or any other stipulations applicable to debt securities issued by the Trust or any of its SPVs/ HoldCos, or (iii). terms and conditions, covenants or any other stipulations applicable to external commercial borrowings availed by the Trust or any of its SPVs/ HoldCos, or (iv). agreement pursuant to which the SPV/ HoldCo operates or owns the infrastructure asset, or generates revenue or cashflows from such asset (such as, concession agreement, transmission services agreement, power purchase agreement, lease agreement, and any other agreement of a like nature, by whatever name called); or (v). statutory, judicial, regulatory, or governmental stipulations;
Less: any capital expenditure on existing assets owned / leased by the SPV or Holdco, to the extent not funded by debt / equity or from reserves created in the earlier years
Net Distributable Cash Flows for HoldCo/SPV's

b. Calculation of net distributable cash flows at the Trust level:

Particulars
Cashflows from operating activities of the Trust
Add: Cash flows received from SPV's / Investment entities which represent distributions of NDCF computed as per relevant framework
Add: Treasury income / income from investing activities of the Trust (interest income received from FD, any investment entities as defined in Regulation 18(5), tax refund, any other income in the nature of interest, profit on sale of Mutual funds, investments, assets etc., dividend income etc., excluding any Ind AS adjustments. Further clarified that these amounts will be considered on a cash receipt basis)
Add: Proceeds from sale of infrastructure investments, infrastructure assets or shares of SPVs/Holdcos or Investment Entity adjusted for the following: <ul style="list-style-type: none"> • Applicable capital gains and other taxes • Related debts settled or due to be settled from sale proceeds • Directly attributable transaction costs • Proceeds reinvested or planned to be reinvested as per Regulation 18(7) of InvIT Regulations or any other relevant provisions of the InvIT Regulations
Add: Proceeds from sale of infrastructure investments, infrastructure assets or sale of shares of SPVs/ Hold cos or Investment Entity not distributed pursuant to an earlier plan to re-invest as per Regulation 18(7) of

Particulars
InvIT Regulations or any other relevant provisions of the InvIT Regulations, if such proceeds are not intended to be invested subsequently
Less: Finance cost on Borrowings, excluding amortisation of any transaction costs as per Profit and Loss Account of the Trust
Less: Debt repayment at Trust level (to include principal repayments as per scheduled EMI's except if refinanced through new debt including overdraft facilities and to exclude any debt repayments / debt refinanced through new debt in any form or funds raised through issuance of units)
Less: any reserve required to be created under the terms of, or pursuant to the obligations arising in accordance with, any: <ul style="list-style-type: none"> (i). loan agreement entered with financial institution, or (ii). terms and conditions, covenants or any other stipulations applicable to debt securities issued by the Trust or any of its SPVs/ HoldCos, or (iii). terms and conditions, covenants or any other stipulations applicable to external commercial borrowings availed by the Trust or any of its SPVs/ HoldCos, or (iv). agreement pursuant to which the Trust operates or owns the infrastructure asset, or generates revenue or cashflows from such asset (such as, concession agreement, transmission services agreement, power purchase agreement, lease agreement, and any other agreement of a like nature, by whatever name called), or (v). statutory, judicial, regulatory, or governmental stipulations;
Less: any capital expenditure on existing assets owned / leased by the InvIT, to the extent not funded by debt / equity or from contractual reserves created in the earlier years
Net Distributable Cash Flows at Trust level (Distributable Income)

While computation of the NDCF, the Trust shall additionally comply with the notes and the rules as specified by the SEBI in accordance with the InvIT Regulations and circulars issued thereunder, as amended from time to time.

In terms of the InvIT Regulations, if the distribution is not made within five working days from the record date, being two working days from the date of declaration of distribution, excluding the date of declaration and the record date, the Investment Manager shall be liable to pay interest to the Unitholders at the rate of 15% (fifteen per cent) per annum till the distribution is made. Such interest shall not be recovered in the Management Fees of the Investment Manager or in the form of fee or any other form payable to the Investment Manager by the Trust.

Amendment

- (i). Any amendment or variation to this Policy shall be undertaken in compliance with InvIT Regulations and other applicable law.
- (ii). Notwithstanding the above, the distribution policy will stand amended to the extent of any change in applicable law, including any amendment to the InvIT Regulations, without any action from the Investment Manager or approval of the Unitholders of the Trust.

For risks in relation to distribution, please see the section entitled “*Risk Factors*” on page 66.

DISCUSSION AND ANALYSIS BY THE DIRECTORS OF THE INVESTMENT MANAGER OF THE FINANCIAL CONDITION, RESULTS OF OPERATIONS AND CASH FLOWS OF THE PROJECT SPVS OF THE TRUST

You should read the following discussion and analysis of our financial condition, results of operations and cash flows in conjunction with the sections entitled “Summary Special Purpose Combined Financial Statements” and “Special Purpose Combined Financial Statements” on page 32 and Annexure C respectively. This discussion contains forward-looking statements and involves numerous risks and uncertainties, including, but not limited to, those described in the section entitled “Risk Factors” on page 66. Actual results could differ materially from those contained in any forward-looking statements and for further details regarding forward-looking statements, please refer to the section entitled “Forward-Looking Statements” on page 16.

The Special Purpose Combined Financial Statements are prepared in accordance with Ind AS, which differs in certain respects from Indian GAAP, International Financial Reporting Standards and U.S. GAAP. Our fiscal year ends on March 31 of each year, and references to a particular fiscal are to the twelve-month period ended March 31 of that year. For the sole purposes of the Special Purpose Combined Financial Statements, references to “we”, “us” and “our” is to the Project SPVs on a combined basis.

Overview

Overview

Anantam Highways Trust (the “**Trust**”) is an Indian infrastructure investment trust which proposes to invest in road infrastructure assets. The Trust is sponsored by Alpha Alternatives Fund Advisors LLP (the “**Sponsor**”). The Sponsor established the Trust on July 24, 2024 and the Trust was registered with SEBI on August 19, 2024 as an InvIT in accordance with the InvIT Regulations.

The Sponsor is a multi-asset class multi-strategy asset management entity that creates investment solutions across various asset-classes, including but not limited to, infrastructure, credit, real estate, equities, commodities, and fixed income. As on date, the Sponsor is a subsidiary of Alpha Alternatives Holdings Private Limited. For further details in relation to the Sponsor, please see the section entitled “Parties to the Trust” on page 113.

The Trust will have an initial portfolio consisting of the nine Project SPVs having an aggregate of 359.73 kms (1,434.86 lane kms), located across five states and one union territory in India. The Trust, subject to receipt of certain approvals, will directly or indirectly hold 100.00% equity interest in eight Project SPVs and 49.00% equity interest in one Project SPV (“**Projects**”).

Our Projects

Our initial portfolio of assets include the following nine Projects, which comprises national highways that are located in the states of Karnataka, Telangana, Gujarat, Bihar, Tamil Nadu and one union territory of Puducherry proposed to be acquired by way of 100% shareholding in eight Project SPVs and 49% shareholding in one Project SPV:

- The Dhrol Bhadra Highways Limited (“**DBHL**”) Project, a four lane highway with an aggregate length of 50.45 kms, comprising NH-151A* of Dhrol – Bhadra Patiya section (between Ex. km 5+700 to km 13+600 of SH-25) and Bhadra Patiya – Pipaliya section (between Ex. km 73+000 to km 44+800 and Ex. km 38+350 to km 24+000 of CSH-6) on hybrid annuity model in Gujarat, operated by the National Highways Authority of India (“**NHAI**”);
- The Dodaballapur Hoskote Highways Limited (“**DHHL**”) Project, a four lane highway with an aggregate length of 38.00 kms, comprising NH-648* from km 42.00 to km 80.00 of Dodaballapur Bypass to Hoskote section on Hybrid Annuity Mode in Karnataka, operated by NHAI;
- The Repallewada Highways Limited (“**RHL**”) Project, a four lane highway with an aggregate length of 52.60 kms, comprising NH-363* from km 42.00 (existing km 288.51) to km 94.60 (existing km 342.00) on the Repallewada to Telangana/Maharashtra Border on Hybrid Annuity Mode in Telangana, operated by NHAI;
- The Viluppuram Highways Limited (“**VHL**”) Project, a four lane highway with an aggregate length of

29.00 kms, comprising Viluppuram- Puducherry section of NH-45A (new NH-332*) from km 0.00 to km 29.00 under Bharatmala Priyोजना Phase I on Hybrid Annuity Mode in Tamil Nadu and Puducherry, operated by NHAI;

- The Narenpur Purnea Highways Limited (“**NPHL**”) Project, a four lane and two lane highway with an aggregate length of 47.40 kms, comprising NH-131A* of Narenpur - Purnea section comprising of 4 (four) lane standard between km 34.60 (design Ch. 6.00) to km 79.97 (design Ch. 53.00) and 2 (two) lane with paved shoulders standard between km 79.97 (design Ch. 53.00) to km 82.00 (design Ch. 55.00) on Hybrid Annuity Mode in Bihar, operated by NHAI; and
- The Bangalore Malur Highways Limited (“**BMHL**”) Project, a four lane highway with an aggregate length of 27.100 kms, comprising from km 0.000 to km 26.400 (along with 0.700 km approach towards NH 207 with interchange on NH4 at start point) of Bangalore to Malur section of Bangalore Chennai Expressway on Hybrid Annuity Mode under Bharatmala Pariyोजना, in the state of Karnataka (Phase-I Package-I), operated by NHAI;
- The Malur Bangarpet Highways Limited (“**MBHL**”) Project, a four lane highway with an aggregate length of 27.10 kms, comprising Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpet section of Bangalore Chennai Expressway on Hybrid Annuity Mode under Bharatmala Pariyोजना in the state of Karnataka (Phase I-Package II), operated by NHAI;
- The Poondiyanakuppam Highways Limited (“**PHL**”) Project, a four lane highway with an aggregate length of 38.00 kms, comprising Puducherry-Poondiyanakuppam section of NH-45A (new NH-332*) from Km 29.00 to Km 67.00 under Bharatmala Pariyोजना Phase I on Hybrid Annuity Mode in Tamil Nadu and Puducherry, operated by NHAI;
- The DPJ Pollachi HAM Project Private Limited (“**DPHPPL**”) Project, a four lane highway with an aggregate length of 50.08 kms, comprising Madathukulam to Pollachi section of NH-209 (new NH-83*) from Km 74.38 to Km 116.95 under Bharatmala Pariyोजना Phase I on Hybrid Annuity Mode in Tamil Nadu, operated by NHAI.

**Note: The NH numbers and chainages mentioned in this Draft Offer Document may be old NH numbers and chainages, as per the concession agreements. The actual NH numbers and chainages at site may differ based on subsequent changes.*

The revenue from operations of the Project SPVs for the nine month period ended December 31, 2024 was ₹ 7,410.85 million and Fiscals 2024, 2023, 2022 was ₹ 27,185.05 million, ₹ 27,687.01 million and ₹ 21,891.56 million, respectively.

The Projects are based on public private partnership (“**PPP**”) on a hybrid annuity mode (“**HAM**”). HAM was introduced in January 2016 by the Government with an intent to share the financial risk with the developers, given that infrastructure projects are capital intensive in nature. In a HAM project, the concessioning authority shares a portion of the total project cost during the construction phase. As a mix of EPC and annuity models, HAM reduces the financial burden of a concessionaire during the project construction phase and provides an assured revenue in form of annuities, interest on reducing balance of completion cost (BCC) and O&M payments both linked to inflation in the operational phase. Annuity payments eliminate the risk of income fluctuations resulting from changes in traffic volumes. The concessioning authority for all the Projects is NHAI.

For further details, please see the section entitled “*Industry Overview*” on page 173.

The map below illustrates the locations of the Projects:

Note: Please note that as on the date of this Draft Offer Document, PHL is yet to receive the PCOD certificate

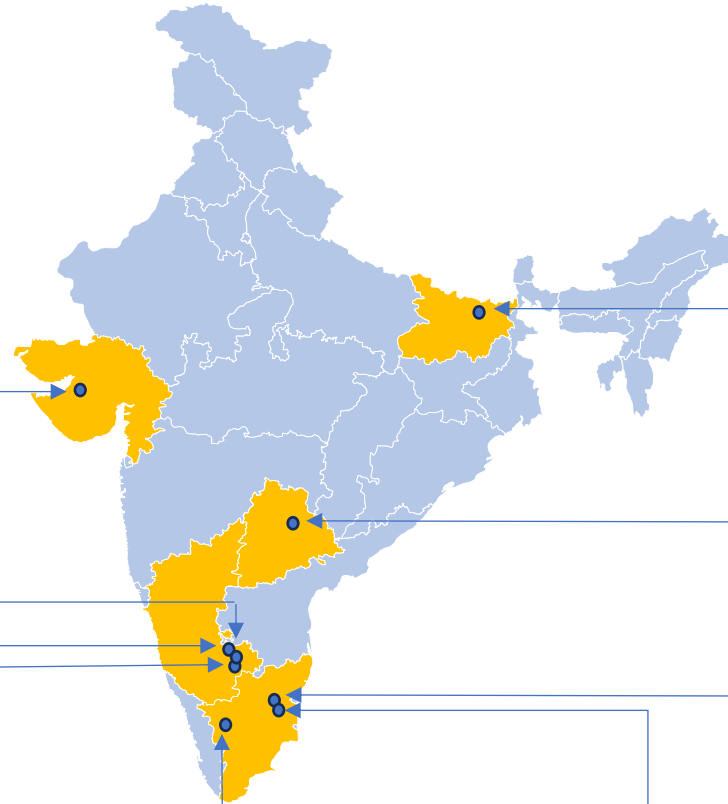
DHROL BHADRA	
Lanes / Length	4 Lanes / 50.45 Kms
Pavement Type	Rigid
PCOD	September 25, 2023

DODABALLAPUR	
Lanes / Length	4 Lanes / 38.0 Kms
Pavement Type	Flexible
PCOD	July 21, 2023

BANGALORE MALUR	
Lanes / Length	4 Lanes / 27.1 Kms
Pavement Type	Flexible
PCOD	May 15, 2024

MALUR BANGARPET	
Lanes / Length	4 Lanes / 27.1 Kms
Pavement Type	Flexible
PCOD	May 16, 2024

Re_Balance
Completion Cost Wor



MADATHUKULAM - POLLACHI	
Lanes / Length	4 Lanes / 50.08 Kms
Pavement Type	Flexible
PCOD (Partial)	Oct 05, 2023 (36.5 Kms)

Re_Balance
Completion Cost Wor

NARENPUR PURNIA	
Lanes / Length	4 Lanes / 49.0 Kms
Pavement Type	Flexible
PCOD	Mar 29, 2024

Re_Balance

REPALLEWADA	
Lanes / Length	4 Lanes / 52.6 Kms
Pavement Type	Flexible
COD	October 20, 2023

Re_Balance

VILLUPURAM	
Lanes / Length	4 Lanes / 29 Kms
Pavement Type	Rigid
PCOD	April 04, 2024

Re_Balance

POONDIYANKUPPAM	
Lanes / Length	4 Lanes / 38 Kms
Pavement Type	Rigid
PCOD (Expected)	-

Re_Balance
Completion Cost Wor

Pursuant to the ‘right of first offer agreements’ to be entered into between the (i). Trustee (acting on behalf of the Trust), the Investment Manager, DBL, and such other parties as may be required (the “**DBL ROFO Agreement**”); and (ii). the Trustee (acting on behalf of the Trust), the Investment Manager, Build India Infrastructure Fund and such other funds managed by the Sponsor and other parties as may be required (the “**Alpha ROFO Agreement**”) (collectively, the “**ROFO Agreements**”), the Trust has a ‘right of first offer’ to acquire projects developed by DBL (including its affiliates) and Build India Infrastructure Fund and/or such other funds set up by the Sponsor and/or such other parties as maybe required for investing in eligible road infrastructure projects for a period starting from the Listing Date until five years from the Listing Date. For further details on the ROFO Agreement, please see sections entitled “*Related Party Transactions*” and “*Corporate Governance*” on pages 373 and 156.

For further details of the Sponsor, the Investment Manager, the Project Manager and the Trustee, please see the section entitled “*Parties to the Trust*” on page 113.

Factors Affecting Results of Operations

The Project SPVs’ business, prospects, results of operations and financial conditions are affected by a number of factors, including the following:

Interest rate fluctuations

As our infrastructure business is capital intensive, our projects are funded to a large extent by debt, and as a result we are exposed to interest rate risks. Our current debt facilities carry interest at variable rates with the provision for periodic reset of interest rates. As at December 31, 2024, the majority of our indebtedness was subject to variable interest rates. Considering the capital-intensive nature of the infrastructure business, an increase in interest expense at the Project SPV level is likely to have a significant adverse effect on our financial results. However, same is hedged as revenue of our Projects are linked with Bank Rate or MCLR and any increase in interest outgo will be coupled with increase in revenue. Overall there is a negative impact of a fall in interest rates on the business which could get mitigated by lower yield expectations of investors during periods of low interest rate.

The road sector in India

We derive and expect to continue to derive in the foreseeable future, our revenues and operating profits from India. Changes in macroeconomic conditions generally impact the road industry and could negatively impact the growth of our business. Accordingly, our business is highly dependent on the state of development of the Indian economy and the macroeconomic environment prevailing in India. Since our expansion plans and future projects depend or will depend on macroeconomic factors that may negatively impact demand of the development of road infrastructure projects in India, or the timely commencement of their operations could in turn have a material adverse effect on our growth prospects, business, and cash flows. Furthermore, during economic downturns, financing may become more expensive or unavailable on terms that are acceptable to businesses.

General economic conditions in India, economic conditions in the areas in which the Project SPVs operate and the level of investment and activity in the road infrastructure sector

Demand for roads in India and consequently, the performance and growth of road projects are impacted by economic conditions in India and government policies relating to infrastructure development to support long-term growth plans of the Indian economy.

The Indian economy has been affected by the recent global economic uncertainties, volatility in interest rates, currency exchange rates, commodity and electricity prices, adverse conditions affecting agriculture and various other macroeconomic factors. Additionally, an increase in trade deficit or a decline in India’s foreign exchange reserves could negatively impact interest rates and liquidity, which could adversely impact the Indian economy and our business. Any downturn in the macroeconomic environment in India could materially and adversely affect our business.

Due to increased budgetary allocations by the Government and its road development initiatives as well as investments by the private sector in the infrastructure projects, the road and highways sectors have developed significantly in the last decade. While recent Indian governments have been focused on encouraging private participation in the industrial sector, any adverse change in policy could result in a slowdown of the Indian economy. The rate of economic liberalization could decrease, and specific laws and policies affecting foreign investment, currency exchange rates and other matters affecting investment in India could change as well. In the road sector, there can be no assurance that the GoI’s engagement with and outreach to private sector operators, including InvIT, will continue in the future. A significant change in India’s economic liberalisation and deregulation policies, in particular, those relating to the road sector, could disrupt business and economic conditions in India generally and our business in particular.

Dependence on support from governmental entities

Any significant changes in a particular government's policy for the road infrastructure sector could have a significant effect on the InvIT's revenues, expenditure and growth prospects as they relate to future projects. The results of operations of future projects are likely to be affected by budgetary allocations made by the various central and state government agencies for the infrastructure sector as well as funding provided by international and multilateral development finance institutions for road infrastructure projects. Any adverse change in focus or policy framework regarding infrastructure development or the surface transportation industry, or the InvIT's relationship with the government or various governmental entities in India could adversely affect the InvIT's business, financial condition and results of operations. Changing political or social imperatives can also affect the InvIT's and the Project SPVs' businesses.

Critical Accounting Policies

The preparation of the Special Purpose Combined Financial Statements requires management to make judgements, estimates and assumptions that affect the reported amounts of revenues, expenses, assets and liabilities, and the accompanying disclosures, and the disclosure of contingent liabilities. Uncertainty about these assumptions and estimates could result in outcomes that require a material adjustment to the carrying amount of assets or liabilities affected in future periods.

While all aspects of the Special Purpose Combined Financial Statements should be read and understood in assessing their current and expected financial condition and results, we believe that the following critical accounting policies warrant particular attention:

Basis of Preparation

The Special Purpose Combined Financial Statements of the SPV Group comprise the Special Purpose Combined Balance Sheet as at December 31, 2024, March 31, 2024, March 31, 2023 and March 31, 2022 and the Special purpose Combined Statement of Profit and Loss (including Other Comprehensive Income), Combined Statement of Changes in Equity, Special Purpose Combined Statement of Cash Flow for the nine months period ended December 31, 2024 and years ended March 31, 2024, March 31, 2023 and March 31, 2022, the Combined Statement of net assets at fair value as at December 31, 2024, the Combine Statement of Total Returns at Fair Value for the nine months period ended December 31, 2024 and year ended March 31, 2024 and notes to the special purpose combined financial statements including a summary of material accounting policies and other explanatory information (collectively, the **"Special Purpose Combined Financial Statements"**).

The Special Purpose Combined Financial Statements have been prepared by Investment Manager, acting on behalf of the Trust ('Trust Management') to meet the requirements of InvIT Regulations and for inclusion in the Draft Offer Document / Offer Document / Final Offer Documents prepared by the Investment Manager in connection with the proposed Initial Public Issue of units of Trust. As a result, the Special Purpose Combined Financial Statements may not be suitable for another purpose. Further, the requirement of Schedule III (as amended) notified under the Companies Act 2013 are not applicable to the Special Purpose Combined Financial Statements and hence these financial statements are not prepared in accordance with those requirements.

The Special Purpose Combined Financial Statements have been prepared on basis of the Special Purpose Audited Financial Statements of the SPVs as at and for the period ended December 31, 2024 and General Purpose Audited Financial Statements of the SPVs as at and for the years ended March 31, 2024, March 31, 2023 and March 31, 2022, which were prepared in accordance with Indian Accounting Standards as defined in Rule 2(1)(a) of the Companies (Indian Accounting Standards) Rules, 2015 prescribed under Section 133 of the Companies Act, 2013 ("Ind AS"). The following adjustments have been made to those general purpose audited financial statement for the purpose of preparation Special purpose combined financial statement of SPV Group prepared as per requirement of InvIT Regulations and Guidance Note on Combined and Carve-Out Financial Statements issued by the Institute of Chartered Accountants of India ("Guidance Note"):

- a) Necessary adjustments, rectifications, reclassifications wherever necessary in accordance with SEBI Circular CIR/IMD/DF/114/2016 dated October 20, 2016 as mentioned in note 35 of the Special purpose combined financial statements;
- b) Non-disclosure of earning per unit as required under Ind AS 33: Earning per share which has been explained in note 30 in this Special purpose combined financial statements.

In accordance with requirements of the InvIT Regulations, since the Trust was registered as an InvIT on August 19, 2024 and hence it has been in existence for a period lesser than three completed financial years before the filing of offer documents. The Special Purpose Combined Financial Statements has been accordingly prepared considering financial

information of the SPV Group for the nine months period ended December 31, 2024 and years ended March 31, 2024, March 31, 2023 and March 31, 2022. This general special purpose audited financial statements of the Narenpur Purnea Highways Limited, Poondiyankuppam Highways Limited, Viluppuram Highways Limited and DPJ Pollachi HAM Project Private Limited as at and for the period ended December 31, 2024, and general purpose audited financial statements of all the SPVs as at and for the years ended March 31, 2024, March 31, 2023, and March 31, 2022, were audited by firms of Chartered Accountant other than Mukund M. Chitale & Co and we have placed our reliance on the same. Further, as required by the InvIT regulations, the Special Purpose Combined Financial Statements are prepared, based on an assumption that the Trust will held stake in SPV group i.e 100% stake in all SPVs except for Poondiyankuppam Highways Limited, where the proposed transfer of shareholding will be only 49%. The Special Purpose Combined Financial Statements may not be representative of the position which may prevail after the SPV Group is transferred to the Trust.

The Special Purpose Combined Financial Statements are presented in INR, which is the functional currency of the SPV Group. The SPV Group does not have any foreign operation and has assessed the functional currency to be INR. All values are rounded to the nearest Million rupees, unless otherwise indicated. Certain amounts that are required to be disclosed and do not appear due to rounding-off are expressed as 0.00.

The Special Purpose Combined Financial Statements correspond to classification provisions contained in Ind AS 1 'Presentation of Financial Statements'. The Special Purpose Combined Financial Statements have been prepared on a historical cost convention and on an accrual basis except for certain financial assets (refer accounting policy regarding financial instruments).

Basis of Combination

The Special Purpose Combined Financial Statements have been prepared using uniform accounting policies for like transactions and other events in similar circumstances. The special purpose combined financial statements of the SPV Group used for the purpose of combination are drawn up to the same reporting date i.e. year ended on March 31 each year /nine month period ended December 31.

The procedure for preparing Special Purpose Combined Financial Statements of the SPV Group are stated below -

- Combine like items of assets, liabilities, equity, income, expenses and cash flows of the SPV;
- Eliminate in full intragroup assets and liabilities, equity, income, expenses and cash flows relating to transactions between entities of the SPV group (profits or losses resulting from intragroup transactions that are recognised in assets, such as inventory and property, plant and equipment, are eliminated in full). Ind AS 12, *Income Taxes* applies to temporary differences that arise from the elimination of profits and losses resulting from intragroup transactions.
- Considering that the shareholders of the SPVs, other than the Sponsor or its related parties, will also be transferring their stake to the Trust, Non-controlling interest is not applicable.
- In case of one of the SPV i.e. Poondiyankuppam Highways Limited, the share of net profit/ (loss) is accounted for using equity method.

Dates of commencement of commercial operations

InvIT Regulations require disclosure, if there are any assets for which the financial information is considered for a period lesser than three years. The details of incorporation and commencement of operations of such SPV which are as given below:

Name of the Concession	Date of Incorporation	Construction completed date under the concession agreement
Bangalore Malur Highways Limited	22-03-2021	15-05-2024 (PCOD)
Dhrol Bhadra Highways Limited	29-12-2020	25-09-2023 (PCOD)
Doodballpur Hoskote Highways Limited	25-09-2020	21-07-2023 (PCOD)
Repallewada Highways Limited	13-10-2020	29-03-2024 (Final COD)
Malur Bangarpet Highways Limited	23-03-2021	16-05-2024 (PCOD)
Narenpur Purnea Highways Limited	07-10-2020	29-03-2024 (PCOD)
Viluppuram Highways Limited	01-04-2021	04-04-2024 (PCOD)
Poondiyankuppam Highways Limited	26-03-2021	Under Construction
DPJ Pollachi HAM Project Private Limited	25-03-2019	05-10-2023 (PCOD)

Note: PCOD represents 'Provisional Commercial Operation Date' and COD represents 'Commercial Operation Date'

Summary of Material Accounting Policies

Current / Non-Current classification

An asset or liability is classified as 'current' when it satisfies any of the following criteria:

- (i) it is expected to be realized or settled, or is intended for sale or consumption in, the SPV Group's normal operating cycle;
- (ii) it is held primarily for the purpose of being traded;
- (iii) it is expected to be realized or settled within twelve months from the reporting date; or
- (iv) an asset is cash or a cash equivalent unless it is restricted from being exchanged or used to settle a liability for at least twelve months from the reporting date
- (v) in case of liability, the SPV Group does not have an unconditional right to defer settlement of the liability for at least twelve months from the reporting date.

All other assets and liabilities are classified as non-current.

Operating Cycle

Based on the nature of services provided by the SPV Group and the normal time between acquisition of assets and their realization in cash or cash equivalents, the SPV Group has determined its operating cycle as 12 months for the purpose of classification of its assets and liabilities as current and non-current.

Use of judgements, estimates and assumptions

The preparation of special purpose combined financial statements in conformity with Ind AS requires the management to make judgments, estimates and assumptions that affect the reported amounts of revenue, expenses, current assets, non-current assets, current liabilities, non-current liabilities and disclosure of the contingent liabilities at the end of each reporting period. The estimates are based on management's best knowledge of current events and actions, however, due to uncertainty about these assumptions and estimates, actual results may differ from the estimates.

This note provides an overview of the areas that involved a higher degree of judgement or complexity and of items which are more likely to be materially adjusted due to estimates and assumptions turning out to be different than those originally assessed. Detailed information about each of these estimates and judgements is included in the relevant note.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised prospectively.

(a) Critical estimates and judgements

The areas involving critical estimates or judgements are:

- A. Judgements in applying material accounting policies
The judgements, apart from those involving estimations (see note below) that the SPV Group has made in the process of applying its material accounting policies and that have a significant effect on the amounts recognised in these financial statements pertain to useful life of assets. The SPV Group is required to determine whether its intangible assets have indefinite or finite life which is a subject matter of judgement.
- B. Service Concession arrangement:
The key inputs of the model comprise of annuity and interest on annuity inflows, estimations on cost to build and maintain the asset and other operational efficiencies. These inputs are based on circumstances existing the management judgement / assumption on the future expectations based on current situations. Judgement includes management view on expected earnings in future years, changes in interest rates, cost inflation government policy changes, etc. These input assumptions could affect the reported cash flow from the related assets and accordingly these assumptions are reviewed periodically.

- C. Key source of estimation uncertainty
The following are the key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the reporting period that may have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.
- a) Property, Plant and Equipment (PPE)
Determination of the estimated useful lives of items of PPE and the assessment as to which components of the cost may be capitalized. Useful lives of items of PPE are based on the life prescribed in Schedule II of the Companies Act, 2013. In cases, where the useful lives are different from that prescribed in Schedule II, they are based on technical advice, taking into account the nature of the asset, the estimated usage of the asset, the operating conditions of the asset, past history of replacement, anticipated technological changes, manufacturers' warranties and maintenance support.
- b) Recognition and measurement of defined benefit obligations
The obligation arising from defined benefit plan is determined on the basis of actuarial assumptions. Key actuarial assumptions include discount rate, trends in salary escalation and vested future benefits and life expectancy. The discount rate is determined based on the prevailing market yields of Indian Government Securities as at the Balance Sheet Date for the estimated term of the obligations.
- c) Recognition of deferred tax assets
A deferred tax asset is recognised for all the deductible temporary differences to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilised.
- d) Recognition and measurement of other provisions
The recognition and measurement of other provisions are based on the assessment of the probability of an outflow of resources, and on past experience and circumstances known at the balance sheet date. The actual outflow of resources at a future date may therefore vary from the figure included in other provisions.
- e) Discounting of long-term financial instruments
All financial instruments are required to be measured at fair value on initial recognition. In case of financial instruments which are required to be subsequently measured at amortised cost, interest is accrued using the effective interest method.

Cash and cash equivalents

Cash and cash equivalents in the balance sheet comprise cash at banks and on hand and highly liquid short-term deposits with an original maturity of three months or less, which are subject to an insignificant risk of changes in value.

Property, plant and equipment and Depreciation

Property, Plant and Equipment is recognized when it is probable that future economic benefits associated with the item will flow to the SPV Group and the cost can be measured reliably.

Items of property, plant and equipment are measured at cost, which includes capitalised eligible borrowing costs, less accumulated depreciation and accumulated impairment losses, if any.

Cost of an item of property, plant and equipment comprises its purchase price, including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates, any directly attributable cost of bringing the item to its working condition for its intended use and estimated costs of dismantling and removing the item and restoring the site on which it is located.

If significant parts of an item of property, plant and equipment have different useful lives, then they are accounted for as separate items (major components) of property, plant and equipment.

Any gain or loss on disposal of an item of property, plant and equipment is recognised in profit or loss.

Subsequent expenditure is capitalised only if it is probable that the future economic benefits associated with the

expenditure will flow to the SPV Group. Advance given towards acquisition of Property, Plant and Equipment outstanding at the reporting date are disclosed as capital advances under Non-Current Assets. Property, Plant and Equipment is derecognized upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition is recognized in the Statement of Profit and Loss in the same period. Depreciation is calculated on cost of items of property, plant and equipment less their estimated residual values over their estimated useful lives using the straight-line method, and is generally recognised in the statement of profit and loss. Freehold land is not depreciated.

Depreciation on additions/disposals is provided on a pro-rata basis i.e. from/up to the date on which asset is ready for use/disposed of.

Capital Work in Progress

The SPV Group capitalizes the total cost incurred for construction of the road till the date of Commercial Operation Date (COD) to be issued by the authority. The government assistance received during the construction period is adjusted from the cost of the Capital Work in Progress.

Intangible assets and amortisation

Intangible assets that the SPV Group controls and from which it expects future economic benefits are capitalised upon acquisition at cost comprising the purchase price and directly attributable costs to prepare the assets for its intended use.

Intangible Assets is derecognized upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition is recognized in the Statement of Profit and Loss in the same period.

Intangible assets that have finite lives are amortised over their useful lives by the straight-line method. Intangible assets with indefinite useful life are not amortised but are tested for impairment.

Leases

The SPV Group assesses whether a contract contains a lease, at inception of a contract. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, the SPV Group assesses whether:

- i. the contract involves the use of an identified asset
- ii. the SPV Group has substantially all of the economic benefits from use of the asset through the period of the lease and
- iii. the SPV Group has the right to direct the use of the asset.

At the date of commencement of the lease, the SPV Group recognizes a right-of-use asset ("ROU") and a corresponding lease liability for all lease arrangements in which it is a lessee, except for leases with a term of twelve months or less (short-term leases) and low value leases. For these short-term and low value leases, the SPV Group recognizes the lease payments as an operating expense on a straight-line basis over the term of the lease.

Certain lease arrangements include the option to extend or terminate the lease before the end of the lease term. Lease term includes non- cancellable period of lease together with periods covered by such options if the SPV Group is reasonably certain to exercise the option to extend or reasonably certain not to exercise the option to terminate.

The right-of-use assets are initially recognized at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or prior to the commencement date of the lease plus any initial direct costs less any lease incentives. They are subsequently measured at cost less accumulated depreciation and impairment losses.

Right-of-use assets are depreciated from the commencement date on a straight-line basis over the shorter of the lease term and useful life of the underlying asset. Right of use assets are evaluated for recoverability whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. For the purpose of impairment testing, the recoverable amount (i.e. the higher of the fair value less cost to sell and the value-in-use) is determined on an individual asset basis unless the asset does not generate cash flows that are largely independent of those from other assets. In such cases, the recoverable amount is determined for the Cash Generating Unit (CGU) to which the asset belongs.

The lease liability is initially measured at the present value of the future lease payments. The lease payments are discounted using the interest rate implicit in the lease or, if not readily determinable, using the incremental borrowing rates in the country of domicile of these leases. Lease liability is subsequently measured at Amortised Cost. Lease liability is remeasured with a corresponding adjustment to the related right of use asset if the SPV Group changes its assessment of whether it will exercise an extension or a termination option.

Borrowing costs

Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds. Borrowing cost also includes exchange differences to the extent regarded as an adjustment to the borrowing costs.

Borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised during the period of time that is required to complete and prepare the asset for its intended use or sale. All other borrowing costs are expensed in the period in which they are incurred.

Impairment of non-financial assets

The SPV Group assesses at each balance sheet date whether there is any indication that an asset or cash generating unit (CGU) may be impaired. If any such indication exists, the SPV Group estimates the recoverable amount of the asset. The recoverable amount is the higher of an asset's or CGU's net selling price or its value in use. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

Impairment losses are recognised in the statement of profit and loss. The impairment loss in respect of a CGU is allocated first to reduce the carrying amount of any goodwill allocated to the CGU, and then to reduce the carrying amounts of the other assets in the CGU on a pro rata basis.

An impairment loss in respect of goodwill is not reversed. For other assets, an impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

Revenue recognition

Revenue from contracts with customers is recognised when control of the goods or services are transferred to the customer at an amount that reflects the consideration to which SPV Group expects to be entitled in exchange for those goods or services. SPV Group has generally concluded that it is the principal in its revenue arrangements because it typically controls the goods or services before transferring them to the customer.

(a) *Revenue from Operations*

(i) *Construction Income*

Revenue, where the performance obligation is satisfied over time since SPV Group creates an assets that the customer controls, is recognised in proportion to the stage of completion of the contract. The stage of completion is assessed by reference to surveys of work performed. Contract costs are recognised as an expense in the Statement of Profit and Loss in the accounting periods in which the work to which they relate is performed.

(ii) *Operational and Maintenance Income*

SPV group is required to carry out operations and maintenance on the road annually with an obligation to carry out periodic maintenance in terms of the concession at regular intervals Revenue is recognized when services are performed and contractually billable.

(iii) *Income from Service Concession arrangement (Finance Income)*

SPV Group recognizes the considerations given by the grantor in accordance with Appendix D to Ind AS 115 - Service Concession Arrangements under financial assets mode. Under financial assets mode, SPV group has an unconditional contractual right to receive cash i.e. fixed annuity after concession period including interest thereon. The finance Income calculated on the basis of the effective interest rate in accordance with the Ind AS 109. The

finance Income is recognized under other operating income.

(iv) Variable consideration

SPV Group's claim for bonus, incentives and other claims in rates relating to execution of contracts are recognized as revenue in the year in which said claims are finally accepted by the clients.

(b) Other income

Other items of income are accounted as and when the right to receive such income arises and it is probable that the economic benefits will flow to the SPV Group and the amount of income can be measured reliably.

Employee benefits

Short term employee benefits

All employee benefits payable wholly within twelve months of rendering the service are classified as shortterm employee benefits. Benefits such as salaries, wages etc. and the expected cost of ex-gratia are recognized in the period in which the employee renders the related service. A liability is recognised for the amount expected to be paid if the SPV Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee and the obligation can be estimated reliably.

Post-Employment Employee Benefits

Retirement benefits to employees comprise payments to government provident funds, gratuity fund and Employees State Insurance.

Defined Contribution Plans

The SPV Group's contribution to defined contributions plans such as Provident Fund, Employee State Insurance are recognised in the Statement of Profit and Loss in the year when the contributions to the respective funds are due. There are no other obligations other than the contribution payable to the respective Funds.

Defined Benefit Plans

Gratuity liability is defined benefit obligation. The SPV Group's net obligation in respect of the gratuity benefit scheme is calculated by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value.

The present value of the obligation under such defined benefit plan is determined based on actuarial valuation by an independent actuary, using the projected unit credit method, which recognizes each period of service as giving rise to additional unit of employee benefit entitlement and measures each unit separately to build up the final obligation.

The obligation is measured at the present value of the estimated future cash flows. The discount rates used for determining the present value of the obligation under defined benefit plan, are based on the market yields on Government securities as at the Balance Sheet date.

Remeasurement of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognised immediately in Other Comprehensive Income. The same is not eligible to be reclassified to profit or loss. Net interest expense (income) on the net defined liability (assets) is computed by applying the discount rate, used to measure the net defined liability (asset), to the net defined liability (asset) at the start of the financial year after taking into account any changes as a result of contribution and benefit payments during the year. Net interest expense and other expenses related to defined benefit plans are recognised in Statement of Profit and Loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognised immediately in Statement of Profit and Loss. The SPV Group recognises gains and losses on the settlement of a defined benefit plan when the settlement occurs.

Income Taxes

Income tax expense comprises current and deferred tax. It is recognised in the statement of profit and loss except to the extent that it relates to a business combination or items recognised directly in equity or in OCI.

(a) Current tax

Current tax comprises the expected tax payable or receivable on the taxable income or loss for the year and any adjustment to the tax payable or receivable in respect of previous years. The amount of current tax reflects the best estimate of the tax amount expected to be paid or received after considering the uncertainty, if any, related to income taxes. It is measured using tax rates (and tax laws) enacted or substantively enacted by the reporting date.

Current tax assets and current tax liabilities are offset only if there is a legally enforceable right to set off the recognised amounts, and it is intended to realise the asset and settle the liability on a net basis or simultaneously.

Minimum alternative tax (MAT) credit is recognized as an asset only when and to the extent there is convincing evidence that the SPV Group will pay income tax higher than that computed under MAT, during the year that MAT is permitted to be set off under the Income Tax Act, 1961 (specified year). In the year, in which the MAT credit becomes eligible to be recognized as an asset the said asset is created by way of a credit to the Statement of profit and loss and shown as MAT credit entitlement.

The SPV Group reviews the same at each balance sheet date and writes down the carrying amount of MAT credit entitlement to the extent there is no longer convincing evidence to the effect that the SPV Group will pay income tax higher than MAT during the specified year.

(b) Deferred tax

Deferred tax is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the corresponding amounts used for taxation purposes, that is, the tax base. Deferred tax is also recognised in respect of carried forward tax losses and tax credits. Deferred income tax assets and liabilities are measured using tax rates and tax laws that have been enacted or substantively enacted by the balance sheet date and are expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of changes in tax rates on deferred income tax assets and liabilities is recognized as income or expense in the period that includes the enactment or the substantive enactment date. A deferred income tax asset is recognized to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences and tax losses can be utilized. The SPV Group offsets deferred tax assets and deferred tax liabilities, where it has a legally enforceable right to set off the deferred tax assets against deferred tax liabilities and the deferred tax assets and the deferred tax liabilities relate to income taxes levied by the same taxation authority.

Provisions and Contingencies

Provisions involving substantial degree of estimation in measurement are recognized when there is a present obligation as a result of past events, it is probable that there will be an outflow of resources and a reliable estimate can be made of the amount of the obligation. These are reviewed at each balance sheet date and adjusted to reflect the current best estimate. Contingent liabilities are not provided for and are disclosed by way of notes unless the possibility of outflow of resources embodying economic benefits is remote.

If the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects, when appropriate, the risks specific to the liability. When discounting is used, the increase in the provision due to the passage of time is recognised as a finance cost in the statement of profit and loss.

Contingent liability is disclosed in case of:

- i. a present obligation arising from past events, when it is not probable that an outflow of resources will be required to settle the obligation; and
- ii. a present obligation arising from past events, when no reliable estimate is possible.

Contingent assets are not recognised in financial statements, however are disclosed, where inflow of economic benefits is probable.

Provisions, contingent liabilities and contingent assets are reviewed at each balance sheet date.

Statement of Cash Flow

The cash flows from operating, investing and financing activities of the SPV Group are segregated. Cash flows from operating activities are reported using the indirect method, whereby profit for the period is adjusted for the effects of transactions of a non-cash nature, any deferrals or accruals of past or future operating cash receipts or payments and item of income or expenses associated with investing or financing cash flows.

Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:

- In the principal market for the asset or liability, or
- In the absence of a principal market, in the most advantageous market for the asset or liability

The principal or the most advantageous market must be accessible by the SPV Group. The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

For cash and other liquid assets, the fair value is assumed to approximate to book value, given the short term nature of these instruments. For those items with a stated maturity exceeding twelve months, fair value is calculated using a discounted cash flow methodology.

A fair value measurement of a non-financial asset considers a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another.

The SPV Group uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

- Level 1 — Quoted (unadjusted) market prices in active markets for identical assets or liabilities
- Level 2 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable
- Level 3 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

For assets and liabilities that are recognised in the financial statements on a recurring basis, the SPV Group determines whether transfers have occurred between levels in the hierarchy by re-assessing categorisation (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

For the purpose of fair value disclosures, the SPV Group has determined classes of assets and liabilities based on the nature, characteristics and risks of the asset or liability and the level of the fair value hierarchy as explained above.

Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

(a) Financial Assets

(i) Initial Recognition

The SPV Group recognizes financial assets when it becomes a party to the contractual provisions of the instrument. All financial assets are recognized at fair value on initial recognition, except for trade receivables which are initially measured at transaction price unless those contain a significant financing component. Transaction costs that are directly attributable to the acquisition or issue of financial assets that are not at fair value through profit or loss are added to the fair value on initial recognition.

(ii) Subsequent measurement

For the purpose of subsequent measurement, financial assets are classified in two broad categories:- i] Financial assets at fair value and ii] Financial assets at amortised cost. Where assets are measured at fair value, gains and losses are either recognised entirely in the statement of profit and loss [i.e fair value through profit or loss], or recognised in other comprehensive income [i.e. fair value through other comprehensive income].

A financial asset is subsequently measured at amortised cost if it is held within a business model whose objective is to hold the asset in order to collect contractual cash flows and the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

A financial asset is subsequently measured at FVTOCI if it is held within a business model whose objective is achieved both by collecting contractual cash flows and selling financial assets; and the contractual terms of instrument give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

(iii) Derecognition

The SPV Group derecognises a financial asset when the contractual rights to the cash flows from the financial asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of the risks and rewards of ownership of the financial asset are transferred or in which the SPV Group neither transfers nor retain substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

(iv) Impairment of financial asset

For impairment of financial assets, SPV Group applies expected credit loss (ECL) model. Following financial assets and credit risk exposure are covered within the ECL model:

- Financial assets that are debt instruments, and are measured at amortised cost e.g. loans, debt securities, deposits and bank balance.
- Trade receivables or any contractual right to receive cash or another financial asset that result from transactions that are within the scope of Ind AS 115.

The SPV Group follows 'simplified approach' for recognition of impairment loss allowance on trade receivables including receivables recognised under service concession arrangements.

The application of simplified approach does not require the SPV Group to track changes in credit risk. Rather, it recognises impairment loss allowance based on lifetime ECLs at each reporting date, right from its initial recognition. For recognition of impairment loss on other financial assets and risk exposure, the SPV Group determines whether there has been a significant increase in the credit risk since initial recognition. If credit risk has not increased significantly, 12-month ECL is used to provide for impairment loss. However, if credit risk has increased significantly, then the impairment loss is provided based on lifetime ECL.

(b) Financial liabilities

(i) Initial recognition

The SPV Group initially recognises borrowings, trade payables and related financial liabilities on the date on which they are originated.

Non-derivative financial liabilities are initially recognised at fair value, net of transaction costs incurred.

(ii) Subsequent measurement

Financial liabilities are subsequently carried at amortized cost using the effective interest method, except for contingent consideration recognized in a business combination which is subsequently measured at fair value through profit and loss. For trade and other payables maturing within one year from the Balance Sheet date, the carrying amounts approximate fair value due to the short maturity of these instruments.

(iii) *Derecognition*

A financial liability is derecognised when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognised in the statement of profit or loss.

(c) *Offsetting of financial instruments*

Financial assets and financial liabilities are offset and the net amount is reported in the balance sheet if there is a currently enforceable legal right to offset the recognised amounts and there is an intention

either to settle on a net basis or to realise the assets and settle the liabilities simultaneously.

Operating Segments

Operating segments are reported in a manner consistent with the internal reporting provided to the Chief Operating Decision Maker (CODM) of SPV Group. The CODM is responsible for allocating resources and assessing performance of the operating segments of SPV Group.

Earnings per unit

Basic earnings per unit is calculated by dividing the net profit or loss for the period attributable to unit holders by the weighted average number of units outstanding during the period.

For the purpose of calculating diluted earnings per unit, the net profit or loss for the period attributable to unit holders and the weighted average number of units outstanding during the period are adjusted for the effects of all dilutive potential units.

Equity accounted Investee

Interests in Poondiyankuppam Highways Limited (PHL) is accounted for using the equity method, after initially being recognised at the net book value as at April 1, 2021. Currently investment proposed in the PHL is 49% and balance 51% stake would be acquired upon necessary approvals from Lender and Authority.

Under the equity method of accounting, subsequent to initial recognition, the investments are adjusted to recognize the share of the post-acquisition profits or losses of the investee in the statement of profit and loss, and the share of other comprehensive income of the investee in other comprehensive income.

When the share of losses in an equity-accounted investment equals or exceeds its interest in the entity, the Trust does not recognize further losses, unless it has incurred obligations or made payments on behalf of the other entity.

Combined Statement of net assets at fair value

The disclosure of Statement of Net Assets at Fair Value comprises of the fair values of the total assets and fair values of the total liabilities of individual SPV's. The fair value of the assets are reviewed regularly by Management with reference to independent assets and market conditions existing at the reporting date, using generally accepted market practices. The independent valuers are leading independent appraisers with a recognised and relevant professional qualification and with recent experience in the location. Judgment is also applied in determining the extent and frequency of independent appraisals. Such independent appraisals and the assumptions used are reviewed at each balance sheet date.

Statement of Total Returns at Fair Value

The disclosure of total returns at fair value comprises of the total Comprehensive Income as per the Combined Statement of Profit and loss and Other Changes in Fair Value of Total Assets which were not recognised in total Comprehensive Income.

Results of Operations

The following table sets forth certain information with respect to the results of operations of the InvIT (on a combined basis) for the periods indicated:

Particulars	Period ended December, 2024		Year Ended March 31, 2024		Year Ended March 31, 2023		Year Ended March 31, 2022	
	(in ₹ million)	Percentage of Total Income (%)	(in ₹ million)	Percentage of Total Income (%)	(in ₹ million)	Percentage of Total Income (%)	(in ₹ million)	Percentage of Total Income (%)
I. Revenue from operations	7,410.85	98.93%	27,185.05	99.95%	27,687.01	99.93%	21,891.56	99.81%
II. Other income	80.14	1.07%	14.11	0.05%	18.29	0.07%	41.53	0.19%
III. Total Income (I+II)	7,490.99	100.00%	27,199.16	100.00%	27,705.30	100.00%	21,933.09	100.00%
IV. Expenses								
Cost of Construction	1,487.52	19.86%	25,387.57	93.34%	25,927.00	93.58%	20,662.63	94.21%
Employee benefit expenses	43.09	0.58%	3.26	0.01%	1,395.38	5.04%	1,175.55	5.36%
Finance Costs	2,645.54	35.32%	2,559.47	9.41%	1,655.09	5.97%	663.48	3.03%
Depreciation and amortization expense	1.32	0.02%	0.25	0.00%	-	-	-	-
Other expenses	597.27	7.97%	82.38	0.30%	82.20	0.30%	77.99	0.36%
Total Expenses (IV)	4,774.74	63.74%	28,032.93	103.07%	29,059.67	104.89%	22,579.65	102.95%
V. Profit/(loss) before exceptional items and tax (III-IV)	2,716.25	36.26%	(833.77)	(3.07) %	(1,354.37)	(4.89)%	(646.56)	(2.95)%
VI. Exceptional Items	-	-	-	-	-	-	-	-
Profit / (loss) before share of Profit / (loss) of SPV	2,716.25	36.26%	(833.77)	(3.07)%	(1,354.37)	(4.89)%	(646.56)	(2.95)%
Share of Profit / (loss) of SPV	(165.94)	(2.22)%	(180.53)	(0.66)%	(125.03)	(0.45)%	(31.96)	(0.15) %
Profit/(Loss) before tax	2,550.31	34.05%	(1,014.30)	(3.73)%	(1,479.40)	(5.34)%	(678.52)	(3.09) %
VIII. Tax expenses								
Current tax	13.21	0.18%	62.19	0.23%	5.82	0.02%	-	-
Deferred tax - charge/(credit)	(517.52)	(6.91) %	165.04	0.61%	149.51	0.54%	(35.02)	(0.16)%
Adjustment of tax related to earlier years	(70.71)	(0.94) %	4.08	0.02%	1.14	0.00%	-	-
IX. Profit / Loss for the period / year from the continuing operations (VII – VIII)	3,125.33	41.72%	(1,245.61)	(4.58)%	(1,635.87)	(5.90)%	(643.50)	(2.93)%

Particulars	Period ended December, 2024		Year Ended March 31, 2024		Year Ended March 31, 2023		Year Ended March 31, 2022		
	(in ₹ million)	Percentage of Total Income (%)	(in ₹ million)	Percentage of Total Income (%)	(in ₹ million)	Percentage of Total Income (%)	(in ₹ million)		Percentage of Total Income (%)
Other Comprehensive Income									
(a) i) Items that will not be reclassified to profit or loss	87.76	1.17%	64.40	0.24	(2.27)	(0.01)%	-	-	
ii) Income tax relating to items that will not be reclassified to profit or loss	(24.42)	(0.33) %	(17.92)	(0.07)%	0.63	0.0%	-	-	
(b) i) Items that will be reclassified to profit or loss			-						
(c) Remeasurement gain (loss) on defined benefit plans			-						
ii) Income tax relating to items that will be reclassified to profit or loss			-						
X. Total Comprehensive Income for the period/year	3,188.67	42.57%	(1,199.13)	(4.41) %	(1,637.51)	(5.91) %	(643.50)		(2.93) %_

Period ended December 31, 2024

Income

Our total income for the period ended December 31, 2024 was ₹ 7,490.99 million which was primarily on account of revenue from operations amounting to ₹ 7,410.85 million.

- *Revenue from operations* – Our revenue from operations for the period ended December 31, 2024 was ₹ 7410.85 million, which primarily comprised of interest on balance completion cost, interest on financial assets, construction revenue, operation & maintenance income and income from change in scope.
- *Other income* – Our other income for the period ended December 31, 2024 was ₹ 80.14 million, which primarily comprised of interest from bank deposits and other non-operating income.

Expenses

Our total expenses for the period ended December 31, 2024 were ₹ 4,774.74 million, primarily on account of cost of construction, finance costs, depreciation and amortization expense and other expenses.

- *Cost of construction* – Our cost of construction for the period ended December 31, 2024 was ₹ 1,487.52 million, primarily comprised of subcontractor charges (construction), salaries, wages and bonus and change in scope expense. The subcontractor charges (construction) is primarily due to VHL & NPHL which attributes to 56.05% & 23.46% respectively of total cost of construction.
- *Employee benefit expense* – Our employee benefit expense for the period ended December 31, 2024 was ₹ 43.09 million, primarily comprised of salaries, wages and bonus, contribution to funds, and directors remuneration.
- *Finance Costs* – Our finance cost for the period ended December 31, 2024 was ₹ 2,645.54 million, primarily comprised of interest on borrowings, other borrowing cost, and amortization of loan processing fee. The interest on borrowing comprises 91.43% of the total finance cost, whereas other borrowing cost and amortization of loan processing fee comprises of 4.02% and 3.81% of the total finance cost respectively.
- *Depreciation and amortization expense* – Our depreciation and amortization expense for the period ended December 31, 2024 was ₹ 1.32 million, primarily comprised of depreciation on tangible assets.
- *Other expenses* – Our other expenses for the period ended December 31, 2024 was ₹ 597.27 million, primarily comprised of operation & maintenance charges, major maintenance, electricity expense, business operation and other non-operating expense. The operation & maintenance charges and major maintenance attributable to 21.34% and 55.01% respectively.

Profit before tax

Our profit before tax for the period ended December 31, 2024 was ₹ 2,550.31 million. This includes share of loss of PHL amounting to ₹ (165.94) million.

Tax expenses

- *Current tax* – Current tax expenses of ₹ 13.21 million were recognized in the statement of profit and loss for the period ended December 31, 2024.
- *Deferred Tax* – Deferred tax of ₹ (517.52) million was recognized in the statement of profit and loss for the period ended December 31, 2024, primarily comprised of origination and reversal of temporary differences.

Net profit for the year

As a result of the factors outlined above, our net profit for the period ended December 31, 2024 was ₹ 3,125.33 million.

Total comprehensive income for the year

As a result of the factors outlined above, our total comprehensive income for period ended December 31, 2024 (comprising profit and other comprehensive income) was ₹ 3,188.67 million.

Financial year ended March 31, 2024 compared to financial year ended March 31, 2023

Total Income

Our total income decreased by ₹ 1.83% from ₹ 27,705.30 million in Fiscal 2023, to ₹ 27,199.16 million in Fiscal 2024, primarily due to a decrease in the construction revenue. The construction revenue attributed to 92.46% and 78.71% of the total income in Fiscal year 2023 and Fiscal year 2024, respectively.

- *Revenue from operations* – Our revenue from operations decreased by 1.81% from ₹ 27,687.01 million in Fiscal year 2023 to ₹ 27,185.05 million in Fiscal year 2023. This decrease is primarily due to decrease in our construction revenue and transportation income. Our construction revenue decreased by 16.43% from Fiscal year 2024 to Fiscal year 2023. Further the decreased in the construction revenue in Fiscal year 2023-24 was principally attributable to a decrease in the revenue in DHHL, NPHL, DVHL & DPHPPL on account of completion of projects. These projects achieved the provisional completion certificate from the authority in the Fiscal year 2023-24 which attribute lower revenue in the fiscal year 2023-24. Our transportation income (Fly Ash income) decreased by 11.54% from ₹ 1,232.70 million in Fiscal Year 2023 to ₹ 1,090.43 million Fiscal Year 2024. The decrease amounts attributable to ₹142.27 million which is primarily on account of NPHL.
- *Other income* – Our other income decreased by 22.87 %, from ₹18.29 million in Fiscal 2023 to ₹ 14.11 million in Fiscal 2024, primarily due to decreased in the interest on Bank deposit in the project BMHL and MBHL. The decreased in the interest on deposit in the Fiscal year in BMHL and MBHL is on account of redemption of Fixed Deposit in the Fiscal year 2024.

Expenses

Our total expenses decreased by 3.53% from ₹ 29,059.67 million in Fiscal 2023 to ₹ 28,032.93 million in Fiscal 2024, primarily due to reduction in the construction cost and employee benefit on account of the provisional completion certification of the projects.

- *Cost of construction* – Cost of construction decreased by 2.08% from ₹ 25,927.00 million in Fiscal 2023 to ₹ 25,387.57 million in Fiscal 2024, which mainly attributable to decreased in the sub- contractor charges which accounts for achievement of PCOD of 4 projects in Fiscal year 2024 as compared to Fiscal year 2023. The sub-contractors' charges represent 84.13% in Fiscal year 2024 and 92.25% in fiscal year 2023 respectively. The sub-contractor cost has been reduced due to completion of the project in the Fiscal year 2024 as 4 projects namely, DHHL, RHL, DBHL and NPHL has achieved the PCOD.
- *Employee benefit expense* – Employee benefit expense decreased by 99.77% from ₹ 1,395.38 million in Fiscal 2023 to ₹ 3.26 million in Fiscal 2024, this has been primarily on account of completion of the projects in the FY 23-24. However, the employee expense has been classified under Cost of construction in Fiscal year 2023-24.
- *Finance Cost* – Finance cost increased by 54.64% from ₹ 1,655.09 million in Fiscal 2023 to ₹ 2,559.47 million in Fiscal 2024, it is primarily due to increase in interest on borrowing cost on account of increase in term loan facility in DBHL, DHHL, NPHL and RHL. Further there has been increased in the amortization of processing fee by 220.73% from FY 22-23 to FY 23-24.
- *Depreciation and amortization expense* – Depreciation and amortization expense increased by 100% from ₹ 0 million in Fiscal 2023 to ₹ 0.25 million in Fiscal 2024, primarily due to purchase of fixed assets in BHML and MBHL in the Fiscal year 2024 whereas in Fiscal year 2023 there was no purchase of fixed asset.
- *Other expenses* – Other expense increased by 0.22% from ₹ 82.20 million in Fiscal 2023 to ₹ 82.38 million in Fiscal 2024. The increase in the other expense is mainly on account of increase in the AMC, technical and professional charges, legal & professional charges as compared to Fiscal Year 2023.

Profit before tax

As a result of the factors outlined above, our profit before tax was ₹ (1,014.30) million in Fiscal 2024 compared to ₹ (1,479.40) million in Fiscal 2023. The share of loss of PHL for the period ended March 31, 2024 has increased by 44% that attributable to (55.50 million) as compared to Fiscal year 2023. The investor has proposed to transfer 49% shareholding since the completion certification is awaited.

Tax expenses

- *Current tax* – Current tax expenses of ₹ 62.19 million were recognized in the statement of profit and loss in Fiscal 2024 which has been increased by 969.37% from Fiscal year 2023.
- *Deferred Tax* – Deferred tax of ₹ 165.04 million was recognized in the statement of profit and loss in Fiscal 2024 which has been increased by 10.39% from Fiscal year 2023.
- *Adjustment of Tax related to earlier years* – Adjustment of Tax related to earlier years of ₹ 4.08 million was recognized in the statement of profit and loss in Fiscal year 2024 which has been increased by 256.86% from Fiscal year 2023.

Net profit for the year

As a result of the factors outlined above, our net profit for the year was ₹ (1,245.61) million in Fiscal 2024 compared to ₹ (1,635.87) million in Fiscal 2023.

Financial year ended March 31, 2023 compared to Financial year ended March 31, 2022

Total Income

Our total income increased by 26.32% from ₹ 21,933.09 million in Fiscal 2022 to ₹ 27,705.30 million in Fiscal 2023, primarily attributable to increase in the construction revenue.

- *Revenue from operations* – Our revenue from operations increased by 26.47% from ₹ 21,891.56 million in Fiscal 2022 to ₹ 27,687.01 million in Fiscal year 2023. This increase in revenue from operations is primarily due to increase in the construction revenue in the projects BMHL, MBHL, VHL and DBHL in the Fiscal year 2023. Revenue from operation also include in Fiscal year 2023, change in scope of total ₹ 428.02 million which comprise from RHL, VHL, DHHL and DPHPPL of ₹85.72 million, ₹54.79 million, ₹257.52 million and ₹29.99 million respectively. Construction revenue attributes 92.46% and 96.90% of the total income in Fiscal year 2023 and 2022 respectively.
- *Other income* – The Other income has been decreased by 55.97 % from ₹41.53 million in Fiscal year 2022 to ₹ 18.29 million in Fiscal year 2023. The decrease in the other income is mainly on account of decrease in interest in the bank deposit in DPHPPL as compared from the Fiscal year 2022 to Fiscal year 2023. The decrease attributes to 100% which amounts to ₹ 34.83 million in Fiscal year 2022.

Expenses

Our total expenses increased by 28.70% from ₹ 22,579.65 million in Fiscal year 2022 to ₹ 29,059.67 million in Fiscal year 2023, primarily due to increase in the cost of construction, Employee benefit and Finance Cost in the Fiscal year 2023 as compared to Fiscal year 2022.

- *Sub-Contractor Charges* – Sub-contractor charges increased by 20.23% from ₹ 19,893.85 million in Fiscal 2022 to ₹ 23,918.14 million in Fiscal year 2023, primarily due to increase in the cost of material consumed in BMHL, DBHL, MBHL & VHL. Additionally, there are new expenses incurred in relation to tree cutting expense in NPHL in Fiscal year 2023. There is also rise in the Independent Engineer Fee by 152.38% in Fiscal year 2023 which is comprises of majority rise in the VHL by 162.76%. Increase in the Labour Cess by 47.61% in Fiscal year 2023 also increased the overall cost of construction.
- *Employee benefit expense* – Employee benefit expense increased by 18.70% from ₹ 1,175.55 million in Fiscal year 2022 to ₹ 1,395.38 million in Fiscal year 2023, primarily due to increase in the salary cost and other contribution towards employee benefit such as EPF, ESIC, and VBF and Gratuity expense.
- *Finance Cost* – Finance cost increased by 149.46% from ₹ 663.48 million in Fiscal year 2022 to ₹ 1,655.09 million in Fiscal year 2023, primarily due to increase in interest in borrowing cost on account of Increase in term loan facility in all projects, which accordingly increases the amortisation of processing fee in Fiscal year 2023 by 79.62% as compared to Fiscal year 2022. There is also increase by 447.72% in the Fair value adjustment on receipt of interest free long-term loan from Holding Company in DPHPPL from Fiscal year 2022.
- *Other expenses* – Other expense increased by 5.40% from ₹ 77.99 million in Fiscal year 2022 to ₹ 82.20 million in Fiscal 2023 primarily due to increase in the business operation cost. Further, there is also an increase in insurance expense in DPHPPL by 110.08% as compared by Fiscal year 2022.

Profit before tax

As a result of the factors outlined above, our profit before tax was ₹ (1,354.37) million in Fiscal year 2023 compared to ₹ (646.56) million in Fiscal year 2022. The Share of Loss of PHL for the period ended March 31, 2024 has increased by 291% that attributable to (93.06) million as compared to Fiscal year 2022.

Tax expenses

- *Current tax* – Current tax expenses of ₹ 5.82 million were recognized in the statement of profit and loss in Fiscal 2023 which is increased by 100% as compared with fiscal year 2022.
- *Deferred Tax* – Deferred tax of ₹ 149.51 million was recognized in the statement of profit and loss in Fiscal 2023 which is decreased by 184.53 million as compared with the Fiscal year 2022.
- *Adjustment of Tax related to earlier years* – Adjustment of Tax related to earlier years of ₹ 1.14 million was recognized in the statement of profit and loss in Fiscal year 2023 which is increased by 100% as compared with fiscal year 2022.

Net profit for the year

As a result of the factors outlined above, our net profit for the year was ₹ (1,635.87) million in Fiscal year 2023 compared to ₹ (643.50) million in Fiscal year 2022.

Cash Flows

The following table sets forth certain information relating to the cash flows of the SPV Group on a combined basis for the years ended December 31, 2024, March 31, 2024, March 31, 2023 and March 31, 2022:

<i>(in ₹ million)</i>				
Particulars	Period ended December 31, 2024	Year Ended March 31, 2024	Year Ended March 31, 2023	Year Ended March 31, 2022
Net cash generated from / (used in) operating activities	(10,227.70)	(20,315.49)	(7,299.45)	(8,913.77)
Net cash (used in) investing activities	11,651.36	8,039.72	(4,190.03)	(3,413.75)
Net cash flow from financing activities	(464.78)	12,553.33	11,519.62	12,932.97

Operating activities

Net cash flow from operating activities for the period ended December 31, 2024 was ₹ (10,227.70) million which was principally attributable due to adjusted of changes in working capital by ₹ (11,052.64) million in the ₹ 5,297.79 million Operating Profit before Working Capital Changes.

Net cash flow from operating activities in Fiscal year 2024 was ₹ (20,315.49) million which was primarily attributable due to adjusted of changes in working capital by ₹ (20,240.78) million in the ₹ 783.43 million Operating Profit before Working Capital Changes.

Net cash flow used in operating activities in Fiscal year 2023 was ₹ (7,299.45) million, which was primarily attributable due to adjusted of changes in working capital by ₹ (7,331.84) million in the ₹ 297.52 million Operating Profit before Working Capital Changes.

Net cash flow used in operating activities in Fiscal year 2022 was ₹ (8,913.77) million, which was primarily attributable due to adjusted of changes in working capital by ₹ (9,000.98) million in the ₹ (20.99) million Operating Profit before Working Capital Changes.

Investing activities

Net cash flow used in investing activities for the period ended December,31, 2024 was ₹ 11,651.36 million, which was primarily attributable due to completion of project and conversion of outstanding capital work in progress into trade receivable. The conversion has done as per requirement of Indian Accounting Standard.

Net cash flow used in investing activities in Fiscal year 2024 was ₹8,039.72 million, which was primarily attributable to capitalization of capital work in progress. The capitalization has done as per requirement of Indian Accounting Standard.

Net cash flow used in investing activities in Fiscal year 2023 was ₹ (4,190.03) million, which was primarily attributable to capitalization of capital work in progress. The capitalization has done as per requirement of Indian Accounting Standard.

Net cash flow used in investing activities in Fiscal year 2022 was ₹ (3,413.75) million, which was primarily attributable to capitalization of capital work in progress. The capitalization has done as per requirement of Indian Accounting Standard.

Financing activities

Net cash flow generated from financing activities for the period ended December 31, 2024 was ₹(464.78) million, which was primarily attributable to proceeds from long term borrowing and repayment of the borrowing and serving interest thereon .

Net cash flow generated from financing activities in Fiscal year 2024 was ₹ 12,553.33 million, which was primarily attributable to proceeds from long term & short term borrowings including the proceed from issue of shares including share premium

serving of the interest thereon.

Net cash flow generated from financing activities in Fiscal year 2023 was ₹ 11,519.62 million, which was primarily attributable to proceeds from long term & short term borrowings including the proceed from issue of shares including share premium serving of the interest thereon.

Net cash flow generated from financing activities in Fiscal year 2022 was ₹ 12,932.97 million, which was primarily attributable to proceeds from long term & short-term borrowings including the proceed from issue of shares including share premium serving of the interest thereon.

Indebtedness

The following table provides the types and amounts of the Project SPVs outstanding indebtedness as of December 31, 2024, March 31, 2024, March 31, 2023 and March 31, 2022:

Particulars	As at December 31, 2024	As at March 31, 2024	As at March 31, 2023	As at March 31, 2022
Non-current				
Secured				
Term loans				
From Banks	35,627.20	33,579.79	20,712.05	9,833.57
Less: Current maturities of non-current borrowings disclosed under the head ' Current borrowings '.	(1,421.46)	(1,511.84)	(773.26)	-
Less: Unamortised Processing Charges	(106.74)	(193.68)	(176.16)	(190.36)
	34,099.00	31,874.27	19,762.63	9,643.21
Unsecured				
Debentures				
Non Convertible Debentures	3,343.70	290.48	-	-
Financial liability Portion of Unsecured Loan from Holding Company	284.98	212.54	130.58	61.69
Non-current borrowings	37,727.68	32,377.29	19,893.21	9,704.90
Current				
Secured				
Current maturities of non current borrowings	1,421.46	1,511.84	773.26	
Unsecured				
From Related Parties				
- Holding Company	27.14	802.09	768.66	318.94
- Other related parties	-	1,885.00	2,318.37	2,183.84
Current borrowings	1,448.60	4,198.94	3,860.29	2,502.78
Total Borrowings	39,176.28	36,576.23	23,753.50	12,207.68

Contingent Liabilities

Except as provided below, we do not have any contingent liabilities as of December 31, 2024, March 31, 2024, March 31, 2023, March 31, 2022. For further details, please see note 29 of the Special Purpose Combined Financial Statements in relation to “*Contingent Liabilities and Contingent Assets*”.

Particular	December 31, 2024	March 31, 2024	March 31, 2023	March 31, 2022
Claims against the SPVs not acknowledged as debt – Litigation in respect of Indirect taxes	27.80	-	-	-
Bank Guarantee in respect of Mobilization Advance	-	-	2,531.50	3,694.40

Related Party Transactions

The Project SPVs have, in the course of their business and operations, entered into various transactions with related parties, such as subcontractor charges, other borrowing cost, business operation expense, mobilization advance to DBL, change in scope and other admin charges.

For further information on our related party transactions, please see the section entitled “*Related Party Transactions*” on page 373.

Known Trends or Uncertainties

Other than as described in the section entitled “*Risk Factors*” on page 66 and this section, to our knowledge there are no known trends or uncertainties that have had or are expected have a material adverse impact on our revenues or income from continuing operations.

Sufficiency of working capital

The Investment Manager has confirmed that the Trust has the ability to meet the working capital requirements for a period of at least 12 months from the date of listing of the Units.

Seasonality

All the Initial Portfolio Assets comprise HAM projects and accordingly, our business is not seasonal.

Unusual or infrequent transactions

Except as disclosed in this Draft Offer Document, there have been no events or transactions to our knowledge which could be categorized as unusual or infrequent.

Total turnover from each major segment of the InvIT

All the Project SPVs currently operate only road projects and therefore we have only one business segment.

Quantitative and Qualitative Disclosures on Market Risks

Credit Risk

Credit risk is the risk that a counterparty will not meet the obligations under a financial instrument or customer contract, leading to a financial loss. The SPV Group is exposed to credit risk primarily financial assets including deposits with banks. The SPV Group's exposure and credit ratings of its counterparties are continuously monitored and the aggregate value of transactions is reasonably spread amongst the counterparties.

Liquidity Risk

Liquidity risk is the risk that the SPV Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The SPV Group's approach to managing liquidity is to ensure, as far as possible, that it will have sufficient liquidity to meet its liabilities when they are due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the SPV Group's reputation.

Market Risk

Market risk is the risk that arises from change in market prices such as foreign exchange rates, interest rates and equity prices and accordingly, will affect the SPV Group's income or the value of its holdings of financial investments.

Currency Risk

The functional currency of the SPV Group is Indian Rupees (Rs). The SPV Group is not exposed to foreign currency risk.

Price Risk

The SPV Group is not exposed to any price risk.

Interest Rate Risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The SPV Group is exposed to interest rate risk resulting from fluctuations in interest rates. SPV Group's borrowing includes unsecured loan taken from banks & the Parent SPV Group.

Significant Developments since December 31, 2024

Except as disclosed in this Draft Offer Document and except in the ordinary course of business of the Project SPVs, we are not aware of any circumstances that have arisen since December 31, 2024 that materially and adversely affect, or are likely to affect, our operations or profitability, the values of our respective assets or our ability to pay our respective liabilities in the next twelve months.

Month-wise Revenue

The month-wise revenue for the Project SPVs from the date of the latest financial statements included in this Draft Offer Document until the completed month before the filing of this Draft Offer Document has been provided below:

(In ₹ million)

Sr.No.	Name of the Project	Revenue generated in January 2025	Revenue generated in February 2025
1.	Dhrol Bhadra Highways Limited	66.38	59.96
2.	Dodaballapur Hoskote Highways Limited	86.45	78.09
3.	Repallewada Highways Limited	93.78	84.70
4.	Narenpur Purnea Highways Limited	155.29	140.26
5.	Viluppuram Highways Limited	74.80	67.56
6.	Bangalore Malur Highways Limited	98.10	88.61
7.	Malur Bangarpet Highways Limited	102.31	92.41
8.	Poondiyankuppam Highways Limited	38.71	45.52
9.	DPJ Pollachi HAM Project Private Limited	43.40	69.20

RELATED PARTY TRANSACTIONS

In terms of Regulation 2(1)(zv) of the InvIT Regulations, related party shall be as defined as under the Companies Act, 2013 or under the applicable accounting standards and shall also include: (i) Parties to the Trust; and (ii) promoters, directors, and partners of the Parties to the Trust. Further, related parties also include such persons and entities as defined in terms of the applicable accounting standards, being Ind AS 24 on “*Related Party Disclosures*” (“**Related Parties**”) in relation to related party transactions. For further details in relation to related party transactions, please see the “*Special Purpose Combined Financial Statements*” attached as Annexure C. The Parties to the Trust, may, from time to time, enter into related party transactions, in accordance with applicable law.

Procedure for dealing with Related Party Transactions

The IM Board has adopted the RPT Policy pursuant to its resolution dated November 16, 2024.

The key terms of the RPT Policy are provided below:

- (i). The Investment Manager will ensure that all future related party transactions shall be:
 - (a). on an arm’s length basis;
 - (b). in accordance with the relevant accounting standards;
 - (c). in the best interest of the Unitholders;
 - (d). consistent with the strategy and investment objectives of the Trust; and
 - (e). compliant with applicable law, including InvIT Regulations.
- (ii). Review and approval of related party transactions:
 - (a) Each transaction which is identified as a related party transaction shall be pre-approved by the Audit Committee prior to entering into such transaction.
 - (b) The Audit Committee may grant omnibus approval for related party transactions. Each such omnibus approval shall be valid for a period not exceeding one year from the date of such approval, and related party transactions undertaken after the expiry of such period shall require fresh approval of the Audit Committee. The Audit Committee shall review, on a quarterly basis, the details of related party transactions entered into by the Trust pursuant to the omnibus approval.
- (iii). The Investment Manager will establish an internal control system so as to ensure that all future related party transactions are compliant with the InvIT Regulations and applicable accounting standards. Further, the Investment Manager shall convene meetings of the Unitholders in accordance with Regulation 22 of the InvIT Regulations, and maintain records pertaining to such meetings in the manner prescribed. The Investment Manager shall also ensure compliance with any additional guidelines issued in this regard by SEBI and other relevant regulatory, statutory or governmental authorities from time to time.
- (iv). In addition to any other requirement that may be prescribed in terms of the InvIT Regulations or other applicable laws, all related party transactions to be entered into in the future will be decided by the IM Board after the examination of the nature of the transaction and its supporting documents or such other data as may be deemed necessary by the IM Board.
- (v). The Investment Manager will ensure that if the total value of all the related party transactions in a financial year pertaining to acquisition or sale of assets, whether directly or through a holding company or SPV, or investments into securities, exceeds 5% of the value of the assets of the Trust or any other threshold prescribed by the InvIT Regulations, approval from the Unitholders shall be obtained prior to entering into any such subsequent transaction with any related party, in accordance with Regulation 22 of the InvIT Regulations.
- (vi). The Investment Manager will ensure that if the value of the funds borrowed from related parties in a financial year exceeds 5% of the total consolidated borrowings of the Trust, any holding company and the SPVs, or any other threshold prescribed by the InvIT Regulations, approval from the Unitholders shall be obtained prior to entering into any such subsequent transaction with any related party, in accordance with Regulation 22 of the InvIT Regulations.
- (vii). As a general rule, the Investment Manager must demonstrate to the IM Board that future related party transactions satisfy the criteria set out in paragraph (i) above, at the time of recommending the same for the approval of the IM Board.
- (viii). The Investment Manager will maintain a register to record all related party transactions entered into by the Trust and the basis on which they are entered into.

- (ix). The Investment Manager will also incorporate into its internal audit plan a review of all related party transactions entered into by the Trust during each financial year, including a review of the implementation of the agreements, including any right of first offer or right of first refusal arrangements, to acquire assets from the Sponsor, Sponsor Group and its Associates.
- (x). The IM Board shall review at least quarterly in each financial year the related party transactions entered into during such quarter to ascertain that the guidelines and procedures established to monitor the related party transactions have been complied with.
- (xi). The Investment Manager shall ensure that the profits from related party transactions have arisen from legitimate business transactions.
- (xii). While considering voting on a related party transaction which requires approval of the Unitholders, voting by any person who is a related party in such transaction as well as Associate of such person(s) shall not be considered on the specific issue. Further, while considering voting on a Related Party Transaction which requires approval of the Unitholders, voting by any person who is a related party in such transaction as well as Associate of such person(s) shall not be considered on the specific issue.
- (xiii). In connection with any review of related party transaction, the Audit Committee/Unitholders has authority to modify or waive any procedural requirements of this Policy in the best interest of the Trust.

Potential Conflict of Interest

- (i). Subject to applicable law and the RPT Policy, all resolutions in writing of the IM Board in relation to matters concerning related party transactions of the Trust must be approved by a majority of the directors of the Investment Manager.
- (ii). Where matters concerning the Trust relate to transactions entered into or to be entered into by the Investment Manager for and on behalf of Trust with a related party, the IM Board is required to consider the terms of the transactions to satisfy itself that the transactions are conducted in accordance with the parameters set out in the RPT Policy.
- (iii). As part of its review of the internal audit reports at least quarterly in each financial year, the IM Board will review the internal audit reports of the implementation of the agreements to acquire assets from the Sponsor to ensure compliance. The review will include an examination of supporting documents and such other data deemed necessary to the IM Board.

Disclosure and Reporting

- (i). The Investment Manager shall submit to the Trustee, quarterly reports on the activities of the Trust, *inter alia* including the status of compliance with the requirements specified under the InvIT Regulations in relation to related party transactions, within such time as may be prescribed in the InvIT Regulations and applicable law.
- (ii). related party transactions shall be disclosed: (a) in the offer document with respect to any such transactions entered into prior to the offer of units and any such proposed transactions subsequent to the offer; and (b) to the designated stock exchanges and the Unitholders periodically, in accordance with the InvIT Regulations and the agreements to be entered into with the stock exchanges in relation to the listing of the Units. The Investment Manager shall adequately disclose the details of any fees or commissions received or to be received by such related party(ies) to the stock exchanges.
- (iii). In accordance with the InvIT Regulations, the annual report and the half-yearly report to be submitted by the Investment Manager to all Unitholders, electronically or by physical copies, and to the stock exchanges as may be applicable within such time as may be prescribed under the InvIT Regulations, shall contain, *inter alia*, details of all related party transactions as included in the InvIT Regulations.

Related Party Transactions

Present and On-going Related Party Transactions

Related Party Transactions of the Trust in relation to the setting up of the Trust and this Issue

A number of present and on-going transactions with certain Related Parties have been, or will be, entered into in relation to the setting up of the Trust. The Trustee and the Investment Manager confirm that the following related party transactions have been, or shall be, entered into, on an arm's length basis in accordance with the relevant accounting standards, in the best interest of the Unitholders, consistent with:

(A) Securities Purchase Agreements

Please see the section entitled “– *Acquisition of the Project SPVs by the Trust – Securities Purchase Agreements*” on page 375 for a description of the terms of the Securities Purchase Agreements.

(B) Trust Deed

Please see the section entitled “*Parties to the Trust – Key Terms of the Trust Deed*” on page 115 for a description of the terms of the Trust Deed.

(C) Investment Management Agreement

Please see the section entitled “*Parties to the Trust – Key Terms of the Investment Management Agreement*” on page 131 for a description of the terms of the Investment Management Agreement.

(D) Project Implementation and Management Agreement

Please see the section entitled “*Parties to the Trust – Key terms of the Project Implementation and Management Agreement*” on page 146 for a description of the terms of the Project Implementation and Management Agreement.

(E) ROFO Agreement

Please see the section entitled “– *Acquisition of the future assets by the Trust – ROFO Agreement*” on page 378 for a description of the terms of the ROFO Agreement.

(F) Trust Loan Agreement

Please see the section entitled “*Use of Proceeds- Details of Utilisation of the Net Proceeds- Trust Loan Agreement*” on page 335 for a description of the proposed terms of the Trust Loan Agreement.

Acquisition of the Project SPVs by the Trust

Securities Purchase Agreement

Alpha Alternatives Infrastructure Fund, Alpha Alternatives Financial Services Private Limited, Spectrum Edge LLP, Build India Infrastructure Fund, DBL, DBL InfraVentures Private Limited, and other shareholders of the relevant Project SPVs (“**Seller(s)**”), the Trustee (acting on behalf of the Trust), the Investment Manager and the Project SPVs proposed to enter into Securities Purchase Agreements (“**SPA**”) in order for the Trust to purchase, and the relevant Seller to sell, the issued and paid-up equity share capital of the Project SPVs (“**Sale Shares**”) and Sale NCDs (*as defined in the relevant securities purchase agreements*) issued by the Project SPVs. (*Capitalized terms not defined in the key terms below shall have the meaning ascribed to such terms in the relevant SPAs*) Key terms of the SPAs are as follows:

1. *Sale and purchase:*

- (i) The Buyer agrees and undertakes to purchase from the Seller(s), and the Seller(s) agree and undertake to sell to the Buyer, the Sale Securities on the closing date (*as defined in the relevant securities purchase agreements*) (“**Closing Date**”), on a spot delivery basis, together with all rights and interests attached thereto, such that the Buyer shall, upon transfer of Sale Securities on Closing Date, receive full legal and beneficial ownership of the Sale Securities and all rights, title and interest thereto.
- (ii) The aggregate consideration payable to the Buyer to the Seller(s) shall be such number of Units payable against the purchase of the Sale Securities as determined upon the finalization of the offer price in accordance with the provisions of the SPA.

2. *Conditions precedent:*

- (i) The Seller(s) agree to make all reasonable efforts to achieve satisfaction of the conditions precedent as soon as possible and at least 1 (one) Working Day prior to the Allotment Date and no later than the Allotment Date. Upon satisfaction of the last of the conditions precedent, the Seller(s) shall issue the Conditions Precedent Satisfaction Letter to the Buyer and the Investment Manager, enclosing, where applicable, certified true copies of all necessary documents evidencing fulfilment of each of the conditions precedent. In case of conditions that are required to be fulfilled either on the Closing Date or immediately prior to the Closing Date, evidence of capability of timely fulfilment of the same along with necessary documents and evidence shall be provided to the Buyer and Investment Manager along with the Conditions Precedent Satisfaction Letter.
- (ii) The Seller(s) shall notify the Buyer and the Investment Manager in writing promptly upon becoming aware that any of the conditions precedent have been fulfilled. Further, the Seller(s) shall notify the Buyer in writing promptly upon becoming aware (i) that any of the Conditions Precedent have become incapable of satisfaction; or (ii) of any delay in achieving satisfaction of the conditions (“**Unachievable Conditions**”).

3. *Closing:*

- (i) Closing shall occur upon the satisfaction or waiver of the conditions set out in the SPA, at such time and place and/or on such other date as the Parties may mutually agree. The date on which the Closing occurs shall be referred to as the ‘Closing Date’.
- (ii) All transactions contemplated by this Agreement to be completed on the Closing Date shall be deemed to occur simultaneously and no transaction shall be consummated unless all such transactions are consummated simultaneously.

4. *Representations and warranties:*

- (i) The Seller(s) represent, warrant and covenant to the Buyer with respect to itself and the Project SPVs that the representations and warranties are true, accurate and not misleading as on the Agreement Date, and will remain true, accurate and not misleading as at the Closing Date. The Seller(s) have represented and warranted, among other things, that:
 - a. the Seller(s) and the Project SPVs are duly incorporated under the Companies Act, 2013 and are validly existing under the Companies Act, and have the corporate power and authority to enter into and perform its obligations under the SPA;
 - b. the SPA has been duly executed and constituted valid and legally binding obligations, enforceable in accordance with its terms;
 - c. they have the corporate power and authority to own its properties and to carry on business as now conducted and as proposed to be conducted in the transaction documents;
 - d. as of the Closing Date, the requisite Approvals for the Transfer of the Sale Securities required by any of the Seller(s) and the Project SPVs have been obtained and such Approvals are valid.
 - e. there are no litigations, pending or threatened, or any other legal or regulatory restraints or prohibitions, issued or made by any Government Authority, which prevents or delays the consummation of the Closing or the transactions contemplated in this Agreement and the Transaction Documents, including sale and Transfer of the Sale Securities to the Buyer.
 - f. the Project SPVs or the Seller(s), nor any of its officers or employees (during the course of their duties), has done or omitted to do anything which is a contravention of any applicable law, including with respect to any approval or business activities of the Project, which has resulted or may result in any litigation, fine, penalty or other liability or sanction on the part of the Project SPVs.
 - g. the Project SPVs have, and the Seller(s) have Disclosed to the Buyer accurate and complete copies of all Material Contracts.
 - h. all information, notices, accounts, statements, reports, computations, assessments and returns which ought to have been submitted, made or given to the relevant Taxation Authority by the Project SPVs have been properly, timely and duly submitted, made or given, and all information, notices, accounts, statements, reports, computations, assessments and returns submitted, made or given to the relevant Taxation Authority are true and

accurate and none of them are the subject of any material dispute or likely to become the subject of any material dispute with any such authority.

- i. the Seller's investment in Sale Securities was made pursuant to and in compliance with the applicable law, the concession agreement and the financing agreements.
 - j. the Sale Securities (to the extent held by the Seller) are properly issued and allotted or transferred, and fully paid and properly credited in accordance with applicable law and constitutional documents. All stamp duty and other taxes on the Sale Securities have been duly paid in compliance with Applicable Law, and all requisite filings have been made with the concerned government authorities in this regard.
- (ii) The Seller(s) hereby waive any right which they may have, now or at any time in the future against the Project SPVs in respect of any misrepresentation, inaccuracy or omission in or from any information or advice supplied or given by the Project SPVs or its officers or employees in enabling the Seller(s) to give the Seller's Warranties.
- (iii) the Project SPVs have not received any notice or other communication (official or otherwise) from any court, tribunal, arbitrator, governmental agency or regulatory body, or other Government Authority, with respect to an alleged, actual or potential violation or failure to comply with any Applicable Law or requiring it to take or omit to take any action.
- (iv) The Buyer represents and warrants to the Seller(s) and the Project SPVs that:
- a. it is duly organized as a Trust under the Indian Trusts Act, 1882 and holds a valid registration under the InvIT Regulations as an Infrastructure Investment Trust;
 - b. it has all necessary corporate power, authority and capacity to enter, deliver and perform this SPA;
 - c. the execution and performance by the Buyer of any of its obligations under the SPA does not and will not
 - i. conflict with or result in breach of any of the terms, conditions or provisions of, or constitute a default, or require any consent under, any indenture, mortgage, agreement or other instrument or arrangement to which it is a party or by which it is bound;
 - ii. violate any of the terms or provisions of its charter documents; and
 - iii. violate any Applicable Law.

5. *Indemnification:*

- (i) On and with effect from the Closing Date, the Seller(s) ("**Indemnifying Party**") shall indemnify, defend and hold harmless the Buyer and Investment Manager and its directors, officers and employees and the Project SPVs and its directors, officers and employees ("**Indemnified Party**" / "**Indemnified Parties**"), on demand, from, against and in respect of all losses sustained, incurred and suffered by any Indemnified Parties (whether in respect of Third Party Claims, Claims amongst the Parties hereto, or otherwise), relating to or arising out of:
- a. any breach by Seller(s) of any representation or warranty made by it under this SPA;
 - b. any breach or non-fulfilment or failure of performance by the Seller(s) and/or Company of any covenant, undertaking or agreement contained in this agreement;
 - c. any defect or deficiency in clear, free of any encumbrances and marketable title and ownership of Sale Securities;
 - d. any claim or liabilities arising on the company by virtue of any litigation involving the Company;
 - e. any fraud, intentional concealment, gross negligence or wilful misconduct on the part of the Seller(s) in relation to the conduct of the business of the Company; and
- (ii) All indemnity payments made by the Seller(s) to the Indemnified Parties pursuant to this Agreement shall be grossed up for any taxes, charges, fees, costs, expenses or duties, provided however that, if the Project SPVs or the Buyer gets any TDS credit on account of gross up, the Project SPVs and the Buyer shall provide the Seller(s) all necessary documents in relation to the same as may be required by the Seller(s) and such credit shall be promptly passed on to the Seller(s) by the Project SPVs or the Buyer.
- (iii) If a claim for indemnity made by the Indemnified Parties in the indemnity notice arises on account of any claim made by a third party against any of the Indemnified Parties ("**Third Party Claim**"), then the Seller(s) shall have

the option of electing to take over the defence of such Third Party Claim at its own costs by notifying the Indemnified Parties in writing no later than 10 (ten) days from receipt of the Indemnity Notice.

- (iv) The Indemnifying Parties shall not be liable for any remote, special, indirect, consequential loss or damage or loss of profit, loss of business or goodwill.
- (v) The Indemnified Parties shall not be entitled to recover any indemnity amounts more than once in respect of the same Loss under the Transaction Documents.

6. *Termination:*

- (i) This agreement shall be effective from the Agreement Date, and shall continue to be valid and in full force and effect unless terminated in accordance with this agreement.
- (ii) The agreement may be terminated as follows:
 - a. by mutual consent of the parties hereto in writing; and
 - b. by either Party, on account of material breach of any of the obligations by the other Party, as set out in this agreement.

Acquisition of future assets by the Trust

ROFO Agreement

The Seller, the Trustee, and the Investment Manager have entered into the ROFO Agreement, to enable the Trust to have the right to purchase assets acquired, developed and/or maintained by the Seller and/or its Affiliates after the Issue. Some of the key terms of the ROFO Agreement are as follows:

Right of first offer: The Trust shall have a right of first offer (“**ROFO**”) over the securities held by the Seller and its Affiliates (“**ROFO Securities**”), subject to the lock-in periods, if any, in (a) Other Identified SPVs having ROFO Assets; and (b) all special purpose vehicles having ROFO Assets (“**ROFO SPVs**”) specified in the Project Agreements. Such right of first offer will be available to the Trust from such date which is 5 years or such other period as maybe mutually agreed between the Parties, from the Trust Listing Date (“**ROFO Period**”).

Offer: During the ROFO Period, Seller shall procure that the Seller’s Affiliates shall comply with the terms of this Agreement and make irrevocable invitation(s) to offer to the Trust, through the Trustee or the Investment Manager, for the acquisition of all (and not part) of the ROFO Securities in one or more of the ROFO SPVs, subject to the lock-in periods, if any, specified in the Project Agreements (“**Invitation to Offer**”).

In the event the Trust is interested in the acquisition of all the ROFO Securities in each or any of the ROFO SPVs, the Trust shall communicate such interest in writing, by way of a non-binding offer, within a period of 15 (fifteen) days from the later of (i) the date of receipt by the Trust of the Invitation to Offer under this Agreement; and (ii) the date of receipt by the Trust of the last of similar invitation(s) to offer in respect of all other securities of such ROFO SPVs in respect of which the Trust has a right of first offer under other agreements (“**Interest Period**”), which shall be accompanied with a due diligence questionnaire that is customary for transactions of such nature and consists of requests for information that is reasonably required (the “**Notice of Interest**”).

The Seller shall provide information as requested by the Trust through the due diligence questionnaire (“**Information**”) within 15 (fifteen) days of receipt of the Notice of Interest (“**NOI End Date**”) in legible and understandable form, including access to the data room and the project site of the relevant ROFO Asset(s) to enable the Trust to perform a due diligence exercise. The Trust shall bear all the costs incurred in relation to such due diligence exercise.

Within a period of 60 (sixty) days from the later of (i) NOI End Date; (ii) the date on which the relevant Information is actually provided to the Trust; or (iii) such other extended time as may be mutually agreed between the Parties (“**ROFO Offer Period**”), the Trust shall have the right but not the obligation to make an irrevocable offer to acquire all the ROFO Securities (subject to compliance with Applicable Law and approval of Unitholders of the Trust as may be required under Applicable Law) of any or all the ROFO SPVs set out in the Invitation to Offer, at such Value (as defined below) as determined in accordance with Clause 5

attributed by the Trust to such ROFO Securities (the “**ROFO SPV Offer Price and Terms**”) by delivering an irrevocable offer letter (the “**ROFO SPV Offer Letter**”) to the Seller. The ROFO SPV Offer Letter will be binding on behalf of the Trust.

Acceptance: The Seller may accept the ROFO SPV Offer Price and Terms, by delivering a notice of acceptance to the Trust within a period of 30 (thirty) days (“**ROFO Acceptance Period**”) from the date of receipt of the ROFO SPV Offer Letter by the Seller (“**ROFO Acceptance Notice**”). If the ROFO Acceptance Notice is received by the Trust during the ROFO Acceptance Period, the sale of the ROFO Securities shall be completed in accordance with the ROFO SPV Offer Price and Terms within 60 (sixty) days from receipt of the ROFO Acceptance Notice by the Trust, including the receipt of all Consents that may be required.

Non-acceptance: In the event the Trust delivers the ROFO SPV Offer Letter to the Seller within the ROFO Offer Period and or the Seller declines to accept the offer set out in the ROFO SPV Offer Letter made by the Trust, the Seller shall (i) the Seller shall be entitled to sell the ROFO Securities to any Person (“**Third Party Purchaser**”) within 12 (twelve) months from the expiry of the ROFO Acceptance Period, provided that the Third Party Purchaser offers a price for the ROFO Securities which is higher than the price offered by the Trust in the ROFO SPV Offer Letter; (ii) the Seller shall be entitled to sell the ROFO Securities to any Person (“**Third Party Purchaser**”) within 12 (twelve) months from the expiry of the ROFO Acceptance Period, provided that the Third Party Purchaser offers a price for the ROFO Securities which is higher than the price offered by the Trust in the ROFO SPV Offer Letter; and (iii) the Seller shall deliver a notice to the Trust of its intent to sell the ROFO Securities to the Third Party Purchaser within 7 (seven) days of acceptance by such Third Party Purchaser to purchase the ROFO Securities (“**Third Party Sale Notice**”). The Third Party Sale Notice shall include a declaration from the Seller that the sale of the ROFO Securities to the Third Party Purchaser shall be at a price which is higher than the price offered by the Trust, set out in the ROFO SPV Offer Letter.

Absence of offer: In the event that the Trust (a) does not provide the Seller with the Notice of Interest in respect of an Invitation to Offer within the stipulated time, or (b) does not issue the ROFO SPV Offer Letter in respect of any Invitation to Offer within the stipulated time, or (c) notifies the Seller of its decision to not purchase certain ROFO Securities during the Interest Period or the ROFO Offer Period, then the Trust shall have been deemed to have waived its right of first offer in respect of such ROFO Securities and without prejudice to the other rights of the Seller, the Seller shall have the right (but not the obligation) to sell all of such ROFO Securities to any Person without any restriction as to price or terms, at any time.

Representations and warranties: Each party shall represent and warrant to the other party to the ROFO Agreement, as follows:

- (i) Each Party is duly organized and validly existing under Applicable Law, and has the right, power and authority to execute, deliver and perform this Agreement;
- (ii) This Agreement has been duly authorized, executed and delivered by such Party and, assuming the due authorization, execution and delivery by all other parties hereto, constitutes valid and binding obligations of such Party enforceable against such Party in accordance with its terms, subject to any principles of equity or insolvency law;
- (iii) The execution and delivery of this Agreement by such Party and the performance by such Party of its obligations under this Agreement has been duly and validly authorized by all necessary corporate action and does not require any further authorization or consent of any third party;
- (iv) Subject to the requirements of obtaining any Consents, the execution, delivery and performance by such Party of this Agreement, and the compliance by it with the provisions of this Agreement will not result in:
 - a. a breach of, or constitute a default under, any, agreement or instrument to which such Party is a party or by which such Party is bound; or
 - b. result in a violation of its constitutional documents; or
 - c. contravene any Applicable Law to which it is subject, or any order, writ, injunction or decree of any court or Governmental Authority to which it is subject.
- (v) No liquidation, dissolution, winding up, commencement of bankruptcy, insolvency, liquidation or similar proceedings, whether voluntary or involuntary, with respect to it is pending or has been pending, or to the knowledge of such Party, threatened.

Termination: The ROFO Agreement shall be effective on and from the Trust Listing Date and continue to be valid and in full force for a period of 5 (five) years from the Trust Listing Date, provided that none of the ROFO procedures set out in the ROFO Agreement are subsisting upon the expiry of the ROFO and unless terminated in accordance with the provisions of this Agreement.

Potential Future Related Party Transactions

Certain transactions may be entered with Related Parties in the future and the Trustee and the Investment Manager confirm that such related party transactions shall be entered into in compliance with the SEBI InvIT Regulations and the RPT Policy. An indication of potential related party transaction is set out below:

DP Jain and Co Infrastructure Private Limited (“**Seller**”), DPJ Pollachi HAM Projects Private Limited (“**Company**”) and Alpha Alternatives Holdings Private Limited (“**Acquirer**”) have entered into an amended and restated securities purchase agreement dated March 25, 2025 (“**DP Jain SPA**”), for the Seller to sell the securities of the Company to the Acquirer, subject to satisfaction of certain conditions precedents and receipt of necessary approvals and consents. The Seller has given various representations and warranties to the Acquirer with respect to itself and the Company. The Seller has also agreed to indemnify, defend and hold harmless the Acquirer, the Company and their respective directors, officers and employees from and against any and all losses (as defined in the DP Jain SPA) incurred or suffered by, or imposed upon them. The manner of conduct of claims shall be governed by the DP Jain SPA. Further, the Seller shall also be responsible, amongst other things, for all the defects and deficiencies except usual wear and tear in the project highway of the Company. Subsequently, up on successful completion of the Company by the Acquirer from the Seller, 100% of the issued, subscribed and paid up capital of the Company is proposed to be transferred to the Trust, prior to the Closing Date.

Potential Conflicts of Interest

The Investment Manager has established certain procedures to deal with conflict of interest issues. For further details on management of potential conflicts of interest, please see the section entitled “*Related Party Transactions – Procedure for dealing with Related Party Transactions*” on page 373.

Conflicts of the Investment Manager and the Sponsor

Certain related party transactions may be entered into by the Investment Manager and the Sponsor in the future which will be in compliance with applicable law.

REGULATIONS AND POLICIES

The following description is a summary of certain sector specific laws currently in force in India, which are applicable to the operations of the Trust and the Project SPVs. The information detailed in this section has been obtained from statutes, regulations, sector-specific policies and publications available in the public domain. The description below may not be exhaustive, and is only intended to provide general information to Bidders and is neither designed as, nor intended to substitute, professional legal advice. The information in this section is based on the current provisions of applicable law that are subject to change or modification by subsequent legislative, regulatory, administrative or judicial decisions in India. For information regarding regulatory approvals obtained by the Project SPVs, please see the section titled “Regulatory Approvals” on page 389.

Laws Relating to the Business and Operations of the Trust and the Project SPVs

The regulatory framework in India in the highways sector, implemented on a public-private partnership (“PPP”) basis, mainly derives its source from the primary legislations of National Highways Authority of India Act, 1988 (the “NHAI Act”) and the National Highways Act, 1956 (the “NH Act”) enacted by the Indian parliament, each as amended or supplemented.

The National Highways Act, 1956

The policy of the MoRTH, in implementing the NH Act, is to vest the MoRTH with the power to declare a national highway and for acquisition of land for this purpose. The GoI, by notification, can declare the intention to acquire any land for a ‘public purpose’ as envisaged by the law and such land can be used for the purposes of building, maintenance and operation of the declared national highways throughout the country. The NH Act prescribes the procedure for such land acquisition. The procedure includes, amongst others, a declaration of an intention to acquire, entering and inspecting such land, hearing of objections, a declaration of the acquisition and the power to take possession. The NH Act also provides for payment of compensation to owners and any other person whose right of enjoyment or ownership in the land has been affected. The NH Act vests MoRTH with the power to appoint a competent authority for the effective implementation of the NH Act and its policies. The said appointed authority retains the right and power to (a) survey, make any inspection, valuation or enquiry; (b) take levels; (c) dig or bore into sub-soil; (d) set out boundaries and intended lines of work; (e) mark such levels, boundaries and lines placing marks and cutting trenches; or (f) do such other acts or things as may be laid down by rules made in this behalf by that government. All the notified national highways shall vest in the name of the Union and for the purposes, shall include all lands appurtenant thereto and all the bridges, culverts, tunnels and other enlisted constructions under the said NH Act. The Central Government shall assume the responsibility of maintaining and construction of national highways in proper condition in accordance to the law. The Central Government also retains the right to levy fee over the services and benefits rendered in relation to the use of such national highways.

The GoI is responsible for the development and maintenance of national highways. However, it may direct that such functions may also be exercised by the government of a state in which the highway is located or by any officer or authority subordinate to the GoI or to the state government. Further, the GoI has the power to enter into an agreement with any person for the development and maintenance of a part or whole of the highway. Such person would have the right to collect and retain fees at such rates as may be notified by the GoI and will also have the powers to regulate and control the traffic, for proper management of the highway, in accordance with the provisions of the Motor Vehicles Act, 1988, as amended. The GoI also has the power to make rules for carrying out the purposes of the NH Act.

The National Highways (Amendment) Act, 2017, entails the competent authority to issue reports to the Central Government in respect of any land (either acquired or proposed to be acquired) which is, either under incorrect revenue record or which is not required due to change in geometry or alignment of the construction, to issue order for the de-notification of such land from the acquisition for development and maintenance of the national highway. In pursuance of the foregoing amendment to the statute, the National Highways Rules, 1957, have been amended to ensure the exercise of the power under the NH Act. These rules provide for periodic regulatory compliance and reporting standards to be followed by the competent authority in reporting to the Central Government.

The National Highways Authority of India Act, 1988

The NHAI Act was enacted in pursuance of the powers of the Central Government for appointing a competent authority under the NH Act and provides for the constitution of an authority for the development, maintenance and management of national highways and for matters connected therewith or incidental thereto. In accordance with the NHAI Act, the GoI carries out development and maintenance of the national highways through NHAI. Subject to the provisions of the NHAI Act, the NHAI has the power to enter into and perform any contract necessary for the discharge of its functions. The NHAI has the power to acquire any land to discharge its functions, and such acquired land will be deemed to be land needed for a ‘public purpose’. The NHAI Act prescribes a limit in relation to the value of the contracts that may be entered into by NHAI. However, the NHAI may enter into contracts exceeding the specified value, on obtaining prior approval of the GoI. The NHAI Act provides that the contracts for acquisition, sale, or lease of immovable property on behalf of the NHAI cannot exceed a term of 30 years unless previously approved by the GoI. NHAI’s objective is to ensure that all contract awards and procurements conform to the best industry practices with regard to transparency of process, adoption of bid criteria to ensure healthy competition in award of contracts. In accordance with the NHAI Act, the NHAI shall consist of a full time chairman, not more than six full time members and not more than six part time members who

are being appointed by the Central Government. Additionally, various project implementation units headed by project director have been set at various sites to oversee timely completion of the projects.

In view of the challenging task of construction, development, and management of national highways being undertaken by NHAI, the Committee on Public Undertakings selected the subject “National Highways Authority of India (NHAI)” for comprehensive examination and report. The National Highways Authority of India (Amendment) Act, 2013, received the assent of the President of India on September 10, 2013, and aimed at increasing the institutional capacity of NHAI to help execute the powers delegated to it. National Highways Development Project (“**NHDP**”) was launched in 1998 with the objective of developing roads of international standards which facilitate smooth flow of traffic. The NHDP envisages creation of roads with enhanced safety features, better riding surface, grade separator and other salient features.

As per the NHAI Works Manual, 2006, NHAI’s mandate is the time and cost bound implementation of the NHDP. The sources of finance available to the NHAI include fund assistance from external funding agencies like the International Bank of Reconstruction and Development and the Asian Development Bank. NHAI’s role encompasses involving the private sector in provision, maintenance, and operation of the national highways.

Financing of the NHDP

The GoI, under the Central Road and Infrastructure Fund Act, 2000 created a fund which is required to be utilized for the development and maintenance of national highways (the “**Central Road Fund**”). Section 18 of the NHAI Act also provides for the creation of a separate NHAI Fund. Any capital grant or aid received, loan taken, borrowing made, or any other sum received by the NHAI is credited to the NHAI Fund. Certain sources for financing of the NHDP are through dedicated accruals under the Central Road Fund by levy of cess on fuel as well as involving the private sector and encouraging public private partnerships. The NHDP is also financed through long-term external loans from the International Bank of Reconstruction and Development, the Asian Development Bank and the Japan Bank for International Cooperation as well as through tolling of roads for different projects undertaken by the NHAI.

Private Participation in NHDP

In an effort to attract private sector participation in the NHDP, the NHAI has issued model concession agreements (“**MCAs**”) which have been formulated by Planning Commission of India or NITI Aayog and other departments of Central Government where a private entity, being the concessionaire, is, through an international competitive bidding process, awarded a concession (in form of a license) to build, own, operate and collect toll on a highway for a specified period of time, which is usually up to 30 years. The concession to develop highway projects is given by the NHAI or other governmental authorities under various models of PPP like:

- (i) **Build, Operate, Transfer (BOT)/ Design, Build, Finance, Operate and Transfer (DBFOT)** – In this model, the entire designing, financing and construction is undertaken by the concessionaire at its own cost. The concessionaire is entitled to collect toll or receive annuity payments from the NHAI, as the case may be, during the concession period after the construction of the highway project. The bid for the project may either be selected basis the lowest grant wanted by the private developer from the NHAI or the highest premium the private developer is willing to pay to NHAI, in the form of additional concession fee. The concessionaire at the end of the concession period transfers the highway project to the NHAI (free of charge and clear of all encumbrances). The concessionaire’s investment in the highway project is recovered directly through user fees collected by way of tolls. Under the BOT model, the projects which are generally not viable based on toll revenue alone, the NHAI or the relevant governmental authority provides concessionaire with a capital grant upto certain percentage of the project cost to increase the viability of projects and the quantum of such grant is determined on a case to case basis. For certain projects with high traffic volumes, concessionaire also offers a negative grant (i.e., premium) to the NHAI.
- (ii) **Hybrid Annuity Model (HAM)** – In this model, the NHAI or the relevant governmental authority invests 40% (forty percent) of the construction cost of the project in (five) equal instalments and the balance amount is infused by the private developer. The private developer recovers his investment in the form of annuity payments received by it over a period of 15 (fifteen) years. Additionally, there is no revenue risk for the private developer under HAM model because the toll is collected by the NHAI or relevant governmental authorities unlike the BOT model where the private developer collects it.
- (iii) **Toll, Operate and Transfer (TOT)** – In this model, the road projects which are in operational phase are awarded by the NHAI or relevant governmental authorities to the concessionaire. The NHAI passes on the toll collection rights and operation and maintenance obligations to the concessionaire against payment of upfront concession fees quoted by the concessionaire as a part of the bidding process.

The bidding for the projects takes place in two stages as per the process provided below:

1. in the qualification (RFQ) stage, the NHAI selects certain applicants on the basis of technical and financial expertise, prior experience in implementing similar projects and previous track record; and
2. in the proposal (RFP) stage, the NHAI invites financial bids from the applicants qualified at the RFQ stage on the basis of which the concession is awarded to the successful bidder by the NHAI for implementation of the project.

Exit Policy

The CCEA in May 2015 approved a comprehensive exit policy framework with the objective to mobilize funds in the market. In pursuance thereto, NHAI, vide Circular No. NHAI/1103/CGM(FA)/4/2015 dated June 9, 2015 permitted divestment of 100% equity by concessionaires/developers after two years of completion of construction of all BOT projects to facilitate unlocking of funds for new infrastructure projects. The equity divested is required to be invested by promoters in their new projects. This comprehensive exit policy framework is expected to harmonize certain conditions across all concessions signed prior to 2009 with the policy framework for post 2009 contracts which permit divestment of equity up to 100%, two years after completion of construction. In line with the spirit of quoted circular, the NHAI issued another circular dated September 9, 2015 followed by the circular dated November 19, 2015, on the same subject, allowing the promoter to use the proceeds from the sale of divested equity of the concessionaire in one or more of the following:

- (i) to reinvest in incomplete NHAI projects;
- (ii) To reinvest any other highway projects;
- (iii) any other power sector projects; or
- (iv) to retire their debt to financial institutions in any other infrastructure projects.

Relaxation in the 'change in ownership' clause in Hybrid Annuity Model (HAM) projects

The MoRTH, vide circular dated November 10, 2020 and November 27, 2020, read along with the NHAI circular dated December 31, 2020, amended the MCAs in respect of project implemented under the HAM model, and permitted the selected bidder/consortium members, for the new as well as subsisting national highways project under the HAM-model, to dilute their equity six months after COD is achieved for the respective project.

Rationalized Compensation

The CCEA in November 2015 approved a policy for rationalized compensation to concessionaires for languishing national highway projects in BOT mode for delays that are not attributable to the concessionaires. Under the policy, the NHAI is authorized to allow an extension of the concession period for BOT (Toll) projects while the tenure for the operations period as envisaged originally in the concession agreement may remain unchanged which would result in a corresponding increase in concession period. The NHAI has also been authorised to pay compensatory annuities to the concessionaire corresponding to the actual period of delay that is not attributable to the concessionaire upon successful completion of the project.

One Time Fund Infusion Scheme

The CCEA in October 2015 gave its approval to the NHAI for a one-time infusion of funds with the purpose of reviving and physically completing stalled projects in the advanced stages of completion. As per the policy, the amount of funds required in each case shall be approved by NHAI on a case to case basis.

Bidder Information

MoRTH has developed the Bidder Information Management System (“BIMS”) to streamline the process of pre-qualification of bidders for EPC mode of contracts for all national highway works, with enhanced transparency and objectivity. BIMS works as a data base of bidder information that covers basic details, civil works experience, cash accruals and network, and annual turnover so that bidders’ pre-qualification can be assessed based on evaluation parameters like threshold capacity and bid capacity from already stored data and the technical evaluation can be carried out in a faster manner.

Land Acquisition

While land is acquired for national highway projects under the NH Act, the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (the “**Land Acquisition Act**”) must also be complied with. MoRTH has issued comprehensive guidelines on land acquisition for national highways taking into account the applicability of the Land Acquisition Act.

Arbitral Awards

CCEA on August 31, 2016 approved various measures to revive the construction sector. An office memorandum dated September 5, 2016 was issued by the National Institute for Transforming India with certain proposals. On November 20, 2019, the CCEA approved certain proposals in relation to the arbitrations by or against government entities, for the effective implementation of the CCEA's decision on August 31, 2016 on its initiatives to revive the construction sector. Initially, the CCEA had approved the proposal that government agencies will be required to pay 75% of the arbitral award to the concessionaire against a bank guarantee, in cases where the award already announced is challenged. However, pursuant to a press release dated November 20, 2019, the CCEA approved, inter-alia, that where a government entity has challenged an arbitral award, resultant of which the amount of the arbitral award has not been paid, 75% of such award will be paid by the government entity to the contractor or the concessionaire against a bank guarantee only for the said 75% and not for its interest component. In relation to interest payable to the government entity, if a subsequent court order required the refund of 75% of the amount, the payment of such amounts will be required to be made as per the court orders.

Applicable Rules

As per the NH Act and the NHAI Act, the Central Government is empowered to make rules in order to further the objects of NH Act and NHAI Act. In exercise of such power, the Central Government has framed certain rules which are as follows:

- The National Highways Rules, 1957, as amended;
- National Highways Authority of India (Budget, Accounts Audit, Investment of Funds and Powers to enter Premises) Rules, 1990, as amended;
- The National Highways (Manner of Depositing the Amount by the Central Government with Competent Authority for Acquisition of Land) Rules, 1998;
- The National Highways Tribunal (Procedure for Appointment as Presiding Officer of the Tribunal) Rules, 2003, as amended;
- The Central Road Fund (State Roads) Rules, 2007;
- The National Highways Tribunal (Procedure) Rules 2003;
- National Highways Authority of India (The Term of Office and Other Conditions of Service of Members) Rules, 2003, as amended;
- The National Highways Tribunal (Financial and Administrative Powers) Rules, 2004;
- The National Highways Tribunal (Procedure for Investigation of Misbehaviour or Incapacity of Presiding Officer) Rules, 2003;
- The National Highways Fee (Determination of Rates and Collection) Rules, 2008, as amended;
- The Highway Administration Rules, 2004;
- The National Highways (Collection of Fees by any person for the use of Section of National Highways/Permanent Bridges/Temporary bridge on National Highways) Rules, 1997;
- The National Highways (Fee for the use of National Highways and Permanent Bridge public Funded Project) Rules, 1997; and
- The National Highways (Rate of Fee) Rules, 1997.
- The Building and other Construction Workers (Regulation of Employment and Conditions of Services) Act, 1996 and Central Rules, 1998
- Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations, 2023
- Indian Electricity Rules, 1956

Other legislations relevant to the road sector

In addition to the above, there are also certain other legislations that are relevant to the road sector which include the Road Transport Corporation Act, 1950, Central Road and Infrastructure Act, 2000, etc.

Environmental Compliances and Regulations

Infrastructure projects must also ensure compliance with environmental legislations such as the Water (Prevention and Control of Pollution) Act, 1974 (**“Water Pollution Act”**), the Air (Prevention and Control of Pollution) Act, 1981 (**“Air Pollution Act”**) and the Environment Protection Act, 1986 (**“Environment Act”**, together with the Water Pollution Act and the Air Pollution Act, the **“Environment Protection Acts”**). The Water Pollution Act aims to prevent and control water pollution. This legislation provides for the constitution of a central pollution control board (**“Central Pollution Control Board”** or **“CPCB”**) at the Central level and state pollution control boards (**“State Pollution Control Boards”** or **“SPCBs”**, together with the Central Pollution Control Board, the **“PCBs”**) at the State levels. The functions of the CPCB includes, among other things, coordination of activities of the SPCBs, collecting data relating to water pollution and the measures devised for the prevention and control of water pollution and prescription of standards for streams or wells. The SPCBs are responsible for, among other things, the planning for programmes for prevention and control of pollution of streams and wells, collecting and disseminating information relating to water pollution and its prevention and control, inspection of sewage or trade effluents, works and plants for their treatment and to review the specifications and data relating to plants set up for treatment and purification of water, laying down or annulling the effluent standards for trade effluents and for the quality of the receiving waters, and laying down standards for treatment of trade effluents to be discharged. These authorities issue consent to establish and consent to operate which are to be required to be renewed periodically. These authorities also have the power of search, seizure and investigation if the authorities are aware of or suspect violation of such regulations. This legislation prohibits any person from establishing any industry, operation or process or any treatment and disposal system, which is likely to discharge trade effluent into a stream, well or sewer, or bring into use any new or altered outlet for discharge of sewage, or begin to make any new discharge of sewage without taking prior consent of the SPCBs.

In context of the environmental compliances and regulations, the National Green Tribunal Act, 2010 (the **“NGT Act”**) is an important legislation which provides for the establishment of a National Green Tribunal (**“NGT”**) for the effective and expeditious disposal of cases relating to environmental protection and conservation of forests and other natural resources including enforcement of any legal right relating to environment and giving relief and compensation for damages to persons and property and for matters connected therewith or incidental thereto. In accordance with the Forest (Conservation) Act, 1980, state governments are not permitted to make any order directing the use of forest land for a non-forest purpose, or assignment of any forest land through lease or otherwise to any private person or corporation without the approval of the GoI. The Ministry of Environment, Forest and Climate Change (**“MoEF”**) mandates the Environment Impact Assessment (**“EIA”**) must be conducted for specified projects. In the process, the MoEF receives proposals or the setting up of projects and assesses their impact on the environment before granting clearances to the projects. The EIA Notification S.O. 1533, issued on September 14, 2006 (the **“EIA Notification”**) and amended from time to time, under the provisions of the Environment Protection Act, prescribes that new construction of specified projects require prior environmental clearance from the MoEF. The environment clearance must be obtained from MoEF according to the procedure specified in the EIA Notification. No construction work or preparation of land by the project management except for securing the land, relating to the setting up of a specified project can be undertaken until such clearance is obtained. Under the EIA Notification, the environmental clearance process for new projects consists of four stages – screening, scoping, public consultation and appraisal. After completion of public consultation, the applicant is required to make appropriate changes in the draft ‘EIA Report’ and the ‘Environment Management Plan.’ The final EIA Report has to be submitted to the concerned regulatory authority for appraisal. The regulatory authority is required to give its decision within 105 days of the receipt of the final EIA Report. The EIA Guidance Manual for Highways, 2010 explains the four stages of the environmental clearance process and the contents of the EIA Report required to be submitted by highway projects.

Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, impose an obligation and duty on the owners and operators of any facility or industry with a capability to create hazardous materials to safely dispose of such material in transport and other means of collecting and storing. Each occupier and operator of any facility generating hazardous waste is required to obtain an approval from the relevant state pollution control board for collecting, storing and treating the hazardous waste.

Green Highways (Plantation, Transplantation, Beautification and Maintenance) Policy, 2015

In September 2015, MoRTH has launched Green Highways (Plantation, Transplantation, Beautification and Maintenance) Policy, 2015, which will require road developers to earmark 1% of a project’s total cost for planting of trees and shrubs along the national highways. Under this policy, the maintenance of such plantations will be outsourced through a bidding process to plantation agencies. MoRTH/NHAI will appoint the authorized agency for empanelment of such plantation agencies.

Public Liability Insurance Act, 1991

The Public Liability Insurance Act, 1991 (the **“Public Liability Act”**), imposes liability on the owner or controller of hazardous substances for any damage arising out of an accident involving such hazardous substances. A list of ‘hazardous substances’ covered by the legislation has been enumerated by the GoI by way of a notification. The owner or handler is also required to take out an insurance policy insuring against liability under the legislation. The rules made under the Public Liability Act mandate that the employer has to contribute towards the Environment Relief Fund, a sum equal to the premium paid on the insurance policies. This amount is payable to the insurer.

Other applicable law

The Motor Vehicles Act, 1988

The development, maintenance and management as well as control of the National Highways are regulated by the NH Act and the NHA Act. Under the Motor Vehicles Act, 1988, some powers have been delegated to the Transport Authority of the State Governments. Section 138 of the Motor Vehicles Act, 1988 further empowers the State Governments to make rules for the control of traffic, including for the purpose of the removal and the safe custody of vehicles including their loads which have broken down or which have been left standing or have been abandoned on roads; the installation and use of weighing devices; the maintenance and management of wayside amenities complexes; the exemption from all or any of the provisions of relating to fire brigade vehicles, ambulances and other special classes or descriptions of vehicle, subject to such conditions as may be prescribed; the maintenance and management of parking places and stands and the fee, if any, which may be charged for their use; prohibiting the taking hold of or mounting of a motor vehicle in motion; prohibiting the use of foot-paths or pavements by motor vehicles, generally, the prevention of danger, injury or annoyance to the public or any person, or of danger or injury to property or of obstruction to traffic. The Motor Vehicles (Amendment) Act, 2019 is targeted towards bringing changes in the transport sector to encourage safer driving practices among Indian motor vehicle drivers and imposing strict fines on the violators of traffic rules. The Act proposes to create a National Road Safety Board, which was notified by Ministry of Road Transport & Highways in 2021. The Board will advise the Central and State governments on all aspects of road safety and traffic management.

Indian Trusts Act, 1882

The Indian Trusts Act, 1882 (“**Trusts Act**”) governs all private trusts in India. The Trusts Act sets out the purpose for which private trusts can be established, the manner in which they may be created, executed and extinguished. The person creating a trust under the Trusts Act is the author of such trust, the person to whom the author grants the power and authority to regulate the trust is the trustee and the persons for whose benefit such trust has been created are the beneficiaries of such trust. The Trust Act sets out the rights, duties, liabilities and powers of the trustees and the beneficiaries *vis-a-vis* the trust. The Trust has been settled in accordance with the provisions of the Trusts Act.

Control of National Highways (Land and Traffic) Act, 2002

The Control of National Highways (Land and Traffic) Act, 2002 (the “**Control of NH Act**”) provides for control of land within national highways, right of way and traffic moving on national highways and also for removal of unauthorised occupation thereon.

In accordance with the provisions of the Control of NH Act, the Central Government has established Highway Administrations. Under the Control of NH Act, all land that forms part of a highway which vests in the Central Government, or that which does not already vest in the Central Government but has been acquired for the purpose of highways shall be deemed to be the property of the Central Government. The Control of NH Act prohibits any person from occupying any highway land or discharging any material through on such land without the permission of the Highway Administration or any officer authorised by such administration. The Control of NH Act permits the grant of lease and license for use of highway land for temporary use.

Indian Tolls Act, 1851

In accordance with the Indian Tolls Act, 1851 (the “**Tolls Act**”), the state governments have been vested with the power to levy tolls at such rates as they deem fit, to be levied upon any road or bridge, made or repaired at the expense of the Central or any state government. The tolls levied under the Tolls Act, are deemed to be ‘public revenue’ and the collection of tolls can be placed under any person the State governments’ deem fit. Such persons are enjoined with the same responsibilities as if they were employed in the collection of land revenue. Further, all police officers are bound to assist the toll collectors when required in the implementation of the Tolls Act. The Tolls Act further gives power for recovery of toll and exempts certain category of people from payment of toll.

National Highways Fee (Determination of Rates and Collection) Rules, 2008

The National Highways Fee (Determination of Rates and Collection) Rules, 2008 (the “**NH Fee Rules**”), regulates the collection of fee for the use of national highways. In accordance with the NH Fee Rules, the GoI may, by a notification, levy fee for use of any section of a national highway, permanent bridge, bypass or tunnel forming part of a national highway, as the case may be. However, the GoI may, by notification, exempt any section of a national highway, permanent bridge, bypass or tunnel constructed through a public funded project from levy of such fee. The NH Fee Rules supersede the National Highways (Temporary Bridges) Rules, 1964, the National Highways (Collection of Fees by any Person for the Use of Section of National Highways/ Permanent Bridge/ Temporary Bridge on National Highways) Rules, 1997, the National Highways (Fees for the use of National Highways Section and Permanent Bridges Public Funded Project) Rules, 1997 and the National Highways (Rate of Fees) Rules, 1997 other than in respect of things done or omitted to be done under such rules prior to supersession. The NH Fee Rules do not apply to agreements and contracts executed or bids invited prior to the publication of such rules i.e. prior to December 5, 2008. The collection of fee in case of a public funded project shall commence within 45 days from the date of completion of the project. The NH Fee Rules further provide for the base rate of fee applicable for the use of a section of the national highway for different

categories of vehicles and the fees collected by the executing authority shall be remitted to the GoI. However, the GoI may, by notification, allow any or all of the executing authorities to appropriate the whole, or part of such fees for purposes as may be specified.

FASTag lanes on fee plazas is an initiative of the GoI in which there is an exclusive lane in the fee plaza for movement of vehicles fitted with FASTag. The FASTag is a device which is fitted on the front windscreen of vehicles to indicate online toll payment. The amended NH Fee Rules impose a penalty equivalent to two times the fee applicable if a vehicle not fitted with FASTag enters the exclusive FASTag lane. However, in case a user is unable to pay, due to malfunctioning electronic toll collection infrastructure, the user will be permitted to pass the fee plaza without payment. The NH Fee rules were also amended to provide that the driver or owner of a mechanical vehicle which is loaded in excess of permissible load specified for its category, (i) shall be liable to pay fee at such rate which is applicable for the next higher category of mechanical vehicles, and (ii) Payment of such fee shall not entitle the driver or owner, to use the national highway until the excess load has been removed from such mechanical vehicle. However, in case no weighbridge has been installed at the toll plaza, no fee for overloading shall be levied.

The National Highways Rules, 1957 (the “NH Rules”)

The NH Rules provide that in situations where the estimate cost of the execution of any original work on a national highway exceeds ₹ 5,000,000, a detailed estimate of the cost is to be forwarded to the GoI. An application for allotment of funds for meeting expenditure on an original work on a national highway must also be made to the GoI. The executing agency of the highway is required to furnish monthly progress reports and a completion report on the conclusion of the work. The NH Rules also give the consulting engineer of the GoI the right to inspect the work while it is in progress or after completion. Provisions under the Constitution of India and other legislations in relation to collection of toll Entry 59, List II of Schedule VII read with Article 246 of the Constitution of India vests state governments with the power to levy tolls. Further, in accordance with the Tolls Act, state governments have been vested with the power to levy tolls at such rates as they deem fit.

National Monetisation Pipeline (NMP)

NITI Aayog has developed the pipeline, in consultation with infrastructure line ministries, based on the mandate for ‘Asset Monetisation’ for roads and highways, amongst others, under Union Budget 2021-22. The framework for monetisation of core asset monetisation has three key imperatives: (i) monetization of ‘rights’ not ‘ownership’ i.e. assets will be handed back to the government at the end of transaction life; (ii) brownfield de-risked assets and stable revenue streams; and (iii) structured partnerships under defined contractual frameworks with strict performance standards. This shall include selection of de-risked and brownfield assets with stable revenue generation profile with the overall transaction structured around revenue rights. The primary ownership of the assets under these structures shall be with the government.

Foreign Investment Regulations

Foreign investment in Indian securities is governed by the provisions of the FEMA, read with the applicable FEMA Rules, the FEMA (Mode of payment and Reporting of Non-Debt Instruments) Regulations, 2019 and the consolidated FDI Policy issued by the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government. Foreign investment is permitted (except in the prohibited sectors) either through the automatic route or the approval route, depending upon the sector in which foreign investment is sought to be made. Under the FEMA Rules and the current consolidated FDI Policy, effective from October 15, 2020, an infrastructure investment trust registered and regulated by the SEBI under the InvIT Regulations, being an ‘investment vehicle’, is permitted to receive foreign investment from a person resident outside India (subject to Press Note 3 (2020 series)), including an FPI or an NRI subject to the terms and conditions specified in the FEMA Rules.

Downstream investment by an infrastructure investment trust shall be regarded as indirect foreign investment if neither the sponsor nor the investment manager of such an infrastructure investment trust is Indian ‘owned and controlled’ as defined in FEMA Rules.

Downstream investment by an ‘investment vehicle’ shall have to conform to the sectoral caps and conditions/restrictions, if any, as applicable to the company in which the downstream investment is made as per the FDI Policy. Foreign investment of up to 100% through the automatic route is permitted in the infrastructure sector in India. An infrastructure investment trust that receives foreign investment shall be required to make such report and in such format to the RBI or to the SEBI as may be prescribed by them from time to time.

The payment for the units of an infrastructure investment trust acquired by a person resident or registered/ incorporated outside India shall be made by an inward remittance from abroad through banking channels or by way of swap of shares of an SPV, or out of funds held in a Non-resident External (“NRE”) or Foreign Currency Non-resident Bank (“FCNR(B)”) account maintained in accordance with the Foreign Exchange Management (Deposit) Regulations, 2016.

Further, any person who is a non-resident and holds units of an infrastructure investment trust in accordance with the FEMA Rules may pledge such units (i) in favour of a bank in India to secure the credit facilities being extended to the Indian company for bona fide purposes; (ii) in favour of an overseas bank to secure the credit facilities being extended to the person, or a person resident outside India who is the promoter of the Indian company or the overseas group company of the Indian company; (iii) in favour of

a Non-Banking Financial Company registered with the RBI to secure credit facilities being extended to the Indian company for bona fide purposes; and (iv) subject to the authorized dealer bank satisfying itself of the compliance of the conditions stipulated by the RBI in this regard.

Other Laws and Regulations

In addition to the aforementioned, the other laws and regulations that may be applicable to the Trust and the Project SPVs include the following:

- *Factories Act, 1948**
- *The Contract Labour (Regulation and Abolition) Act, 1970**
- *The Child and Adolescent Labour (Prohibition and Regulation) Act, 1986*
- *The Employees' Compensation Act, 1923***
- *The Employees' State Insurance Act, 1948***
- *The Employee's Provident Fund and Miscellaneous Provisions Act, 1952***
- *The Equal Remuneration Act, 1976****
- *The Maternity Benefit Act, 1961***
- *The Minimum Wages Act, 1948****
- *The Payment of Gratuity Act, 1972***
- *The Payment of Bonus Act, 1965****
- *The Payment of Wages Act, 1936****
- *The Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013*
- *Industrial Disputes Act, 1917*
- *Shops and Commercial Establishments Acts, where applicable*

* *The Occupational Safety, Health and Working Conditions Code, 2020 (enacted by the Parliament of India and assented to by the President of India on September 28, 2020) will come into force on such date as may be notified in the official gazette by the Central Government and different dates may be appointed for different provisions of the Occupational Safety, Health and Working Conditions Code, 2020. Once effective, it will subsume, inter alia, the Factories Act, 1948 and the Contract Labour (Regulation and Abolition) Act, 1970.*

** *The Code on Social Security, 2020 (enacted by the Parliament of India and assented to by the President of India on September 28, 2020) has been notified to the extent of Section 142 of the Code and will come into force in its entirety on such date as may be notified in the official gazette by the Central Government and different date may be appointed for different provisions of the Code on Social Security, 2020. Once effective, it will subsume, inter alia, the Employees' Compensation Act, 1923, the Employees' State Insurance Act, 1948, the Employee's Provident Fund and Miscellaneous Provisions Act, 1952, the Maternity Benefit Act, 1961 and the Payment of Gratuity Act, 1972.*

*** *The Code on Wages, 2019 (enacted by the parliament of India and assented to by the President of India on August 8, 2019) was notified in the official gazette by the Central Government on September 28, 2020 to the extent of the rules governing the constitution and functions of the central advisory board under the Code on Wages once notified and effective in its entirety, it will subsume the Equal Remuneration Act, 1976, the Minimum Wages Act, 1948, the Payment of Bonus Act, 1965 and the Payment of Wages Act, 1936.*

In addition to the above, compliance with the provisions of various tax-related legislations, intellectual-property related legislations and other applicable law for our day-to-day operations is also required.

REGULATORY APPROVALS

Provided below are the material approvals, consents, licenses, registrations and permissions from the government, various governmental agencies and other statutory and/or regulatory authorities with which the Trust can undertake the Issue and the Trust and the Project SPVs can undertake their respective current business activities, as applicable. Unless otherwise stated, these approvals are valid as of the date of this Draft Offer Document. In the event that any of the approvals and licenses that are required for the Project SPVs' business operations expire in the ordinary course of business, the relevant Project SPV will apply for such renewal from time to time. For details in connection with the regulatory and legal framework within which the Trust and the Project SPVs operate, please see the section entitled "Regulations and Policies" on page 381. Further, provided below are the approvals in relation to the Issue and in relation to the Trust.

A. Approvals in relation to the Issue

1. In-principle listing approval from BSE dated [●].
2. In-principle listing approval from NSE dated [●].
3. Resolution dated March 8, 2025 passed by the board of directors of the Investment Manager and resolutions dated March 25, 2025 and March 28, 2025 passed by the InvIT Committee of the IM Board in relation to the Issue and other incidental matters.

B. Approvals in relation to the Trust

1. Certificate of registration dated August 19, 2024, bearing registration number IN/InvIT/24-25/0031, issued by SEBI to the Trust pursuant to Regulation 3 of the InvIT Regulations, for registration of the Trust as an infrastructure investment trust.

C. Material Business Approvals in relation to Project SPVs

I. Dhrol Bhadra Highways Limited ("DBHL")

1. Provisional Certificate issued on November 4, 2023 (effective from September 25, 2023), issued by LEA Associates South Asia Pvt. Ltd. certifying completion of the project highway comprising the sections from (a) Km 6.000 to Km 27.733; (b) Km 28.135 to Km 28.695; (c) Km 31.400 to Km 37.275; (d) Km 38.467 to Km 41.920; and (e) Km 48.500 to Km 62.702, i.e., approximately 45.823 (forty five decimal eight two three) Kms, being fit to enter into commercial operation.
2. Licence obtained pursuant to CLRA Act issued by office of the licensing officer, Assistant Labour Commissioner, Rajkot, GoI dated February 16, 2024.
3. Certificate of registration of employer obtained pursuant to BOCW Act issued by Office of the registering officer, assistant labour commissioner, Rajkot, GoI dated March 3, 2022.

II. Dodaballapur Hoskote Highways Limited ("DHHL")

1. Provisional Certificate issued on July 29, 2023 (effective from July 21, 2023), issued by L.N. Malviya Infra Projects Pvt. Ltd. certifying completion of the project highway comprising the section from Km 42 to Km 79.60 of the project highway i.e., approximately 37.60 (thirty seven decimal six zero) Km being fit to enter into commercial operation.
2. Registration for Employer pursuant to BOCW Act issued by office of the registering officer, Assistant Labour Commissioner, Rajkot, GoI, Bangalore dated March 29, 2021.
3. License obtained pursuant to CLRA Act issued by office of the licensing officer, Assistant Labour Commissioner, GoI, Bangalore dated July 31, 2024.

III. Repallewada Highways Limited ("RHL")

1. Provisional Certificate issued on November 15, 2023 (effective from October 20, 2023), issued by Satra Services and Solutions Pvt. Ltd. certifying completion of the project highway comprising the sections from (a) Km 42.000 to Km 43.540; (b) Km 45.450 to Km 50.040; (c) Km 51.250 to Km 83.080; and (d) Km 84.300 to Km 93.500 of the Project Highway (i.e., approximately 47.160 (forty seven decimal one six zero) Kms), being fit to enter into commercial operation.

2. Completion Certificate dated June 5, 2024 issued by Satra Services and Solutions Pvt. Ltd. certifying March 29, 2024 as the date for completion of commercial operation of the project highway.
3. License obtained pursuant to CLRA Act issued by office of licensing officer of the assistant labour commissioner, Mancheril, GoI dated August 29, 2024.
4. Certificate of registration of employer obtained pursuant to BOCW Act issued by office of the registering officer - Assistant Labour Commissioner, Mancheril, GoI dated June 07, 2021.

IV. Viluppuram Highways Limited (“VHL”)

1. Provisional Certificate issued on April 24, 2024 (effective from April 4, 2024), issued by L.N. Malviya Infra Projects Pvt. Ltd. certifying completion of the project highway for a length of 27.250 Km out of 29.000 Km of the project highway being fit to enter into commercial operation.
2. Licence obtained pursuant to CLRA Act issued by office of the registering officer, assistant labour Commissioner, GoI dated January 12, 2022, renewed on January 10, 2025.
3. Licence Certificate of registration of employer obtained pursuant to BOCW Act issued by Office of the registering officer, GoI dated January 12, 2022, amended on July 08, 2022.

V. Narenpur Purnea Highways Limited (“NPHL”)

1. Provisional Certificate issued on April 26, 2024 (effective from March 29, 2024), issued by Voyants Solutiona Pvt. Ltd. certifying completion of the project highway comprising the section from design Ch. Km 6.000 to Km 55.000 of the project highway (i.e., approximately 49 (forty nine) Km being fit to enter into commercial operation.
2. Certificate of Registration for Employer obtained pursuant to the BOCW Act issued by office of registering office, Assistant Labour Commissioner, Pakur, GoI dated March 1, 2021.

VI. Bangalore Malur Highways Limited (“BMHL”)

1. Provisional Certificate issued on July 3, 2024 (effective from May 15, 2024), issued by K&J Project Private Limited certifying completion of the project highway comprising the sections from (a) Km (-) 0.700 to Km 4.320 and (b) Km 4.860 to Km 26.400, being fit to enter into commercial operation.
2. Certificate of Registration for Employer obtained pursuant to the BOCW Act issued by office of the registering officer, assistant labour commissioner, Bangalore, GoI dated December 31, 2021, amended on August 22, 2022.
3. Licence obtained pursuant to CLRA Act issued by office of the licensing officer, assistant labour commissioner, GoI dated November 25, 2024.

VII. Malur Bangarpet Highways Limited (“MBHL”)

1. Provisional Certificate issued on July 3, 2024 (effective from May 16, 2024), issued by K&J Project Private Limited certifying completion of the project highway comprising the section from Highway Km 26.400 to Km 53.500, being fit to enter into commercial operation.
2. Certificate of Registration for Employer obtained pursuant to the BOCW Act issued by office of the registering officer, assistant labour commissioner, Bangalore, GoI dated December 31, 2021, amended on August 22, 2022.
3. Licence obtained pursuant to CLRA Act issued by office of the licensing officer, assistant labour commissioner, GoI dated November 25, 2024.

VIII. Poondiyankuppam Highways Limited (“PHL”)

1. CTE obtained pursuant to Water Act and Air Act issued by Tamil Nadu Pollution Control Board in relation to, amongst others, for setting up of manufacturing unit for blue metal jelly, m-sand, p-sand, ready mix concrete, dated October 28, 2021.
2. CTO obtained pursuant to Water Act and Air Act issued by Tamil Nadu Pollution Control Board in relation to,

amongst others, for discharge of sewage/trade effluents and emission for blue metal jelly, m-sand and p-sand dated December 17, 2021;

3. Environmental Clearance for mining/ quarrying of rough stone and gravel issued by State Environment Impact Assessment Authority, Tamil Nadu, MoEFCC, Government of India dated October 7, 2022.
4. Licence obtained pursuant to CLRA Act issued by Office of the Licensing Officer, Assistant Labour Commissioner, Puducherry, GoI dated December 24, 2021, renewed on January 10, 2025.
5. Certificate of Registration for Employer obtained pursuant to the BOCW Act issued by office of the registering officer, assistant labour commissioner, Puducherry, GoI dated December 24, 2021, amended on July 8, 2022.
6. No objection certificate for installation of diesel pump, diesel generators, ready mix cement concrete plant, WMM plant, hot mix plant accommodation for employees and workers, stock for raw materials, viz, stone aggregates, sand, cement storage, stone and electricity and water resource bulder and parking for other highway construction equipment for road project issued by Pudukkadai Panchayet dated June 17, 2021

IX. DPJ Pollachi HAM Project Private Limited (“DPHPPL”)

1. Provisional Certificate issued on November 7, 2023 (effective from October 5, 2023), issued by Aarvee Associates Architects Engineers & Consultants Pvt. Ltd. certifying completion of 36.50 km out of 50.08 km of the project highway comprising the section from Highway Km 74.380 to Km 116.950, being fit to enter into commercial operation.
2. CTO obtained pursuant to Water Act and Air Act issued by Tamil Nadu Pollution Control Board for operation of the plant and discharge of emissions in relation to, amongst others, Bitumen Mix, Ready Mix Concrete, Wet Mix and Wet Mix macadam.
3. CTE obtained pursuant to Water Act and Air Act issued by Tamil Nadu Pollution Control Board for establishment of the industry in relation to, amongst others, for blue metal jelly, m-sand, p-sand, ready mix concrete.
4. Registration and License to work a factory obtained pursuant to Tamil Nadu Factories Rules 1950 dated October 21, 2024 issued by Joint director of Industrial Safety and Health II, Coimbatore, Government of Tamil Nadu.
5. Licence obtained pursuant to CLRA Act issued by office of the licensing officer - regional labour commissioner, Madurai, GoI dated October 11, 2019.
6. Certificate of Registration for Employer obtained pursuant to the BOCW Act issued by office of the registering officer, regional labour commissioner, Madurai, GoI dated October 29, 2019.
7. In-principle approval for 100% change in ownership dated September 18, 2024 from NHAI.

D. Approvals applied for, but not yet received

As on the date of this Draft Offer Document, except as provided below, there are no approvals required to be obtained by the Trust and the Project SPVs, for which applications have been made, but approvals have not been received.

1. In relation to DBHL, application dated August 2, 2024 has been made to LEA Associates South Asia Pvt. Limited for issuance of completion certificate.
2. In relation to DHHL, application dated July, 20 2024 has been made to L.N. Malviya Infra Projects Pvt. Ltd. for issuance of completion certificate.
3. In relation to NPHL, an application dated February 17, 2025 has been made pursuant to CLRA to Office of the Assistant Labour Commissioner, Pakur.
4. NHAI Application in relation to (i) transfer of 100% shareholding of DHHL, RHL, DBHL, NPHL, VHL, BMHL and MBHL to Trust; (ii) refinancing of existing project loans of DHHL, RHL, DBHL, NPHL, VHL, BMHL, MBHL (except PHL and DPHPPL).

Approvals for which applications are yet to be made

As on the date of this Draft Offer Document, except as provided below, there are no approvals required to be obtained by the Trust and the Project SPVs, for which applications are yet to be made.

1. Provisional Certificate for PHL issued for certifying the project as fit to enter into commercial operations.
2. Completion Certificate for DHHL for certifying the date for completion of commercial operation of the project highway.
3. Completion Certificate for VHL for certifying the date for completion of commercial operation of the project highway.
4. Completion Certificate for BMHL for certifying the date for completion of commercial operation of the project highway.
5. Completion Certificate for NPHL for certifying the date for completion of commercial operation of the project highway.
6. Completion Certificate for MBHL for certifying the date for completion of commercial operation of the project highway.
7. Completion Certificate for PHL for certifying the date for completion of commercial operation of the project highway.
8. Completion Certificate for DPHPPL for certifying the date for completion of commercial operation of the project highway.
9. NHA Application in relation to (i) transfer of 49% shareholding of PHL and 100% shareholding of DPHPPL to Trust; and (ii) refinancing of existing project loans of PHL and DPHPPL.

For further details, please see the sections entitled “*Risk Factors – Consummation of the Formation Transactions pursuant to which we will acquire the Project SPVs is subject to certain conditions*”, “*Risk Factors – The acquisition by the Trust of the Project SPVs (except DPHPPL) from DBL, DBL Infraventures Private Limited, AAHPL, Spectrum Edge LLP, Build India Infrastructure Fund and nominees of DBL and acquisition of DPHPPL from AAHPL, or any other asset from third parties in the future, may be subject to certain risks, which may result in damages and losses. We may not be able to recover losses arising from the acquisition of such Project SPVs from the above-mentioned parties under relevant contractual arrangements*” and “*Risk Factors- We intend to acquire 100% of the issued, subscribed and paid-up share capital of PHL pursuant to the PHL Securities Purchase Agreement and any failure to acquire such percentage of PHL could have a material adverse effect on our business, financial condition and results of operations*” on pages 67, 68 and 69 respectively.

LEGAL AND OTHER INFORMATION

Except as stated in this section and on the basis of the disclosures below, there are no pending material litigation and actions by regulatory authorities, which are not in the ordinary course of business in each case against (i) the Trust, its associates and the Project SPVs; (ii) the Sponsor, the Project Manager, the Investment Manager and each of their respective associates and the Sponsor Group; and (iii) the Trustee, as on the date of this Draft Offer Document.

For the purpose of this section, details of all criminal matters, involving the Trust, its associates, the Project SPVs, the Sponsor, the Project Manager, the Investment Manager and their associates and the Trustee and the Sponsor Group have been disclosed.

In respect of the Trust and its associates and the Project SPVs, all other outstanding matters (including all outstanding civil cases, litigations, claims and legal notices), which are quantifiable and which involve an amount in excess of 5% of the total income of the Trust and the Project SPVs for the period ended December 31, 2024, being ₹ 374.55 million have been disclosed. Additionally, all cases where an adverse outcome would materially and adversely affect the business, operations, financial position, prospects or reputation of each of the Trust or the Project SPVs, irrespective of the amount involved, have been disclosed.

In respect of the Sponsor and their associates (including common associates of the Sponsor, Project Manager and/or Investment Manager) and the Sponsor Group all other outstanding matters (including all outstanding civil cases, litigations, claims and legal notices), which are quantifiable for the Sponsor, their associates (including common associates of the Sponsor, Project Manager and/or Investment Manager) and the Sponsor Group, which involve an amount in excess of 5% of the consolidated income of the Sponsor, in accordance with the latest audited financial statements of the Sponsor, being ₹ 27.98 million have been disclosed. Additionally, all outstanding cases where an adverse outcome would materially and adversely affect the business, operations, prospects or reputation of the Sponsor and their associates (including common associates of the Sponsor, Project Manager and/or Investment Manager), Sponsor Group, irrespective of the amount involved, have been disclosed.

In respect of the Investment Manager and their associates all other outstanding matters (including all outstanding cases, litigations, claims and legal notices), which are quantifiable, and involve an amount in excess of 5% of the consolidated net-worth of the Investment Manager, being ₹ 5.63 million have been disclosed. Additionally, all outstanding cases where an adverse outcome would materially and adversely affect the business, operations, prospects or reputation of the Investment Manager, irrespective of the amount involved, have been disclosed.

In respect of the Project Manager and their associates all other outstanding matters (including all outstanding cases, litigations, claims and legal notices), which are quantifiable, and involve an amount in excess of 5% of the consolidated net-worth of the Project Manager, being ₹ 0.02 million have been disclosed. Additionally, all outstanding cases where an adverse outcome would materially and adversely affect the business, operations, prospects or reputation of the Project Manager, irrespective of the amount involved, have been disclosed.

In respect of the Trustee, all outstanding regulatory actions and criminal matters involving the Trustee have been disclosed. All outstanding matters involving the Trustee (including all outstanding cases, litigations, claims and legal notices), which are quantifiable, and which involve an amount exceeding 5% of the total consolidated income of the Trustee as per its latest audited financial statements, being ₹ 28.94 million have been disclosed. Additionally, all cases where an adverse outcome would materially and adversely affect the business, operations, financial position, prospects or reputation of the Trustee, irrespective of the amount involved, have been disclosed.

All direct and indirect tax litigations involving (i) the Trust, its associates and the Project SPVs; (ii) the Sponsor and its associates; (iii) the Sponsor Group; (iv) the Investment Manager and its associates; and (v) the Project Manager and its associates, have been disclosed in a consolidated manner setting out the number of cases and the amount involved. Additionally, all pending cases, where the amount is not ascertainable but considered material by the Trust, the Sponsor, the Investment Manager, the Project Manager or any of their associates, the Project SPVs the Sponsor Group and the Trustee has been disclosed. Further, in cases where outcome of one litigation impacts one or more other litigations, which individually are below materiality threshold, but collectively are above the threshold, such cases have also been disclosed.

A. Litigation and regulatory actions involving the InvIT.

As of the date of this Draft Offer Document, there are no outstanding criminal litigation, regulatory actions or material civil litigation involving the InvIT.

B. Litigation and regulatory actions involving the Associates of the InvIT.

As of the date of this Draft Offer Document, there are no outstanding criminal litigation, regulatory actions or material civil litigation involving the Associates of the InvIT.

C. Litigation and Regulatory Actions involving the Project SPVs.

Outstanding Civil Litigation involving Project SPVs

Nil

Regulatory Proceedings involving Project SPVs

DPHPPL

NHAI, vide its letter dated June 11, 2024 has issued a notice to DPHPPL due to delay in completion of project milestone and certain defaults as set out in the said letter. Pursuant to meetings held at NHAI headquarters, DPHPPL requested for withdrawal of the notice abovementioned on account of its submission of work programme for completion of gaps. NHAI and DPHPPL, through conciliation entered into a settlement agreement dated July 11, 2024. NHAI agreed to drop the notice if DPHPPL completes the whole work by November 30, 2024, however, the same was not completed within the mentioned timeline. However, pursuant to the Settlement Agreement, if the entire project was not completed by DPHPPL by November 30, 2024, then an intention to terminate notice under clause 31.1.2 of the Concession Agreement would be issued to DPHPPL and further action for termination would be taken against DPHPPL including levying of damages as per the Concession Agreement. A review meeting was held with the NHAI chairman and representatives of DPHPPL, wherein NHAI agreed to give an additional extension for completion of the project milestone till March 15, 2025 and to keep the intention to terminate in abeyance. DPHPPL vide its letter dated March 15, 2025 has sought another extension with NHAI till May 31, 2025 for completion of balance works in the project.

Claims

DBHL

- i. DBHL has made various claims regarding the cost estimate in relation to the provision of additional work or services which are not included in the scope of the Project as per the Concession Agreement (“**Change of Scope**” or “**COS**”) as proposed by DBHL or NHAI, including claims for the Change of Scope pursuant to, amongst others, (i) drone video recording of each project every month from the date of award till the completion and biannually during the O&M period; (ii) construction of additional structures consisting of “Drain cum Footpath” in Jam-Dudhai village and “Box Opening” in Tarana village upon public representation; (iii) provision of additional “Minor Bridges” for safeguarding the GAIL Pipeline; (iv) construction of two “Median Openings” upon receipt of representations from the local politicians. However, DBHL informed the independent engineer that the combined cost estimate for the listed particulars above is ₹ 39.19 million as opposed to ₹ 33.21 million approved by NHAI vide principal order dated October 26, 2023. These matters are still pending.
- ii. DBHL, as per the concession agreement is entitled to receive completion cost remaining to be paid as biannual instalments during the operation period of 15 years commencing from the COD. The 1st instalment of annuity payments shall be due and payable within 15 days of the 180th day of COD and the remaining instalments shall be due and payable within 15 days of completion of each of the successive six months. As such the 3rd annuity payment was due on March 24, 2025. Accordingly, DBHL submitted its annuity no. 3 payment request. The completion cost comes to ₹ 10860.00 million considering the descoped value of ₹ 149.20 million accorded vide letter dated December 10, 2024 and revised bid project cost come to ₹ 8670.80 million. After deducting the amount paid in the construction period the balance completion cost comes to ₹ 6471.30 million. Further, recently, the NHAI has forwarded the GST audit report for Signature/Acceptance of DBHL for according ‘in principle’ approval of NHAI. As per audit report, the impact of GST Change in Law on annuity comes to 9.2%. DBHL has given its acceptance vide letter dated February 5, 2025. Accordingly, the GST on annuities due till date is reconciled. In view of these points, DBHL submitted their claim of 3rd annuity, interest on reducing balance of completion cost and O&M payment amounting to ₹ 671.84 million. Apart from this DBHL also submitted that NHAI is yet to release bonus amount of ₹ 33.76 million. This matter is still pending.
- iii. DBHL vide letter dated January 16, 2024 has submitted the GST Impact on annuity payments as per the NHAI Policy Circulars for scrutiny and the payment. Subsequently, NHAI vide interim audit report dated February 3, 2025 has communicated GST Financial Implication of 9.20% and requested to submit the acceptance of the report with duly signed copy as per the Policy Circular 3.3.32 dated May 27, 2024. In this regard, DBHL submitted its acceptance for GST Financial- Implication of 9.20% as per the Interim GST Audit Report by the Auditor vide letter dated February 5, 2025. DBHL requested to immediately provide the in-principal approval and further, payment under Change in Law. This matter is still pending.
- iv. DBHL vide letter dated April 10, 2024, submitted its invoice for release of bonus of ₹ 34.34 million. The independent engineer reviewed the same and recommended for release of an amount of ₹ 25.78 million vide letter dated July 2, 2024.

Upon perusal of the independent engineer's recommendation, it is found that in its recommendation independent engineer has restricted the BPC to 90.20% against the head provisional completion which resulted in reduction of bonus amount. Further, while ascertaining the bonus amount, the reduction in scope is also considered by independent engineer for an amount of ₹ 142.44 million which was revised by DBHL to ₹ 137.190 million recently and is yet to be approved by NHAI. Therefore, the independent engineer was requested to recommend the payment of bonus of ₹ 34.34 million. This matter is still pending.

BMHL

- i. BMHL, in relation to payment of compensation to the landowners for shifting of EHT lines beyond PROW on behalf of NHAI, has claimed compensation from NHAI. BMHL vide letter dated September 17, 2022, conveyed the details of additional land to be acquired for shifting of EHT lines for making the land compensation and commencing the shifting works of EHT towers. NHAI vide letter dated December 12, 2022, requested the District Commissioner, Bangalore Rural and Kolar respectively to determine the compensation. Subsequently, NHAI vide letter dated June 8, 2023 communicated the site inspection report held on June 5, 2023. BMHL vide letter dated September 28, 2023 requested for reimbursement of the land compensation paid by BMHL along with the agreement with the land owner. NHAI vide letter dated January 17, 2024 determined the land compensation and requested BMHL to make the payment to the land owners which would get reimbursed pursuant to which, BMHL made a payment amounting to ₹ 14.57 million for land compensation and land corridor compensation by entering the agreement with the land owners. BMHL by letter dated July 29, 2024 intimated NHAI about the payment of the amount and requested for the reimbursement. BMHL vide letter dated March 4, 2025 requested NHAI for the reimbursement of the amount of ₹ 14.57 million along with damaged due to delayed payment amounting to ₹ 1 million. The matter is currently pending.
- ii. BMHL, has made claims regarding the cost estimate in relation to the provision of additional work or services which are not included in the scope of the project as per the BMHL Concession Agreement ("Change of Scope" or "COS") for monthly drone video recording along with capturing ortho images. BMHL vide letter dated April 27, 2022 informed the Independent Engineer that the NHAI vide policy circulars dated June 10, 2021, October 10, 2021 and November 3, 2021, mandated drone video recording and submission of the same on monthly basis and capturing ortho images during construction period which would constitute a COS and submitted a cost estimate to the Independent Engineer of ₹ 1.44 million. The Independent Engineer vide letter dated October 7, 2023, requested BMHL to submit revised COS proposal. On November 6, 2023, BMHL submitted its compliance to the Independent Engineer and requested the Independent Engineer to provide recommendation for the same to NHAI. The Independent Engineer, vide letter dated December 2, 2023, recommended a cost estimate of ₹ 1.52 million including GST to NHAI. NHAI vide letter dated July 3, 2024 approved the COS proposal for mandatory drone video recording for ₹ 0.97 million. BMHL is yet to receive the amount. The matter is currently pending.

MBHL

- i. MBHL, in relation to payment of compensation to the landowners for shifting of EHT lines beyond PROW on behalf of NHAI, has claimed compensation from NHAI. MBHL vide letter dated October 21, 2022, conveyed the details of additional land to be acquired for shifting of EHT lines for making the land compensation and commencing the shifting works of EHT towers. NHAI vide letter dated December 12, 2022, requested the District Commissioner, Kolar to determine the compensation. Subsequently, NHAI vide letter dated June 8, 2023 communicated the site inspection report held on June 5, 2023. BMHL vide letter dated September 29, 2023 requested for reimbursement of the land compensation paid by MBHL along with the agreement with the land owner. NHAI vide letter dated January 17, 2024 determined the land compensation and requested MBHL to make the payment to the land owners which would get reimbursed pursuant to which, MBHL made a payment amounting to ₹ 4.12 million for land compensation and land corridor compensation by entering the agreement with the land owners. MBHL by letter dated July 29, 2024 intimated NHAI about the payment of the amount and requested for the reimbursement. MBHL vide letter dated March 4, 2025 requested NHAI for the reimbursement of the amount of ₹ 4.12 million along with damaged due to delayed payment amounting to ₹ 0.61 million. The matter is currently pending.
- ii. MBHL, has made claims regarding the cost estimate in relation to the provision of additional work or services which are not included in the scope of the project as per the MBHL Concession Agreement ("Change of Scope" or "COS") for monthly drone video recording along with capturing ortho images. On November 7, 2023, MBHL informed the Independent Engineer that the NHAI vide policy circulars dated June 10, 2021, and November 3, 2021, which mandated drone video recording and submission of the same on monthly basis during construction period and bi-annually during O&M period will constitute a COS. MBHL also informed that NHAI vide policy circular dated October 11, 2021, which mandated capturing ortho images of the project for approximately 10% (ten percent) of the project length will also constitute a COS and submitted a cost estimate of ₹ 1.49 million. The Independent Engineer vide letter dated January 30, 2024 recommended a cost estimate of ₹ 1.57 million including GST to NHAI. NHAI vide letter dated July 3, 2024 to MBHL approved the COS proposal for mandatory drone recording for an amount of ₹ 0.97 million excluding GST. The amount is yet to be received,

and the matter is pending.

DHHL

- i. DHHL, in relation to reimbursement of GST impact on annuities upto 3rd annuity, has claimed payment of GST of amount of ₹ 53.75 million from NHAI. DHHL vide letter dated October 8, 2024 accepted the special GST audit report of the Independent Engineer which states that there is a GST impact of 10.21% on the annuities as per NHAI policy guidelines dated November 12, 2024 (“Guidelines”). As per the Guidelines, upon acceptance of the report by DHHL, the in-principle approval from the authority shall be conveyed which in the given case was conveyed vide letter dated January 13, 2025. DHHL vide letter dated January 18, 2025 and February 15, 2025 applied for reimbursement of GST for the first 3 annuities of amount ₹ 53.75 million. The matter is currently pending.
- ii. DHHL, in relation to release of balance payment of additional GST at the rate of 5.36% as per NHAI Circular 3.3.27/2022 dated December 23, 2022 withheld, has raised a claim to receive the balance pending amount of ₹ 10.15 million. DHHL vide letter dated July 28, 2023 had submitted the claim for RA Bill 06 COS 01. The Independent Engineer recommended the bill to NHAI and subsequently the payment was made to DHHL. However, the payment was made at an applicable GST rate of 12% instead of 18% thereby withholding an amount of ₹ 20.68 million GST applicable due to change in law. Consequently DHHL, vide letter dated October 31, 2023 filled the GST and the corresponding documents as certified by the statutory auditor requesting for the withheld amount of ₹ 20.68 million. However, NHAI released a payment of ₹ 10.55 million only. NHAI vide letter dated December 5, 2023 stated that the actual GST filled by DHHL is ₹ 10.55 million which has been reimbursed. DHHL vide letter dated August 1, 2024 clarified that NHAI considered only outward taxable supplies as per GST 3B. However credit notes with GST aggregating to ₹ 10.15 million adjusted in the section 9B- credit/debit notes (registered)- CDNR of the GST R1 and full GST due on COS-01 RA bill-06 i.e. ₹ 20.68 million was deposited with NHAI. Basis this DHHL raised a claim of to receive the balance pending amount of ₹ 10.15 million. The matter is currently pending.

RHL

- i. RHL, had submitted a letter to NHAI, in relation to the provision of additional work or services which were not included in the scope of the project as per its Concession Agreement (“**Change of Scope**”), The Change of Scope was pursuant to, amongst others, certain additional works necessitated towards wildlife mitigation measures as a condition imposed by National Board for Wildlife; (ii) providing additional vents; (iii) construction of certain irrigation canal crossings, and service roads and (iv) certain additional works necessitated towards wildlife mitigation measures as a condition imposed by National Board for Wildlife.. After review of the letter setting out the Change of Scope the independent engineer, vide its letter dated January 18, 2022, informed RHL, that there are certain discrepancies in the detailed cost estimate submitted by RHL and requested RHL to revise the cost estimate. Upon receipt of Change of Scope proposal for RHL received from the independent engineer, the project director of NHAI, vide letter dated March 29, 2022, recommended a combined cost estimate of ₹ 572.92 million for the Change of Scope. However, on July 19, 2022, NHAI accorded an in principle approval for the Change of Scope with the combined cost estimate of ₹ 467.90 million (including GST and other charges). In response, RHL, vide its letter dated July 25, 2022, submitted a letter to NHAI protesting against NHAI’s approval of combined cost estimate of ₹ 467.90 million.. The matter is still pending.
- ii. RHL has requested for compensation from NHAI, by way of claims, in relation to loss of revenue due to increase in rate of seigniorage fee and the imposition of permit fee as per the amendment order issued by the Department of Industries and Commerce (Mines I), Government of Telangana: (i) bearing reference number G.O.Ms. No. 18 dated March 31, 2022; (ii) bearing reference number G.O.Ms. No. 21 dated March 31, 2022 (“**Change in Law**”). Accordingly, RHL submitted ₹ 161.83 million towards tentative financial implication caused due to the Amendment Orders. Accordingly, on December 30, 2023, RHL submitted the revised cost estimate of ₹ 88.73 million due to the foregoing Change in Law. This matter is still pending.
- iii. RHL in relation to the second instalment of annuity payment which was due on October 17, 2024, as per the Concession Agreement, has submitted a claim amounting to ₹ 940.70 million. NHAI vide its Policy Circular 3.3.27 dated 23rd December 2022 has introduced the applicability of the GST on the annuities and clarified that the payment of the GST on annuities shall be made as per the annexure-IV provided in the Circular. Pursuant to the Circular, RHL submitted a letter dated March 6, 2024 as per which the GST calculation as per the Circular ought to be 15.17%. During the payment of the 1st annuity NHAI had made inappropriate payment by not considering the amount of work done in de link stretches and also withheld an amount of ₹ 92.30 million for the reason of delay in achieving the milestones as per a settlement agreement between RHL and NHAI (“**Settlement Agreement**”). In response, RHL vide its letter dated September 9, 2024 has requested to release the balance amount of annuity and interest along with the withheld amount as per the provisions of its Concession Agreement, as cumulative payment of second instalment of annuity payment but the payment of the same is awaited. This matter is currently pending.

- iv. RHL vide its letter dated September 9, 2024, submitted a claim for release of damages withheld and balance interest on 1st annuity due to inappropriate method adopted by the independent engineer during annuity calculation, because of which RHL was not being paid the amount of works executed in the de link stretches up to the date of provisional completion certificate of the project from the appointed date. Further, due to such inappropriate calculation, RHL was not getting the interest on the amount invested in the de link stretches at the time of PCC. Additionally, NHAI during the payment of the 1st annuity had withheld the earlier released damages amount of ₹ 92.30 million. RHL had already submitted the balance works programme up to April 30, 2024 instead of December 31, 2023 by clearly briefing the delays that occurred in the completion of the balance works which were not revealed and not expected at the time of the execution of the Settlement Agreement. Despite these odds RHL had completed the entire length of project highway by March 30, 2024 and placed the highway commercially operational. Therefore, RHL requested to release the balance amount of 235.70 million. This matter is still pending.

VHL

- i. In regard to VHL, on July 20, 2023, NHAI directed that the descope of way side amenities, as per NHAI's policy circular no. 18.79 dated July 05, 2023, from the scope of work of the VHL Concession Agreement. NHAI further directed VHL to submit a cost estimate for the descope of wayside amenities. VHL, vide letter dated August 04, 2023, submitted a cost estimate of ₹ 41.81 million. On August 21, 2023, the Independent Engineer recommended a cost estimate of ₹ 40.84 million and a revised bid project cost of ₹ 10,089.25 million. Thereafter, the project director, NHAI, vide letter dated October 26, 2023, recommended a cost estimate of ₹ 41.27 million and a revised bid project cost of ₹ 10,088.72 million. The Independent Engineer pursuant to its letter dated March 27, 2024, to NHAI, has informed NHAI that it has verified the details of de-scoping as submitted by VHL and has submitted the detailed estimate of de-scoping. This matter is still pending.
- ii. VHL vide letter dated September 10, 2024 has submitted an application for claim of first annuity, interest on reducing balance completion cost and O&M payments amounting to ₹ 588.20 million. On request of the Independent Engineer, VHL vide its letter dated October 11, 2024 has resubmitted the revised application amounting to ₹ 581.52 million by considering the works done up to the provisional completion certificate i.e. April 4, 2024 as per the Settlement Agreement dated November 10, 2023. Subsequently, the Independent Engineer vide letter dated October 15, 2024 recommend the first annuity proposal amounting to ₹ 58.79 crores for further payment. NHAI vide its letter dated October 18, 2024 addressed to the Independent Engineer, marking VHL, requesting the Independent Engineer to work out the annuity proposal only for 27.25 km (provisional completion certificate length out of 29 km) by duly considering points in relation to finalisation of descope, penalty for non-completion of Punchlist items, as set out in the Concession Agreement, and poor maintenance of the project highway. The Independent Engineer vide letter dated October 28, 2024 recommended first annuity, interest on reducing balance completion cost and O&M payments amounting to ₹ 489.74 million. Subsequently, the Project Director vide letter dated October 29, 2024 recommended the first annuity amounting to ₹ 405.22 million to NHAI. VHL vide its letter dated November 30, 2024 has submitted comments on the first annuity payment made by NHAI in relation non-consideration of the amount of work done in the de-link stretches during calculation of bid project cost and non-consideration of price escalation on the O&M payment and has requested NHAI for the remaining amount of ₹ 118.24 million in the first annuity payment. This matter is still pending.

NPHL

- i. NHAI had requested the NPHL to provide details of the completed and actual quantity of firewood/timber for verification by an independent engineer, and additional financial implications incorporating the firewood quantity as certified by the forest department (without 40% deduction) and revised transportation cost, for the consideration of NHAI. NHAI and NPHL were at consensus regarding the total quantity of the fuelwood. However, while according to the approval of the estimate of the Tree felling/translocation works, NHAI reduced the total quantity of the fuelwood by 40% by considering the voids in the stack which is against trade practice. Upon NPHL's request, NHAI requested clarification on fuel wood quantity and reduction of 40% fuelwood quantity from the Forest Department. The Forest Department vide its letter dated January 16, 2024 mentioned that all quantities of fuelwood are duly verified from the department after proper void deduction and there is no scope for further deduction of fuelwood quantity by 40%. Therefore, the deduction of 40% fuelwood in the estimate provided by NHAI stands null and void. NPHL vide its letter dated March 7, 2024 submitted RA Bill 03 along with withheld 40% fuelwood amounting to ₹ 19.47 million. However, upon Independent Engineer's request, NPHL vide its letter dated May 1, 2024 resubmitted the RA Bill 03 along with a comparison of details of the quantities approved by NHAI and the additional 40% firewood quantities. NPHL vide its letter submitted additional financial implication vide its letter dated September 19, 2024 and requested the Independent Engineer to review the same. The Independent Engineer vide its letter dated September 25, 2024 recommended to NHAI for its approval an estimated of tree felling work with additional financial implication amounting to ₹ 24.41 million. Additionally, NPHL vide its letter November 22, 2024 requested NHAI to expediate the approval and release the payment against RA Bill 03. This matter is still pending.
- ii. In relation to release of first annuity payment NPHL submitted a proposal for descope of miscellaneous works vide its

letter dated July 16, 2024 amounting ₹ 268.42 million. Further, due to non-handing over of the encumbrance free land, NPHL submitted descope proposal of balance punch list items. Subsequently, the Independent Engineer vide its letter dated August 23, 2024 recommended the descope proposal of balance of punch list items amounting to ₹ 71.23 million. The Independent Engineer, vide its letter dated October 07, 2024 revised the Bid Project Cost to ₹ 18,469 million. Basis the aforementioned letter, the Independent Engineer stated that the corrected completion cost of NPHL comes to ₹ 21,858.80 million. NHAI has already paid ₹ 8,839.22 million towards the achievement of the Payment Milestones. Hence, the Completion Cost remaining to be paid to the Concessionaire after deducting the amount already paid by the Authority during the Construction period amounting to be ₹ 13,01,9.58 million. NHAI vide its letter dated October 23, 2024 remitted the annuity payment, however, NPHL vide its letter dated November 22, 2024 requested for the O&M payment to be released. This matter is still pending.

- iii. NPHL has made certain claims against NHAI in relation to (i) amount withheld due to submission of proof of deposition of royalty by NHAI against utilized quantity of mineral from milestones payments and seigniorage fees amounting to approximately ₹ 28.7 million; (ii) release of payment against construction of small vehicular underpass under change of scope amounting to approximately ₹ 19.86 million; (iii) submission of change of scope for underpass and construction of service road amounting to approximately ₹ 2.14 million; and (iv) release of payment on GST impact of 9.19% on first annuity payment amounting to approximately ₹ 25.12 million. NPHL has also made a claim against NTPC Farakka with NHAI for balance payment in relation to fly ash transportation along with GST amount aggregating to ₹ 478.58 million. These matters are currently pending.

DPHPPL

- i. DPHPPL, pursuant to the provisions of the concession agreement, was required to construct flyovers, minor bridges and underpasses which required a substantial quantity of filling materials. The quantity of such filling materials was estimated to be 18,91,647 cubic meters. The Ministry of Road Transport and Highways, issued certain notifications on August 27, 2018 and April 22, 2021 in relation to mandatory use of fly ash in road works (“**Notifications**”). Pursuant to the same, DPHPPL vide letter dated June 6, 2021 to the deputy general manager at NHAI project implementation unit at Dindigul, confirmed that they will be able to comply with the requirements of the Notifications provided that the Mettur Thermal Power Station (“**MTPS**”) fulfils the conditions relevant to them. Based on DPHPPL’s request the chief engineer at IMTPS, vide its letter dated July 14, 2021 confirmed that wet fly ash can be spared for the instant project at the cost of ₹ 71/- per MT with GST at 5%. DPHPPL vide letter dated August 02, 2021, stated that as per the Notifications and the concession agreement DPHPPL was entitled to avail the fly ash for construction work without any cost and requested Hon’ble Member-Project of NHAI to kindly take up the matter with Ministry of Power and MTPS. DPHPPL vide letter dated September 4, 2021, highlighted that the cost for procurement of ash, its loading, transportation, unloading and the associated charges were not counted to be a part of the Bid. However, the independent engineer vide letter dated October 26, 2021, submitted its opinion that utilization of fly ash is within the scope of the concession agreement. DPHPPL contested this opinion vide letter dated November 1, 2021. As the matter was getting delayed and there were no conclusive decision on part of NHAI towards absorption of the costs of fly ash being demanded by MTPS, DPHPPL, in order to expedite the progress of the works, vide its letter dated June 11, 2022, and to avoid further delays to the project works progress, informed that it had used the soil / borrow earth amounting a quantity of 4,67,200 cubic meters for RE Wall filling Works in lieu of ash which was required to be provided free of cost for the project. DPHPPL requested NHAI to pay the costs as highlighted by letter dated April 22, 2022 amounting to ₹ 2412.09 million or pay the cost of borrow earth amounting to ₹ 2499.25 million. This claim is currently pending.
- ii. DPHPPL, in relation to additional works not included in the scope of work compromising of claim of ₹ 113.82 million towards difference for RE wall works due to consideration of surcharge slope as 1V:1.5H was submitted to NHAI. DPHPPL vide letter dated May 12, 2020 informed PH NHAI’s office regarding the discrepancy surrounding the surcharge slope of 1:1 i.e. 1H to 1V for future widening of flyover/LVUP approaches. Similar submissions of concessionaires from adjustment packages of Kamalapuram to Pollachi section of NH-209 (New NH-83) were observed. DPHPPL submitted its change of scope proposal vide letter dated October 10, 2020 with two possible options. The independent engineer vide letter dated December 15, 2020 also suggested modifications to typical cross section drawings. However, PD NHAI, vide letter dated September 30, 2021 instructed DPHPPL to follow provisions of the concession agreement i.e. 1V:1H surcharge slope. DPHPPL vide its letter dated October 13, 2021 submitted its detailed representation regarding the 1V:1H surcharge slope and submitted the cost difference along with revised design and drawings vide letter dated April 22, 2022 for RE wall works due to consideration of 1V:1.5H against 1V:1H amounting to ₹127.08 million (rate of GST being 12%). DPHPPL, vide letter dated July 21, 2022 revised this amount to ₹ 113.82 million due to increase in the GST rate from 12% to 18% w.e.f July 18, 2022. The independent engineer’s found these designs and drawings satisfactory and hence DPHPPL executed the RE wall with surcharge of 1V:1.5H. TL’s office vide its letter dated December 12, 2020 and PD NHAI’s office vide its letter dated November 11, 2020 submitted positive recommendations. DPHPPL vide its letter dated January 17, 2024 and January 25, 2024, reiterated the issue and requested PD NHAI to pursue the representations on the matter together with the financials implications as detailed vide its letter dated April 22, 2022 and recommend for the reimbursement of additional amounts. This matter is currently pending.

D. Litigation and regulatory actions involving the Sponsor, its Associates and the Sponsor Group

Litigation and Regulatory Proceedings involving the Sponsor, its Associates and Sponsor Group

Sponsor

Outstanding Civil Litigation

Nil

Outstanding Regulatory Actions

Nil

Outstanding Criminal Litigation

Nil

Sponsor – Associates

Outstanding Civil Litigation

Nil

Outstanding Regulatory Actions

Nil

Outstanding Criminal Litigation

Nil

Sponsor Group

Outstanding Civil Litigation

Nil

Outstanding Regulatory Actions

Nil

Outstanding Criminal Matters

Nil

E. Litigation and regulatory proceedings involving the Project Manager and its Associates

Nil

F. Litigation and regulatory proceedings involving the Investment Manager and its Associates

Nil

G. Litigation and regulatory proceedings involving the Trustee

Nil

H. Taxation Proceedings

Details of all outstanding direct tax and indirect tax matters against the Trust, the Project SPVs, the Sponsor, the Project Manager, the Investment Manager, their respective Associates and the Sponsor Group as of the date of this Draft Offer Document, are as follows:

Sr. No.	Nature of Case	Number of cases	Amount involved (in ₹ million)
Trust, its Associates and the Project SPVs			
Trust			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	Nil	Nil
DHHL			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	2	1786.82
DBHL			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	1	27.81
VHL			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	Nil	Nil
NPHL			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	1	1512.00
RHL			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	Nil	Nil
BMHL			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	2	715.28
MBHL			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	Nil	Nil
PHL			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	2	126.28
DPHPPL			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	Nil	Nil
Sponsor			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	Nil	Nil
Associates of the Sponsor (apart from the Project SPVs)			
1.	Direct Tax	7	13.35
2.	Indirect Tax	3	65.10
Project Manager and its Associates			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	Nil	Nil
Investment Manager and its Associates			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	Nil	Nil
Sponsor Group			
1.	Direct Tax	Nil	Nil
2.	Indirect Tax	Nil	Nil

SECURITIES MARKET OF INDIA

The information in this section has been extracted from documents available on the website of SEBI and the Stock Exchanges and has not been prepared or independently verified by the Parties to the Trust or the Lead Manager or any of their respective affiliates or advisors. The information below is given for the benefit of investors in the Issue. Investors are advised to make their independent investigations and ensure that they are eligible to subscribe to, purchase or otherwise acquire the Units they Bid for under Indian laws or regulations.

The Indian Securities Market

India has a long history of organized securities trading. In 1875, the first stock exchange was established in Mumbai. The BSE and the NSE, together hold a dominant position among the stock exchanges in terms of the number of listed companies, market capitalisation and trading activity.

Stock Exchange Regulation

Indian stock exchanges are regulated primarily by SEBI, as well as by the Government acting through the Ministry of Finance, Capital Markets Division, under the Securities Contracts (Regulation) Act, 1956 (“**SCRA**”) and the Securities Contracts (Regulation) Rules, 1957 (“**SCRR**”). SEBI, in exercise of its powers under the SCRA and the SEBI Act, notified the SCR (SECC) Regulations, which regulate *inter alia* the recognition, ownership and internal governance of stock exchanges and clearing corporations in India together with providing for minimum capitalisation requirements for stock exchanges. The SCRA, the SCRR and the SCR (SECC) Regulations along with various rules, bye-laws and regulations of the respective stock exchanges, regulate the recognition of stock exchanges, the qualifications for membership thereof and the manner, in which contracts are entered into, settled and enforced between members of the stock exchanges.

The SEBI Act empowers SEBI to regulate the Indian securities markets, including stock exchanges and intermediaries in the capital markets, promote and monitor self-regulatory organisations and prohibit fraudulent and unfair trade practices. Regulations concerning minimum disclosure requirements by public companies, rules and regulations concerning investor protection, insider trading, substantial acquisitions of shares and takeover of companies, buy-backs of securities, employee stock option schemes, stockbrokers, merchant bankers, underwriters, mutual funds, foreign portfolio investors, credit rating agencies and other capital market participants have been notified by the relevant regulatory authority.

Listing and Delisting of Units

The InvIT Regulations provide for listing and delisting of units of infrastructure investment trusts on the stock exchanges.

BSE

Established in 1875, it is the oldest stock exchange in India. In 1957, it became the first stock exchange in India to obtain permanent recognition from the Government under the SCRA. It has evolved over the years into its present status as one of the premier stock exchanges of India.

NSE

NSE was established by financial institutions and banks to provide nationwide online, satellite-linked, screen-based trading facilities with market-makers and electronic clearing and settlement for securities including government securities, debentures, public sector bonds and units. It has evolved over the years into its present status as one of the premier stock exchanges of India. NSE was recognised as a stock exchange under the SCRA in April 1993 and commenced operations in the wholesale debt market segment in June 1994. The capital market (equities) segment commenced operations in November 1994 and operations in the derivatives segment commenced in June 2000.

Internet-based Securities Trading and Services

Internet trading takes place through order routing systems, which route client orders to exchange trading systems for execution. Stockbrokers interested in providing this service are required to apply for permission to the relevant stock exchange and also have to comply with certain minimum conditions stipulated by SEBI. The NSE became the first exchange to grant approval to its members for providing internet-based trading services. Internet trading is possible on both the “equities” as well as the “derivatives” segments of the NSE.

Trading Hours

Trading on both the NSE and the BSE occurs from Monday to Friday, between 9:15 a.m. and 3:30 p.m. 1ST (excluding the 15 minutes pre-open session from 9:00 a.m. to 9:15 a.m. that has been introduced recently). The NSE and the BSE are closed on public holidays. The recognised stock exchanges have been permitted to set their own trading hours (in the cash and derivatives segments) subject to the condition that (i) the trading hours are between 9.00 a.m. and 5.00 p.m.; and (ii) the stock exchange has in place a risk management system and infrastructure commensurate to the trading hours.

Trading Procedure

In order to facilitate smooth transactions, the BSE replaced its open outcry system with BSE On-line Trading facility in 1995. This totally automated screen-based trading in securities and was put into practice nationwide. This has enhanced transparency in dealings and has assisted considerably in smoothening settlement cycles and improving efficiency in back-office work.

NSE has introduced a fully automated trading system called NEAT, which operates on strict time/price priority besides enabling efficient trade. NEAT has provided depth in the market by enabling large number of members all over India to trade simultaneously, narrowing the spreads.

Depositories

The Depositories Act provides a legal framework for the establishment of depositories to record ownership details and effect transfer in book-entry form. Further, SEBI framed regulations in relation to the registration of such depositories, the registration of participants as well as the rights and obligations of the depositories, participants, companies and beneficial owners. The depository system has significantly improved the operation of the Indian securities markets.

RIGHTS OF UNITHOLDERS

The rights and interests of Unitholders are included in this Draft Offer Document and the InvIT Regulations. Under the Trust Deed and the Investment Management Agreement, these rights and interests are safeguarded by the Trustee and the Investment Manager, respectively. Any rights and interests of Unitholders as specified in this Draft Offer Document would stand qualified by and deemed to be amended to the extent of any amendment to the InvIT Regulations.

Beneficial Interest

Each Unit represents an undivided beneficial interest in the Trust. The beneficial interest of each Unitholder shall be equal and limited to the proportion of the number of Units held by the Unitholder to the total number of Units. A Unitholder has no equitable or proprietary interest in the InvIT Assets and is not entitled to transfer of the InvIT Assets (or any part thereof) or any interest in the InvIT Assets (or any part thereof) of the Trust. A Unitholder's right is limited to the right to require due administration of the Trust in accordance with the provisions of the Trust Deed and the Investment Management Agreement.

Ranking

No Unitholder of the Trust shall enjoy superior voting or any other rights over another Unitholder. Further, the Units shall not have multiple classes. However, subordinate Units may be issued only to the Sponsor and its Associates, where such subordinate units carry only inferior voting or any other rights compared to other Units in the future in accordance with Regulation 4(2)(h) of the InvIT Regulations.

Redressal of grievances

The Investment Manager shall ensure adequate and timely redressal of all Unitholders' grievances pertaining to the activities of the Trust, and the Trustee shall periodically review the status of Unitholders' complaints and their redressal undertaken by the Investment Manager. The Investment Manager shall maintain records of the Unitholders' grievances and the actions taken thereon, including copies of correspondences made with the Unitholders. For details, please see the section entitled "*Corporate Governance*" on page 156.

Distribution

The Unitholders shall have the right to receive distributions in accordance with the InvIT Regulations and in the manner provided in this Draft Offer Document. For details, please see the section titled "*Distribution*" on page 346.

Meeting of Unitholders

Meetings of Unitholders will be conducted in accordance with the InvIT Regulations.

Passing of resolutions

1. With respect to any matter requiring approval of the Unitholders:
 - (i) a resolution shall be considered as passed when the votes cast by Unitholders, so entitled and voting, in favour of the resolution exceed a certain percentage as specified in the InvIT Regulations, of total votes cast;
 - (ii) the voting threshold specified under the InvIT Regulations shall be calculated on the basis of Unitholders present and voting. Further, The Unitholders voting through the electronic voting facility and postal ballot shall be counted for the determination of Unitholders present and voting;
 - (iii) the voting may be done by postal ballot or electronic mode;
 - (iv) a notice of not less than 21 days shall be provided to the Unitholders. However, a meeting of Unitholders may be called after giving shorter notice than 21 days, if consent, in writing or by electronic mode, is accorded thereto, (a) in case of an annual meeting, by not less than 95% of the Unitholders entitled to vote thereat, and (b) in case of any other meeting, by majority of the Unitholders in number entitled to vote thereat and who represent not less than 95% of such part of the units by value as gives a right to vote at the meeting;
 - (v) voting by any Unitholder (including, the Sponsor in its capacity as a Unitholder), who is a related party in such transaction, as well as associates of such Unitholder(s) shall not be considered on the specific issue;
 - (vi) the Investment Manager shall be responsible for all the activities pertaining to conducting of meeting of the Unitholder, subject to oversight by the Trustee. However, for issues pertaining to the Investment Manager, including a change in the Investment Manager, removal of Investment Manager or change in control of Investment Manager; the Trustee shall convene and handle all activities pertaining to conduct of the meetings. Additionally, for issues

pertaining to the Trustee, including change in Trustee, the Trustee shall not be involved in any manner in the conduct of the meeting; and

- (vii) for all Unitholder meetings, the investment manager shall provide an option to the Uni holders to attend the meeting through video conferencing or other audio visual means and the option of remote electronic voting in the manner as may be specified by SEBI.

2. For the Trust:

- (i) an annual meeting of all Unitholders shall be held not less than once a year within 120 days from the end of each financial year and the time between two meetings shall not exceed 15 months;
- (ii) with respect to the annual meeting of Unitholders,
 - any information that is required to be disclosed to the Unitholders and any issue that, in the ordinary course of business, may require approval of the Unitholders may be taken up in the meeting including:
 - latest annual accounts and performance of the Trust;
 - approval of auditors and fee of such auditors, as may be required;
 - latest valuation reports;
 - appointment of valuer, as may be required; and
 - any other issue; and
 - for any issue taken up in such meetings which require approval from the Unitholders, votes cast in favour of the resolution shall be more than 50% of the total votes cast for the resolution unless otherwise specified under the InvIT Regulations.

3. Notwithstanding generally of the foregoing, in case of the following, approval from the Unitholders shall be required where the votes cast in favour of the resolution shall be more than 50% of the total votes cast for the resolution:

- (i) any approval from the Unitholders required in terms of Regulation 18 (*Investment conditions and dividend policy*), Regulation 19 (*Related Party Transactions*) and Regulation 21 (*Valuation of assets*) of the InvIT Regulations to the extent applicable;
- (ii) any borrowings, in excess of the limits specified under Regulation 20(3) of the InvIT Regulations;
- (iii) any transaction, other than any borrowing, the value of which is equal to or greater than 25% of the Project SPVs;
- (iv) increasing period for compliance with investment conditions to one year in accordance with Regulation 18(5)(c) of the InvIT Regulations;
- (v) any issue, in the ordinary course of business, which in the opinion of the Sponsor or the Trust or the Investment Manager, is material and requires approval of the Unitholders, if any; and
- (vi) any issue for which SEBI or the designated stock exchange requires approval.

4. In case of the following, approval from the Unitholders shall be required where the votes cast in favour of the resolution shall be at least 60% of total votes cast for the resolution:

- (i) any change in the Investment Manager including removal of the investment manager or change in control of the investment manager;
- (ii) any material change in investment strategy or any change in the management fees of the Trust;
- (iii) the Trustee and Investment Manager proposing to seek delisting of units of the Trust as per the InvIT Regulations;
- (iv) any issue, not in the ordinary course of business, which in the opinion of the Sponsor or Investment Manager or the Trustee of the Trust requires approval of the Unitholders;
- (v) any issue for which SEBI or the designated stock exchange requires approval;
- (vi) any issue taken up on request of the Unitholders including:

- a) removal of the Investment Manager and appointment of another investment manager to the Trust;
 - b) removal of the Auditors and appointment of another auditor to the Trust;
 - c) removal of the Valuer and appointment of another valuer to the Trust;
 - d) delisting of the Trust, if the Unitholders have sufficient reason to believe that such delisting would act in the interest of the Unitholders;
 - e) any issue which the Unitholders have sufficient reason to believe that is detrimental to the interest of the Unitholders; and
 - f) change in the Trustee, if Unitholders have sufficient reason to believe that acts of the Trustee are detrimental to the interest of Unitholders.
- (vii) introduction of unit based employee benefit scheme after an initial offer in the manner and form set out under the InvIT Regulations.

With respect to the rights of the Unitholders under clause 4(vi) above:

- (i) save as set out in (iii) below, not less than 25% of the Unitholders by value, other than any party related to the transactions and its associates, shall apply, in writing, to the Trust for the purpose;
- (ii) on receipt of such application, the Trustee shall require, with the Investment Manager to place the issue for voting in the manner as specified in the InvIT Regulations; and
- (iii) with respect to clause 4(vi)(f) above, not less than 60% of the Unitholders by value shall apply, in writing, to the Trust for the purpose.

Information rights

The Investment Manager, on behalf of the Trust, shall also submit such information to Stock Exchange and the Unitholders, on a periodical basis as may be required under the InvIT Regulations and the Listing Agreement to be entered into with Stock Exchange. The Investment Manager (on behalf of the Trust) shall disclose to Stock Exchange, the Unitholders and SEBI, all such information and in such manner as specified under the InvIT Regulations and such other requirements as may be specified by SEBI. The Investment Manager, on behalf of the Trust, shall also provide disclosures or reports specific to the sector or sub-sector in which the Trust has invested or proposes to invest, in the manner as may be specified by SEBI.

Nomination Rights

Unitholder(s), holding not less than 10% of the total outstanding Units, either individually or collectively, shall be entitled to nominate one director on the board of directors of the Investment Manager.

Buyback of Units

Any buyback of Units shall be in accordance with the Trust Deed and the InvIT Regulations.

De-listing of Units

Any delisting of Units shall be in accordance with the Trust Deed and the InvIT Regulations.

DILUTION

Dilution is the amount by which the Issue Price exceeds the net asset value (“NAV”) per Unit, immediately after the completion of this Issue. NAV per Unit is determined by subtracting the total liabilities of the Trust from the total assets of the Trust and dividing by the number of Units issued and outstanding immediately before this Issue. There was no *pro forma* NAV before this Issue for the Units.

The Trust will issue [●] Units at an Issue Price of ₹ [●] for each Unit, resulting in a combined NAV of the Trust of approximately ₹ [●] million or ₹ [●] per Unit based on the total number of Units outstanding after the completion of this Issue. This represents an immediate dilution in combined NAV of approximately ₹ [●] per Unit to the Unitholders, subscribing in this Issue.

The following provides the per Unit dilution as on [●]:

Combined NAV per Unit before this Issue	[●]
Combined NAV per Unit after this Issue	₹ [●]
Dilution in NAV per Unit to Unitholders	₹ [●]
Dilution to Unitholders as a percentage of the Issue Price	[●]%

ISSUE STRUCTURE

Initial public offer of up to [●] Units by the Trust for cash at price of ₹ [●] per Unit aggregating up to ₹ 4,000.00 million. This Issue is being made through the Book Building Process. This Issue shall constitute at least 10% of the total outstanding Units on a post-Issue basis.

Particulars	Institutional Investors ⁽¹⁾	Non-Institutional Investors	Strategic Investors
Number of Units available for Allotment/Allocation ⁽²⁾	Not more than [●] Units	Not less than [●] Units	Not less than [●] Units and not more than [●] Units, either jointly or severally with other Strategic Investors
Percentage of Issue Size available for Allotment/Allocation	Not more than 75% of the Issue Size (excluding Strategic Investor Portion) ⁽¹⁾	Not less than 25% of the Issue Size (excluding Strategic Investor Portion)	Not less than 5% of the Issue and not more than 25% of the Issue Size
Basis of Allotment/Allocation if respective category is oversubscribed	Proportionate	Proportionate	Discretionary
Minimum Bid	Such number of Units that the Bid Amount exceeds ₹ [●] and in multiples of [●] Units thereafter	Such number of Units that the Bid Amount exceeds ₹ [●] and in multiples of [●] Units thereafter	[●] Units, either jointly or severally with other Strategic Investors, being not less than 5% of the Issue Size
Maximum Bid	Such number of Units (in multiples of [●] Units) not exceeding the size of the Issue, subject to applicable limits (excluding the Strategic Investor Portion)	Such number of Units (in multiples of [●] Units) not exceeding the size of the Issue, subject to applicable limits (excluding the Strategic Investor Portion)	Such number of Units (in multiples of [●] Units) not exceeding 25% of the Issue Size
Mode of Allotment	Compulsorily in dematerialised form	Compulsorily in dematerialised form	Compulsorily in dematerialised form
Bid Lot	[●] Units and in multiples of [●] Units thereafter	[●] Units and in multiples of [●] Units thereafter	[●] Units and in multiples of [●] Units thereafter
Allotment Lot	[●] Units and in multiples of [●] Units thereafter	[●] Units and in multiples of [●] Units thereafter	[●] Units and in multiples of [●] Units thereafter
Trading Lot	[●] Units	[●] Units	[●] Units
Who can apply ⁽³⁾	(i) QIBs; or (ii) family trusts or intermediaries registered with SEBI, with net-worth of more than ₹ 5,000 million, as per their last audited financial statements	Bidders other than Institutional Investors, eligible to apply in this Issue	(i) Infrastructure finance company registered with the Reserve Bank of India as a Non-Banking Financial Company; or (ii) Scheduled Commercial Bank; or (iii) Multilateral and/or bilateral development financial institution; or (iv) Systemically important Non-Banking Financial Company registered with the Reserve Bank of India; or (v) Foreign Portfolio Investor; or (vi) Insurance companies registered with IRDAI; or (vii) Mutual funds

Particulars	Institutional Investors ⁽¹⁾	Non-Institutional Investors	Strategic Investors
Terms of Payment	Full Bid Amount shall be blocked by the SCSBs in the bank account of the ASBA Bidder that is specified in the Bid cum Application Form (including for Anchor Investors) ⁽⁴⁾	For individual Non-Institutional Investors Bidding with a Bid Amount of up to ₹ 0.50 million or less and Bidding through the UPI Mechanism: Full Bid Amount shall be blocked by the Sponsor Bank in the bank account of the Non-Institutional Investor that is specified in the Bid cum Application Form; Full Bid Amount shall be blocked by the SCSBs in the bank account of the ASBA Bidder that is specified in the Bid cum Application Form	Subscription price per Unit, payable by the Strategic Investors shall be set out in the Strategic Investor Unit Subscription Agreement and the entire subscription price shall be deposited in a special escrow account prior to opening of the Issue. See “Issue Information” on 410 ⁽⁵⁾

⁽¹⁾ The Investment Manager in consultation with the Lead Manager may allocate up to 60% of the Institutional Investor Portion to Anchor Investors on a discretionary basis.

⁽²⁾ Subject to valid Bids being received at or above the Issue Price. This Issue will be made through the Book Building Process wherein not more than 75% of the Issue Size will be available for allocation on a proportionate basis to Institutional Investors, provided that the Investment Manager, in consultation with the Lead Manager may allocate up to 60% of the Institutional Investor Portion to Anchor Investors on a discretionary basis.

⁽³⁾ In case of joint Bids, the Bid cum Application Form should contain only the name of the First Bidder whose name should also appear as the first holder of the beneficiary account held in joint names. The signature of only the First Bidder would be required in the Bid cum Application Form and such First Bidder would be deemed to have signed on behalf of the joint holders. Bidders are advised to consult their own advisors with respect to any restrictions or limitations that may be applicable to them, including any restrictions or limitations in relation to their ability to invest in the Units. By making a Bid (including any revision thereof), the Bidder will be deemed to have represented to the Investment Manager, the Trustee, the Lead Manager and the Syndicate Members that it is eligible to participate in the Issue and be Allotted Units under applicable law.

⁽⁴⁾ Bid Amount shall be payable by the Anchor Investors at the time of submission of the Bid cum Application Forms. The balance, if any, shall be paid within the pay-in date specified in the CAN.

⁽⁵⁾ Each Strategic Investor proposing to invest in the Issue shall enter into a Strategic Investor Unit Subscription Agreement with the Investment Manager (acting on behalf of the Trust) prior to filing of the Offer Document with the SEBI and the Stock Exchanges. The price at which the Strategic Investors agree to purchase the Units shall not be less than the Issue Price. In case the Issue Price is higher than the Strategic Investor Allocation Price, each Strategic Investor shall bring in the additional amount within two Working Days of the Pricing Date.

In case of under-subscription in any investor category, the unsubscribed portion in either the Institutional Investor Portion or the Non-Institutional Investor Portion may be Allotted to Applicants in the other category at the discretion of the Investment Manager, in consultation with the Lead Manager and the Designated Stock Exchange.

Indicative Issue Timeline

Event	Indicative Date
Bid/ Issue Opening Date	[●] ⁽¹⁾
Bid/ Issue Closing Date	[●] ⁽²⁾
Closing Date	On or about [●]
Designated Date	On or about [●]
Finalisation of the Basis of Allotment	On or about [●]
Initiation of refunds	On or about [●]
Listing Date	On or about [●]

⁽¹⁾ The Investment Manager may, in consultation with the Lead Manager, consider participation by Anchor Investors in accordance with the InvIT Regulations. The Anchor Investor Bidding Date shall be one Working Day prior to the Bid/ Issue Opening Date.

⁽²⁾ The Investment Manager may in consultation with the Lead Manager, consider closing the Bid/ Issue Period for QIBs one Working Day prior to the Bid/ Issue Closing Date in accordance with the InvIT Regulations.

The above timetable is indicative and does not constitute any obligation or liability on the Trust, the Investment Manager, the Trustee or the Lead Manager.

While the Investment Manager shall ensure that all steps for the completion of the necessary formalities for the listing and the commencement of trading of the Units on the Stock Exchanges are taken within 6 Working Days of the Bid/ Issue Closing Date, the timetable may change due to various factors, including any extension of the Bid/ Issue Period by the Investment Manager due to any revision(s) of the Price Band or any delay in receiving the final listing and trading approval

from the Stock Exchanges. The commencement of trading of the Units will be entirely at the discretion of the Stock Exchanges and in accordance with the applicable laws.

Except in relation to the Bids received from the Anchor Investors and Strategic Investors, Bids and any revision in Bids shall be accepted only between 10.00 a.m. and 5.00 p.m. (Indian Standard Time) during the Bid/ Issue Period (except the Bid/ Issue Closing Date) at the Bidding Centres and the Designated Branches mentioned on the Bid cum Application Form. Investors are not allowed to withdraw or lower their Bid (in terms of number of Units or the Bid Amount) at any stage. Bidders can make upward revisions in their Bids, subject to applicable law. It is clarified that Bids not uploaded on the electronic bidding system would be rejected. Due to limitation of the time available for uploading the Bids on the Bid/ Issue Closing Date, Investors are advised to submit their Bids one day prior to the Bid/ Issue Closing Date and, in any case, no later than 1.00 p.m. IST on the Bid/ Issue Closing Date. Any time mentioned in this Draft Offer Document is IST. Investors are cautioned that, in the event a large number of Bids are received on the Bid/ Issue Closing Date, some Bids may not get uploaded due to lack of sufficient time. Such Bids that cannot be uploaded will not be considered for allocation under the Issue. Bids will be accepted only on Business Days i.e. Monday to Friday (excluding any public holiday). None among the Trust, the Investment Manager, the Trustee or any member of the Syndicate is liable for any failure in uploading the Bids due to faults in any software/hardware system or otherwise.

In case of any discrepancy in the data entered in the electronic book *vis-à-vis* the data contained in the physical Bid cum Application Form, for a particular Investor, the details as per the Bid file received from the Stock Exchanges may be taken as the final data for the purpose of Allotment.

The Investment Manager, in consultation with the Lead Manager, reserves the right to revise the Price Band during the Bid/ Issue Period. In case the Price Band is revised, the Issue Period shall be extended for a minimum period of one Working Day, subject to the total Bid/ Issue Period not exceeding 30 days. The revised Price Band and Issue Period will be widely disseminated by notification to the SCSBs and Stock Exchanges, and also by indicating the change on the websites of the Trust, the Lead Manager, the Sponsor, the Investment Manager and the Stock Exchanges and at the terminals of the members of the Syndicate. In accordance with the InvIT Regulations, the Price Band cannot be revised more than two times during the Bid/ Issue Period.

ISSUE INFORMATION

Below is a summary, intended to provide a general outline of procedures for bidding, application, payment, Allocation and Allotment. The procedure followed in this Issue may differ from other issues, and investors are presumed to have apprised themselves of the same from the Investment Manager or the Lead Manager.

Bidders are advised to inform themselves of any restrictions or limitations that may be applicable to them and are required to consult their respective advisers in this regard. Bidders that apply in the Issue will be required to confirm and will be deemed to have represented to the Trustee, the Investment Manager, the Lead Manager and their respective directors, officers, agents, affiliates and representatives that they are eligible under all applicable laws, rules, regulations, guidelines and approvals to acquire the Units. Bidders are also advised to make their independent investigations submitted in accordance with applicable laws and do not exceed the investment limits or maximum number of Units that can be held by them under applicable law or as specified herein. The Investment Manager, the Trustee, the Lead Manager, the Syndicate Member and their respective directors, officers, agents, affiliates and representatives accept no responsibility or liability for advising any Bidder on whether such Bidder is eligible to acquire the Units. The Investment Manager, the Trustee, the Lead Manager and Syndicate Member do not accept any responsibility for the completeness and accuracy of the information stated in this chapter and are not liable for any amendment, modification or change in the applicable law which may occur after the date hereof.

Authority for the Issue

The Trust is eligible for the Issue in accordance with Regulation 14(4) of the InvIT Regulations. The Issue was authorised and approved by the InvIT Committee of the IM Board on March 28, 2025.

The Investment Manager shall apply for the in-principle approval of BSE and NSE for the listing of the Units. The Investment Manager has filed a copy of this Draft Offer Document and will file a copy of the Offer Document and Final Offer Document with SEBI and the Stock Exchanges.

The Units have not been and will not be registered, listed or otherwise qualified in any other jurisdiction outside India and may not be offered or sold, and Bids may not be made by persons in any such jurisdiction, except in compliance with the applicable laws of such jurisdiction. The Units shall not be offered or sold where such offer or sale would require registration, qualification or listing.

Bidders should note that Allotment to successful Bidders will only be in the dematerialized form. Application Forms which do not have the details of the Bidders' demat accounts including DP ID, PAN and Client ID will be treated as incomplete and rejected. Bidders will not have the option of receiving Allotment in physical form. On Allotment, the Units will be traded only on the dematerialized segment of BSE and NSE.

Issue Procedure

This section applies to all Bidders. All Bidders other than Anchor Investors and Strategic Investors shall mandatorily participate in the Issue through the ASBA process. Bidders applying in this Issue should carefully read the provisions applicable to them before submitting a Bid through the ASBA process. All Bidders are required to pay the full Bid Amount at the time of Bidding, by way of instructing the relevant SCSB to block the full Bid Amount at the time of Bidding, or in the case of Anchor Investors, by making payment by electronic methods or in accordance with the Strategic Investor Unit Subscription Agreement.

By making a Bid (including any revision thereof), the Bidder will be deemed to have represented to the Investment Manager, the Trustee, the Lead Manager and the Syndicate Member that it is eligible to participate in the Issue and be Allotted Units under applicable law. Bidders are also advised to make their independent investigations and ensure that their Bids are submitted in accordance with applicable laws and do not exceed the investment limits or maximum number of Units that can be held by them under applicable law or as specified herein.

Book Building Procedure

This Issue is being made through the Book Building Process, wherein not more than 75% of the Issue Size (excluding the Strategic Investor Portion) shall be available for allocation to Institutional Investors on a proportionate basis, provided that the Investment Manager may, in consultation with the Lead Manager, allocate up to 60% of the Institutional Investor Portion to Anchor Investors on a discretionary basis, in accordance with the InvIT Regulations. Further, not less than 25% of the Issue Size(excluding the Strategic Investor Portion) shall be available for allocation on a proportionate basis to Non-Institutional Investors, subject to valid Bids being received at or above the Issue Price. In case of under-subscription in any category, the unsubscribed portion in any category may be Allotted to Bidders in the other category at the discretion of the Investment Manager in consultation with the Lead Manager and the Designated Stock Exchange.

The Issue may also include participation by Strategic Investors in accordance with the InvIT Regulations. In the event of participation by Strategic Investors, the Issue will be adjusted to the extent of participation by Strategic Investors.

Bidders do not have the right to withdraw or lower their Bid (in terms of number of Units or the Bid Amount) at any stage.

Bidders should note that Allotment to successful Bidders will be only in the dematerialized form. Bid cum Application Forms which do not have the details of the Bidders' depository accounts including DP ID, PAN and Client ID will be treated as incomplete and rejected. Bidders will not have the option of receiving Allotment in physical form. On Allotment, the Units will be traded only on the dematerialized segment of the Stock Exchanges.

Bid cum Application Form

Copies of the Bid cum Application Form and the abridged offer document will be available at the offices of the Lead Manager, the Syndicate Members, if any, the principal place of business of the Trust and the Designated Intermediaries at the Bidding Centres. An electronic copy of the Bid cum Application Form will also be available on the websites of the SCSBs, NSE (www.nseindia.com) and BSE (www.bseindia.com). The Anchor Investor Application Forms will be made available at the principal place of business of the Trust and the registered office of the Investment Manager and the Lead Manager.

Bidders should use only the specified Bid cum Application Form bearing the stamp of a Designated Intermediary submitted at Bidding Centres (except in case of electronic Bid cum Application Forms), for the purpose of making a Bid in terms of the Offer Document. Bid cum Application Forms not being such specified stamp are liable to be rejected. Before being issued to Bidders, the Bid cum Application Form will be serially numbered.

All Bidders other than Anchor Investors (including Strategic Investors) shall mandatorily participate in the Issue only through the ASBA process. Anchor Investors and *Strategic Investors* are not permitted to participate in the Issue through the ASBA process. All Bidders (other than Anchor Investors *Strategic Investors*) must provide bank account details and authorization to block funds in the relevant space provided in the Bid cum Application Form and Bid cum Application Forms that do not contain such details will be rejected.

UPI Bidders using the UPI Mechanism must provide the UPI ID in the relevant space provided in the ASBA Form. ASBA Forms for such UPI Bidders, that do not contain the UPI ID are liable to be rejected. UPI Bidders using the UPI Mechanism may also apply through the SCSBs and mobile applications using the UPI handles as provided on the website of SEBI. UPI Bidders using the UPI Mechanism may submit the Bid cum Application with SCSBs, Syndicate Member, Registered Stock Brokers, RTAs and Depository Participants along with details of their bank account for blocking of funds. The relevant intermediary is required to the upload the Bid on the Stock Exchange bidding platform and forward the Bid cum application Form to an SCSB for blocking of funds.

The Bid cum Application form will contain information about the Bidder and the price and number of Units that the Bidder wishes to Bid for. Bidders will have the option to make a maximum of three Bids in the Bid cum Application Form and such options will not be considered multiple Bids.

On filing of the Final Offer Document with SEBI and the Stock Exchanges, the Bid cum Application Form will be treated as a valid application form for Allotment of the Units. On submission of the completed Bid cum Application Form to a Designated Intermediary or participation pursuant to Strategic Investor Unit Subscription Agreement or the Lead Manager (in case of Anchor Investors), the Bidder (*including any Strategic Investors*) is deemed to have authorized the Investment Manager to make the necessary changes in the Offer Document as may be required under the InvIT Regulations, and other applicable laws, for filing the Final Offer Document with SEBI and the Stock Exchanges without prior or subsequent notice of such changes to the Bidder.

The prescribed colour of the Bid cum Application Forms for various categories is as follows:

Category	Colour of Bid cum Application Form including Bid cum Application Form*
Resident Indians	[●]
Non-Residents including Eligible NRIs and FPIs and multilateral and bilateral development financial institutions, excluding Anchor Investors and Strategic Investors	[●]
Anchor Investors and Strategic Investors*	[●]

* *Bid cum Application Forms for Anchor Investors will be made available at the principal place of business of the Trust and the registered office of the Investment Manager and the Lead Manager.*

Designated Intermediaries shall submit/deliver the Bid cum Application Forms of Bidders (other than Anchor Investors) to the respective SCSBs where the Bidder has a bank account and shall not submit it to any non-SCSB Bank or Escrow Collection Bank (unless such Escrow Collection Bank is also an SCSB). For UPI Bidders using the UPI Mechanism, the Stock Exchanges shall share the Bid details (including UPI ID) with the Sponsor Bank(s) on a continuous basis to enable the Sponsor Bank(s) to initiate a UPI Mandate Request to such UPI Bidders for blocking of funds. Designated Intermediaries (other than SCSBs) shall not accept any ASBA Form from a UPI Bidder who is not Bidding using the UPI Mechanism.

Stock Exchanges shall validate the electronic bids with the records of the depository for DP ID/Client ID and PAN, on a real time basis through API integration and bring inconsistencies to the notice of the relevant Designated Intermediaries, for rectification and re-submission within the time specified by Stock Exchanges. Stock Exchanges shall allow modification of either DP ID/Client ID or PAN ID (but not both), bank code and location code in the Bid details already uploaded. For UPI Bidders using UPI Mechanism, the Stock Exchanges shall share the Bid details (including UPI ID) with the Sponsor Bank(s) on a continuous basis through API integration to enable the Sponsor Bank(s) to initiate UPI Mandate Request to UPI Bidders for blocking of funds. The Sponsor Bank(s) shall initiate request for blocking of funds through NPCI to UPI Bidders, who shall accept the UPI Mandate Request for blocking of funds on their respective mobile applications associated with UPI ID linked bank account. The Sponsor Bank(s) will undertake a reconciliation of Bid responses received from Stock Exchanges and sent to NPCI and will also ensure that all the responses received from NPCI are sent to the Stock Exchanges platform with detailed error code and description, if any.

Who can Bid?

Each Bidder should check if it is eligible to Bid under applicable law. Furthermore, certain categories of Bidders may not be permitted to Bid in the Issue or hold Units in excess of the limits specified under applicable law. Each Bidder (other than Anchor Investor and a Strategic Investor) is required to Bid for a Minimum Bid Size in the range of ₹10,000 and ₹15,000.

The maximum subscription in the Issue from any investor other than the Sponsor, its related parties and its associates shall not exceed 25% of the total post-Issue outstanding Units.

The Parties to the Trust, and the Lead Manager are not liable for any amendment or modification or change to applicable laws, which may occur after the date of this Draft Offer Document. Investors are advised to make their independent investigations and satisfy themselves that they are eligible to apply. Bidders are advised to ensure that any single application from them does not exceed the investment limits or maximum number of Units that can be held by them under applicable law.

The Trustee, the Valuer and the employees of the Valuer who were involved in the valuation of the InvIT Assets are not permitted to Bid in this Issue.

The Units have not been and will not be registered under the Securities Act or any state securities laws in the United States and may not be offered or sold within the United States, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act and applicable state securities laws. Accordingly, the Units are only being offered and sold outside the United States in “offshore transactions” as defined in and in reliance on Regulation S under the Securities Act and the applicable laws of the jurisdiction where those offers and sales are made.

The Units have not been and will not be registered, listed or otherwise qualified in any other jurisdiction outside India and may not be offered or sold, and Bids may not be made by persons in any such jurisdiction, except in compliance with the applicable laws of such jurisdiction.

Units Issued and Sold in this Issue

Each purchaser that acquires the Units offered pursuant to this Issue, by its acceptance of this Draft Offer Document and of the Units offered pursuant to this Issue, will be deemed to have acknowledged, represented to and agreed with the Trust and the Lead Manager that it has received a copy of this Draft Offer Document and such other information as it deems necessary to make an informed investment decision and that:

- (1) the purchaser is authorized to consummate the purchase of the Units offered pursuant to this Issue in compliance with all applicable laws and regulations;
- (2) the purchaser acknowledges that the Units offered pursuant to this Issue have not been and will not be registered under the Securities Act or with any securities regulatory authority of any state of the United States and accordingly may not be offered or sold within the United States except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act;
- (3) the purchaser is purchasing the Units offered pursuant to this Issue in an offshore transaction meeting the requirements of Rule 903 of Regulation S under the Securities Act;
- (4) the purchaser and the person, if any, for whose account or benefit the purchaser is acquiring the Units offered pursuant to this Issue, was located outside the United States at the time (i) the issue was made to it and (ii) when the buy order for such Units was originated and continues to be located outside the United States and has not purchased such Units for the account or benefit of any person in the United States or entered into any arrangement for the transfer of such Units or any

economic interest therein to any person in the United States;

- (5) the purchaser is not an affiliate of the Trust or a person acting on behalf of an affiliate;
- (6) if, in the future, the purchaser decides to offer, resell, pledge or otherwise transfer such Units, or any economic interest therein, such Units or any economic interest therein may be offered, sold, pledged or otherwise transferred only in an “offshore transaction” complying with Rule 903 or Rule 904 of Regulation S under the Securities Act and (B) in accordance with all applicable laws,. The purchaser understands that the transfer restrictions will remain in effect until the Trust determines, in its sole discretion, to remove them;
- (7) the purchaser agrees that neither the purchaser, nor any of its affiliates, nor any person acting on behalf of the purchaser or any of its affiliates, will make any “directed selling efforts” as defined in Regulation S under the Securities Act in the United States with respect to the Units;
- (8) the purchaser understands that such Units (to the extent they are in certificated form), unless the Trust determines otherwise in accordance with applicable law, will bear a legend substantially to the following effect:

THE UNITS REPRESENTED HEREBY HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE SECURITIES ACT OR WITH ANY SECURITIES REGULATORY AUTHORITY OF ANY STATE OR OTHER JURISDICTION OF THE UNITED STATES AND MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED EXCEPT IN AN OFFSHORE TRANSACTION COMPLYING WITH RULE 903 OR RULE 904 OF REGULATION S UNDER THE SECURITIES ACT, IN EACH CASE IN ACCORDANCE WITH ANY APPLICABLE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES.

- (9) The Trust will not recognize any offer, sale, pledge or other transfer of such Units made other than in compliance with the above-stated restrictions; and
- (10) the purchaser acknowledges that the Trust, the Lead Managers, their respective affiliates and others will rely upon the truth and accuracy of the foregoing acknowledgements, representations and agreements and agrees that, if any of such acknowledgements, representations and agreements deemed to have been made by virtue of its purchase of such Units are no longer accurate, it will promptly notify the Trust, and if it is acquiring any of such Units as a fiduciary or agent for one or more accounts, it represents that it has sole investment discretion with respect to each such account and that it has full power to make the foregoing acknowledgements, representations and agreements on behalf of such account.

In relation to each EEA State that has implemented the Prospectus Directive (each, a “**Relevant Member State**”), an offer to the public of any Units may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

- (a) to any legal entity which is a qualified investor as defined under the Prospectus Directive;
- (b) to fewer than 150 natural or legal persons (other than qualified investors), subject to obtaining the prior consent of the Underwriters; or
- (c) in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of Units shall result in a requirement for the Trust or any Underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive or supplement a prospectus pursuant to Article 16 of the Prospectus Directive and each person who receives any communication in respect of, or who acquires any Units under, the offers contemplated in this Draft Offer Document will be deemed to have represented, warranted and agreed to with the Underwriter and the Trust that it is a qualified investor within the meaning of the law in that Relevant Member State implementing Article 2(1)(e) of the Prospectus Directive.

For the purposes of this provision, the expression an “offer of to the public” in relation to any of the Units in any Relevant Member States means the communication in any form and by any means of sufficient information on the terms of the offer and the Units to be offered so as to enable an investor to decide to purchase or subscribe for the Units, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State.

In the case of any Units acquired by it as a financial intermediary, as that term is used in Article 3(2) of the Prospectus Directive, each such financial intermediary will be deemed to have represented, acknowledged and agreed that the Units acquired by it in the Issue have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer

or resale to, persons in circumstances which may give rise to an offer of any Units to the public in a Relevant Member State prior to the publication of a prospectus in relation to the Units which has been approved by the competent authority in that relevant member state or, where appropriate, approved in another Relevant Member State and notified to the competent authority in the Relevant Member State, all in accordance with the Prospectus Directive, other than their offer or resale to qualified investors or in circumstances in which the prior consent of the Underwriters has been obtained to each such proposed offer or resale.

The Trust, the Underwriters and their affiliates, and others will rely upon the truth and accuracy of the foregoing representation, acknowledgement and agreement.

Participation by Associates and affiliates of the Lead Manager and Syndicate Members

The Lead Manager and the Syndicate Members are not entitled to Bid for Units in this Issue in any manner except towards fulfilling their underwriting obligations. However, associates and affiliates of the Lead Manager and Syndicate Members may Bid for Units in the Issue, either in the Institutional Investor Portion (excluding the Anchor Investor Portion) or in the Non- Institutional Investor Portion, where allocation will be on a proportionate basis, either on their own account or on behalf of their clients. All categories of investors, including associates or affiliates of the Lead Manager shall be treated equally for the purpose of allocation to be made on a proportionate basis. Neither the Lead Manager nor any associate of the Lead Manager, other than mutual funds sponsored by entities which are associate of the Lead Manager or insurance companies promoted by entities which are associate of the Lead Manager or pension funds of entities which are associate of the Lead Manager or Alternate Investment Funds (AIFs) sponsored by the entities which are associate of the Lead Manager or FPIs other than Category III sponsored by the entities which are associate of the Lead Manager can apply in the Issue under the Anchor Investor Portion.

Bids by Anchor Investors

The Investment Manager, in consultation with the Lead Manager may allocate up to 60% of the Institutional Investor Portion on a discretionary basis to the Anchor Investors, in accordance with the InvIT Regulations. The Institutional Investor Portion will be reduced in proportion to the allocation under the Anchor Investor Portion. Strategic Investors may apply under the Anchor Investor Portion. Only Institutional Investors and Strategic Investors are eligible to invest in the Anchor Investor Portion. In the event of under-subscription in the Anchor Investor Portion, the balance Units will be added to the Institutional Investor Portion. In accordance with the InvIT Regulations, the key terms for participation in the Anchor Investor Portion are provided below.

- (i) Anchor Investors are not permitted to participate in the Issue through the ASBA process. Anchor Investor Application Forms will be made available for the Anchor Investor Portion at the principal place of business of the Trust, and the registered offices of the Investment Manager and the Lead Manager.
- (ii) A Bid by an Anchor Investor must be for a minimum of such number of Units so that the Bid Amount is at least ₹100 million. A Bid cannot be submitted for more than 60% of the Institutional Investor Portion.
- (iii) The Bidding for Anchor Investors will open one Working Day before the Bid/ Issue Opening Date and Allocation to Anchor Investors will be completed on the same day.
- (iv) The Investment Manager, in consultation with the Lead Manager, will finalize allocation to the Anchor Investors on a discretionary basis, provided that the minimum number of Allottees in the Anchor Investor Portion will not be less than:
 - two, where the allocation under Anchor Investor Portion is up to ₹2,500 million; and
 - five, where the allocation under Anchor Investor Portion is over ₹2,500 million.
- (v) Allocation to Anchor Investors will be completed on the Anchor Investor Bidding Date. The number of Units allocated to Anchor Investors and the Anchor Investor Allocation Price, will be made available on the websites of the Stock Exchanges, the Sponsor, the Investment Manager and the Lead Manager, prior to the Bid/Issue Opening Date.
- (vi) If the Issue Price is higher than the Anchor Investor Allocation Price, the additional amount being the difference between the Issue Price and the Anchor Investor Allocation Price will be payable by the Anchor Investors within two Working Days of the Bid/Closing Date. If the Issue Price is lower than the Anchor Investor Allocation Price, Allotment to successful Anchor Investors will be at the higher price, i.e., the Anchor Investor Allocation Price and the amount in excess of the Issue Price paid by Anchor Investors will not be refunded to them.
- (vii) The Units Allotted in the Anchor Investor Portion will be locked in for a period of 30 days from the date of Allotment.
- (viii) However, the Units Allotted to the Strategic Investors will be locked in for a period of one year from the date of Allotment.
- (ix) Bids made by Institutional Investors and Strategic Investors (where such Strategic Investors are Institutional Investors) Bidding under both the Anchor Investor Portion and the Institutional Investor Portion will not be considered as multiple Bids.

- (x) The Investment Manager, in consultation with the Lead Manager, reserves the right to reject any Bid received from Anchor Investors without assigning any reasons.
- (xi) Neither the Lead Manager nor any their associates, other than mutual funds sponsored by entities which are associates of the Lead Managers, insurance companies promoted by entities which are associates of the Lead Manager or pension funds of entities which are associates of the Lead Manager or AIFs sponsored by the entities which are associates of the Lead Manager or FPIs other than category III sponsored by the entities which are associates of the Lead Manager, shall apply under the Anchor Investors Portion.

All Non-Resident Investors including Eligible NRIs and FPIs should note that refunds, dividends and other distributions, if any, will be payable in Indian Rupees only and net of bank charges and / or commission. **There is no reservation for NRIs, FPIs and FVCIs and all Bidders will be treated on the same basis with other categories for the purpose of allocation.**

Anchor Investors cannot withdraw or lower the size of their Bids (in terms of number of Units or the Bid Amount) at any stage after submission of the Bid.

Bids by Strategic Investors

In accordance with the InvIT Regulations, the key terms for participation by Strategic Investors are provided below:

- (i) The Strategic Investor(s) shall, either jointly or severally, invest not less than 5% and not more than 25% of the total Issue Size.
- (ii) The Investment Manager on behalf of the Trust, shall enter into a binding unit subscription agreement with the Strategic Investor(s) which propose(s) to invest in the Issue prior to the filing of the Offer Document.
- (iii) Subscription price per Unit, payable by the Strategic Investor(s) shall be set out in the Strategic Investor Unit Subscription Agreement and the entire subscription price shall be deposited in a special escrow account prior to opening of Issue in accordance with the terms of the unit subscription agreement.
- (iv) The Strategic Investor Issue Price shall not be less than the Issue Price. In the event that the Issue Price is higher than the Strategic Investor Allocation Price, the Strategic Investor(s) shall bring in the additional amount within two Working Days of the determination of the Issue Price.
- (v) If the Issue Price is lower than the Strategic Investor Allocation Price, the excess amount shall not be refunded to the Strategic Investor and the Strategic Investor shall take Allotment at the price at which allocation was agreed to be made to it in the unit subscription agreement.
- (vi) The commitment received from Strategic Investors and details of the unit subscription agreement, including the name of each Strategic Investor, the number of Units proposed to be subscribed by it or the investment amount, proposed subscription price per Unit shall be disclosed in the Offer Document.
- (vii) The unit subscription agreement shall not be terminated except in the event the Issue fails to collect minimum subscription.
- (viii) The Investment Manager, in consultation with the Lead Manager, in their absolute discretion, will decide the list of Strategic Investors to whom the provisional CAN or CAN will be sent pursuant to which the details of the Units allocated to them in their respective names will be notified to such Strategic Investors. The payment instruments for payment into the Escrow Account(s) should be drawn in favour of:
 - In case of resident Strategic Investors: “Escrow Account- [●]– Strategic Investor-R”.
 - In case of non-resident Strategic Investors: “Escrow Account- [●]– Strategic Investor-NR”.
- (ix) In accordance with the InvIT Regulations, the Units Allotted to Strategic Investors will be locked-in for a period of one year from the date of Allotment of the Units.
- (x) Bids made by Strategic Investors (where such Strategic Investors are Institutional Investors) under both the Anchor Investor Portion and the Institutional Investor Portion will not be considered as multiple Bids; and

Bids by Strategic Investors (where such Strategic Investors are Non -Institutional Investors) under both the Anchor Investor Portion and Non-Institutional Investor Portion will not be considered as multiple Bids, subject to applicable limits.

Bids by SEBI registered VCFs and AIFs

The SEBI VCF Regulations prescribe, amongst others, the investment restrictions on VCFs registered with SEBI under the said regulations. Further, the SEBI AIF Regulations prescribe, amongst others, the investment restrictions on AIFs. Further, VCFs which have not re-registered as an AIF under the SEBI AIF Regulations shall continue to be regulated by the SEBI VCF Regulations until the existing fund or scheme managed by the fund is wound up and such funds shall not launch any new scheme after the notification of the SEBI AIF Regulations. Additionally, VCFs and AIFs are subject to certain investment restrictions, including with respect to the percentage of investible funds held in each investee entity. Under the SEBI AIF Regulations, Category I and II AIFs are permitted to invest not more than 25% of the investable funds in one “investee company” (which includes the Trust) and Category III AIFs are permitted to invest not more than 10% of the investable funds in one “Investee company”. Allotments made to VCFs and AIFs in the Issue are subject to the rules and regulations that are applicable to each of them respectively.

Bids by Banking Companies

Bids may be made by banks as permitted by the RBI and are subject to conditions specified in the Prudential Guidelines – Banks’ investment in units of REITs and InvITs dated April 18, 2017. In case of Bids made by banking companies registered with the RBI, certified copies of (i) the certificate of registration issued by the RBI, and (ii) the approval of such banking company’s investment committee are required to be attached to the Application Form. Banks may participate in public issuances by Trusts within the overall ceiling of 20% of their net worth permitted for direct investments in shares, convertible bonds/ debentures, units of equity-oriented mutual funds and exposures to VCFs, subject to the following conditions: (i) Banks should put in place a board approved policy on exposures to the Trust which lays down an internal limit on such investments within the overall exposure limits in respect of the real estate sector and infrastructure sector; (ii) Banks shall not invest more than 10% of the unit capital of the Trust; (iii) Banks should ensure adherence to the prudential guidelines issued by RBI from time to time on Equity investments by Banks, Classification and Valuation of Investment Portfolio, Basel III Capital requirements for Commercial Real Estate Exposures and Large Exposure Framework, as applicable. Failing this, the Investment Manager, in consultation with the Lead Manager, reserves the right to reject the Bid.

Bids by LLPs

In case of Bids made by limited liability partnerships registered under the Limited Liability Partnership Act, 2008, a certified copy of certificate of registration issued under the Limited Liability Partnership Act, 2008, must be attached to the Bid cum Application Form. Failing this, the Bid(s) may be rejected.

Bids by Provident Funds/Pension Funds

On March 2, 2015, the Ministry of Finance issued a notification allowing investments by non-government provident funds, superannuation funds and gratuity funds up to 5% in infrastructure investment trusts, as specified. On May 29, 2015, the Ministry of Labour and Employment issued a notification allowing investments by provident funds up to 5% in infrastructure investment trusts, as specified. The Pension Fund Regulatory and Development Authority issued circulars dated June 3, 2015 and September 2, 2015, respectively, allowing investments by national pension funds up to 5% in infrastructure investment trusts, as specified. However, such investments by provident funds and pension funds will be subject to, amongst others, the sponsor having a minimum of AA or equivalent rating from at least two credit rating agencies registered with SEBI. In case of Bids made by provident funds/ pension funds (registered with the Pension Fund Regulatory and Development Authority established under section 3(1) of the Pension Fund Regulatory and Development Authority Act, 2013), subject to applicable laws, with minimum corpus of ₹ 250 million, a certified copy of certificate from a chartered accountant certifying the corpus of the provident fund/pension fund must be attached to the Bid cum Application Form. Failing this, the Bid(s) may be rejected.

Bids by NPS Schemes

The Pension Fund Regulatory and Development Authority issued circulars dated June 3, 2015 and September 2, 2015, respectively, allowing investments by national pension fund schemes (“NPS Schemes”) up to 5% in infrastructure investment trusts, as specified. However, in accordance with the circular dated May 4, 2017 (effective from May 8, 2017), as amended by the circular dated May 8, 2018, issued by PFRDA, such investments by NPS Schemes will be subject to, amongst others, such securities having a minimum of AA or equivalent rating in the applicable rating scale from at least two credit rating agencies registered with SEBI. In case of Bids made by NPS Schemes, subject to applicable laws, with minimum corpus of ₹250 million, a certified copy of certificate from a chartered accountant certifying the corpus of the provident fund/pension fund must be attached to the Bid cum Application Form. Failing this, the Investment Manager, in consultation with the Lead Manager, reserves the right to reject the Bid.

Bids by Insurance Companies

Bids may be made by insurance companies as permitted by the Insurance Regulatory and Development Authority of India in terms of the Master Circular – Investments, 2016 and the circular issued by the IRDAI titled ‘Investment in Units of Real Estate Investment Trusts (REIT) & Infrastructure Investment Trusts (InvIT)’ and dated March 14, 2017. In case of Bids made by insurance companies registered with the IRDAI, a certified copy of the certificate of registration issued by IRDAI must be attached to the Bid cum Application Form. Failing this, the Investment Manager, in consultation with the Lead Manager, reserves the right to reject the Bid. An insurer can invest not more than 3% of respective fund size of the insurer or not more than 5% of the units issued by a single InvIT, whichever is lower.

Bids by Mutual Funds

Bids may be made by mutual funds under all its schemes, existing and future, subject to the investment conditions and other restrictions prescribed under the Securities and Exchange Board of India (Mutual Funds) Regulations, 1996 (including, the circular on mutual funds dated February 28, 2017 and any other circulars, notifications and guidelines issued thereunder). A mutual fund may invest in the Units subject to the following:

- (a) No mutual fund under all its schemes shall own more than 10% of the units; and
- (b) A mutual fund scheme shall not invest:
 - (i) more than 10% of its net asset value in the units issued by InvIT; and
 - (ii) More than 5% of its net asset value in the units,

provided that the limits mentioned in sub-clauses (i) and (ii) above shall not be applicable for investments in case of index fund or sector or industry specific scheme pertaining to Trusts.

Bids by Eligible NRIs

In accordance with Schedule IV of the FEMA Rules, Eligible NRIs, including companies, trusts and partnership firms incorporated outside India which are owned and controlled by NRIs, are permitted to purchase units issued by an ‘investment vehicle’ without any limit, either on the stock exchange or outside it. The FEMA Rules define an ‘investment vehicle’ to mean an entity registered and regulated under the regulations framed by the SEBI or any other authority designated for that purpose, including an InvIT governed by the SEBI.

Investments by Eligible NRIs in the Units shall be on a non-repatriation basis and shall be deemed to be domestic investment at par with investments made by residents of India.

Bids by FPIs

Foreign Portfolio Investors (other than individuals, corporate bodies and family offices) are permitted to participate in the Issue subject to compliance with Schedule VIII of FEMA Rules. In case of Bids by FPIs the payment should be paid as inward remittance from abroad through banking channels or out of funds held in NRE, SNRR or FCNR(B) account maintained in accordance with the Foreign Exchange Management (Deposit) Regulations, 2016, along with documentary evidence in support of the remittance. In case of Bids made by FPIs, a verified true copy of the certificate of registration issued by the designated depository participant under the SEBI FPI Regulations is required to be attached along with the Application Form, failing which the Investment Manager, in consultation with the Lead Manager, reserves the right to reject the Bid.

It is hereby clarified that bids received from FPIs bearing the same PAN shall be treated as multiple Bids and are liable to be rejected, except for Bids from FPIs that utilize the multiple investment manager structure in accordance with the operational guidelines for FPIs and designated Depository Participants issued to facilitate implementation of SEBI FPI Regulations (such structure referred to as “**MIM Structure**”), provided such Bids have been made with different beneficiary account numbers, Client IDs and DP IDs. Accordingly, it should be noted that multiple Bids received from FPIs, who do not utilize the MIM Structure, and bear the same PAN, are liable to be rejected. In order to ensure valid Bids, FPIs making multiple Bids using the same PAN, and with different beneficiary account numbers, Client IDs and DP IDs, are required to provide a confirmation in the Bid cum Application Forms that the relevant FPIs making multiple Bids utilize the MIM Structure. In the absence of such confirmation from the relevant FPIs, such multiple Bids shall be rejected.

Please note that, the maximum Bid by any Bidder including a QIB Bidder should not exceed the investment limits prescribed for them under applicable laws. Further, multiple Bids by a FPI Bidder utilising the MIM Structure shall be aggregated for determining the permissible maximum Bid. Further, please note that, Bid cum Application Forms are liable to be rejected in the event that the Bid in the Bid cum Application Form “exceeds the Issue size and/or investment limit or maximum number of Units that can be held under applicable laws or regulations or maximum amount permissible under applicable laws or regulations, or under the terms of the Offer Document”.

Bids by SCSBs

SCSBs participating in the Issue are required to comply with the terms of the SEBI circulars dated September 13, 2012 (CIR/CFD/DIL/12/2012) and January 2, 2013 (CIR/CFD/DIL/1/2013). Such SCSBs are required to ensure that for making applications on their own account using ASBA, they should have a separate account in their own name with any other SCSBs. Further, such account shall be used solely for the purpose of making application in public issues and clear demarcated funds should be available in such account for such applications.

Bids under Power of Attorney

In case of Bids made pursuant to a power of attorney by Institutional Investors or bodies corporate, a certified copy of the power of attorney or the relevant resolution or authority, as the case may be, along with a certified copy of the memorandum of association and articles of association and/or bye laws must be submitted along with the Bid cum Application Form. Failing this, the Bid is liable to be rejected.

The Investment Manager, in consultation with the Lead Manager, in its absolute discretion, reserves the right to relax the above condition of simultaneous lodging of the power of attorney along with the Bid cum Application Form.

Allotments, if any, made to FVCIs in the Issue are subject to the respective rules and regulations that are applicable to each of them.

The above information is given for the benefit of the Bidders. Each Bidder should check whether it is eligible to apply under applicable law and ensure that any prospective Allotment to it in the Issue is in compliance with the investment restrictions under applicable law. Certain categories of Bidders may not be allowed to Bid in the Issue or hold Units exceeding certain limits specified under applicable law.

The Parties to the Trust, and the Lead Manager are not liable for any amendments or modification or changes in applicable laws or regulations, which may occur after the date of this Draft Offer Document. Bidders are advised to make their independent investigations and ensure that any single Bid from them does not exceed the applicable investment limits or maximum number of the Units that can be held by them under applicable law or regulation or as specified herein.

Maximum and Minimum Bid Size

Each Bidder (other than an Anchor Investor and a Strategic Investor) is required to Bid for a Minimum Bid Size in the range of ₹10,000 and ₹15,000 and in multiples of [●] thereafter.

- (i) No Bidder shall Bid for such number of Units which exceeds the Issue Size.
- (ii) The maximum Bid by any Bidder including Institutional Investors should not exceed the investment limits prescribed for them under the applicable law.

The price and quantity options submitted by a Bidder in the Bid cum Application Form may be treated as optional bids from the Bidder and may not be cumulated. After determination of the Issue Price, the highest number of Units Bid for by a Bidder at or above the Issue Price may be considered for Allotment and the rest of the Bid(s), irrespective of the Bid Amount may automatically become invalid.

Information for the Bidders:

- (i) The Offer Document will be filed by the Investment Manager with SEBI and the Stock Exchanges at least five Working Days before the Bid/Issue Opening Date.
- (ii) After the filing of the Offer Document with SEBI and the Stock Exchanges, the Lead Manager/ Investment Manager shall make a Pre-Issue advertisement on the websites of the Trust, the Sponsor, the Investment Manager and the Stock Exchanges. Further, such Pre-Issue advertisement will also be published in all editions of Financial Express (a widely circulated English national daily newspaper), in all editions of Jansatta (a widely circulated Hindi national daily newspaper and Navshakti (a widely circulated Marathi daily newspaper, Marathi being the regional language of Maharashtra where the registered office of Investment Manager is located).
- (iii) Any Bidder (who is eligible to invest in the Units) may obtain the Bid cum Application Form or both from the principal place of business of the Trust, the registered office of the Investment Manager or from any Designated Intermediary at the Bidding Centres. Anchor Investor Application Forms will be made available at the principal place of business of the Trust and the registered office of the Investment Manager and the Lead Manager.
- (iv) The Bid/Issue Period shall be for a minimum of three Working Days. In case the Price Band is revised, the Bid/Issue Period shall be extended for a minimum period of one Working Day, subject to the total Bid/Issue Period not exceeding

30 Working Days. In case of *force majeure*, banking strike or similar circumstances, the Bid/Issue Period may be extended for a minimum period of three Working Days, subject to the total Bid/Issue Period not exceeding 30 Working Days. The revised Price Band and Bid/Issue Period will be widely disseminated by notification to the SCSBs and Stock Exchanges, and also by indicating the change on the websites of the Trust, the Lead Manager, the Sponsor, the Investment Manager and the Stock Exchanges and at the terminals of the members of the Syndicate. In accordance with the InvIT Regulations, the Price Band cannot be revised more than two times.

- (v) The Designated Intermediaries will accept Bids during the Bid/Issue Period in accordance with the terms of the Offer Document, provided that the Lead Manager will accept the Bids from Anchor Investors only on the Anchor Investor Bidding Date.
- (vi) The Bids should be submitted on the prescribed Bid cum Application Form only. Bids by ASBA Bidders will be accepted by the Designated Intermediaries at the Bidding Centres in accordance with applicable law and any circulars issued by SEBI in this regard. Bid cum Application Forms should bear the stamp of a Designated Intermediary. Bid cum Application Forms (except electronic Bid cum Application Forms) which do not bear the stamp of a Designated Intermediary are liable to be rejected.
- (vii) The Bidding Centres will acknowledge the receipt of the Bid cum Application Forms by stamping and returning to the Bidder the Acknowledgement Slip. This Acknowledgement Slip will serve as the duplicate of the Bid cum Application Form for the records of the Bidder.

Instructions for completing the Bid Cum Application Form

Bidders may note that Bid cum Application Forms not filled completely or correctly as per instructions provided in the Offer Document and the Bid cum Application Form are liable to be rejected.

Bids must be:

- (i) made only in the prescribed Bid cum Application Form or Revision Form, as applicable;
- (ii) completed in full, in BLOCK LETTERS in ENGLISH and in accordance with the instructions contained here and in the Bid cum Application Form. Incomplete Bid cum Application Forms or Revision Forms are liable to be rejected. Bidders must provide details of valid and active DP ID, Client ID and PAN clearly and without error. Invalid accounts, suspended accounts or where such account is classified as invalid or suspended shall not be considered for Allotment. Bidders should note that the members of the Syndicate and/or the SCSBs (as appropriate) will not be liable for errors in data entry due to incomplete or illegible Bid cum Application Forms; and
- (iii) in a single name or in joint names (not more than three, and in the same order as their Depository Participant details).

Bidders should also note that:

- (i) information provided by Bidders will be uploaded in the online system by the Designated Intermediaries and the electronic data will be used to make allocation/Allotment. Bidders are advised to ensure that the details are correct and legible;
- (ii) only the First Bidder is required to sign the Bid cum Application Form. Bidders should ensure that thumb impressions and signatures other than in the languages specified in the Eighth Schedule to the Constitution of India are attested by a Magistrate or a Notary Public or a Special Executive Magistrate under official seal; and
- (iii) if the ASBA Account holder is different from the ASBA Bidder, the Bid cum Application Form should also be signed by the account holder as provided in the Bid cum Application Form.

General Instructions

Dos:

- (i) Check if you are eligible to apply as per the terms of the Offer Document and under Applicable Laws and approvals;
- (ii) Ensure that you have Bid within the Price Band;
- (iii) Read all the instructions carefully and complete the relevant Bid cum Application Form;
- (iv) Ensure that the details about the PAN, DP ID, Client ID and UPI ID (where applicable) are correct, and the Beneficiary Account is activated, as Allotment will be in dematerialized form only;
- (v) Ensure that the Bids are submitted at the Bidding Centres only on the Bid cum Application Forms bearing the stamp of a

Designated Intermediary;

- (vi) Ensure that if you are the Bidder you have mentioned the correct ASBA Account number (for all Bidders other than UPI Bidders using the UPI Mechanism) in the Bid cum Application Form (with a maximum length of 45 characters) and such ASBA account belongs to you and no one else. Further, UPI Bidders using the UPI Mechanism must also mention their UPI ID and shall use only his/her own bank account which is linked to his/her UPI ID;
- (vii) UPI Bidders using the UPI Mechanism through the SCSBs and mobile applications shall ensure that the name of the bank appears in the list of SCSBs which are live on UPI, as displayed on the SEBI website. UPI Bidders shall ensure that the name of the app and the UPI handle which is used for making the application appears on the list displayed on the SEBI website. An application made using incorrect UPI handle or using a bank account of an SCSB or bank which is not mentioned on the SEBI website is liable to be rejected;
- (viii) Ensure that your Bid is submitted at a Bidding Centre of a Designated Intermediary. Further, ensure that the Bid cum Application Form is signed by the ASBA Account holder if the Bidder is not the ASBA Account holder;
- (ix) Ensure that the full Bid Amount is paid for Bids submitted by Anchor Investors and Strategic Investors (as applicable) and funds equivalent to the Bid Amount are blocked by the SCSBs in case of Bids submitted through the ASBA process;
- (x) Ensure that you have correctly checked the authorization/undertaking box in the Bid cum Application Form, or have otherwise provided an authorization to the SCSB via the electronic mode for the Designated Branch to block funds in the ASBA Account equivalent to the Bid Amount mentioned in the Bid cum Application Form at the time of submission of the Bid;
- (xi) Instruct your respective banks to not release the funds other than in relation to the Issue, blocked in the ASBA Accounts;
- (xii) Ensure that you request for and have received an Acknowledgement Slip for all your Bid options;
- (xiii) Ensure that you receive an Acknowledgement Slip from the Designated Intermediary for the submission of your Bid cum Application Form;
- (xiv) Submit revised Bids at the same Bidding Centre of a Designated Intermediary, through which the original Bid was placed and obtain a revised Acknowledgement Slip, as the case may be;
- (xv) Except for Bids (i) on behalf of the Central or State Governments and the officials appointed by the courts, who, in terms of the SEBI circular dated June 30, 2008, may be exempt from specifying their PAN for transacting in the securities market, and (ii) Bids by persons resident in Sikkim, who, in terms of a SEBI circular dated July 20, 2006, may be exempted from specifying their PAN for transacting in the securities market, all Bidders should mention their PAN allotted under the IT Act. The exemption for the Central or the State Government and officials appointed by the courts and for Bidders residing in Sikkim is subject to (a) the Demographic Details received from the respective depositories confirming the exemption granted to the beneficiary owner by a suitable description in the PAN field and the beneficiary account remaining in “active status”; and (b) in the case of residents of Sikkim, the address as per the Demographic Details evidencing the same. All other applications in which the PAN is not mentioned will be rejected;
- (xvi) In cases where the PAN is same, such Bids will be treated as multiple applications. Bidders should not submit the GIR number instead of the PAN as the Bid is liable to be rejected on this ground. With effect from August 16, 2010, the demat accounts of Bidders for whom PAN details have not been verified shall be “suspended for credit” and no credit of Units pursuant to the Issue will be made into the accounts of such Bidders;
- (xvii) Ensure that your PAN is linked with Aadhaar and are in compliance with Central Board of Direct Taxes notification dated February 13, 2020 and press release dated June 25, 2021;
- (xviii) Ensure that the Demographic Details (as defined below) are updated, true and correct in all respects;
- (xix) In case of joint Bids, the Bid cum Application Form should contain the name of only the First Bidder whose name should also appear as the first holder of the beneficiary account held in joint names. Ensure that the signature of the First Bidder in case of joint Bids, is included in the Bid cum Application Forms;
- (xx) Ensure that the name(s) given in the Bid cum Application Form is exactly the same as the name(s) in which the beneficiary account is held with the Depository Participant;
- (xxi) Ensure that the category and the Bidder status is indicated;
- (xxii) Bidders (except UPI Bidders using the UPI Mechanism) should instruct their respective banks to release the funds blocked in the ASBA Account under the ASBA process. UPI Bidders using the UPI Mechanism, should ensure that they approve the UPI Mandate Request generated by the Sponsor Bank(s) to authorise blocking of funds equivalent to Bid Amount

and subsequent debit of funds in case of Allotment, in a timely manner;

- (xxiii) Ensure that in case of Bids under power of attorney or by limited companies, corporates, trusts, etc., relevant documents are submitted;
- (xxiv) UPI Bidders using the UPI Mechanism shall ensure that details of the Bid are reviewed and verified by opening the attachment in the UPI Mandate Request and then proceed to authorize the UPI Mandate Request using his/her UPI PIN. Upon the authorization of the mandate using his/her UPI PIN, the UPI Bidders may be deemed to have verified the attachment containing the application details of the UPI Bidders using the UPI Mechanism in the UPI Mandate Request and have agreed to block the entire Bid Amount and authorized the Sponsor Bank(s) to offer a request to block the Bid Amount mentioned in the ASBA Form in his/her ASBA Account;
- (xxv) UPI Bidders using the UPI Mechanism should mention valid UPI ID of only the Bidder (in case of single account) and of the first Bidder (in case of joint account) in the ASBA Form;
- (xxvi) UPI Bidders using the UPI Mechanism, who have revised their Bids subsequent to making the initial Bid, should also approve the revised UPI Mandate Request generated by the Sponsor Bank(s) to authorise blocking of funds equivalent to the revised Bid Amount in their account and subsequent debit of funds in case of allotment in a timely manner;
- (xxvii) Ensure that Bids submitted by any person outside India are in compliance with applicable foreign and Indian laws; and
- (xxviii) With respect to Bids by SCSBs, ensure that you have a separate account in your own name with any other SCSB having clear demarcated funds for applying under the ASBA process and that such separate account (with any other SCSB) is used as the ASBA Account with respect to your Bid.

The Bid cum Application Form is liable to be rejected if the above instructions, as applicable, are not complied with.

Don't's:

- (i) Do not Bid for lower than the Minimum Bid Size;
- (ii) Do not submit a Bid without payment of the entire Bid Amount;
- (iii) Do not Bid less than the Floor Price or higher than the Cap Price;
- (iv) Do not Bid on another Bid cum Application Form after you have submitted a Bid;
- (v) Do not pay the Bid Amount in cash, by money order or postal order and in relation to ABSA Bidders, in any other
- (vi) mode other than blocked amounts in the ASBA Accounts;
- (vii) Do not send Bid cum Application Forms by post and only submit the same to a Designated Intermediary at a Bidding Centre;
- (viii) Do not fill up the Bid cum Application Form such that the Units Bid for exceed, the Issue Size or investment limits, or the maximum number of Units that can be held or the maximum amount permissible under applicable laws or under the terms of the Offer Document;
- (ix) Do not submit more than five Bid cum Application Forms per ASBA Account;
- (x) Do not submit the GIR number instead of the PAN as the Bid is liable to be rejected on this ground;
- (xi) Do not submit incorrect details of DP ID, Client ID and PAN or give details for which demat account is suspended or for which such details cannot be verified by the Registrar;
- (xii) Do not instruct your respective banks to release the funds blocked in the ASBA Account under the ASBA process, other than in relation to the Issue;
- (xiii) Do not submit the Bid for an amount more than funds available in your ASBA Account;
- (xiv) Do not submit Bids on plain paper or on incomplete or illegible Bid cum Application Forms or on Bid cum Application Forms in a colour prescribed for another category of Bidders;
- (xv) Do not submit a Bid in case you are not eligible to acquire Units under applicable law or your relevant constitutional documents or otherwise;
- (xvi) Do not Bid if you are not competent to contract under the Indian Contract Act, 1872 (other than minors having valid depository accounts as per demographic details provided by the Depository);

- (xvii) Anchor Investors and Strategic Investors should not Bid through the ASBA process; and
- (xviii) Do not withdraw your Bid or lower the size of your Bid (in terms of quantity of the Units or the Bid Amount) at any stage.

Method and Process of Bidding

- (i) The Investment Manager and the Lead Manager will declare the Bid/Issue Opening Date and Bid/Issue Closing Date at the time of filing the Offer Document with SEBI and the Stock Exchanges.
- (ii) Post filing of the Offer Document with SEBI and the Stock Exchanges, the Lead Manager/ Investment Manager shall make a Pre-Issue advertisement on the websites of the Sponsor, the Investment Manager and the Stock Exchanges. Further, such Pre-Issue will also be published in all editions of Financial Express (a widely circulated English national daily newspaper), in all editions of Jansatta (a widely circulated Hindi national daily newspaper and Navshakti (a widely circulated Marathi daily newspaper, Marathi being the regional language of Maharashtra where the registered office of the Investment Manager is located).
- (iii) The Price Band will be decided by the Investment Manager in consultation with the Lead Manager and shall be disclosed at least two Working Days prior to the Bid/Issue Opening Date on the websites of the Trust, the Sponsor, the Investment Managers and the Stock Exchanges and in the newspapers where the Pre-Issue advertisement was published.
- (iv) The Lead Manager will accept Bids from the Anchor Investors on the Anchor Investor Bidding Date, *i.e.* one Working Day prior to the Bid/Issue Opening Date. Bidders, except Anchor Investors, who are interested in subscribing to the Units should approach any of the Designated Intermediaries at Bidding Centres to register their Bids during the Bid/Issue Period. The Designated Intermediaries will accept Bids from all Bidders and will have the right to vet the Bids during the Bid/Issue Period in accordance with the terms of the Syndicate Agreement and/or the Offer Document. The Bid/Issue Period will be for at least three Working Days and not exceeding 30 Working Days (*including* the days for which the Issue is open in case of revision in Price Band). If the Price Band is revised, the revised Price Band and the Bid/Issue Period will disclosed on the websites of the Trust, the Sponsor, the Investment Managers, Lead Manager, Syndicate Member, SCSBs and the Stock Exchanges and in the newspapers where the Pre-Issue advertisement will be published.
- (v) UPI Bidders may submit the Bid cum Application form with the Designated Intermediaries and use their bank account linked with UPI ID for the purpose of blocking funds. The Designated Intermediaries shall upload the Bid on the Stock Exchange bidding platform and the application amount would be blocked through the UPI Mechanism.
- (vi) Each Bid cum Application Form will give the Bidder the choice to Bid for up to three optional prices within the Price Band and specify the demand (*i.e.*, the number of Units Bid for) in each option. The price and demand options submitted by the Bidder in the Bid cum Application Form will be treated as optional demands from the Bidder and will not be cumulated. In case of an upward revision in the Price Band, in the event the Bidder does not either revise the Bid or make additional payment and the Issue Price is higher than the Cap Price prior to revision, the number of Units Bid for will be adjusted downwards for the purpose of Allotment, such that no additional payment will be required from the Bidder and the Bidder shall be deemed to have approved such revised Bid. The Bidder can Bid at any price within the Price Band. The Bidder has to Bid for the desired number of Units at a specific price.
- (vii) No Bidder shall either withdraw or lower its Bid at any stage.
- (viii) After determination of the Issue Price, the maximum number of Units Bid for by a Bidder at or above the Issue Price will be considered for allocation/Allotment and the rest of the Bid(s), irrespective of the Bid Amount, will become automatically invalid.
- (ix) Except in relation to the Bids received from the Anchor Investors and Strategic Investors, the Designated Intermediary will enter each Bid option into the electronic bidding system as a separate Bid and generate an Acknowledgement Slip, and SCSBs will generate an Acknowledgement Slip for each price and demand option and will, on demand, give the same to the Bidder. Therefore, a Bidder can receive up to three Acknowledgement Slips for each Bid cum Application Form.
- (x) On receipt of the Bid cum Application Form (whether in physical or electronic mode) the Designated Branch of the SCSB will verify if sufficient funds equal to the Bid Amount are available in the ASBA Account, as mentioned in the ASBA Bid cum Application Form, prior to uploading such Bids with the Stock Exchanges. If sufficient funds are not available in the ASBA Account, the Designated Branch of the SCSB will reject such Bids and will not upload such Bids with the Stock Exchanges. If sufficient funds are available in the ASBA Account, the SCSB will block an amount equivalent to the Bid Amount mentioned in the ASBA Bid cum Application Form and will enter each Bid option into the electronic bidding system as a separate Bid.
- (xi) Along with the Bid cum Application Form, all Bidders will make payment in the manner described under the paragraph

titled “– Payment Instructions” in this section.

Bidders’ Depository Account and Bank Account Details

Bidders should note that on the basis of Bidders’ PAN, DP ID and Client ID provided by them in the Bid cum Application Form and as entered into the electronic bidding system of the Stock Exchanges by the Members of the Syndicate and the SCSBs as the case may be, the Registrar will obtain from the Depository the demographic details including the Bidders’ address, occupation and bank account details (including the nine-digit Magnetic Ink Character Recognition (“**MICR**”) code as appearing on a cheque leaf (the “**Demographic Details**”)), from the Depository. The Demographic Details will be used for giving refunds and allocation advice (including through physical refund warrants, direct credit, NACH, NEFT and RTGS) to Anchor Investors and Strategic Investors. Hence, Bidders are advised to immediately update their bank account details, PAN and Demographic Details as appearing on the records of the Depository Participant and ensure that they are true and correct. Accordingly, Bidders should carefully fill in their depository account details in the Bid cum Application Form.

By signing the Bid cum Application Form, the Bidder is deemed to have authorized the Depositories to provide to the Registrar, on request, the required Demographic Details as available in their records.

Bids with no corresponding record available with the Depositories matching the three parameters (namely, PAN (in case of joint Bids, PAN of First Bidder), the DP ID and Client ID), are liable to be rejected.

Payment mechanism for ASBA Bidders

The ASBA Bidders will specify the ASBA Account in the Bid cum Application Form and the SCSB will block an amount equivalent to the Bid Amount in the ASBA Account so specified. The SCSB will keep the Bid Amount in the relevant ASBA Account blocked until finalization of the Basis of Allotment and consequent transfer of the Bid Amount to the Public Offer Account, or until withdrawal/failure of the Issue or until rejection of the Bid, as the case may be.

In the event of rejection of the Bid cum Application Form, failure of the Issue or for unsuccessful Bid cum Application Forms, the Registrar will give instructions to the SCSB to unblock the Bid Amount in the relevant ASBA Account and the SCSBs will unblock the Bid Amount on receipt of such instruction.

Payment Instructions

The Investment Manager and the Syndicate will open Escrow Accounts with one or more Escrow Collection Bank(s) in whose favour Anchor Investors and Strategic Investors will offer payment instruments. The payment instruments for payment into the Escrow Accounts should be drawn in favour of:

In case of resident Anchor Investors: “Escrow Account - [●] – Anchor Investor - R”

In case of non-resident Anchor Investors: “Escrow Account - [●] – Anchor Investor - NR”

In case of resident Strategic Investors: “Escrow Account – [●] – Strategic Investor – R”

In case of non-resident Strategic Investors: “Escrow Account – [●] – Strategic Investor – NR”

The Investors should note that the escrow mechanism is not prescribed by SEBI and has been established as an arrangement amongst the Investment Manager, the Trustee (acting on behalf of the Trust), the Syndicate, the Escrow Collection Banks and the Registrar to facilitate collections from Investors.

The Escrow Collection Banks will act in terms of the Offer Document and the Escrow Agreement. The monies deposited in the Escrow Accounts will be held for the benefit of the Anchor Investors until the Designated Date. On the Designated Date, the Escrow Collection Banks will transfer the funds from the Escrow Accounts as per the terms of the Escrow Agreement into the Public Offer Account with the Escrow Collection Banks and the Refund Account. The Escrow Collection Banks will not exercise any lien whatsoever over the monies deposited therein and will hold the monies therein in trust for the Anchor Investors. The balance amount after transfer to the Public Offer Account will be transferred to the Refund Account. Payments of refund to the Anchor Investors will be made from the Refund Account as per the terms of the Escrow Agreement and the Offer Document. Payments should be made by Anchor Investors only in electronic mode through direct credit/NEFT/NACH/RTGS. Cheques or bank drafts, cash, money orders or postal orders will not be accepted and is liable to be rejected.

Payment Mechanism for UPI Bidders

In relation to UPI Bidders, the Sponsor Bank shall initiate a UPI Mandate Request on the UPI Bidder, i.e., request the UPI Bidder to authorize blocking of funds equivalent to application amount and subsequent debit of funds in case of Allotment. The request raised by the Sponsor Bank would be electronically received by the UPI Bidder as an SMS / intimation on their mobile number / mobile application associated with the UPI ID linked bank account. The UPI Bidder shall be able to view the details of the request in their UPI application and authorize the transaction. In UPI, the SCSBs / UPI applications eligible for public issues shall send

SMS alerts to UPI Bidders for all ASBA applications and may also provide invoices in the inbox as an additional feature to verify the UPI mandate details. After reviewing the details properly, the UPI Bidder shall be required to authorize the mandate, which shall be a one-time mandate for each application in the Issue. The payment accompanied with any upward revision of the Bid shall be adjusted against the payment made at the time of the original Bid or previously revised Bid.

Other Instructions

Joint Bids in case of Individuals

Bids may be made in single or joint names (not more than three). In the case of joint Bids, all payments will be made out in favour of the Bidder whose name appears first in the Bid cum Application Form or Revision Form. All communications will be addressed to the First Bidder and will be dispatched to his or her address as per the Demographic Details received from the Depository.

Multiple Bids

A Bidder should submit only one Bid for the total number of the Units required. Two or more Bids will be deemed to be multiple Bids if the sole or First Bidder is the same. However, a Bidder can revise the Bid through the Revision Form.

In case of a mutual fund, subject to investment conditions as per applicable law, a separate Bid can be made in respect of each scheme of the mutual fund registered with SEBI and such Bids in respect of more than one scheme of the mutual fund will not be treated as multiple Bids, provided that the Bids clearly indicate the scheme concerned for which the Bid is made. Bids by Strategic Investors and QIBs under the Anchor Investor Portion and Institutional Investor Portion (excluding Anchor Investor Portion) will not be considered as multiple Bids.

More than one ASBA Bidder may Bid for Units using the same ASBA Account, provided that the SCSBs will not accept a total of more than five Bid cum Application Forms from ASBA Bidders with respect to any single ASBA Account.

The Investment Manager, in consultation with the Lead Manager, reserves the right to reject, in its absolute discretion, all or any multiple Bids in any or all categories. A check will be carried out for the same PAN. In cases where the PAN is same, such Bids will be treated as multiple applications.

Right to Reject Bids

In case of QIBs Bidding in the Institutional Investor Portion and Anchor Investors, the members of the Syndicate may reject Bids provided that such rejection will be made at the time of acceptance of the Bid and the reasons for rejecting such Bids will be provided to such Bidder in writing. The Members of the Syndicate may also reject Bids if all information required is not provided and the Bid cum Application Form is incomplete in any respect.

Grounds for Technical Rejections

Bidders are advised that incomplete or illegible Bid cum Application Forms will be rejected by Designated Intermediaries. Bidders are advised to note that Bids are liable to be rejected on technical grounds including the following:

- (i) The amounts mentioned in the Bid cum Application Form does not tally with the amount payable for the value of the Units Bid for;
- (ii) Application on plain paper;
- (iii) In case of partnership firms, Units may be registered in the names of the individual partners and no firm as such will be entitled to apply;
- (iv) Bid by persons not competent to contract under the Indian Contract Act, 1872, as amended, including minors;
- (v) PAN not stated (except for Bids on behalf of the Central or State Government, residents of Sikkim and the officials appointed by the courts);
- (vi) GIR number furnished instead of PAN;
- (vii) Where PAN details are not verified by demat accounts, i.e. where the demat account is “suspended for credit”;
- (viii) Bids for lower value of Units than specified for that category of Bidders;
- (ix) Bids at a price less than the Floor Price;
- (x) Bids at a price over the Cap Price;
- (xi) Submission of more than five Bid cum Application Forms per ASBA Account;

- (xii) Bids for a value of less than ₹0.01 million and Bids by UPI Bidders for a value of more than ₹ 0.50 million;
- (xiii) Bidder category not specified;
- (xiv) Multiple Bids as described in this Draft Offer Document;
- (xv) In case of Bids under power of attorney or by limited companies, corporate, trust etc., relevant documents not being submitted;
- (xvi) Bids accompanied by cash, stock invest, money order or postal order;
- (xvii) Signature of sole and/or the First Bidder (in case of joint Bids) is missing;
- (xviii) The Bid cum Application form not being signed by the ASBA Account holder, if the ASBA Account holder is different from the Bidder;
- (xix) Bid cum Application Form does not have the stamp of a Designated Intermediary (except for electronic ASBA Bids), as the case may be;
- (xx) Bid cum Application Forms are not submitted within the time prescribed as per the Bid cum Application Form, Bid/Issue Opening Date advertisement and this Draft Offer Document and as per the instructions in this Draft Offer Document and the Bid cum Application Forms;
- (xxi) Inadequate funds in the ASBA Account to block the Bid Amount specified in the Bid cum Application Form at the time of blocking such Bid Amount in the ASBA Account;
- (xxii) Authorisation for blocking funds in the ASBA Account not provided;
- (xxiii) Bids for amounts greater than the maximum permissible amounts prescribed by Applicable Law;
- (xxiv) Bids by OCBs;
- (xxv) Bids by persons in the United States other than “qualified institutional buyers” as defined in Rule 144A under the U.S. Securities Act;
- (xxvi) Bids by persons prohibited from buying, selling or dealing in the Units directly or indirectly by SEBI or any other regulatory authority;
- (xxvii) Bids by persons who are not eligible to acquire Units under applicable law or their relevant constitutional documents or otherwise; and
- (xxviii) Bids that do not comply with the securities laws of their respective jurisdictions.

IN CASE THE DP ID, CLIENT ID, PAN AND UPI ID (WHERE APPLICABLE) MENTIONED IN THE BID CUM APPLICATION FORM AND ENTERED INTO THE ELECTRONIC BIDDING SYSTEM OF THE STOCK EXCHANGES BY THE LEAD MANAGER/THE DESIGNATED INTERMEDIARIES DO NOT MATCH WITH THE DP ID, CLIENT ID AND PAN AVAILABLE IN THE RECORDS WITH THE DEPOSITORIES THE APPLICATION IS LIABLE TO BE REJECTED.

Electronic Registration of Bids

- (i) The Designated Intermediaries will register the Bids received, except Bids received from Anchor Bidders, using the online facilities of the Stock Exchanges. Details of Bids in the Strategic Investor and Anchor Investor Portion will not be registered on the online facilities of the Stock Exchanges. The Lead Manager, the Investment Manager and the Registrar are not responsible for any acts, mistakes or errors or omission and commissions in relation to (i) the Bids accepted by Designated Intermediaries, (ii) the Bids uploaded by Designated Intermediaries, (iii) the Bids accepted but not uploaded by the Designated Intermediaries or (iv) Bids accepted and uploaded without blocking funds in the ASBA Accounts. It will be presumed that for the Bids uploaded by the SCSBs, the Bid Amount has been blocked in the relevant ASBA Account.
- (ii) The Stock Exchanges will offer a screen-based facility for registering such Bids for the Issue. This facility will be available on the terminals of the Designated Intermediaries during the Bid/Issue Period. The Designated Intermediaries can also set up facilities for offline electronic registration of Bids subject to the condition that it will upload the offline data file into the on-line facilities for book building on a regular basis.
- (iii) On the Bid/Issue Closing Date, the Designated Intermediaries will upload the Bids until such time as may be permitted by the Stock Exchanges. This information will be available with the Lead Manager on a regular basis. In order to ensure

that the data uploaded is accurate, the Syndicate may be permitted one Working Day after the Bid/Issue Closing Date to amend some of the data fields (currently DP ID, Client ID and PAN) entered by them in the electronic bidding system, after which the Registrar will proceed with the Allotment of the Units. Bidders are cautioned that a high inflow of Bids is typically experienced on the last Working Day of the Bidding, which may lead to some Bids received on the last Working Day not being uploaded due to lack of sufficient uploading time. Such Bids that could not be uploaded will not be considered for allocation. Bids will only be accepted on Working Days (excluding any public holiday).

- (iv) Based on the aggregate demand and price for Bids registered on the electronic facilities of the Stock Exchanges a graphical representation of consolidated demand and price will be made available at the Bidding Centres and on the websites of each of the Stock Exchanges during the Bid/Issue Period.
- (v) At the time of registering each Bid, the Designated Intermediaries will enter the following details of the Bidder in the electronic system:
 - Name of the infrastructure investment trust;
 - Bid cum Application Form number;
 - Bidder Category – QIB, Eligible NRI, FPI, etc;
 - PAN of the first applicant;
 - DP ID;
 - UPI ID (for UPI Bidders);
 - Client ID;
 - Number of Units Bid for; and
 - Price option.
- (vi) A system generated Acknowledgement Slip will be given to the Bidder (only on demand) as a proof of the registration of each of the Bidding options. It is the Bidders' responsibility to obtain the Acknowledgement Slip from Designated Intermediaries. The registration of the Bid by Designated Intermediaries does not guarantee that the Units will be allocated/Allotted. Such Acknowledgement Slip will be non-negotiable and by itself will not create any obligation of any kind.
- (vii) In relation to Bids by UPI Bidders, once the Bid details are entered on the Stock Exchange platform, the Stock Exchange shall validate the PAN and demat account combination details of the Bidder with the Depository. The Depository shall validate the PAN and demat account details on a near real time basis and send responses to the Stock Exchanges which would be shared by the Stock Exchanges with the Designated Intermediaries through its platforms for corrections, if any. Once Bid details are uploaded on the platforms of the Stock Exchanges, the Stock Exchanges shall send an SMS to the UPI Bidder on their mobile number associated with demat account regarding submission of their Bid cum Application Form at the end of the day during the Bidding period. For the last day of Bidding, the SMS may be sent the next Working Day.
- (viii) The permission given by the Stock Exchanges to use their network and software of the online IPO system should not in any way be deemed or construed to mean that the compliance with various statutory and other requirements by the Investment Manager and/or the Lead Manager are cleared or approved by the Stock Exchanges; nor does it in any manner warrant, certify or endorse the correctness or completeness of any of the compliance with the statutory and other requirements nor does it take any responsibility for the financial or other soundness of the Trust, the management of the Investment Manager or the Trustee or any project of the Trust nor does it in any manner warrant, certify or endorse the correctness or completeness of any of the contents of the Draft Offer Document; nor does it warrant that the Units will be listed or will continue to be listed on the Stock Exchanges.

Build-up of the book and revision of Bids

- (i) Bids received from various Bidders through the Designated Intermediaries will be electronically uploaded to the Stock Exchanges mainframe on a regular basis.
- (ii) The book gets built up at various price levels. This information will be available with the Lead Manager at the end of the Bid/Issue Period.
- (iii) During the Bid/Issue Period, any Bidder who has registered his or her interest in the Units at a particular price level is free to revise the Bid upwards within the Price Band using the printed Revision Form, which is a part of the Bid cum

Application Form.

- (iv) Upward revisions can be made in both the desired number of Units and the Bid Amount by using the Revision Form. Apart from mentioning the revised options in the Revision Form, the Bidder must also mention the details of all the options in his or her Bid cum Application Form or its previous Revision Form. For example, if a Bidder has Bid for three options in the Bid cum Application Form and such Bidder is changing only one of the options in the Revision Form, he must still fill the details of the other two options that are not being revised, in the Revision Form. The Members of the Syndicate and the Designated Branches will not accept incomplete or inaccurate Revision Forms.
- (v) The Bidder can make this upward revision any number of times during the Bid/Issue Period. However, for any revision(s) in the Bid, the Bidders will have to use the services of the same Designated Intermediary through which such Bidder had placed the original Bid. Bidders are advised to retain copies of the blank Revision Form and the revised Bid must be made only in such Revision Form or copies thereof.
- (vi) If revision of the Bids results in an incremental amount, the relevant SCSB will block the additional Bid Amount. The Registrar will reconcile the Bid data and consider the revised Bid data for preparing the Basis of Allotment.
- (vii) When a Bidder revises his or her Bid, he or she will surrender the earlier Acknowledgement Slip and will, on demand, receive a revised Acknowledgement Slip from the Designated Intermediary. It is the responsibility of the Bidder to request for and obtain the revised Acknowledgement Slip, which will act as proof of his or her having revised the previous Bid.

Price Discovery and Allocation

- (i) Based on the Bids received and demand generated at various price levels, the Investment Manager, in consultation with the Lead Manager, will finalize the Issue Price and the Anchor Investor Issue Price.
- (ii) Allocation to Anchor Investors will be at the discretion of the Investment Manager in consultation with the Lead Manager, subject to compliance with the SEBI InvIT Regulations, and other Applicable Laws. In the event of under-subscription in the Anchor Investor Portion, the balance Units will be added to the Institutional Investor Portion. The number of Units allocated to Anchor Investors and the Anchor Investor Allocation Price, will be made available in public domain by the Lead Manager before the Bid/Issue Opening Date.
- (iii) Allocation to Strategic Investors will be at the discretion of the Investment Manager, in consultation with the Lead Manager, subject to compliance with the SEBI InvIT Regulations, and other applicable law.
- (iv) In case of under-subscription in any category, the unsubscribed portion in either the Institutional Investor category or the Non-Institutional Investor Portion may be allotted to applicants in the other categories.
- (v) Allocation to Non-Residents, including Eligible NRIs and FPIs will be subject to applicable law.
- (vi) The Investment Manager in consultation with the Lead Manager reserves the right to withdraw the Issue any time after the Bid/Issue Opening Date but before the Allotment, without assigning any reasons whatsoever.
- (vii) No Bidders can withdraw or lower their Bids at any time.

Signing of Underwriting Agreement

- (i) the Trust (acting through the Trustee), the Sponsor, the Investment Manager, the Lead Manager and the Syndicate Members may enter into an Underwriting Agreement on or immediately after the finalization of the Issue Price.
- (ii) After signing the Underwriting Agreement, the Investment Manager and the Sponsor will update and file the updated Offer Document with SEBI and the Stock Exchanges in terms of the InvIT Regulations, which then will be termed the "Final Offer Document". The Final Offer Document will contain details of the Issue Price and Issue Size if any, underwriting arrangements and will be complete in all material respects.

Advertisement regarding Issue Price

The Investment Manager will offer an advertisement after the filing of the Final Offer Document with SEBI and the Stock Exchanges. This advertisement will indicate the Issue Price.

Issuance of Allotment Advice

- (i) Upon approval of the Basis of Allotment by the Designated Stock Exchange, the Registrar shall send to the Syndicate a list of the Bidders who have been Allotted Units in the Issue.

- (ii) The Registrar will then dispatch an Allotment Advice to the Bidders who have been Allotted Units in the Issue. The dispatch of an Allotment Advice shall be deemed a valid, binding and irrevocable contract for the Bidder.
- (iii) The issuance of Allotment Advice is subject to “Notice to Anchor Investors and Strategic Investors: Allotment Reconciliation and Confirmation of Allocation Note” below.

Notice to Anchor Investors and Strategic Investors: Allotment Reconciliation and Confirmation of Allocation Note (“CAN”)

- (i) A physical book will be prepared by the Registrar on the basis of the Bid cum Application Forms received from Anchor Investors. Based on the physical book and at the discretion of the Investment Manager in consultation with the Lead Manager, selected Anchor Investors will be sent a CAN or, if required, the revised CAN.
- (ii) **In the event that the Issue Price is higher than the Strategic Investor Allocation Price or Anchor Investor Allocation Price:** Strategic Investors and Anchor Investors will be sent a revised CAN within one day of the Pricing Date indicating the number of Units allocated to such Anchor Investor or Strategic Investor and the pay-in date for payment of the balance amount. Anchor Investors and Strategic Investors are then required to pay any additional amounts, being the difference between the Issue Price and the Anchor Investor Allocation Price or Strategic Investor Allocation Price, as indicated in the revised CAN within the pay-in date referred to in the revised CAN. Thereafter, the Allotment Advice will be issued to such Anchor Investors and Strategic Investors.
- (iii) **In the event the Issue Price is lower than the Anchor Investor Allocation Price and Strategic Investor Allocation Price:** Anchor Investors and Strategic Investors and who have been Allotted Units will directly receive Allotment Advice and will not receive a refund for the difference between the Issue Price and the Anchor Investor Allocation Price or Strategic Investor Allocation Price, as applicable.

Designated Date and Allotment

On the Designated Date, the Registrar to the Issue shall instruct the SCSBs to transfer funds represented by allocation of Units from ASBA Accounts into Public Offer Account. The balance amount after transfer to the Public Offer Account shall be unblocked by the relevant SCSB. Whilst the Investment Manager shall ensure all steps for the completion of the necessary formalities for the listing and the commencement of trading of the Units on the Stock Exchanges are completed within 6 Working Days of the Bid/Issue Closing Date, the timetable may be extended due to various factors, such as extension of the Bid/Issue Period by the Investment Manager, revision of the Price Band or any delay in receiving the final listing and trading approval from the Stock Exchanges. The commencement of trading of the Units will be entirely at the discretion of the Stock Exchanges and in accordance with the Applicable Laws.

Bidders are advised to instruct their Depository Participant to accept the Units that may be Allotted to them in this Issue.

Basis of Allotment

For other than Anchor Investors

- (i) The Allotment to Bidders other than Anchor Investors and Strategic Investors shall be on proportionate basis within the specified investor categories and the number of Units Allotted shall be rounded off to the nearest integer, subject to minimum Allotment per successful Bidder in case of oversubscription as per the InvIT Regulations.
- (ii) In case of under-subscription in any investor category, the unsubscribed portion in either the Institutional Investor category or the Non-Institutional Investor category may be allotted to applicants in the other category.
- (iii) The aggregate allocation to Institutional Investors will not be more than 75% of the Issue Size.
- (iv) The aggregate allocation to Non-Institutional Investors shall not be less than 25% of the Issue Size.
- (v) The identity of Institutional Investors other than Strategic Investors shall not be made public.
- (vi) In relation to UPI Bidders, the RTA shall prepare the basis of Allotment based on information of Bidding and blocking received from the Stock Exchange and after undertaking reconciliation of the Bid data and block confirmations corresponding to the Bids by all Investor category applications (with and without the use of UPI). Upon approval of the basis of Allotment, the RTA shall share the ‘debit’ file with the Sponsor Bank and SCSBs, as applicable, for credit of funds in the Public Offer Account and unblocking of excess funds in the UPI Bidder’s account. The Sponsor Bank, based on the mandate approved by the Bidder at the time of blocking of funds, shall raise the debit / collect request from the Bidder’s bank account, whereupon funds will be transferred from investor’s account to the public offer account and remaining funds, if any, will be unblocked without any manual intervention by investor or their bank.

For Anchor Investor Portion

Allocation to Anchor Investors at the Anchor Investor Allocation Price will be at the discretion of the Investment Manager, in consultation with the Lead Manager, subject to compliance with the following requirements:

- not more than 60% of the Institutional Investor Portion will be available for allocation to Anchor Investors;
- allocation to Anchor Investors will be on a discretionary basis and subject to a minimum number of two Anchor Investors for allocation up to ₹ 2,500 million and minimum number of five Anchor Investors for allocation more than ₹ 2,500 million. The identity of the Anchor Investors shall be made public.

The number of Units Allocated to Anchor Investors and the Anchor Investor Allocation Price will be made available on the websites of the Stock Exchanges, the Sponsor, the Investment Manager and the Lead Manager, prior to the Bid/Issue Opening Date.

For Strategic Investor Portion

Allocation to Strategic Investors at the Strategic Investor Allocation Price will be at the discretion of the Investment Manager, in consultation with the Lead Manager, subject to compliance with the following requirements:

- (i) Strategic Investor(s) shall, jointly or severally, invest not less than 5% and not more than 25% of the Issue Size;
- (ii) allocation to Strategic Investors will be on a discretionary basis, as per applicable law.

The details of Allocation to Strategic Investors will be made available on the websites of the Stock Exchanges, the Sponsor, the Investment Manager and the Lead Manager, prior to the Bid/ Issue Opening Date, subject to applicable law.

Method of Proportionate Basis of Allotment in the Issue

Except in relation to Anchor Investors and Strategic Investors, in the event of the Issue being over-subscribed, the Investment Manager and the Lead Manager will finalize the Basis of Allotment in consultation with the Designated Stock Exchange. The Designated Stock Exchange along with the Lead Manager and the Registrar will be responsible for ensuring that the Basis of Allotment is finalized in a fair and proper manner.

Except in relation to Anchor Investors and Strategic Investors, the Allotment will be made on a proportionate basis as explained below, subject to minimum Allotment per successful Bidder in case of oversubscription in accordance with the SEBI InvIT Regulations:

- (i) Bidders will be categorized according to the number of Units applied for.

The total number of Units to be allotted to each category as a whole will be arrived at on a proportionate basis, which is the total number of Units applied for in that category (number of Investors in the category multiplied by the number of Units applied for) multiplied by the inverse of the over-subscription ratio.

Number of Units to be allotted to the successful Bidders will be arrived at on a proportionate basis, which is total number of Units applied for by each Bidder in that category multiplied by the inverse of the over-subscription ratio.

Units in Dematerialized Form with NSDL or CDSL

As per the InvIT Regulations, the Allotment will be only in dematerialized form.

In this context, two agreements have been signed amongst the Trustee (on behalf of the Trust), the respective Depositories and the Registrar:

- (i) Agreement dated March 28, 2025, between NSDL, the Trust (acting through Investment Manager) and the Registrar.
- (ii) Agreement dated March 28, 2025, between CDSL, the Trust (acting through Investment Manager) and the Registrar.
- (iii) Bids from any Bidder without relevant details of his or her depository account are liable to be rejected.
- (iv) A Bidder applying for Units must have at least one valid beneficiary account with either of the Depository Participants of either NSDL or CDSL prior to making the Bid.
- (v) Allotment to a successful Bidder will be credited in electronic form directly to the beneficiary account (with the Depository Participant) of the Bidder.

- (vi) Bid cum Application Forms or Revision Forms containing incomplete or incorrect details under the heading “Bidder’s Depository Account Details” are liable to be rejected.
- (vii) Units in electronic form can be traded only on the stock exchanges having electronic connectivity with NSDL and CDSL. The Stock Exchanges where the Units are proposed to be listed have electronic connectivity with CDSL and NSDL.

Communications

All future communications in connection with Bids made in this Issue should be addressed to the Registrar quoting the full name of the sole or First Bidder, Bid cum Application Form number, PAN, Bidders depository account details, number of Units applied for, date of Bid cum Application Form, name and address of the member of the Syndicate where the Bid was submitted and cheque or draft number and issuing bank thereof or with respect to ASBA Bids, the bank account number in which an amount equivalent to the Bid Amount was blocked.

Bidders can contact the Compliance Officer or the Registrar in case of any Pre-Issue or post-Issue related problems such as non-receipt of letters of allotment, credit of allotted Units in the respective beneficiary accounts, refund orders etc. In case of ASBA Bids submitted with the Designated Intermediaries, Bidders can contact the relevant Designated Intermediary.

Payment of Refunds

Payment of refunds will be made in the manner described below.

Mode of Refunds

For Anchor Investors and Strategic Investors

For Anchor Investors and Strategic Investors, any payment of refund will be made electronically through NACH, Direct Credit, RTGS or NEFT. For all other Anchor Investors, including those who have not updated their bank particulars with the MICR code, refund orders through speed or registered post for refund orders of ₹ 1,500 and above. Such refunds will be made by cheques, pay orders or demand drafts drawn on the Refund Bank and payable at par at places where Bids are received. Any bank charges for cashing such cheques, pay orders or demand drafts at other centres will be payable by the respective Investors. Please note that refunds through the abovementioned modes shall be credited only to the bank account from which the Bid Amount was remitted.

Refunds for ASBA Bidders

In the case of ASBA Bidders, the Registrar will instruct the relevant SCSBs to unblock the funds in the relevant ASBA Accounts to the extent of the Bid Amounts specified in the Bid cum Application Forms for withdrawn, rejected or unsuccessful or partially successful ASBA Bids, within 6 Working Days of the Bid/Issue Closing Date.

Refunds for UPI Bidders

For UPI Bidders, Units would be credited to the Bidder’s account after confirmation of receipt of funds in the Public Offer Account. The Bidder will be notified for full / partial Allotment. For partial Allotment, the remaining funds shall be unblocked. For no Allotment, the UPI mandate would be revoked and application amount would be unblocked for the Bidder. The Registrar shall ensure refund of application amount or excess application amount in the bank account of the Bidder as stated in its demat account.

Disposal of Applications and Application Moneys

With respect to Bidders other than ASBA Bidders, the Investment Manager will ensure dispatch of Allotment Advice, refund orders (except for Anchor Investors who receive refunds through electronic transfer of funds) and give benefit to the beneficiary account with Depository Participants and submit the documents pertaining to the Allotment to the Stock Exchanges after the Allotment.

In case of Anchor Investors who receive refunds through NACH, NEFT, direct credit or RTGS, the refund instructions will be given to the clearing system within 6 Working Days from the Bid/Issue Closing Date. A suitable communication will be sent to the Anchor Investors receiving refunds through this mode within 6 Working Days from the Bid/Issue Closing Date, giving details of the bank where refunds will be credited along with amount and expected date of electronic credit of refund.

Refund Orders or instructions to the SCSBs

With respect to Anchor Investors and Strategic Investors, the Investment Manager will ensure dispatch of Allotment Advice and refund orders (except for Anchor Investors and Strategic Investors who receive refunds through electronic transfer of funds), give benefit to the beneficiary account with the Depository Participants and submit documents pertaining to the Allotment to the Stock Exchanges after the Allotment.

In the case of ASBA Bidders, the Registrar will instruct the relevant SCSBs to unblock the funds in the relevant ASBA Accounts to the extent of the Bid Amounts specified in the Bid cum Application Forms for withdrawn, rejected or unsuccessful or partially successful ASBA Bids, within 6 Working Days of the Bid Closing Date.

Interest in case of delay in dispatch of Allotment Letters or Refund Orders/instruction to SCSB by the Registrar

Allotment, including the credit of Allotted Units to the beneficiary accounts of the Depository Participants, will be made not later than 6 Working Days of the Bid/Issue Closing Date. If Allotment letters/refund orders have not been dispatched to the Bidders or if, in a case where the refund or portion thereof is made in electronic manner through direct credit, NEFT, RTGS or NACH, or unblocking of ASBA Accounts or the refund instructions have not been issued to the clearing system in the disclosed manner and/or demat credits are not made to Bidders within 6 Working Days from the Bid/ Issue Closing Date, the Investment Manager will be liable to pay interest at 15% per annum, as prescribed under the InvIT Regulations and other applicable law.

The Trust, and the Investment Manager shall not have recourse to the Issue Proceeds until the final approval for listing and trading of the Units from all the Stock Exchanges where listing is sought has been received.

Withdrawal of the Issue

The Investment Manager in consultation with the Trustee and the Lead Manager, reserves the right not to proceed with the Issue at any time after the Bid/Issue Opening Date but before Allotment. If the Investment Manager, in consultation with the Lead Manager, withdraw the Issue, they will offer a public notice within two days or such other time as may be prescribed by SEBI in this regard, providing reasons for not proceeding with the Issue. The Lead Manager, through the Registrar, will notify the SCSBs to unblock the ASBA Accounts within one Working Day or such other time as may be prescribed by SEBI, from the day of receipt of such notification. The notice of withdrawal will be made available on the websites of the Stock Exchanges, the Trust, the Sponsor, the Investment Manager and will also be issued in the same newspapers where the Pre-Issue advertisements have appeared.

If the Investment Manager withdraws the Issue after the Bid/Issue Closing Date and thereafter determine that they will proceed with a further public offering of Units, they will file a fresh draft offer document with SEBI or the Stock Exchanges, as the case may be.

Notwithstanding the foregoing, the Issue is also subject to obtaining (i) the final listing and trading approvals of the Stock Exchanges, which the Investment Manager will apply for only after Allotment; and (ii) the final approval of the Final Offer Document after it is filed with SEBI and the Stock Exchanges.

In the event the Trust does not receive listing permission from the Stock Exchanges or in the event of withdrawal of the observation letter issued by SEBI, the Units shall not be eligible for listing and the Trust shall be liable to refund the subscription monies, if any, to the respective Bidders immediately, along with interest at the rate of 15% per annum, from the date of Allotment.

Minimum Subscription and Minimum Allotment

In case the Trust does not receive (i) the minimum subscription of at least 90% of the Issue; or (ii) subscription for at least 10% of the total outstanding Units by public Unitholders, on a post-Issue basis or in accordance with InvIT Regulation; or (iii) if the number of prospective Allotees (other than the Sponsor, its related parties and Associates) is less than 20, the entire subscription money shall be refunded.

The Investment Manager further undertakes that no person connected with this Issue, including a person connected with the distribution of this Issue, shall offer any incentive, whether direct or indirect, in any manner, whether in cash or kind or services or otherwise to any person for making an application for allotment of Units, except for any fees or commission for services rendered in relation to this Issue.

Undertakings of Investment Manager

The Investment Manager hereby undertakes on behalf of the Trust that at any given time, there shall be only one denomination for the Units and that it shall comply with such disclosure and accounting norms specified by the SEBI from time to time.

STATEMENT OF POSSIBLE SPECIAL TAX BENEFITS AVAILABLE TO ANANTAM HIGHWAYS TRUST AND ITS UNITHOLDERS UNDER THE APPLICABLE LAWS IN INDIA

To

The Board of Directors

Alpha Alternatives Fund Advisors LLP (the “Investment Manager”)

in its capacity as an investment manager of the Anantam Highways Trust

33rd Floor, Sunshine Tower,

Senapati Bapat Marg, Dadar West,

Mumbai – 400013

Maharashtra, India

Dear Sirs,

Statement of Possible Special Tax Benefits available to Anantam Highways Trust and its unitholders under the applicable tax laws in connection with the proposed initial public offering of units (the “Units” and such initial public offering, the “Issue”) of Anantam Highways Trust (“InvIT” or “Trust”) under the Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, as amended or supplemented, read together with the circulars, guidelines, notifications and/or circulars issued or framed thereunder (“SEBI InvIT Regulations”)

1. We, Mukund M. Chitale & Co., statutory auditors of the Trust, have been informed that the Trust proposes to file the Draft Offer Document, Offer Document and Final Offer Document in accordance with the SEBI InvIT Regulations.
2. In terms of our engagement letter, in relation to the Issue, we have received a request from the Trust and Investment Manager to issue this statement of possible special tax benefits available to the Trust and its unitholders.
3. The preparation of this Statement as of the date of our report which is to be included in the Draft Offer Document, Offer Document and Final Offer Document is the responsibility of the management of the Investment Manager. The management’s responsibility includes designing, implementing and maintaining internal control relevant to the preparation and presentation of the Statement, and applying an appropriate basis of preparation; and making estimates that are reasonable in the circumstances.
4. We hereby confirm that the enclosed **Annexure A**, prepared by the Investment Manager of the Trust and initialled by us for identification purpose (“**Statement**”) for the Issue, provides the possible special tax benefits available to the Trust and the unitholders of the Trust under direct tax laws presently in force in India. Several of these benefits are dependent on the Trust and the unitholders of the Trust fulfilling the conditions prescribed under the relevant statutory provisions. Hence, the ability of the Trust and the unitholders of the Trust to derive the tax benefits is dependent upon fulfilling such conditions, which based on business imperatives the Trust faces in the future, the Trust may or may not choose to fulfil.

Inherent Limitations

5. We draw attention to the fact that the Statement includes certain inherent limitations that can influence the reliability of the information.
6. Several of these benefits are dependent on the Trust or its unitholders fulfilling the conditions prescribed under the relevant provisions of the direct tax law. Hence, the ability of the Trust or its unitholders to derive the tax benefits is dependent upon their fulfilling such conditions, which based on business imperatives the Trust faces in the future, the Trust or its unitholders may or may not choose to fulfil.
7. The benefits discussed in the enclosed Annexure A are not exhaustive and the preparation of the contents stated is the responsibility of the Investment Manager. We are informed that this statement is only intended to provide general information to the investors and is neither designed nor intended to be a substitute for professional tax advice. In view of the individual nature of the tax consequences and the changing direct tax Laws, each investor is advised to consult his or her own tax consultant with respect to the specific tax implications arising out of their participation in the proposed Issue of units by the Trust in accordance with the provisions of SEBI (Infrastructure Investment Trusts) Regulations, 2014, as amended and the guidelines and circulars issued thereunder. We are neither suggesting nor advising the investors to invest in the Issue relying on this Statement.
8. The statement of possible special tax benefits is required as per Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations 2014, as amended (the ‘SEBI InvIT Regulations’). While the term ‘possible tax benefits’ has

not been defined under the SEBI InvIT Regulations, it is assumed that with respect to possible tax benefits available to the Trust and unitholders of the Trust as enumerated in **Annexure A**, the same would include those benefits as enumerated in the statement. Any benefits under the Taxation Laws other than those specified in the statement are considered to be general tax benefits and therefore, not covered within the ambit of this statement. Further, any benefits available under any other laws within or outside India, except for those specifically mentioned in the statement, have not been examined and covered by this statement

9. The contents of the enclosed Annexure are based on information, explanations and representations obtained from the Trust and the Investment Manager and on the basis of our understanding of the business activities and operations of the Trust.

Opinion

10. In our opinion, the Statement prepared by the Investment Manager presents, in all material respects, the possible special tax benefits available as on the date of signing of this report, to the Trust and its unitholders, in accordance with the respective Tax Regulations as at the date of our report.
11. We hereby confirm that the enclosed Annexure, prepared by the Investment Manager, which states the possible special direct tax benefits available to the Trust and its unitholders under the Income-tax Act, 1961 (“**Act**”) as amended by the Finance Act 2024, read with Income tax Rules, 1962, i.e. applicable for the Financial Year 2024-25 relevant to the assessment year 2025-26, presently in force in India as on the signing date, which are defined in Annexure. These possible special tax benefits are dependent on the Trust and its unitholders fulfilling the conditions prescribed under the relevant provisions of the Tax Laws. Hence, the ability of the Trust and its unitholders to avail these possible special tax benefits is dependent upon their fulfilling such conditions, which is based on business imperatives which the Trust and its unitholders may face in the future and accordingly, the Trust and its unitholders may or may not choose to fulfil.
12. We do not express any opinion or provide any assurance as to whether:
- (i) the Trust or its unitholders will obtain / continue to obtain these benefits in future;
 - (ii) the conditions prescribed for availing the benefits have been / would be met with; and
 - (iii) the revenue authorities/courts will concur with the views expressed herein
13. We assume no obligation to update the Annexure on any events subsequent to this date, which may have a material effect on the discussions herein.
14. We have complied with the relevant applicable requirements of the Standard on Quality Control (SQC) 1, Quality Control for Firms that Perform Audits and Reviews of Historical Financial information, and Other Assurance and Related Services Engagements.
15. This certificate may be relied on by the Lead Managers, their affiliates and legal counsel in relation to the Issue. This certificate is issued for the purpose of the Issue, and can be used, in full or part, for inclusion in draft offer document, offer document and final offer document in connection with the Issue (together, the “**Issue Documents**”) which may be filed by the Trust (acting through its Trustee) with Securities and Exchange Board of India (“**SEBI**”), BSE Limited and National Stock Exchange of India Limited (collectively, the “**Stock Exchanges**”) and / or any other regulatory or statutory authority. We will not be liable any other person (excluding the Lead Manager and their affiliates) in respect of this Statement, except as per applicable law. This report has been prepared solely for inclusion in the Issue Documents.
16. We undertake to immediately communicate, in writing, any changes to the above information/confirmations to the Lead Managers, Trust and the Investment Manager until the Units allotted in the Issue commence trading on the relevant stock exchanges. In the absence of any such communication from us, the Lead Managers, Trust, Investment Manager and the legal advisors appointed with respect to Issue can assume that there is no change to the information/confirmations forming part of this certificate and accordingly, such information should be considered to be true and fair.

Yours faithfully,
For and on behalf of
Mukund M. Chitale & Co
Chartered Accountants

Authorized Signatory

Name: S. M. Chitale
Designation: Partner
Membership No.: 111383
Firm Registration No.: 106655W

UDIN: 25111383BMKWKW1239
Date: March 28, 2025

Encl: As above

ANNEXURE A

STATEMENT OF POSSIBLE SPECIAL TAX BENEFITS AVAILABLE TO THE ANANTAM HIGHWAYS TRUST AND THE UNITHOLDERS OF THE TRUST UNDER THE APPLICABLE DIRECT TAX LAWS IN INDIA

The information provided below sets out the possible special tax benefits available to the unitholders in a summary manner only and is not a complete analysis or listing of all potential tax consequences of purchase, ownership and disposal of equity shares or units, under the tax laws presently in force in India. It is not exhaustive or comprehensive analysis and is not intended to be a substitute for professional tax advice.

Unitholders should consult their own tax advisors concerning the India tax implications and consequences of purchasing, owning and disposing of units, including tax implication on any distribution by/receipts from Anantam Highway Trust, in their particular situation.

The Income-tax Act, 1961 (“**Act**”) has set-out a special regime for taxation of income arising to the Trust and its unitholders under Chapter XII FA of the Act.

We have summarised below relevant income-tax provisions as applicable to the Trust and its unitholders, under the Act. The income tax provisions listed below are applicable to the Trust and its unitholders subject to compliance with the applicable provisions and/or the conditions laid out in the Act and the regulations as prescribed under the Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, made under the Securities and Exchange Board of India Act, 1992 (15 of 1992) (“**InvIT Regulations**”).

1. **TAX PROVISIONS APPLICABLE TO THE TRUST**

1.1. **Definition of business trust under the Act**

A ‘business trust’ is defined under section 2(13A) of the Act to mean a trust registered as an infrastructure investment trust (“**InvIT**”) under the SEBI InvIT Regulations or a Real Estate Investment Trusts (REIT) under the SEBI REIT Regulations.

1.2. **Taxability of the Trust**

1.2.1. **Income received from the Special Purpose Vehicle(s) (“SPVs”)**

A. **INTEREST AND DIVIDEND (OTHER THAN DIVIDEND IN THE NATURE OF BUY-BACK PROCEEDS)**

Interest and dividend received or receivable by the Trust from the SPV Group (being domestic Indian companies) shall be exempt from tax in case of receipt from special purpose vehicle as defined under section 10(23FC) of the Act. In this regard, the expression “special purpose vehicle” (SPV) as per explanation to section 10(23FC) means an Indian company in which the business trust holds controlling interest and any specific percentage of shareholding or interest, as may be required by the regulations under which such trust is granted registration.

Further, in view of the provisions of section 14A of the Act, any expenditure incurred in relation to earning the above exempt income shall not be tax deductible. In view of the same, expenses which have been incurred by the Trust to earn interest and dividend income (exempt under section 10(23FC) of the Act) shall not be allowed as deduction. In case, the Tax Authorities are not satisfied by the amount of disallowance computed by the Trust under section 14A of the Act, the tax authorities shall compute the amount to be disallowed in accordance with the provisions of section 14A of the Act read with Rule 8D of the Income-tax Rules, 1962 (“**the Rules**”).

As per section 57 of the Act, no deduction shall be allowable against the dividend income (which is taxable in the hands of the Trust) other than deduction on account of interest expense incurred wholly and exclusively for the purpose of earning such dividend and such interest expense shall not exceed 20% of the dividend income included in the total income for that year, without deduction under section 57 of the Act.

In addition, section 193 and section 194A(3)(xi) of the Act do not require a SPV to deduct tax at source (“**TDS**”) in respect of interest paid or payable to the Trust. Further, second proviso to section 194 of the Act provides that

no TDS is required to be deducted by a SPV in respect of dividend paid to the Trust.

B. INCOME FROM BUY-BACK OF SHARE

Buy-back of shares before 1 October 2024 (Finance Act, 2024 (No. 2))

As per section 115QA of the Act, domestic companies are required to pay additional tax at the rate of 20%⁺⁺¹ of the distributed income on buy-back of shares (“**Buyback Distribution Tax**”). Distributed income means the consideration paid by the domestic company on buy back of shares as reduced by the amount received by the company for the issue of such shares, determined as per Rule 40BB of the Rules.

Further, as per the provisions of section 10(34A) of the Act, any income arising from buy-back of shares on which Buyback Distribution Tax has been paid shall not be taxable in the hands of the shareholders. Accordingly, in case income arises in hands of the Trust from buy-back of shares undertaken by the SPV then such income shall be exempt in the hands of the Trust.

Also, in view of the provisions of section 14A of the Act, any expenditure incurred in relation to earning the above exempt income shall not be tax deductible in the hands of the trust. In view of the same, expenses which have been incurred by the Trust to earn the exempt income shall not be allowed as deduction. In case the Tax Authorities are not satisfied by the amount of disallowance computed by the Trust under section 14A of the Act, the tax authorities shall compute the amount to be disallowed in accordance with the provisions of section 14A of the Act read with Rule 8D of the Rules.

The above provisions will not be applicable in respect of buy back of shares by domestic companies, that takes place on or after 1 October 2024.

BUY BACK OF SHARES ON OR AFTER 1 OCTOBER (FINANCE (NO. 2) ACT, 2024 (NO. 2))

It must be noted that Buyback Distribution Tax is done away with by Finance (No. 2) Act, 2024. Accordingly, above-mentioned provisions of section 115QA of the Act shall not apply with effect from 1 October 2024. As per the amendments brought in by Finance (No. 2) Act, 2024 proceeds from buy-back shall be taxable as dividend in the hands of Shareholders under newly inserted sub-clause (f) of clause (22) under section 2 of the Act, and consequently exemption provided under section 10(34) of the Act has been withdrawn.

Further, Finance (No. 2) Act, 2024 provides that the sales consideration received for the shares bought back shall be considered as Nil, as per proviso to section 46A of the Act, while the cost of acquisition of the shares (price at which the shares were acquired) should be regarded as capital loss in the hands of Shareholder. Where shares of domestic company is held by the Shareholder for 24 months or less, such loss shall be short-term capital loss. Where shares are held for more than 24 months, such loss shall be in the nature of long-term capital loss.

Section 70 read with section 74 of the Act allows short-term capital loss arising during a financial year to be set off against income, if any, from capital gains (short-term or long-term), arising in the same financial year. However, long-term capital loss arising during a financial year is allowed to be set-off only against long-term capital gains. Balance loss, if any, is allowed to be carried forward and set-off against income from capital gains, arising during subsequent eight assessment years, as follows: (i) balance short-term capital loss can be carried forward and set-off against capital gains (short-term or long-term); and (ii) balance long-term capital loss can be carried forward and set-off only against long-term capital gains.

Further, as per Section 71 of the Act, short term/ long term capital loss for the year cannot be set-off against income under any other head other than capital gains for the same year.

Additionally, Finance Act (No. 2), 2024 provides that no deduction under section 57 of the Act shall be allowed to the Shareholder in respect of amount received in lieu of shares bought back and taxed as dividend in the hands of Shareholders.

In absence of any clarity by the CBDT with respect to treatment of such dividend in case of Trust, taxability of such dividend in the hands of Trust should be in a similar manner, as in the case of normal dividend as discussed above. Trust will incur a capital loss (to the extent of cost of acquisition of shares) in the year of buy back which will be eligible for carry forward and set off against future capital gains in accordance with provisions of section 70 read with section 74 of the Act, as discussed above.

1.2.2. Income other than the income distributed by the SPVs

A. INCOME BY WAY OF DIVIDEND/INTEREST/ ANY OTHER INCOME (SUCH AS TREASURY INCOME)

Dividend/interest income received by the Trust from listed securities, liquid funds, etc. or treasury income etc. shall be subject to tax at maximum marginal rate in force (“MMR”) as per section 115UA of the Act. MMR is defined under the provisions of the Act to mean the rate of income-tax (including surcharge on income-tax, if any) applicable in relation to the highest slab of income as per the relevant Finance Act as increased by cess. As per proviso to section 57 of the Act, no deduction shall be allowable against dividend income other than deduction on account of interest expense and such interest expense shall not exceed 20% of the gross dividend income included in the total income for that year, without deduction under section 57 of the Act.

B. INCOME BY WAY OF CAPITAL GAINS

In terms of section 115UA(2) of the Act, the total taxable income of the Trust shall be chargeable to tax at MMR except for income arising on transfer of short-term capital assets and long-term capital assets² under section 111A, 112 and Section 112A of the Act.

As per the provisions of section 111A of the Act, any income arising from transfer of short-term capital asset being an equity share in a company or a unit of an equity-oriented fund or a unit of a business trust, transacted through a recognized stock exchange and subject to STT, should be taxable at a rate of 20%⁺⁺. However, the condition of subject to STT is not applicable if the transaction is undertaken on a recognized stock exchange located in any International Financial Services Centre (“IFSC”) and where the consideration for such transaction is received or receivable in foreign currency.

Short-term capital gains arising from transfer of short-term capital asset other than the shares and securities covered under section 111A of the Act, will be taxed at MMR.

As per the provisions of section 112 of the Act, gains arising on the transfer of long-term capital assets shall be chargeable to tax in the hands of the Trust at the rate of 12.50%.⁺⁺

Section 48 of the Act prescribes the mode of computation of capital gains and provides for deduction of cost of acquisition/ improvement and expenses incurred in connection with the transfer of a capital asset, from the sale consideration to arrive at the amount of capital gains. In respect of long-term capital gains, taxable under section 112 of the Act, section 48 of the Act provides for substitution of cost of acquisition/improvement with indexed cost of acquisition/improvement, which adjusts the cost of acquisition/improvement by a cost inflation index as prescribed from time to time. Such adjustment of cost of acquisition/improvement by a cost inflation index has been removed *vide* the Finance (No. 2) Act, 2024.

Further, as per section 112A, gains exceeding one lakh and twenty five thousand rupees arising on the transfer of long term capital asset, being an equity share in a company or a unit of an equity oriented fund or a unit of a business trust, transacted through a recognized stock exchange and subject to STT, shall be chargeable to tax in the hands of the business trust at the rate of 12.50% (plus applicable surcharge and cess) without applying the benefit under the first proviso to section 48 of the Act. In the Finance Bill 2025 it is proposed that:

In section 115UA of the Income-tax Act, in sub-section (2), for the words, figures and letter “section 111A and section 112”, the words, figures and letters “sections 111A, 112 and 112A” shall be substituted with effect from the 1st April, 2026.

By virtue of this proposed amendment to section 115UA, the long term capital gain as referred in section 112A in the hands of business trust will be taxable at the rate of 12.5%

As per section 50CA of the Act, where the consideration on transfer of unquoted shares of a company, is less than the fair market value of such share determined in such manner as may be prescribed, the value so determined shall for the purpose of section 48 of the Act, be deemed to the full value of consideration.

Section 70 read with section 74 of the Act allows short-term capital loss arising during a financial year to be set off against income, if any, from capital gains (short-term or long-term), arising in the same financial year.

However, long-term capital loss arising during a financial year is allowed to be set-off only against long-term capital gains. Balance loss, if any, is allowed to be carried forward and set-off against income from capital gains, arising during subsequent eight assessment years, as follows: (i) balance short-term capital loss can be carried forward and set-off against capital gains (short-term or long-term); and (ii) balance long-term capital loss can be carried forward and set-off only against long-term capital gains.

Further, as per Section 71 of the Act, short term/ long term capital loss for the year cannot be set-off against income under any other head other than capital gains for the same year.

2. **TAXABILITY OF UNITHOLDERS**

2.1. **Income by way of dividend and interest**

- a. As per the provisions of section 115UA(1) of the Act, the income distributed by the Trust is taxable in the hands of the unitholders in the same manner and in the same proportion as the underlying income received by or accrued to the Trust. Therefore, income taxable in the hands of unit holders shall be taxed in the same manner and nature as it would have been taxed in the hands of Trust.
- b. As per the provisions of section 10(23FD), any income referred to in section 115UA(1) of the Act and distributed by the Trust shall not be included in the total income of the unitholders, except for the following income:
 - (i) Interest income from SPV [referred to in section 10(23FC)(a)];
 - (ii) Dividend Income from SPV [referred to in section 10(23FC)(b)], i.e., if the SPV has opted for concessional tax regime under section 115BAA³;

The above income would be taxable in the hands of the unitholders under section 115UA(3) of the Act at the rates applicable to the respective unitholders.

- c. As per section 115A(1)(a)(iiac) of the Act read with section 194LBA(2) of the Act, income in the nature of interest referred to in section 10(23FC)(a) shall be taxable at the rate of 5%⁺⁺ in the hands of a non-resident. Such interest would be taxable in the hands of resident unitholders at the applicable tax rates.
- d. In view of the provisions of section 14A of the Act, any expenditure incurred in relation to earning the above exempt income shall not be tax deductible. In case, the Tax Authorities are not satisfied by the amount of disallowance computed by the unit holders under section 14A of the Act, the tax authorities shall compute the amount to be disallowed in accordance with the provisions of section 14A of the Act read with Rule 8D of the Rules.
- e. **Deductions from income in the hands of unitholders**

A domestic company is allowed deduction of dividend income received by it from another domestic company or the Trust subject to certain conditions. Therefore, if the unitholder is a domestic company, it should be able to claim the deduction under section 80M where the prescribed conditions mentioned under section 80M have been complied with

Further, as per proviso to section 57 of the Act, no deduction shall be allowable against the dividend income other than deduction on account of interest expense and such interest expense shall not exceed 20% of the gross dividend income for that year, without deduction under section 57 of the Act. Further, where dividend income is in the nature of the shares bought back, no expense shall be allowed as deduction against such dividend income.

2.2. **Distribution of specified sum**

- a. The Finance Act, 2023 has amended section 56(2) of the Act to add a new clause (xii) which provides the taxability of any specified sum received by unitholders from the Trust in respect of units held by him at any time during the year.
- b. Computation of “specified sum” shall be the result of ‘A-B-C’ where:
‘A’ = Cumulative distribution made by trust till date excluding the amount distributed in the nature of dividend, interest or rental income or any amount taxed/taxable in the hands the Trust

‘B’ = Issue price of such units

‘C’ = Amount charged to tax under this provision in earlier years

Specified sum shall be deemed to be zero if ‘A-B-C’ results in negative value.

2.3. Other income (income other than interest or dividend income or income chargeable to tax under section 56(2)(xii) of the Act) received from Trust

Other income (income other than interest or dividend income or income chargeable to tax under section 56(2)(xii) of the Act) such as treasury income earned by Trust and distributed to unitholder shall be exempt in hands of unitholders under section 10(23FD) of the Act as the same shall be taxable in the hands of Trust. Further, there shall be no withholding on distribution of such other income by the Trust to the unitholders.

2.4. Income by way of capital gains

2.4.1. For resident and non-resident unitholders (other than Foreign Portfolio Investors (“FPIs”) / Foreign Institutional Investors (“FIIs”))

- a. For the purpose of computation of capital gains on sale of units of Trust, consideration received on sale of units of Trust shall be reduced by cost of acquisition of such units and expenditure incurred wholly and exclusively in connection with such sale.
- b. As per the amendments made by Finance Act 2023, the amount of distribution to the extent not chargeable to tax u/s 56(2)(xii) of the Act and not covered u/s 10(23FC), 10(23FCA) or 115UA(2) of the Act, shall be reduced from the cost of units, for the purpose of computation of capital gains.
- c. Investors are advised to consult their tax advisor for computation of capital gains including cost of acquisition of units as per Indian tax laws in each case.
- d. Where the gains arising on the transfer of units of the Trust by the unitholder are included in the business income of an assessee assessable under the head ‘Profits and Gains from Business or Profession’ and on which STT has been charged, such STT shall be a deductible expense from business income as per the provisions of section 36(1)(xv) of the Act. The characterization of gains/ losses, arising from sale of units, as capital gains or business income would depend on the nature of holding in the hands of the unitholder and various other factors.
- e. Where the gains on transfer of the units of the Trust are characterized as capital gains, and if such units are long-term capital assets⁴ and such transaction is chargeable to STT, income arising on transfer of units of the Trust (over and above INR 0.125 million) will be taxable at a tax rate of 12.50%⁺⁺ subject to conditions as per section 112A. However, the condition of transaction being chargeable to STT is not required if the transaction is undertaken on a recognised stock exchange located in IFSC and where the consideration for such transaction is received or receivable in foreign currency. Further, in case of long- term capital gain on transfer of units of the Trust, which are not subject to STT, shall be taxable in the hands of the unitholders at the tax rate of 12.50%⁺⁺ under section 112 of the Act.

Where the gains on transfer of the units of the Trust are characterized as capital gains, and if such units are long-term capital assets⁴ and such transaction is chargeable to STT, income arising on transfer of units of the Trust (over

and above INR 0.125 million) will be taxable at a tax rate of 12.50%⁺⁺ subject to conditions as per section 112A. However, the condition of transaction being chargeable to STT is not required if the transaction is undertaken on a recognised stock exchange located in IFSC and where the consideration for such transaction is received or receivable in foreign currency. Further, in case of long- term capital gain on transfer of units of the Trust, which are not subject to STT, shall be taxable in the hands of the unitholders at the tax rate of 12.50%⁺⁺ under section 112 of the Act.

- f. Short-term capital gains arising on transfer of the units of the Trust will be chargeable to tax at the rate of 20%⁺⁺ as per the provisions of section 111A of the Act, provided such transaction is subject to STT. The condition of STT is not required to be followed if the transaction is undertaken on a recognised stock exchange located in IFSC and where the consideration for such transaction is received or receivable in foreign currency.
- g. In case of a unitholder being an individual or HUF, where the total taxable income as reduced by short-term capital gains is below the basic exemption limit, the short-term capital gains will be reduced to the extent of the shortfall and only the balance short-term capital gains will be subjected to such tax in accordance with the proviso to sub-section (1) of section 111A of the Act. Short-term capital gains on transfer of units of the business trust, not transacted through a recognized stock exchange and not subject to STT shall be taxable at the applicable rate of tax for respective unitholders.
- h. In case of a unitholder being a resident individual or HUF, where the total taxable income as reduced by long-term capital gains taxable is below the basic exemption limit, such long- term capital gains will be reduced to the extent of the shortfall and only the balance long- term capital gains will be subjected to such tax in accordance with the proviso to sub-section (1) of section 112 and proviso to sub-section (2) of section 112A of the Act.
- i. In case of determining the period of holding for units allotted pursuant to exchange of shares of special purpose vehicle, as per clause (hc) of explanation 1 to section 2(42A), the period of holding for the units shall include the period for which the shares were held by the promoter in the SPV.
- j. In case of unitholder, being a domestic company that are liable to pay MAT under provisions of section 115JB of the Act, the gains arising, if any, on sale of units of the Trust are to be included as part of book profits for the purposes of computing MAT liability. MAT paid by such companies should be available as credit for set off against future tax liability, provided such companies do not opt to be governed by the concessional tax rate under section 115BAA of the Act.
- k. In case of unitholders, other than companies, that are liable to Alternate Minimum Tax (AMT) under provisions of Section 115JC of the Act, the gains arising, if any, on sale of units of InvIT are to be included as part of adjusted total income for the purpose of computing AMT liability. AMT paid by such unitholders should be available as credit for set- off against future tax liability, provided they do not opt to be governed by the concessional tax rates u/s 115BAC or 115BAD of the Act.

As per explanation 4 to section 115JB(2), the provisions of section 115JB shall not be applicable to a foreign company if the foreign company is a resident of a country having DTAA with India and such foreign company does not have a permanent establishment within the definition of the term in the relevant DTAA, or the foreign company is a resident of a country which does not have a DTAA with India and such foreign company is not required to seek registration under the legislation covering companies in India.

4.2. For non-resident unitholders who are FPIs/FIIs:

- a. As per section 2(14) of the Act, any securities held by an FPI, which were invested in accordance with the regulations made under the Securities and Exchange Board of India Act, 1992 shall be deemed to be capital assets. Hence the income from the transfer of such securities shall be deemed to be capital gains.

- b. If units of the Trust are long-term capital assets⁵ and such transaction is chargeable to STT, income arising on their transfer (over and above INR 0.125 million) will be taxable at a tax rate of 12.50%⁺⁺ subject to conditions as per section 112A read with section 115AD. Further, in case of long-term capital gain on transfer of units of the Trust, which are not subject to STT, shall be taxable in the hands of the unitholders at the tax rate of 12.50%⁺⁺, as per section 115AD.
- c. Short-term capital gains arising on transfer of the units of the Trust will be chargeable to tax at the rate of 20%⁺⁺ as per the provisions of section 111A of the Act read with section 115AD, if such transaction is chargeable to STT. Short-term capital gains on transfer of units of the Trust, not transacted through a recognized stock exchange and not subject to STT shall be taxable at 30%⁺⁺ under section 115AD of the Act.
- d. Investors are advised to consult their tax advisor for computation of capital gains including cost of acquisition of units as per Indian tax laws in each case.
- e. As per the Explanation 4 to section 115JB, provisions of Minimum Alternate Tax shall not be applicable to any foreign company if:
 - (i) Such foreign company is a resident of country with which India has a DTAA and such foreign company does not have a permanent establishment in India; or
 - (ii) Such foreign company is a resident of country with which India does not have a DTAA and such foreign company is not required to seek registration under any law for the time being in force relating to companies.

Accordingly, provisions of MAT shall not apply to FPIs/ FIIs in case the above conditions hold true.

2.4.3. For unitholders who are notified Sovereign Wealth Fund and notified Pension Funds:

- a. As per section 10(23FE) of the Act, any income by way of dividend, interest, any sum referred to in section 56(2)(xii), or long-term capital gain arising from investment made in units of the Trust on or after 1 April 2020 and before 31 March 2024 and held for at least three years shall be exempt for notified Sovereign Wealth Fund, wholly owned subsidiary of Abu Dhabi Investment Authority (ADIA) and notified Pension Funds, subject to satisfaction of stipulated conditions.

Investors are advised to consult their tax advisor for computation of capital gains including cost of acquisition of units as per Indian tax laws in each case.

2.4.4. Special tax benefits/ provisions applicable to Alternative Investment Fund (Category I and II)

- a. Under section 10(23FBA) of the Act, any income of an investment fund other than the income chargeable under the head “Profits and gains of business or profession” is exempt from income tax.

Further, income of the investment fund chargeable under the head ‘Profits and gains of business or profession’ is taxable as follows (section 115UB(4) of the Act)

- at the rate or rates as specified in the Finance Act of the relevant year, where such fund is a company or a firm; or
 - at maximum marginal rate in any other case
- b. The losses incurred by AIF shall be treated in accordance with the provisions of section 115UB(2) and 115UB(2A) of the Act.

2.4.5. For unitholders who are mutual funds:

Under section 10(23D) of the Act, any income earned by a Mutual Fund registered under the Securities and Exchange Board of India Act, 1992, or a Mutual Fund set up by a public sector bank or a public financial institution, or a Mutual

Fund authorised by the Reserve Bank of India would be exempt from income-tax, subject to such conditions as the Central Government may by notification in the Official Gazette specify in this behalf.

In light with the provisions of section 196 of the Act, no deduction of tax shall be made on any sum payable to a Mutual Fund specified under clause (23D) of section 10. Accordingly, the Trust is not required to withhold tax on any sum payable to Mutual Fund set up under section 10(23D) of the Act.

2.4.6. For Venture Capital Companies/Funds:

For VCF/VCC registered prior to 21 May 2012:

Under Section 10(23FB) of the Act, any income of Venture Capital Company to whom the certificate of registration is granted before 21/05/2012 under SEBI (Venture Capital Funds) Regulations, 1996 or as a subcategory I Alternative Investment Fund as is regulated under SEBI (Alternative Investment Funds Regulations) under the SEBI Act, 1992, would be exempt from income tax, subject to conditions specified therein.

As per Section 115U of the Act, any income derived by a person from his investment in Venture Capital Company/Venture Capital Fund would be taxable in the hands of the person making an investment in the same manner as if it were the income accruing or arising to or received by such person had the investments been made directly in the venture capital undertaking.

For VCF/VCC registered on / after 21 May 2012:

VCF/VCC registered on / after 21 May 2012 shall be classified as a Category 1 Alternate Investment Fund which shall be governed by the SEBI (AIF) Regulations 2012 or as referred to in sub-regulation (2) of regulation 18 of the International Financial Services Centres Authority (Fund Management) Regulations, 2022 made under the International Financial Services Centres Authority Act, 2019. For such funds benefit of section 10(23FB) and section 115U shall not be applicable and shall be governed by section 115UB read with section 10(23FBA) and 10(23FBB) which states that business income earned by such fund shall be taxable in the hands of the Fund and exempt in the hands of the unit holders, and other income earned viz. capital gains, income from other sources shall be exempt in the hands of the fund and taxable in the hands of unit holder.

2.4.7. Benefits under Double taxation avoidance agreement (DTAA)

As per section 2(30) of the Act, non-resident is defined to mean a person who is not a “resident”. A non-resident unit holder should be subject to taxation in India only if:

- it is regarded a tax resident of India; or
- being a non-resident in India, it derives: (a) if any income is received / deemed to be received in India; or (b) if any income has accrued or arisen / deemed to have accrued or arisen in India in terms of the provisions of the Act.

Section 6 of the Act provides that a foreign company should be treated as a tax resident in India if its place of effective management (POEM) is in India in that year. POEM has been defined to mean a place where key managerial and commercial decisions that are necessary for the conduct of the business of an entity as a whole are, in substance made.

Under the provisions of section 90(2) of the Act, a non-resident will be governed by the provisions of the DTAA between India and the country of tax residence of the non-resident and the provisions of the Act apply to the extent they are more beneficial to the assessee. Further, no assurance can be provided that the treaty benefits should be available to the offshore unit holder or the terms of the tax treaty will not be subject to amendment or reinterpretation in the future. However, the non-resident investor will have to furnish a certificate of his being a tax resident in a country outside India and a suitable declaration stating that such non-resident does not have a fixed base/ permanent establishment in India, to obtain the benefit of the applicable DTAA and such other document as may be prescribed as per the provision of section 90(4) of Act. Further, as per Notification No. 3/2022 dated 16th July 2022, Form 10F is required to be furnished electronically for submitting information as required under Rule 21AB, where tax residence certificate does not contain all the prescribed requisite information.

As per the provisions of section 90(2) of the Act, the provisions of the Act would prevail over the provisions of the DTAA to the extent they are more beneficial to the non-resident.

2.4.8. Treatment of loss:

Section 70 read with section 74 of the Act allows short-term capital loss arising during a financial year to be set off against income, if any, from capital gains (short-term or long-term), arising in the same financial year. However, long-term capital loss arising during a financial year is allowed to be set-off only against long-term capital gains. Balance loss, if any, is allowed to be carried forward and set-off against income from capital gains, arising during subsequent eight assessment years, as follows: (i) balance short-term capital loss can be carried forward and set-off against capital gains (short-term or long-term); and (ii) balance long-term capital loss can be carried forward and set-off only against long-term capital gains.

Further, as per Section 71 of the Act, short term/ long term capital loss for the year cannot be set-off against income under any other head other than capital gains for the same year.

2.5. Tax deduction at source by the Trust

- a. Section 194LBA – Certain income from units of the Trust: As per section 194LBA of the Act, taxes shall be required to be deducted at source at the time of payment/ credit (whichever is earlier) from following income distributions by the Trust to its unitholders:

Class of unitholders	Nature of income	Applicable tax rates
<ul style="list-style-type: none"> Resident unitholders * 	Interest income - Section 194LBA(1)	10%
	Unqualified Dividend income - Section 194LBA(1)	10%
	Qualified Dividend income - Section 194LBA(2A) Specified sum – Section 56(2)(xii)	Not subject to withholding Not subject to withholding
<ul style="list-style-type: none"> Non-resident unitholders ^{#^} * 	Interest income – Section 194LBA(2)	5% ⁺⁺
	Unqualified Dividend income [^] - Section 194LBA(2)	10% ⁺⁺
	Qualified Dividend income – Section 194LBA(2A)	Not subject to withholding
	Specified sum – Section 56(2)(xii)	Applicable tax rates (inclusive of applicable surcharge and cess)
<ul style="list-style-type: none"> Category I & II Alternative Investment Funds Mutual Funds 	Any distribution	Not subject to withholding

- b. Applicability of other provisions:

No income tax is deductible at source from income in the nature of capital gains arising to a resident unitholder under the provisions of the Act.

However, as per the provisions of Section 195 read with section 90 of the Act, any income on transfer of units of the Trust by non-residents may be subject to withholding of tax at the rate under the domestic tax laws or under the DTAA, whichever is more beneficial to the Assessee (other than FPIs/ FIIs who are subject to provisions of section 196D(2) of the Act).

Further, section 196D of the Act provide that in case of a payee, being FPIs/ FIIs of country with which India has entered into DTAA, tax shall be deducted at the rate of 20% or the DTAA rates (for the incomes referred in section 115AD(1)(ii) other than capital gains and interest income subject to TDS u/s 196LD of the Act), whichever is lower, subject to the FPI/ FII furnishing a Tax Residency Certificate (referred to in Section 90(4) of the Act) and a suitable declaration for not having a fixed base/ permanent establishment in India, to the payer.

Further, as per sub-section (2) of section 196D of the Act, no tax is to be deducted from any income, in the nature of capital gains arising to a FPI or FII from the transfer of units, subject to the FPI/ FII furnishing a Tax Residency Certificate (referred to in Section 90(4) of the Act) and a suitable declaration for not having a fixed base/ permanent establishment in India, to the payer.

Buyer and seller of unlisted shares/securities also need to check the applicability of TDS u/s 194Q of the Act read with provision of Tax Collection at Source (TCS) u/s 206C(1H) of the Act. As per the clarification issued by CBDT, the transaction in shares not taken place through recognized stock exchange/ recognised clearing corporations may also fall under the ambit of section 194Q/206C(1H) of the Act since CBDT has clarified that the said provisions of section 194Q/206C(1H) of the Act are not applicable to transactions in securities and commodities transacted through recognised stock exchanges/ recognised clearing corporations, including those located in International Financial Service Centre.

c. Provisions of section 206AA of the Act

As per section 206AA of the Act, where a tax payer does not possess a Permanent Account Number (“**PAN**”), taxes have to be withheld on payment of income to the tax payer (where chargeable to tax) at higher of the following:

- at the rate specified in the Act; or
- at the rate or rates in force; or
- at the rate of twenty per cent

The Finance Act, 2016 amended the aforementioned provision to provide an exemption to non-residents, subject to compliance of such conditions as may be prescribed by the CBDT. In furtherance of the amended provision, the CBDT issued a notification prescribing the rules (Rule 37BC of the Rules) for relaxation from withholding of tax at higher rates in the absence of PAN in the case of non-resident deductee and laid down the information and alternative documents required to claim such relaxation.

d. Provisions of section 206AB of the Act

Finance Act 2021 has inserted section 206AB which *inter alia* stipulates that where tax is required to be withheld by a person on payment or credit to a *specified person*⁶, the tax shall be deducted at the higher of the following rates:

- at twice the rate specified in the relevant provision of the Act; or
- at twice the rate or rates in force; or
- at the rate of five per cent.

If the provisions of section 206AA is applicable to a specified person, in addition to the provision of section 206AB, the tax shall be deducted at higher of the two rates provided in section 206AB and in section 206AA.

e. Applicability of other provisions:

Section 94(7) of the Act (commonly known as dividend stripping)

Section 94(7) provides as follows:

- a) any person buys or acquires any securities or unit within a period of three months prior to the record date⁷;
- b) such person sells or transfers such securities within three months after such record date or such units within a period of nine months after such record date;

- c) the dividend or income on such securities or unit received or receivable by such person is exempt

then, the loss, if any, arising from the sale and purchase of securities and units, to the extent of dividend or income received or receivable on such securities or unit, shall be ignored for computing income chargeable to tax.

Section 94(8) of the Act (commonly known as bonus stripping)

Vide Finance Act, 2022, applicability of section 94(8) of the Act (commonly known as bonus stripping) has been extended to the units of Trust as well (that with effect from Financial Year 2022-23) which provides that where:

- a) any person buys or acquires any units within a period of three months prior to the record date⁸ ;
- b) such person is allotted additional units without any payment on the basis of holding of such units on such record date;
- c) such person sells or transfers all or any of the units within a period of nine months after the record date, while continuing to hold all or any of the additional units referred in clause (ii) above

then, the loss, if any, arising from the sale and purchase of all or any of the units shall be ignored for computing income chargeable to tax and notwithstanding anything contained in any other provision of the Act, the amount of loss so ignored shall be deemed to be the cost of purchase or acquisition of such additional units referred to in clause

(b) above as are held on the date of such sale or transfer.

- f. Transaction not regarded as transfer under section 47(xvii) of the Act:

According to section 47(xvii) of the Act, any transfer of a capital asset, being share of a special purpose vehicle to a business trust in exchange of units allotted by that trust to the transferor shall not be regarded as transfer and accordingly not be liable to capital gains tax.

According to section 49(2AC) of the Act, the cost of units of Trust allotted to the transferor in exchange of shares in SPV shall be deemed to be the cost of acquisition of shares in SPV.

Further, as per clause (hc) of Explanation 1 of section 2(42A), for ascertaining the period of holding of such units, the period of holding of shares in SPV shall also be included.

Any notional gain or loss arising on transfer of shares of SPV to business trust in exchange of units allotted by the trust as referred under section 47(xvii) are to be excluded while calculating book profits for the purpose of MAT under section 115JB. Similarly, any notional gain or loss arising upon change in carrying amount of the unitsheld by Unitholder are to be excluded in calculating book profits for the levy of MAT under section 115JB (clause (iie)/(fc) to explanation 1 to section 115JB(2).

Further, actual gain or loss on disposal of units held by the Unitholder as referred to in section 47 (xvii) are considered for the purpose of normal provisions of the Act and MAT under section 115JB by taking into account the cost of the shares exchanged with units referred to in the said clause or the carrying amount of the shares at the time of exchange where such shares are carried at a value other than the cost through statement of profit and loss, as the case may be (clause (iif)/(k) to explanation 1 to section 115JB(2).

However, if the Unitholder opts for concessional tax regime under section 115BAA / 115BAB then provisions of MAT under section 115JB shall not be applicable for the Unitholder and it shall forego its entire MAT credit available, if any, at the time of exercising concessional tax-regime.

3. GENERAL TAX RATES AND PROVISIONS

- 3.1. The characterization of gains/ losses, arising from sale / transfer of units, as capital gains or business income would depend on the nature of holding in the hands of the unit holder and various other factors.
- 3.2. Where the gains arising on the transfer of the units of the Trust are included in the business income of an assessee assessable under the head "Profits and Gains from Business or Profession" and on which securities transaction tax has been charged, such securities transaction tax shall be a deductible expense from business income as per the provisions of section 36(1)(xv) of the Act. However, securities transaction tax is not eligible to be deducted as cost on

transfer of the units of the Trust in case where the gains arising from such transfer is assessable under the head “Capital Gains”.

- 3.3. The income-tax rates specified in this note are as applicable for the financial year 2024-25(relevant to assessment year 2025-26), and are exclusive of surcharge and cess, if any. Rate of surcharge and cess are provided below:

SURCHARGE:

Domestic companies (other than companies who have opted for concessional tax regime under section 115BAA and 115BAB of the Act):

- a) If the total income does not exceed INR 10 million – Nil
- b) If the total income exceeds INR 10 million but does not exceed INR 100 million - 7 %
- c) If the total income exceeds INR 100 million - 12 %

DOMESTIC COMPANIES (FOR COMPANIES WHO HAVE OPTED FOR CONCESSIONAL TAX REGIME UNDER SECTION 115BAA AND 115BAB OF THE ACT):

- a) At the rate of 10% on total income.

FOREIGN COMPANIES:

- a) If the total income does not exceed INR 10 million - Nil
- b) If the total income exceeds INR 10 million but does not exceed INR 100 million – 2%
- c) If the total income exceeds INR 100 million – 5%

FIRMS:

- a) If the total income does not exceed INR 10 million - Nil
- b) If the total income exceeds INR 10 million – 12%

FOR INDIVIDUALS, HUF, AOP AND BOI (INCLUDING NON-RESIDENT) WHO HAVE NOT OPTED FOR THE NEW REGIME:

- a) If the total income does not exceed INR 5 million – Nil
- b) If the total income exceeds INR 5 million but does not exceed INR 10 million – 10%
- c) If the total income exceeds INR 10 million but does not exceed INR 20 million – 15%
- d) If the total income (excluding dividend income or income under the provision of section 111A, section 112 and section 112A of the Act) exceeds INR 20 million but does not exceed INR 50 million – 25%
- e) If the total income (excluding dividend income or income under the provision of section 111A, section 112 and section 112A of the Act) exceeds INR 50 million – 37%
- f) If total income is above 20 million (including dividend income or income under the provision of section 111A, section 112 and section 112A of the Act) but is not covered under (iv) and (v) above – 15%

However, the applicable surcharge does not exceed 15% in case of dividend income or income under the provision of section 111A and section 112A of the Act included in such total income.

Further, vide Finance Act, 2022, the surcharge on long term capital gains under section 112 of the Act arising from transfer of long-term capital assets (including units of Trust) shall also be capped at 15%. Also, in case of an association of persons consisting of only companies as its members, the rate of surcharge on the amount of Income-tax shall not exceed 15%.

The above surcharge is subject to marginal tax benefit as per the Act.

As per the Finance Act, 2023, in case of the Individual/HUF/AOP (other than co-operative)/ BOI/ Artificial Juridical Person (“**AJP**”) taxable under the New Regime prescribed under the Act, the surcharge on the amount of income-tax shall not exceed 25% where taxable income exceeds INR 20 million.

As per the Finance Act, 2023, in the case of an AOP being a non-resident, and consisting of only companies as its members, surcharge shall be calculated at the rate of 10%, where the aggregate income exceeds INR 5 million but does not exceed INR 10 million; at the rate of 15%, where the aggregate income exceeds INR 10 million.

HEALTH AND EDUCATION CESS:

In all cases, Health and education cess will be levied at the rate of 4% of income-tax and surcharge.

NOTES:

1. The stated benefits will be available only to the sole/ first named holder in case the units are held by joint holders.
2. Please note that the TDS rates mentioned in the given document may be subject to any concessions introduced/ allowed by the Government under any policy, press release, etc. Also, the same may also be subject to lower/ nil withholding tax certificates which may be furnished by the unit holders.
3. In respect of non-residents, the tax rates and the consequent taxation mentioned above shall be further subject to any benefits available under the applicable DTAA, if any, between India and the country in which the non-resident has fiscal domicile. Further, it is pertinent to meet the terms and condition viz. Principal purpose test, beneficial ownership test etc. as enacted in DTAA entered into by India with various countries based on Multilateral Convention to implement tax treaty related measures to prevent Base Erosion and Profit Shifting (“**MLI**”).
4. The tax implications/ benefits stated in this document are subject to General Anti Avoidance Rules (GAAR) provisions under the Act. GAAR may be invoked by the Indian income-tax authorities in case arrangements are found to be impermissible avoidance arrangements. Further, in case GAAR provisions are invoked, the onus to prove that the main purpose of an arrangement was not to obtain any tax benefit is on the taxpayer. Also, any resident or non- resident may approach the Authority for Advance Rulings to determine whether an arrangement can be regarded as an impermissible avoidance arrangement.
5. This statement is intended only to provide general information and is neither designed nor intended to be substituted for professional tax advice. In view of the individual nature of tax consequences, each investor is advised to consult his/her own tax advisor with respect to specific tax consequences of his/her participation in the scheme.
6. No assurance is given that the revenue authorities/courts will concur with the views expressed herein. Our views are based on the provisions of law that exist on this day and its interpretation, which are subject to changes from time to time. We do not assume responsibility to update the views consequent to such changes.
7. This statement of possible direct tax benefits enumerated above is as per the Act as amended by the Finance (No. 2) Act, 2024 (as enacted on 16 August 2024) applicable for financial year ending March 31, 2025 relevant to the assessment year 2025-26. We have not considered any provisions of the newly proposed Income Tax Bill 2025 by

the government. The above statement of possible special direct-tax benefits sets out the possible special tax benefits available to the Trust and its unitholders under the current tax laws presently in force in India. Several of these benefits available are dependent on the Trust or its unitholders fulfilling the conditions prescribed under the relevant tax laws.

8. Please note that the tax rates provided in this statement are excluding applicable surcharge and cess. As per the Finance Act, 2024, rates given in sub-section (1A) of section 115BAC of the Act (“**New Tax Regime**”) are the default rates applicable to all individual/ HUF/ AOP (other than co-operative)/ BOI/ AJP. Accordingly, tax rates and surcharge prevailing as per New Tax Regime will be considered for the purpose of withholding.
9. The information provided above sets out the possible special tax benefits available to the unit holders in a summary manner only and is not a complete analysis or listing of all potential tax consequences of the purchase, ownership and disposal of equity shares and units, under the current tax laws presently in force in India. It is not exhaustive or comprehensive and is not intended to be a substitute for professional advice. Investors are advised to consult their own tax advisor with respect to the tax implications arising on account of any investment in equity shares or units (including tax implications on account of any distributions by/ receipts from the Trust), particularly in view of the fact that certain recently enacted legislation may not have a direct legal precedent or may have a different interpretation impacting the benefits, which an investor can avail.
10. This statement does not discuss any tax consequences in the country outside India of an investment in the units of trust. The unit holders / investors in the country outside India are advised to consult their own professional advisors regarding possible Income tax consequences that apply to them.
11. The statement is prepared on the basis of information available with the Trust and there is no assurance that:
 - (i) the Trust or its unitholders will continue to obtain these benefits in future;
 - (ii) the conditions prescribed for availing the benefits have been/ would be met with; and
 - (iii) the revenue authorities/courts will concur with the view expressed herein.

The above views are based on the provisions of law that exist on this day and its interpretation, which are subject to change from time to time.

12. The information provided above sets out the possible tax benefits available to the unit holders in a summary manner only and is not a complete analysis or listing of all potential tax consequences of the purchase, ownership and disposal of equity shares and units, under the current tax laws presently in force in India. It is not exhaustive or comprehensive and is not intended to be a substitute for professional advice. Investors are advised to consult their own tax advisor with respect to the tax implications arising on account of any investment in equity shares or units (including tax implications on account of any distributions by/ receipts from the Trust), particularly in view of the fact that certain recently enacted legislation may not have a direct legal precedent or may have a different interpretation impacting the benefits, which an investor can avail.

¹⁺⁺ excluding applicable surcharge and cess

² As per section 2(42A), a short-term capital asset means: (i) for unlisted shares – period of holding is less than or equal to 24 months; (ii) for unlisted bonds/debentures— always deemed to be short-term capital asset as per amendment in Finance Act, 2024 (No. 2) (iii) Immovable property being land and/or building - period of holding is less than or equal to 24 months; (iv) listed equity shares or units of an equity-oriented fund or units of business trust – period of holding less than or equal to 12 months. As per section 2(29A), a capital asset which is not a short-term capital asset is regarded as a long-term capital asset.

³ Subject to fulfilment / compliance with certain conditions, SPV have an option to choose a concessional tax rate of 22 percent (plus applicable surcharge cess) under section 115BAA of the Act. In case, SPV has exercised the option under section 115BAA of the Act, any dividend distributed by the Trust out of the dividend paid by such SPV shall be taxable in the hands of unitholder at applicable tax rate for resident unitholders and at the rate of 20% (plus applicable surcharge and cess) for

non-resident unitholders as per section 115A of the Act. In other cases, the dividend distributed by Trust out of the dividend paid by SPV which has not exercised the option under section 115BAA of the Act, shall be exempt in the hands of unitholders under section 10(23FD) of the Act.

⁴ *Capital asset being units of a business trust would be classified as long-term capital asset if the period of holding is more than 12 months immediately preceding the date of its transfer*

⁵ *Capital asset being units of a business trust would be classified as long-term capital asset if the period of holding is more than 36 months immediately preceding the date of its transfer.*

⁶ *As per the provisions of section 206AB of the Act, 'Specified person' means a person who:*

(i) has not furnished the return of income for the previous year immediately preceding the previous year in which the tax is required to be deducted, for which time-limit of furnishing the return of income u/s 139(1) has expired; and

(ii) the aggregate of tax deducted at source and tax collected at source is INR 50,000 or more in the said previous year

⁷ *Record date means a date fixed to entitles the holder of such securities or units to receive dividend, income, or additional securities or unit without consideration, as the case may be.*

⁸ *Record date means a date fixed to entitles the holder of such securities or units to receive dividend, income, or additional securities or unit without consideration, as the case may be.*

^{*}*The unitholders (including unitholders eligible for exemption u/s 10(23FE) of the Act) may provide NIL/Lower withholding certificate issues under section 197 of the Act with respect to income as specified u/s 194LBA of the Act.*

[^] *If the Act provides withholding tax rate for any specific category of non-resident unitholders, then the same needs to be considered.*

[#] *Non-resident unitholders may seek to avail any beneficial provisions under applicable DTAA that India may have entered into with its country of residence. Rate of TDS for FPI/FII may be governed in accordance with section 196D of the Act.*

⁺⁺ *Surcharge and Cess, as may be applicable to be added*

LEGAL MATTERS

Each of Cyril Amarchand Mangaldas and J. Sagar and Associates, severally and not jointly, do not make, or purport to make, any statement in this Draft Offer Document and is not aware of any statement in this Draft Offer Document which purports to be based on a statement made by each of them, and it makes no representation, express or implied, regarding, and to the extent permitted by law takes no responsibility for, any statement in or omission from this Draft Offer Document.

INDEPENDENT ACCOUNTANTS

The Special Purpose Combined Financial Statements have been prepared in accordance with the basis of preparation as set out in Note 1.2 to the Special Purpose Combined Financial Statements. . The Special Purpose Combined Financial Statements included in this Draft Offer Document have been audited by Mukund M Chitale & Co., Chartered Accountants, the statutory auditors of the Trust, as stated in their audit report dated March 28, 2025 included in this Draft Offer Document.

MATERIAL CONTRACTS AND DOCUMENTS FOR INSPECTION

The following contracts, which are or may be deemed material have been entered or are to be entered into in due course. These contracts and also the documents for inspection referred to hereunder, may be inspected at the principal place of business of the Trust, from 10:00 A.M. to 5:00 P.M., on all Working Days from the date of filing the Offer Document until the date of listing of the Units pursuant to this Issue. Any of the contracts or documents mentioned in this Draft Offer Document may be amended or modified at any time if so required in the interest of the Trust or if required by the other parties, without reference to the Unitholder, subject to compliance with applicable law and InvIT Documents.

1. Trust Deed entered into among the Sponsor and the Trustee dated July 24, 2024.
2. Investment management agreement entered into among the Trustee (acting on behalf of the Trust), the Project SPVs (except DPHPPL) and the Investment Manager dated July 25, 2024.
3. SEBI registration certificate for the Trust bearing number IN/InvIT/24-25/0031 dated August 19, 2024 as an infrastructure investment trust.
4. Issue Agreement entered into among the Trust (acting through its Trustee), the Investment Manager, the Trustee, the Sponsor, the Project Manager, Dilip Buildcon Limited and the Lead Manager, dated March 28, 2025.
5. Escrow Agreement to be entered into among the Trust (acting through its Trustee), the Investment Manager, the Trustee, the Sponsor, the Lead Manager and the Escrow Collection Bank.
6. Tripartite agreement dated March 28, 2025, among NSDL, the Trust, and the Registrar.
7. Tripartite agreement dated March 28, 2025, among CDSL, the Trust and the Registrar.
8. Certified copies of the updated Memorandum and Articles of Association of the Investment Manager as amended from time to time.
9. Resolution of the InvIT Committee of the IM Board dated March 28, 2025, authorising this Issue.
10. Consents from the (i) Lead Manager; (ii) Legal counsel to the Trust and to the Sponsor as to Indian law; (iii) Legal Counsel to the Lead Manager as to Indian Law; (iv) Valuer; (v) Registrar; (vi) Compliance Officer of the Trust; (vii) Technical Consultants; (ix) CRISIL Limited; (x) credit rating agencies.
11. Special Purpose Combined Financial Statements for the nine month period ended December 31, 2024 and financial years ended March 31, 2024, March 31, 2023 and March 31, 2022 and the report dated March 28, 2025 thereon.
12. Projections of Revenue from Operations and Cash Flow from Operating Activities and the report dated March 28, 2025 thereon.
13. The Statement of Possible Special Tax Benefits available to Anantam Highways Trust and its unitholders under the applicable laws in India dated March 28, 2025 issued by the Auditor.
14. Corporate governance policies adopted by the Investment Manager on behalf of the Trust.
15. In-principle listing approval dated [●] and [●] issued by BSE and NSE, respectively.
16. SEBI observation letter bearing number [●] dated [●].
17. Due diligence certificate dated March 28, 2025 addressed to SEBI from the Lead Manager.
18. Syndicate agreement, if any, to be entered into among the Lead Manager, the Syndicate Members, the Trustee (on behalf of the Trust), the Investment Manager and the Registrar to the Issue.
19. Underwriting agreement, if any, to be entered into among the Underwriters, the Trust (acting through the Trustee), the Investment Manager, the Trustee, the Sponsor and the Project Manager.
20. Registrar agreement dated March 28, 2025, entered into among the Trustee (acting on behalf of the Trust), Investment Manager, and the Registrar to the Issue.

21. Securities Purchase Agreements to be entered into amongst the Trustee (acting on behalf of the Trust), the Investment Manager, the relevant Project SPVs, DBL, DBL Infraventures Private Limited, Alpha Alternatives Infrastructure Fund, Alpha Alternatives Financial Services Private Limited, Spectrum Edge LLP, Build India Infrastructure Fund and other shareholders of the relevant Project SPVs.
22. ROFO Agreements to be entered into amongst the (i). Trustee, the Investment Manager, DBL and such other parties as may be required; and (ii). Trustee, the Investment Manager, Build India Infrastructure Fund and such other parties as may be required.
23. Project implementation and management agreement to be entered into among the Trustee (acting on behalf of the Trust), the Investment Manager, the Project Manager, and each of the Project SPVs.
24. Trust loan agreements to be entered into among the Trustee (acting on behalf of the Trust), the Investment Manager, and the Project SPVs.
25. Concession Agreement dated July 29, 2021 entered into among Dhrol Bhadra Highways Private Limited and National Highways Authority of India.
26. Concession Agreement dated October 29, 2020 entered into among Dodaballapur Hoskote Highways Private Limited and National Highways Authority of India.
27. Concession Agreement dated November 5, 2020 entered into among Repallewada Highways Limited and National Highways Authority of India.
28. Concession Agreement dated May 17, 2021 entered into among DBL Viluppuram Highways Limited and National Highways Authority of India.
29. Concession Agreement dated October 24, 2020 entered into among Narenpur Purnea Highways Private Limited and National Highways Authority of India.
30. Concession Agreement dated May 17, 2021 entered into among Bangalore Malur Highways Limited and National Highways Authority of India.
31. Concession Agreement dated September 17, 2021 entered into among Malur Bangarpet Highways Limited and National Highways Authority of India.
32. Concession Agreement dated December 5, 2019 entered into among DPJ Pollachi HAM Project Private Limited and National Highways Authority of India.
33. Concession Agreement dated May 17, 2021 entered into among DBL Poondiyankuppam Highways Private Limited and National Highways Authority of India

DECLARATION

The Investment Manager hereby declares and certifies that all relevant provisions of the InvIT Regulations, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be) have been complied with and no statement made in this Draft Offer Document is contrary to the applicable provisions of the InvIT Regulations, the SCRA, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be). The Investment Manager further certifies that all the statements and disclosures in this Draft Offer Document are material, true, correct, not misleading and adequate in order to enable the Bidders to make an informed decision.

For **Alpha Alternatives Fund-Infra Advisors Private Limited**

Sd/-
Vijay Chhibber
Independent Director

Date: March 28, 2025
Place: Delhi

DECLARATION

The Investment Manager hereby declares and certifies that all relevant provisions of the InvIT Regulations, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be) have been complied with and no statement made in this Draft Offer Document is contrary to the applicable provisions of the InvIT Regulations, the SCRA, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be). The Investment Manager further certifies that all the statements and disclosures in this Draft Offer Document are material, true, correct, not misleading and adequate in order to enable the Bidders to make an informed decision.

For **Alpha Alternatives Fund-Infra Advisors Private Limited**

Sd/-
Abhishek Dalmia
Director

Date: March 28, 2025
Place: Delhi

DECLARATION

The Investment Manager hereby declares and certifies that all relevant provisions of the InvIT Regulations, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be) have been complied with and no statement made in this Draft Offer Document is contrary to the applicable provisions of the InvIT Regulations, the SCRA, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be). The Investment Manager further certifies that all the statements and disclosures in this Draft Offer Document are material, true, correct, not misleading and adequate in order to enable the Bidders to make an informed decision.

For **Alpha Alternatives Fund-Infra Advisors Private Limited**

Sd/-
Naresh Kothari
Director

Date: March 28, 2025
Place: Mumbai

DECLARATION

The Investment Manager hereby declares and certifies that all relevant provisions of the InvIT Regulations, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be) have been complied with and no statement made in this Draft Offer Document is contrary to the applicable provisions of the InvIT Regulations, the SCRA, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be). The Investment Manager further certifies that all the statements and disclosures in this Draft Offer Document are material, true, correct, not misleading and adequate in order to enable the Bidders to make an informed decision.

For **Alpha Alternatives Fund-Infra Advisors Private Limited**

Sd/-

Jignesh Shah

Whole-Time Director

Date: March 28, 2025

Place: Mumbai

DECLARATION

The Investment Manager hereby declares and certifies that all relevant provisions of the InvIT Regulations, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be) have been complied with and no statement made in this Draft Offer Document is contrary to the applicable provisions of the InvIT Regulations, the SCRA, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be). The Investment Manager further certifies that all the statements and disclosures in this Draft Offer Document are material, true, correct, not misleading and adequate in order to enable the Bidders to make an informed decision.

For **Alpha Alternatives Fund-Infra Advisors Private Limited**

Sd/-
Dr Shubhada M Rao
Independent Director

Date: March 28, 2025
Place: Mumbai

DECLARATION

The Investment Manager hereby declares and certifies that all relevant provisions of the InvIT Regulations, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be) have been complied with and no statement made in this Draft Offer Document is contrary to the applicable provisions of the InvIT Regulations, the SCRA, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be). The Investment Manager further certifies that all the statements and disclosures in this Draft Offer Document are material, true, correct, not misleading and adequate in order to enable the Bidders to make an informed decision.

For **Alpha Alternatives Fund-Infra Advisors Private Limited**

Sd/-
Radhakrishnan Nair
Independent Director

Date: March 28, 2025
Place: Mumbai

DECLARATION

The Sponsor hereby declares and certifies that all relevant provisions of the InvIT Regulations, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be) have been complied with and no statement made in this Draft Offer Document is contrary to the applicable provisions of the InvIT Regulations, the SCRA, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be). The Sponsor further certifies that all the statements and disclosures in this Draft Offer Document are material, true, correct, not misleading and adequate in order to enable the Bidders to make an informed decision.

For **Alpha Alternatives Fund Advisors LLP**

Sd/-
Ashim Sahni
Designated Partner

Date: March 28, 2025
Place: Mumbai

DECLARATION

The Sponsor hereby declares and certifies that all relevant provisions of the InvIT Regulations, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be) have been complied with and no statement made in this Draft Offer Document is contrary to the applicable provisions of the InvIT Regulations, the SCRA, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be). The Sponsor further certifies that all the statements and disclosures in this Draft Offer Document are material, true, correct, not misleading and adequate in order to enable the Bidders to make an informed decision.

For **Alpha Alternatives Fund Advisors LLP**

Sd/-
Naresh Kothari
Designated Partner

Date: March 28, 2025
Place: Mumbai

DECLARATION

The Trustee hereby declares and certifies that all relevant provisions of the InvIT Regulations, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be) have been complied with and no statement made in this Draft Offer Document is contrary to the applicable provisions of the InvIT Regulations, the SCRA, SEBI Act and all rules, regulations and guidelines issued by the GoI or SEBI (as the case may be). The Trustee further certifies that all the statements and disclosures in this Draft Offer Document are material, true, correct, not misleading and adequate in order to enable the Bidders to make an informed decision.

For **Axis Trustee Services Limited**

Sd/-
Authorised Signatory

Date: March 28, 2025

Place: Mumbai

ANNEXURE A - VALUATION REPORT

(The remainder of this page is intentionally left blank)

Prepared for:

Anantam Highways Trust (“the Trust”)

Alpha Alternatives Fund – Infra Advisors Private Limited (“the Investment Manager”)

Valuation as per SEBI (Infrastructure Investment Trusts) Regulations, 2014 as amended

Fair Enterprise Valuation

Valuation Date: 31st December 2024

Report Date: 26th March 2025

Mr. S Sundararaman,
Registered Valuer,
IBBI Registration No - IBBI/RV/06/2018/10238
Email – [REDACTED]
Phone No: +91 97909 28047
GST No: 33AHUPS0102L1Z8

RV/SSR/R/2025/M/01

Date: 26th March 2025

Anantam Highways Trust

(acting through Axis Trustee Services Limited [in its capacity as “the Trustee” of the Trust])

34th Floor, Sunshine Tower,
Senapati Bapat Marg Dadar West,
Mumbai-400013

Alpha Alternatives Fund – Infra Advisors Private Ltd

(acting as the Investment Manager to Anantam Highways Trust)

34th Floor, Sunshine Tower,
Senapati Bapat Marg Dadar West,
Mumbai-400013

Sub: Fair Enterprise Valuation as per SEBI (Infrastructure Investment Trusts) Regulations, 2014, as amended (“the SEBI InvIT Regulations”)

Dear Sir(s)/ Madam(s),

I, Mr. S. Sundararaman (“**Registered Valuer**” or “**RV**” or “**I**” or “**My**” or “**Me**”) bearing IBB registration number IBB/RV/06/2018/10238, have been appointed vide letter dated 28th January 2025 (EL Ref. No.: RV/SSR/EL/2025/J/02) as an independent valuer, as defined under the SEBI InvIT Regulations, by **Alpha Alternatives Fund – Infra Advisors Private Ltd (“AAFL” or “the Investment Manager”)** acting as the investment manager for **Anantam Highways Trust (“the Trust” or “the InvIT”)**, an infrastructure investment trust, registered with the Securities Exchange Board of India with effect from 19th August 2024, bearing registration number IN/InvIT/24-25/0031 and Axis Trustee Services Limited (“**the Trustee**”) acting on behalf of the Trust for the purpose of the fair enterprise valuation of the 9 special purpose vehicles (defined below and hereinafter together referred as “**the SPVs**”) forming part of the formation transaction of the InvIT as per the requirements of the Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, as amended from time to time (“**SEBI InvIT Regulations**”).

The SPVs will be forming part of the Initial Portfolio of Assets and are proposed to be transferred to the Trust as per the extant provisions of the SEBI InvIT Regulations, where AAFL is acting as the Investment Manager and Alpha Alternatives Fund Advisors LLP (“**the Sponsor**” or “**AAFAL**”) is acting as the Sponsor within the meaning of SEBI InvIT Regulations.

The following Special Purpose Vehicles are proposed to be transferred to the Trust:

Sr. No.	Name of the SPV	Abbreviation	Asset Type
1	Bangalore Malur Highways Limited	BMHL	HAM
2	Dhrol Bhadra Highways Limited	DBHL	HAM
3	Dodaballapur Hoskote Highways Limited	DHHL	HAM
4	Viluppuram Highways Limited	VHL	HAM
5	DPJ Pollachi HAM Project Pvt. Limited	DPHPPL	HAM
6	Malur Bangarpet Highways Limited	MBHL	HAM
7	Narenpur Purnea Highways Limited	NPHL	HAM
8	Poondiyankuppam Highways Limited	PHL	HAM
9	Repallewada Highways Limited	RHL	HAM

(Hereinafter all the nine companies mentioned above are together referred to as “**the SPVs**”)

I understand that the InvIT, acting through the Trustee, shall acquire the equity held by various shareholders in the SPVs, following which units will be issued to the shareholders of the SPVs by the Trust, which are to be listed on BSE and NSE consequent to the proposed Initial Public Offer (“**the Proposed Transaction**”).

In this regard, the Investment Manager intends to undertake the fair enterprise valuation of the SPVs as on 31st December 2024 (“**Valuation Date**”) as per the provisions of the SEBI InvIT Regulations. I am enclosing the Report providing opinion on the fair enterprise value of the SPVs on a going concern basis as at 31st December 2024.

Enterprise Value ("**EV**") is described as the total value of the equity in a business plus the value of its debt and debt related liabilities, minus any Cash and Cash Equivalents to meet those liabilities. The attached Report details the valuation methodologies used, calculations performed and the conclusion reached with respect to this valuation.

I was further requested by the Investment Manager to provide the adjusted enterprise value of the SPVs as at 31st December 2024, where the adjusted enterprise value ("**Adjusted EV**") is derived as EV as defined above plus **Cash and Cash Equivalents** (including Investments and FD with Banks) ("**Cash and Cash Equivalents**") of the SPVs as at 31st December 2024.

This Report has been prepared solely for the purpose of inclusion as part of the Draft Offer Document ("**DOD**") and such other documents as may be required in accordance with the independent valuation required as per the SEBI InvIT Regulations.

I have relied on explanations and information provided by the Investment Manager. Although, I have reviewed such data for consistency, those are not independently investigated or otherwise verified. My team and I have no present or planned future interest in the Trust, the SPVs or the Investment Manager except to the extent of this appointment as an independent valuer and the fee for this Valuation Report ("**Report**") which is not contingent upon the values reported herein. The valuation analysis should not be construed as investment advice, specifically, I do not express any opinion on the suitability or otherwise of entering into any financial or other transaction with the Trust.

The analysis must be considered as a whole. Selecting portions of any analysis or the factors that are considered in this Report, without considering all factors and analysis together could create a misleading view of the process underlying the valuation conclusions. The preparation of a valuation is a complex process and is not necessarily susceptible to partial analysis or summary description. Any attempt to do so could lead to undue emphasis on any particular factor or analysis.

The information provided to me by the Investment Manager in relation to the SPVs included but not limited to historical financial statements, forecasts/projections, other statements and assumptions about future matters like forward-looking financial information prepared by the Investment Manager. The forecasts and projections as supplied to me are based upon assumptions about events and circumstances which are yet to occur.

By nature, valuation is based on estimates, and it includes the risks and uncertainties relating to the events occurring in the future. Accordingly, the actual figures in future may differ from these estimates and may have a significant impact on the valuation of the SPVs.

I have not tested individual assumptions or attempted to substantiate the veracity or integrity of such assumptions in relation to the forward-looking financial information, however, I have made sufficient enquiry to satisfy myself that such information has been prepared on a reasonable basis.

Notwithstanding anything above, I cannot provide any assurance that the forward looking financial information will be representative of the results which will actually be achieved during the cash flow forecast period.

The valuation provided by RV and the valuation conclusion are included herein and the Report complies with the SEBI InvIT Regulations and guidelines, circular or notification issued by the Securities and Exchange Board of India ("**SEBI**") thereunder.

Please note that all comments in the Report must be read in conjunction with the caveats to the Report, which are contained in Section 11 of this Report. This letter, the Report and the summary of valuation included herein can be provided to Trust's advisors and may be made available for the inspection to the public and with the SEBI, the stock exchanges and any other regulatory and supervisory authority, as may be required.

I draw your attention to the limitation of liability clauses in Section 11 of this Report. This letter should be read in conjunction with the attached Report.

Yours faithfully,



S. Sundararaman

Registered Valuer

IBBI Registration No.: IBBI/RV/06/2018/10238

Asset Class: Securities or Financial Assets

UDIN: 25028423BMOMXE8730

Place: Chennai

Definition, Abbreviation & Glossary of terms

Abbreviations	Meaning
AA	Alpha Alternatives
BOT	Build Operate Transfer
Capex	Capital Expenditure
CCIL	Clearing Corporation of India Limited
CCM	Comparable Companies Multiples
COD	Commercial Operation Date
DBOT	Design Build, Operate and Transfer
CTM	Comparable Transactions Multiples
DCF	Discounted Cash Flow
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
ERP	Equity Risk Premium
EV	Enterprise Value
FCFF	Free Cash Flow to the Firm
FDI	Foreign Direct Investment
FY	Financial Year Ended 31 st March
HAM	Hybrid Annuity Model
Ind AS	Indian Accounting Standards
INR	Indian Rupee
Investment Manager/ AAFL	Alpha Alternatives Fund – Infra Advisors Private Limited
IVS	ICAI Valuation Standards 2018
Kms	Kilometers
MMR	Major Maintenance and Repairs
Mn	Million
MoRTH	Ministry of Road Transport and Highways
NAV	Net Asset Value Method
NH	National Highway
NHAI	National Highways Authority of India
NHDP	National Highways Development Project
NHIIP	National Highways Interconnectivity Improvement Project
NS-EW	North- South and East-West Corridors
O&M	Operation & Maintenance
PPP	Public Private Partnership
RFID	Radio Frequency Identification Device
RV	Registered Valuer
ROB	Railway over Bridge
SARDP-NE	Special Accelerated Road Development Programme of Road Network in North Eastern States
SEBI	Securities and Exchange Board of India
SEBI InvIT Regulations	SEBI (Infrastructure Investment Trusts) Regulations, 2014, as amended
Sponsor/ AAFAL	Alpha Alternatives Funds Advisors LLP
SPV	Special Purpose Vehicle
Trustee	Axis Trustee Services Limited

Contents

Section	Particulars	Page No.
1	Executive Summary	7
2	Procedures adopted for current valuation exercise	15
3	Overview of the InvIT and the SPVs	16
4	Structure of the Trust	44
5	Overview of the Industry	45
6	Valuation Methodology and Approach	56
7	Valuation of the SPVs	60
8	Valuation Conclusion	66
9	Additional procedures for compliance with InvIT Regulations	69
10	Sources of Information	72
11	Exclusions and Limitations	73
	Appendices	
12	Appendix 1: Valuation of SPVs as on 31 st December 2024	76
13	Appendix 2: Weighted Average Cost of Capital of the SPVs	86
14	Appendix 3: Computation of Unlevered and Relevered Beta	88
15	Appendix 4: Summary of Approvals and Licenses	90
16	Appendix 5: Summary of Ongoing Litigations	99
17	Appendix 6: Brief Details about the Valuer	105

<<This space is intentionally left blank>>

1. Executive Summary

1.1. Background

The Trust

- 1.1.1. Anantam Highways Trust (**"the Trust"** or **"InvIT"**) was established on 24th July 2024 as an irrevocable trust pursuant to the trust deed under the provisions of the Indian Trusts Act, 1882. The Trust is registered as an Indian infrastructure investment trust with the Securities and Exchange Board of India (**"SEBI"**), pursuant to the SEBI (Infrastructure Investment Trusts) Regulations, 2014, as amended from time to time, with effect from 19th August 2024, bearing registration number IN/InvIT/24-25/0031. The Trust has proposed to acquire the SPVs and would be responsible for holding the SPVs in trust and for the benefit of the unitholders, undertaking the activities and other duties specified as per the SEBI InvIT Regulations. The Trust is an infrastructure investment trust established to acquire, manage and invest in a portfolio of infrastructure assets across sectors and/or securities of companies engaged in the infrastructure sector. Axis Trustee Services Limited (**"the Trustee"**) has been appointed as the Trustee of the Trust.

The Sponsor

- 1.1.2. Alpha Alternatives Fund Advisors LLP (**"the Sponsor"** or **"AAFAL"**) is the Sponsor of the Trust. The Sponsor is a limited liability partnership incorporated in India under the Limited Liability Partnership Act, 2008.
- 1.1.3. The Sponsor was incorporated as a multi-asset class multi strategy asset management entity that creates investment solutions across various asset-classes, such as, infrastructure, credit, real estate, equities, commodities, and fixed income.
- 1.1.4. The Sponsor is registered as an investment advisor, portfolio manager and investment manager to alternative investment funds with SEBI. The Sponsor provides fund and asset management services to its clients and makes investment in various companies engaged in, amongst others, the infrastructure sector. The Sponsor as an investment manager makes investments through the funds managed by it and has evaluated and invested in various infrastructure sub-sectors which fall under the Harmonized Master List of Infrastructure sub-sectors issued by the Ministry of Finance (Department of Economic Affairs) (Policy and Planning Unit), by way of a notification dated October 11, 2022 (the "Harmonized List").
- 1.1.5. The Sponsor has set up an alternative investment fund in accordance with the provisions of the Securities and Exchange Board of India (Alternative Investment Funds) Regulations, 2012 (**"AIF"**) focused on the road infrastructure sector, namely, Build India Infrastructure Fund (a Category II AIF), a scheme of Alpha Alternatives Special Situations Fund. The scheme has received approval from SEBI on June 24, 2024.
- 1.1.6. Equity shareholding of the Sponsor as on 31st December 2024 is as under:

Sr. No.	Particulars	Capital Contribution	%
1	Alpha Alternatives Holdings Private Limited	99,900	99.90%
2	Naresh Kothari	100	0.10%
Total		100,000	100.00%

Source: Investment Manager

The Investment Manager

- 1.1.7. Alpha Alternatives Fund – Infra Advisors Private Ltd (**"AAFL"** or **"the Investment Manager"**) has been appointed as the Investment Manager to the Trust by the Trustee and will be responsible to carry out the duties of such person as mentioned under the SEBI InvIT Regulations. Shareholding of the Investment Manager as on 31st December 2024 is as under:

Sr. No.	Particulars	No. of shares	%
1	Alpha Alternatives Fund Advisors LLP	9,999	99.99%
2	Jignesh Shah	1	0.01%
Total		10,000	100%

Source: Investment Manager

The Project Manager

- 1.1.8. Arsenio Strategies Private Limited (“**ASPL**” or “**the Project Manager**”) has been appointed as the Project Manager to the Trust and will be looking over the operation and maintenance of the entire portfolio of the projects to be transferred to the Trust. Shareholding of the Project Manager as on 31st December 2024 is as under:

Sr. No.	Particulars	No. of shares	%
1	Alpha Alternatives Fund Advisors LLP	9,999	99.99%
2	Jignesh Shah	1	0.01%
Total		10,000	100%

Source: Investment Manager

Scope and Purpose of Valuation

Financial Assets to be Valued

- 1.1.9. The SPVs under consideration are valued at Enterprise Value and Adjusted Enterprise Value of the following:

Sr. No.	Name of the SPV	Abbreviation	Asset Type
1	Bangalore Malur Highways Limited	BMHL	HAM
2	Dhrol Bhadra Highways Limited	DBHL	HAM
3	Dodaballapur Hoskote Highways Limited	DHHL	HAM
4	Viluppuram Highways Limited	VHL	HAM
5	DPJ Pollachi HAM Project Pvt. Limited	DPHPPL	HAM
6	Malur Bangarpet Highways Limited	MBHL	HAM
7	Narenpur Purnea Highways Limited	NPHL	HAM
8	Poondiyankuppam Highways Limited	PHL	HAM
9	Repallewada Highways Limited	RHL	HAM

(Together referred to as “the SPVs”)

Purpose of Valuation

- 1.1.10. I understand that the InvIT, acting through the Trustee, shall acquire the equity held by the existing shareholders in the SPVs mentioned above, following which units will be issued to the shareholders of the SPVs by the Trust, which are to be listed on BSE and NSE consequent to the proposed Initial Public Offer (“the Proposed Transaction”). As per Regulation 21(7) of the SEBI InvIT Regulations, prior to any issue of units by publicly offered InvIT other than bonus issue, the valuer shall undertake full valuation of all the InvIT assets and include the same in the Offer Document.

- 1.1.11. In this regard, the Investment Manager has appointed me, S. Sundararaman (“Registered Valuer” or “RV” or “I” or “My” or “Me”) bearing IBBI registration number IBB/RV/06/2018/10238 to undertake fair valuation of the SPVs at the enterprise level as per the extant provisions of the SEBI InvIT Regulations issued by SEBI. This Report will form part of the initial investments of the Trust, in connection with the Draft Offer Documents by the Trust (the “Offering”). My Report was prepared solely for the purpose of inclusion as part of the Draft Offer Documents and the Final Offer Documents (“DOD”, and “FOD” respectively) and such other documents as may be required for the Offering and in accordance with the SEBI InvIT Regulations’ guidelines requiring an independent valuation.

This Report should not be used or relied upon for any other purpose.

- 1.1.12. Enterprise Value (“EV”) is described as the total value of the equity in a business plus the value of its debt and debt related liabilities, minus any Cash and Cash Equivalents to meet those liabilities.

- 1.1.13. Further, on the request of the Investment Manager, I have calculated Adjusted Enterprise Value of the SPVs which is derived as the EV as defined above plus Cash and Cash Equivalents of the SPVs as at the Valuation Date

- 1.1.14. I declare that:

- I am competent to undertake the financial valuation in terms of the SEBI InvIT Regulations;
- I am not an associate of the Sponsor(s) or Investment Manager or Trustee and I have not less than five years of experience in valuation of infrastructure assets;
- I am independent and have prepared the Report on a fair and unbiased basis;
- I have valued the SPVs based on the valuation standards as specified / applicable as per SEBI InvIT Regulations.

- 1.1.15. This Report covers all the disclosures required as per the SEBI InvIT Regulations and the Valuation of the SPVs is impartial, true and fair and in compliance with the SEBI InvIT Regulations.

(Please refer appendix 6 for further information about myself)

1.2. Scope of Valuation

1.2.1. **Nature of the Asset to be Valued**

The RV has been mandated by the Investment Manager to arrive at the Enterprise Value ("EV") of the SPVs. Enterprise Value is described as the total value of the equity in a business plus the value of its debt and debt related liabilities, minus any Cash and Cash Equivalents to meet those liabilities.

Further, on the request of the Investment Manager, I have calculated Adjusted Enterprise Value of the SPVs which is derived as the EV as defined above plus Cash and Cash Equivalents of the SPVs as at the valuation date.

1.2.2. **Valuation Base**

Valuation Base means the indication of the type of value being used in an engagement. In the present case, I have determined the fair value of the SPVs at the enterprise level. Fair Value Bases defined as under:

Fair Value

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the valuation date. It is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction in the principal (or most advantageous) market at the measurement date under current market conditions (i.e. an exit price) regardless of whether that price is directly observable or estimated using another valuation technique. Fair value or Market value is usually synonymous to each other except in certain circumstances where characteristics of an asset translate into a special asset value for the party(ies) involved.

1.2.3. **Valuation Date**

Valuation Date is the specific date at which the value of the assets to be valued gets estimated or measured. Valuation is time specific and can change with the passage of time due to changes in the condition of the asset to be valued. Accordingly, valuation of an asset as at a particular date can be different from other date(s).

The Valuation Date considered for the fair enterprise valuation of the SPVs is 31st December 2024 ("**Valuation Date**"). The attached Report is drawn up by reference to accounting and financial information as on 31st December 2024. The RV is not aware of any other events having occurred since 31st December 2024 till date of this Report ("**Report Date**") which he deems to be significant for his valuation analysis, except for any events disclosed by the Investment Manager during the valuation exercise.

1.2.4. **Premise of Value**

Premise of Value refers to the conditions and circumstances how an asset is deployed. In the present case, RV has determined the fair enterprise value of the SPVs on a Going Concern Value defined as under:

Going Concern Value

Going Concern value is the value of a business enterprise that is expected to continue to operate in the future. The intangible elements of going concern value result from factors such as having a trained work force, an operational plant, necessary licenses, systems, and procedures in place etc.

1.3. Summary of Valuation

I have assessed the fair enterprise value of each of the SPVs on a stand-alone basis by using the Discounted Cash Flow ("DCF") method under the income approach. Following table summarizes my explanation on the usage or non usage of different valuation methods:

Valuation Approach	Valuation Methodology	Used	Explanation
Cost Approach	Net Asset Value	No	NAV does not capture the future earning potential of the business. Hence NAV method is considered only for background reference.
Income Approach	Discounted Cash Flow	Yes	The revenue of all the SPVs is mainly derived from the annuity fees and O&M Payments that are typically pre-determined with the relevant government authority and cannot be modified to reflect prevailing circumstances, other than annual adjustments to account for inflation and interest rate changes as applicable, as specified in the concession agreements. Accordingly, since all the SPVs are generating income based on pre-determined agreements / mechanism and since the Investment Manager has provided me the financial projections for the balance tenor of the concession agreements, DCF Method under the income approach has been considered as the appropriate method for the present valuation exercise.
	Market Price	No	The equity shares of the SPVs are not listed on any recognized stock exchange in India. Hence, I was unable to apply the market price method.
Market Approach	Comparable Companies	No	In the absence of any exactly comparable listed companies with characteristics and parameters similar to that of the SPVs, I am unable to consider this method for the current valuation.
	Comparable Transactions	No	In the absence of adequate details about the Comparable Transactions, I was unable to apply the CTM method.

Under the DCF Method, the Free Cash Flow to Firm ("FCFF") has been used for the purpose of valuation of each of the SPVs. In order to arrive at the fair EV of the individual SPVs under the DCF Method, I have relied on audited financial statements as at 31st December 2024 prepared in accordance with the Indian Accounting Standards (Ind AS) and the financial projections of the respective SPVs prepared by the Investment Manager as at the Valuation Date based on their best judgement.

The discount rate considered for the respective SPVs for the purpose of this valuation exercise is based on the Weighted Average Cost of Capital ("WACC") for each of the SPVs. As all the SPVs under considerations have executed projects under the HAM model, the operating rights of the underlying assets shall be transferred back to the appointing authority after the expiry of the concession period. At the end of the agreed concession period, the operating rights in relation to the roads and the obligation to maintain the road revert to the government entity that granted the concession by the SPVs. Accordingly, terminal period value i.e. value on account of cash flows to be generated after the expiry of concession period has not been considered.

Based on the methodology and assumptions discussed further, RV has arrived at the fair enterprise value of the SPVs as on the Valuation Date:

Sr. No.	SPVs	Approximate Projection Period (Balance Concession Period)	WACC	INR Mn	
				Fair EV	Fair Adj EV
1	BMHL	~14 Years 4 Months	7.73%	7,508	7,963
2	DBHL	~13 Years 9 Months	7.84%	5,808	6,159
3	DHHL	~13 Years 7 Months	7.70%	6,924	7,349
4	DVHL	~14 Years 3 Months	7.91%	6,730	6,928
5	DPHPPL	~13 Years 9 Months	7.88%	5,596	5,671
6	MBHL	~14 Years 4 Months	7.76%	8,300	8,710
7	NPHL	~14 Years 3 Months	7.68%	10,793	11,450
8	PHL	~15 Years 2 Months	7.86%	8,500	8,502
9	RHL	~13 Years 10 Months	7.70%	6,519	7,138
Total				66,677	69,872

* Enterprise Value ("EV") is described as the total value of the equity in a business plus the value of its debt and debt related liabilities, minus any Cash and Cash Equivalents to meet those liabilities.

** Further, on the request of the Investment Manager, I have calculated Adjusted Enterprise Value of the SPVs which is derived as the EV as defined above plus Cash and Cash equivalents of the SPVs as at the Valuation Date. (Refer Appendix 1 & 2 for the detailed workings)

The fair EV of the SPVs is estimated using DCF method. The valuation requires Investment Manager to make certain assumptions about the model inputs including forecast cash flows, discount rate, and credit risk.

Valuation is based on estimates of future financial performance or opinions, which represent reasonable expectations at a particular point of time, but such information, estimates or opinions are not offered as predictions or as assurances that a particular level of income or profit will be achieved, a particular event will occur or that a particular price will be offered or accepted. Actual results achieved during the period covered by the prospective financial analysis will vary from these estimates and the variations may be material. Accordingly, a quantitative sensitivity analysis is considered on the following unobservable inputs:

- WACC by increasing / decreasing it by 0.5%
- WACC by increasing / decreasing it by 1.0%
- Total Expenses by increasing / decreasing it by 20%

<<This space is intentionally left blank>>

1. Fair Enterprise Valuation Range based on

a. WACC parameter (0.5%)

INR Mn							
Sr. No.	SPVs	WACC +0.5%	EV	Base WACC	EV	WACC -0.5%	EV
1	BMHL	8.23%	7,341	7.73%	7,508	7.23%	7,683
2	DBHL	8.34%	5,684	7.84%	5,808	7.34%	5,937
3	DHHL	8.20%	6,785	7.70%	6,924	7.20%	7,069
4	DVHL	8.41%	6,583	7.91%	6,730	7.41%	6,882
5	DPHPPL	8.38%	5,474	7.88%	5,596	7.38%	5,722
6	MBHL	8.26%	8,113	7.76%	8,300	7.26%	8,493
7	NPHL	8.18%	10,561	7.68%	10,793	7.18%	11,035
8	PHL	8.36%	8,294	7.86%	8,500	7.36%	8,714
9	RHL	8.20%	6,382	7.70%	6,519	7.20%	6,661
Total			65,218		66,677		68,196

b. WACC parameter (1.0%)

INR Mn							
Sr. No.	SPVs	WACC +1.0%	EV	Base WACC	EV	WACC -1.0%	EV
1	BMHL	8.73%	7,180	7.73%	7,508	6.73%	7,865
2	DBHL	8.84%	5,565	7.84%	5,808	6.84%	6,072
3	DHHL	8.70%	6,652	7.70%	6,924	6.70%	7,220
4	DVHL	8.91%	6,443	7.91%	6,730	6.91%	7,040
5	DPHPPL	8.88%	5,357	7.88%	5,596	6.88%	5,854
6	MBHL	8.76%	7,935	7.76%	8,300	6.76%	8,696
7	NPHL	8.68%	10,339	7.68%	10,793	6.68%	11,286
8	PHL	8.86%	8,098	7.86%	8,500	6.86%	8,937
9	RHL	8.70%	6,250	7.70%	6,519	6.70%	6,810
Total			63,818		66,677		69,781

c. Total Expenses by increasing / decreasing it by 20%

INR Mn				
Sr. No.	SPVs	EV at Expenses +20%	EV at Base Expenses	EV at Expenses -20%
1	BMHL	7,311	7,508	7,706
2	DBHL	5,613	5,808	6,004
3	DHHL	6,715	6,924	7,133
4	VHL	6,266	6,730	6,950
5	DPHPPL	5,366	5,596	5,826
6	MBHL	8,094	8,300	8,505
7	NPHL	10,441	10,793	11,145
8	PHL	8,327	8,500	8,672
9	RHL	6,304	6,519	6,734
Total		64,437	66,677	68,675

2. Adjusted Enterprise Valuation Range based on

a. WACC parameter (0.5%)

INR Mn							
Sr. No.	SPVs	WACC +0.5%	Adjusted EV	Base WACC	Adjusted EV	WACC -0.5%	Adjusted EV
1	BMHL	8.23%	7,796	7.73%	7,963	7.23%	8,138
2	DBHL	8.34%	6,035	7.84%	6,159	7.34%	6,288
3	DHHL	8.20%	7,210	7.70%	7,349	7.20%	7,494
4	DVHL	8.41%	6,782	7.91%	6,928	7.41%	7,080
5	DPHPPL	8.38%	5,550	7.88%	5,671	7.38%	5,798
6	MBHL	8.26%	8,524	7.76%	8,710	7.26%	8,904
7	NPHL	8.18%	11,219	7.68%	11,450	7.18%	11,692
8	PHL	8.36%	8,297	7.86%	8,502	7.36%	8,717
9	RHL	8.20%	7,001	7.70%	7,138	7.20%	7,281
Total			68,414		69,872		71,391

b. WACC parameter (1.0%)

INR Mn							
Sr. No.	SPVs	WACC +1.0%	Adjusted EV	Base WACC	Adjusted EV	WACC -1.0%	Adjusted EV
1	BMHL	8.73%	7,635	7.73%	7,963	6.73%	8,320
2	DBHL	8.84%	5,916	7.84%	6,159	6.84%	6,423
3	DHHL	8.70%	7,077	7.70%	7,349	6.70%	7,645
4	DVHL	8.91%	6,641	7.91%	6,928	6.91%	7,238
5	DPHPPL	8.88%	5,433	7.88%	5,671	6.88%	5,930
6	MBHL	8.76%	8,345	7.76%	8,710	6.76%	9,106
7	NPHL	8.68%	10,996	7.68%	11,450	6.68%	11,944
8	PHL	8.86%	8,101	7.86%	8,502	6.86%	8,940
9	RHL	8.70%	6,869	7.70%	7,138	6.70%	7,430
Total			67,013		69,872		72,976

c. Total Expenses by increasing / decreasing it by 20%

INR Mn				
Sr. No.	SPVs	Adjusted EV at Expenses +20%	Adjusted EV at Base Expenses	Adjusted EV at Expenses -20%
1	BMHL	7,766	7,963	8,161
2	DBHL	5,964	6,159	6,355
3	DHHL	7,140	7,349	7,558
4	VHL	6,464	6,928	7,148
5	DPHPPL	5,441	5,671	5,902
6	MBHL	8,504	8,710	8,915
7	NPHL	11,099	11,450	11,802
8	PHL	8,330	8,502	8,675
9	RHL	6,923	7,138	7,353
Total		67,631	69,872	71,869

2. Procedures adopted for current valuation exercise

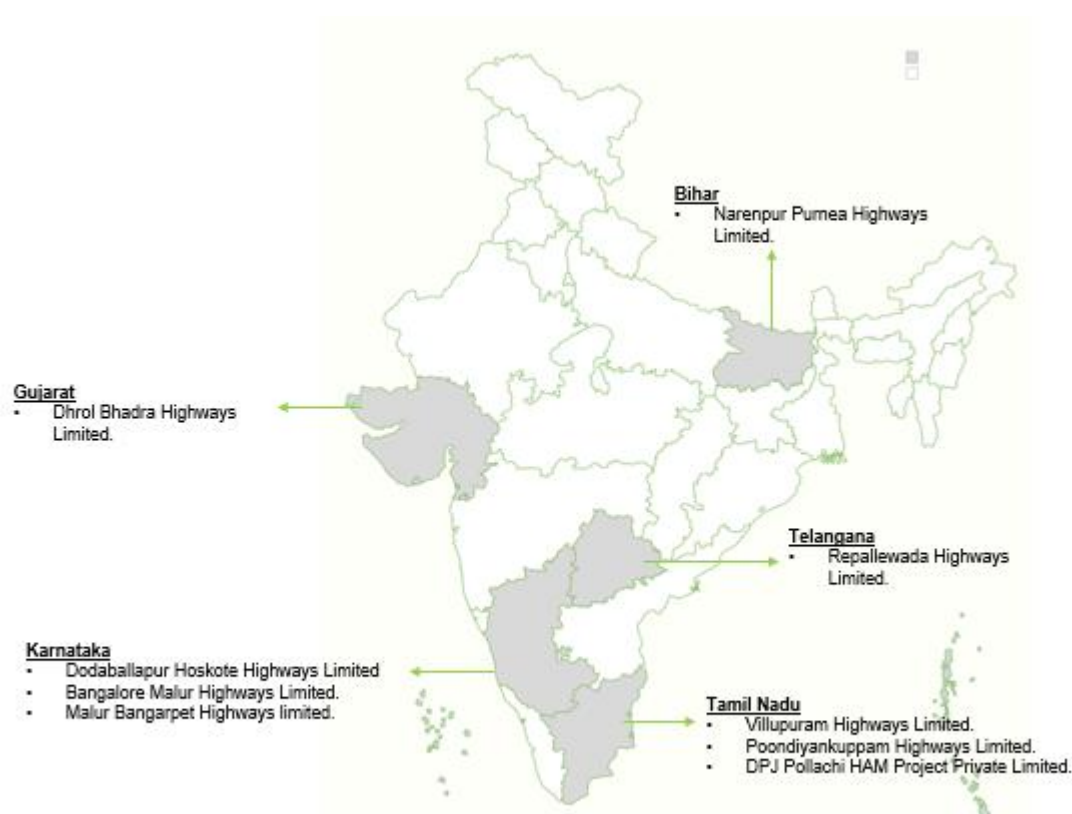
- 2.1. I have performed the valuation analysis, to the extent applicable, in accordance with ICAI Valuation Standards 2018 ("IVS") issued by the Institute of Chartered Accountants of India.
- 2.2. In connection with this analysis, I have adopted the following procedures to carry out the valuation analysis:
- 2.2.1. Requested and received financial and qualitative information relating to the SPVs;
 - 2.2.2. Obtained and analyzed data available in public domain, as considered relevant by me;
 - 2.2.3. Discussions with the Investment Manager on:
 - Understanding of the business of the SPVs – business and fundamental factors that affect its earning-generating capacity including strengths, weaknesses, opportunities and threats analysis and historical and expected financial performance;
 - 2.2.4. Undertook industry analysis:
 - Research publicly available market data including economic factors and industry trends that may impact the valuation;
 - Analysis of key trends and valuation multiples of comparable companies/comparable transactions, if any, using proprietary databases subscribed by me;
 - 2.2.5. Analysis of other publicly available information;
 - 2.2.6. Selection of valuation approach and valuation methodology/(ies), in accordance with IVS, as considered appropriate and relevant by me;
 - 2.2.7. Conducted physical site visit of the road stretch of the SPVs;
 - 2.2.8. Determination of fair value of the EV of the SPVs on a going concern basis till the end of the concession period as at the Valuation Date and determination of fair value of the Adjusted EV of the SPVs on a going concern basis till the end of the concession period as at the Valuation Date on request of the Investment Manager.

<<This space is intentionally left blank>>

3. Overview of InvIT and SPVs

3.1. InvIT / Anantam Highway Trust ("the Trust")

- 3.1.1. Anantam Highways Trust ("**the Trust**" or "**InvIT**") was established on 24th July 2024 as an irrevocable trust pursuant to the trust deed under the provisions of the Indian Trusts Act, 1882. The Trust is registered as an Indian infrastructure investment trust with the Securities and Exchange Board of India ("**SEBI**"), pursuant to the SEBI (Infrastructure Investment Trusts) Regulations, 2014, as amended from time to time, with effect from 19th August 2024, bearing registration number IN/InvIT/24-25/0031. The Trust has proposed to acquire the SPVs and would be responsible for holding the SPVs in trust and for the benefit of the unitholders, undertaking the activities and other duties specified as per the SEBI InvIT Regulations.
- 3.1.2. Anantam Highways Trust is an infrastructure investment trust established to acquire, manage and invest in a portfolio of infrastructure assets across sectors and/or securities of companies engaged in the infrastructure sector.
- 3.1.3. Axis Trustee Services Limited ("**the Trustee**") has been appointed as the Trustee of the Trust.
- 3.1.4. Following is a map of India showing the area covered by the SPVs of the Trust:



Source: Investment Manager

3.1.5. Proposed Transaction

Anantam Highways Trust is proposing to acquire 49% in PHL and 100% equity stake/economic interest in other SPV's from its existing shareholders ("**Proposed Transaction**")

Sr No	Abbreviation	Asset Type	Seller	Equity Stake to be Acquired by Trust	Whether a related party of Trust
1	BMHL	HAM	DBL [#] , DBL Infraventures, AA and its Affiliates [*]	100%	Yes
2	DBHL	HAM	DBL, DBL Infraventures, AA and its Affiliates	100%	Yes
3	DHHL	HAM	DBL, DBL Infraventures, AA and its Affiliates	100%	Yes
4	VHL	HAM	DBL, DBL Infraventures, AA and its Affiliates	100%	Yes
5	DPHPPL	HAM	AA and its affiliates	100%	Yes
6	MBHL	HAM	DBL, DBL Infraventures, AA and its Affiliates	100%	Yes
7	NPHL	HAM	DBL, DBL Infraventures, AA and its Affiliates	100%	Yes
8	PHL	HAM	DBL, DBL Infraventures, AA and its Affiliates	49%	Yes
9	RHL	HAM	DBL, DBL Infraventures, AA and its Affiliates	100%	Yes

**As per the Investment Manager, AA and its Affiliates is the related party as per the regulation of SEBI InvIT regulation*

As per Investment Manager, DBL is not the related party, but it continues to be unitholders of the Trust after the proposed transaction

1. Equity Interest:

I understand the Trust is proposing to acquire 49% Equity Stake in PHL and 100% Equity Stake in the other above mentioned SPV's.

2. Debt Interest:

I understand that the Trust has no debt interest in the SPV's as on the Valuation Date.

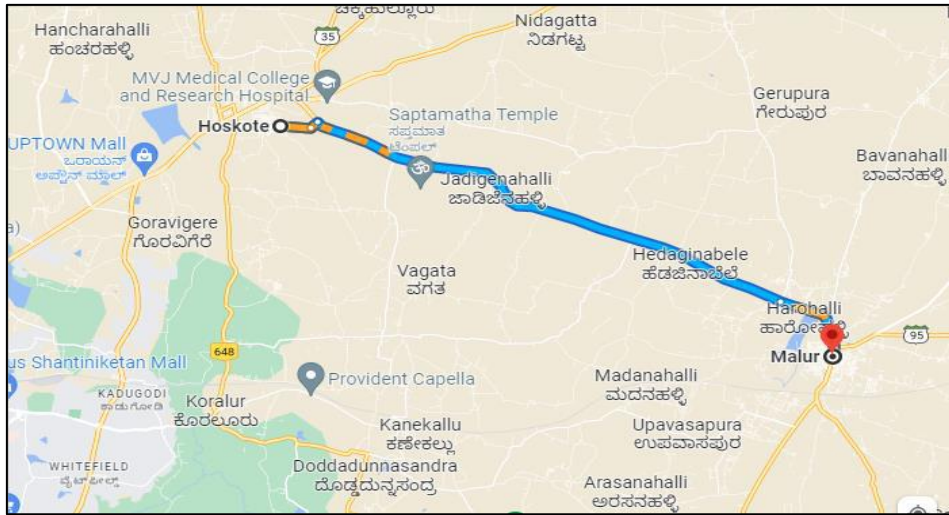
3. Related Party transaction

I understand AA and Affiliates and the Trust are related parties as per the definition of related parties as per regulation 2(1)(zv) of SEBI InvIT regulation and hence, the above Proposed Transaction is considered as a related party transaction.

3.2. Background of the SPVs

3.2.1. Bangalore Malur Highways Limited (“BMHL”)

- BMHL was incorporated on 24th March 2022 as a private limited company under the Companies Act, 2013 pursuant to certificate of incorporation issued by the Registrar of Companies, Central Registration Centre. The registered office of BMHL is located at Plot No 5, Inside Govind Narayan Singh Gate, Chuna Bhatti, Kolar Road, Bhopal 462016, Madhya Pradesh, India..
- The Project Stretch (Bangalore – Malur Section) starts from Bangalore (Hoskote) i.e., Design Ch. (-) 0+700 and terminates at Malur in Kolar District i.e., Design Ch. 26+400.
- The Bangalore Malur Highways Limited (“BMHL”) Project, a four lane highway with an aggregate length of 27.100 kms, comprising from km 0.000 to km 26.400 (along with 0.700 km approach towards NH 207 with interchange on NH4 at start point) of Bangalore to Malur section of Bangalore Chennai Expressway on Hybrid Annuity Mode under Bharatmala Pariyojna, in the state of Karnataka (Phase-I Package-I), operated by NHAI.
- The project falls in the State of Karnataka for Rehabilitation and Up-gradation to 4-lane with paved shoulders configuration of Bangalore – Malur Section of NH-207.



Source: Investment Manager

- Summary of project details of BMHL are as follows:

Parameters	Details
Lane Kms	108.4 Kms
Nos. of Lanes	4
NH / SH	NH-207
State Covered	Karnataka
Area (Start and End)	Bangalore - Malur
Bid Project Cost	INR 11,600 Mn
LOA Date	4 th March 2021
Appointed Date	15 th September 2021
Name of EPC Contractor	Dilip Buildcon Limited
Model	HAM
Project Type	DBOT
Concession Granted by	NHAI
PCOD	15 th May 2024
COD	Pending
Nos. of Annuities	30
Construction Period	730 days from Appointed date
Operational Period	15 years from COD

Source: Investment Manager

- The salient features of the project are as follows:

Sr. No.	Salient Features	As per Site
1	Total Length of the Project Highway	27.1 Km
2	Total length of Service Roads	2 52 Km
3	Widening	0 Km
4	New Alignment including bypass	0 Km
5	Approaches to underpasses	0 Km
6	No of Tunnel	0 Nos.
7	Total length of Slip Roads	0 Km
8	Toll Plaza	2 Nos.
9	Bus Bays / Bus Shelters	0 Nos.
10	Truck Lay Bays	0 Nos.
11	No of Rest Areas	0 Nos.
12	Major Junction	0 Nos.
13	Minor Junctions	0 Nos.
14	No of Vehicular underpasses	16 Nos.
15	No of Light Vehicular underpass	6 Nos.
16	Vehicle overpass	3 Nos.
17	No of Subways	0 Nos.
18	Elevated Structure	0 Nos.
19	No of Flyovers	0 Nos.
20	Pedestrian/Cattle Underpass	0 No.
21	ROB	0 Nos.
22	Major Bridges	4 Nos.
23	Minor Bridges for Main Carriageway	12 Nos.
24	Box/Slab Culverts	49 Nos.
25	Pipe Culverts	1 Nos.

Source: Investment Manager

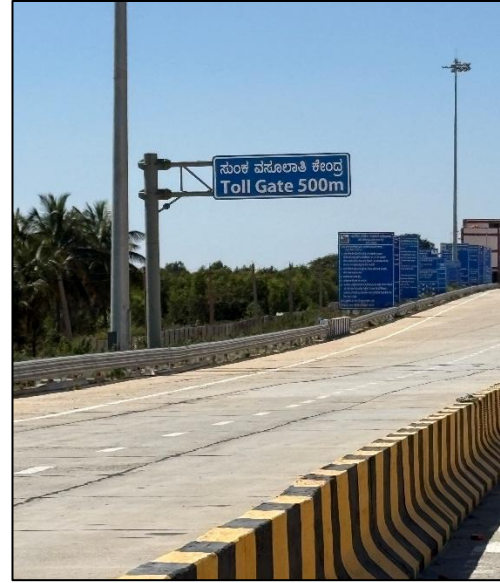
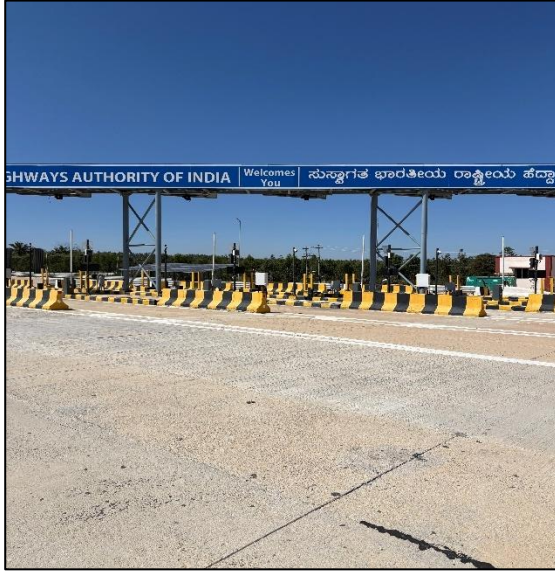
- The shareholding of BMHL as on Valuation Date is as follows:

Sr. No.	Particulars	No. of Shares	%
1.	Dilip Buildcon Limited	4,39,635	50.98
2.	DBL Infraventures Private Limited	1,98,293	22.99
3.	Alpha Alternatives Holdings Private Limited	21,044	2.44
4.	Spectrum Edge LLP	92,017	10.67
5.	Build India Infrastructure Fund	1,11,098	12.88
6.	Bharat Singh*	10	0.01
7.	Sandeep Chandrakant Deshpande*	10	0.01
8.	Pankaj Rai*	10	0.01
9.	Devendra Jain*	10	0.01
10.	Seema Suryavanshi*	10	0.01
11.	Pradeep Suryavanshi*	10	0.01
	Total	8,62,147	100%

* Shares held as nominee on behalf of Dilip Buildcon Limited

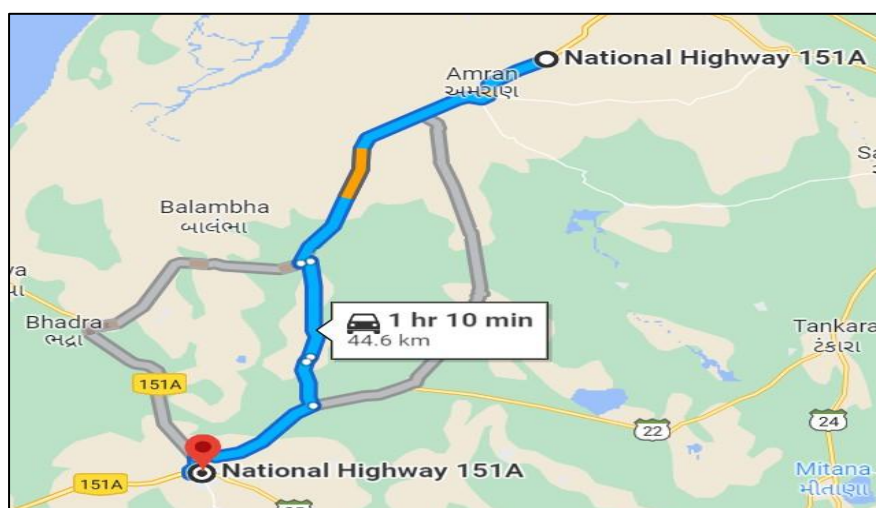
Source: Investment Manager

- My team had conducted physical site visit of the road stretch of BMHL on 3rd February 2025. Refer below for the pictures of the road stretch:



3.2.2. **Dhrol Bhadra Highways Limited (“DBHL”)**

- DBHL was incorporated on 24th March 2022 as a private limited company under the Companies Act, 2013 pursuant to certificate of incorporation issued by the Registrar of Companies, Central Registration Centre. The registered office of DBHL is located at Plot No 5, Inside Govind Narayan Singh Gate, Chuna Bhatti, Kolar Road, Bhopal 462016, Madhya Pradesh, India.
- The Dhrol Bhadra Highways Limited (“DBHL”) Project, a four lane highway with an aggregate length of 50.45 kms, comprising NH-151A* of Dhrol – Bhadra Patiya section (between Ex. km 5+700 to km 13+600 of SH-25) and Bhadra Patiya – Pipaliya section (between Ex. km 73+000 to km 44+800 and Ex. km 38+350 to km 24+000 of CSH-6) on hybrid annuity model in Gujarat, operated by the National Highways Authority of India
- Spanning a total of 35.450 kilometers, the corridor traverses the towns/villages of Rohna, Hassangarh, Bhainsru Kalan, Bhainsru Khurd, Nayabans, Sampla, Bhaproda, Chara, and Jhajjar.
- The existing highway is a 2-lane road, while the Chhara Bypass is a 4-lane road, with plans to upgrade the entire route to 4 lanes with earthen shoulders. The road runs through a plain terrain.
- The map below illustrates the location of the Project and the corridor it covers:



Source: Investment Manager

- Summary of project details of DBHL are as follows:

Parameters	Details
Lane Kms	201.66 Lane Kms
Nos. of Lanes	4
NH / SH	NH-151A
State Covered	Gujarat
Area (Start and End)	Dhrol - Bhadra
Bid Project Cost	INR 8,678 Mn
LOA Date	14 th December 2020
Appointed Date	28 th October 2021
Name of EPC Contractor	Dilip Buildcon Limited
Model	HAM
Project Type	DBOT
Concession Granted by	NHAI
PCOD	25 th September 2023
COD	Pending
Nos. of Annuities	30
Construction Period	730 days from Appointed date
Operational Period	15 years from COD

Source: Investment Manager

- The salient features of the project are as follows:

Sr. No.	Salient Features	As per Site
1	Total Length of the Project Highway	50.416 Km
2	Total length of Service Roads	10.840 Km
3	Widening	0 Km
4	New Alignment including bypass	0 Km
5	Approaches to underpasses	0 Km
6	No of Bypass Roads	0 Nos.
7	Flexible Pavement for Main carriageway	0 Km
8	Rigid Pavement for Main carriageway	0 Km
9	Minor Junction	6 Nos
10	Toll Plaza	1 No.
11	Bus Bays / Bus Shelters	24 Nos.
12	Truck Lay Bays	0 Nos.
13	No of Rest Areas	0 Nos.
14	Grade Separated Intersection without Ramps	0 Nos.
15	At-Grade Intersections	0 Nos.
16	Vehicular underpasses	2 Nos.
17	Light Vehicular underpasses	8 Nos.
18	Vehicle overpass	0 Nos.
19	No of Subways	0 Nos.
20	No of Flyovers	0 Nos.
21	Pedestrian/Cattle Underpass	0 Nos.
22	ROB	0 Nos.
23	Major Bridges	4 Nos.
24	Minor Bridges	28 Nos.
25	Slab Culverts	0 Nos.
26	Pipe/Box Culverts	79 Nos.

Source: Investment Manager

- The shareholding of DBHL as on Valuation Date is as follows:

Sr. No.	Particulars	No. of Shares	%
1.	Dilip Buildcon Limited	1,41,377	50.9
2.	DBL Infraventures Private Limited	63,780	22.99
3.	Alpha Alternatives Holdings Private Limited	6,769	2.44
4.	Build India Infrastructure Fund	35,734	12.88
5.	Spectrum Edge LLP	29,597	10.67
6.	Bharat Singh*	10	0.01
7.	Sandeep Chandrakant Deshpande*	10	0.01
8.	Pradeep Suryavanshi*	10	0.01
9.	Devendra Jain*	10	0.01
10.	Seema Suryavanshi*	10	0.01
	Total	2,77,307	100%

*Shares held as nominee on behalf of Dilip Buildcon Limited

Source: Investment Manager

- My team had conducted physical site visit of the road stretch of DBHL on 22nd March 2025. Refer below for the pictures of the road stretch:



3.2.3 **Dodaballapur Hoskote Highways Limited (“DHHL”)**

- DHHL was incorporated on 12th July 2023 as a limited company under the Companies Act, 2013 pursuant to certificate of incorporation issued by the Registrar of Companies, Central Registration Centre. The registered office of DHHL is located at Plot No 5, Inside Govind Narayan Singh Gate, Chuna Bhatti, Kolar Road, Bhopal 462016, Madhya Pradesh, India.
- DHHL is a stretch of road in Karnataka State i.e Four Laning of Dodaballapur Bypass to Hoskote section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) in the State of Karnataka under Public Private Partnership (PPP) on Hybrid Annuity Mode.
- The project section of NH-648, spanning a total length of 38.00Km., connects through forest land, the package is sub divided and the current stretch starts from Dodaballapur Bypass and terminates at Hoskote section.
- Subsequently, the Concessionaire appointed Dilip Buildcon Limited as EPC contractor for construction of afore said work NH-648 connects Krishnagiri, Bangalore urban and Hosur, Sarjapur, Hoskote, Devanahalli, Dodaballapur and Dabaspet.
- The map below illustrates the location of the Project and the corridor it covers:



Source: Investment Manager

- Summary of project details of DHHL are as follows:

Parameters	Details
Lane Kms	150.4 Lane Kms
Nos. of Lanes	4
NH / SH	NH 648
State Covered	Karnataka
Area (Start and End)	Dodaballapur to Hoskote
Bid Project Cost	INR 11,979 Mn
LOA Date	26 th August 2020
Appointed Date	22 th February 2021
Name of EPC Contractor	M/s Dilip Buildcon Limited
Model	HAM
Project Type	DBOT
Concession Granted by	NHAI
PCOD	21 st July 2023
COD	-
Nos. of Annuities	30
Construction Period	730 days from Appointed date
Operational Period	15 years from COD

Source: Investment Manager

- The salient features of the project are as follows:

Sr. No.	Salient Features	For SPV
1	Total Length of the Project Highway	37.6 Kms
2	Total length of Service Roads	CA=37.5 Kms and COS=15.704 Kms
3	Widening	0 Km
4	No of bypass	2 Nos
5	Length of Bypass	23.04 Km
6	No. of wayside amenities	0 Nos
7	No of Footover Bridge under COS	1 Nos
8	Toll Plaza	1 No
9	Bus Bays / Bus Shelters	28 Nos
10	Truck Lay Bays	Nil
11	Minor Junction	42 Nos
12	SVUP	3 Nos
13	LVUP	8 Nos
14	VUP	11 Nos
15	No of Corridor/ Viaduct	2 Nos
16	Vehicle overpass	1 No
17	Pedestrian/Cattle Underpass	1 No
18	ROB	1 No
19	Major Bridges	Nil
20	Minor Bridges	14 Nos
21	Box/Slab Culverts	50 Nos

Source: Investment Manager

- The shareholding of DHHL as on Valuation Date is as follows:

Sr. No.	Particulars	No. of Shares	%
1.	Dilip Buildcon Limited	1,41,997	50.98
2.	DBL Infraventures Private Limited	64,060	22.99
3.	Alpha Alternatives Holdings Private Limited	6,798	2.44
4.	Build India Infrastructure Fund	35,891	12.88
5.	Spectrum Edge LLP	29,727	10.67
6.	Bharat Singh*	10	0.01
7.	Sandeep Chandrakant Deshpande*	10	0.01
8.	Pradeep Suryavanshi*	10	0.01
9.	Javed Khan*	10	0.01
10.	Pankaj Rai*	10	0.01
	Total	2,78,523	100%

*Shares held as nominee on behalf of Dilip Buildcon Limited

Source: Investment Manager

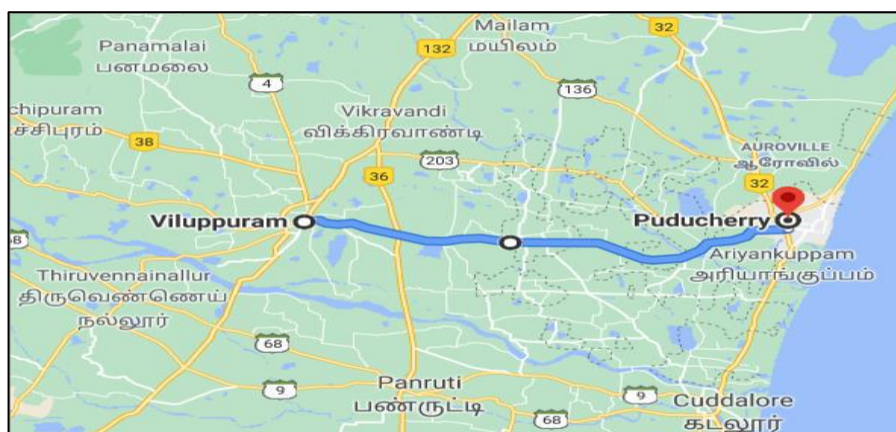
- I have been represented by the Investment Manager that there is no change in shareholding pattern from the Valuation Date till the date of this Report.

- My team had conducted physical site visit of the road stretch of DHHL on 3rd February 2025. Refer below for the pictures of the road stretch:



3.2.3. **Viluppuram Highways Limited (“VHL”)**

- VHL was incorporated on 6th May 2024 as a limited company under the Companies Act, 2013 pursuant to certificate of incorporation issued by the Registrar of Companies, Central Registration Centre. The registered office of VHL is located at Plot No 5, Inside Govind Narayan Singh Gate, Chuna Bhatti, Kolar Road, Bhopal 462016, Madhya Pradesh, India.
- The Project Stretch (Viluppuram Puducherry Section) starts from Viluppuram Design Chainage 0+000 and terminates at Puducherry Design Chainage 29+000. A substantial length of the package passes through Bypass (16.350KM) and built-up area (12.65KM).
- The Viluppuram Highways Limited (“VHL”) Project, a four lane highway with an aggregate length of 29.00 kms, comprising Viluppuram- Puducherry section of NH-45A (new NH-332*) from km 0.00 to km 29.00 under Bharatmala Priyोजना Phase I on Hybrid Annuity Mode in Tamil Nadu and Puducherry, operated by NHAI.
- Subsequently, the Concessionaire appointed Dilip Buildcon Limited as EPC contractor for construction of afore said work. Viluppuram, Kandamanadai, Kolathur, Kavanipakkam, Anangur, Mazhavarayanur, Salayambalayam East, Salayambalayam West, Arpissambalayam, Valavanur, Gangarambalayam, Aliyur and Puducherry city.
- The map below illustrates the location of the Project and the corridor it covers:



Source: Investment Manager

- Summary of project details of VHL are as follows:

Parameters	Details
Lane Kms	116 Kms
Nos. of Lanes	4
NH / SH	NH 45A
State Covered	Tamil Nadu
Area (Start and End)	Viluppuram - Puducherry
Bid Project Cost	INR 10,130 Mn
LOA Date	17 th March 2021
Appointed Date	25 th November 2021
Name of EPC Contractor	Dilip Buildcon Limited
Model	HAM
Project Type	DBOT
Concession Granted by	NHAI
PCOD	4 th April 2024
COD	Pending
Nos. of Annuities	30
Construction Period	730 days from Appointed date
Operational Period	15 years from PCOD/COD

Source: Investment Manager

- The salient features of the project are as follows:

Sr. No.	Salient Features	As per Site
1	Total Length of the Project Highway	29 Km
2	Total length of Service Roads	43.10 Km
3	Width of Service	12.65 Km
4	Bypass Length	0 Km
5	Approaches to underpasses	0 Km
6	No of Bypass Roads	1 No.
7	Rigid Pavement for Main carriageway	0 Km
8	Flexible Pavement for Main carriageway	0 Km
9	Toll Plaza	1 No.
10	Bus Bays with Bus Shelters	8 Nos.
11	Truck Lay Bays	0 Nos.
12	No of Rest Areas	1 Nos.
13	Major Junction	0 Nos.
14	Minor Junctions	24 Nos.
15	No of Vehicular underpasses	7 Nos.
16	Light Vehicular underpass	0 Nos.
17	Small Vehicular underpass	0 Nos.
18	No of Flyovers	4 Nos.
19	Pedestrian/Cattle Underpass	0 Nos.
20	ROB	4 Nos.
21	Major Bridges	0 Nos.
22	Minor Bridges	2 Nos.
23	Box/Slab Culverts	101 Nos.
24	Pipe Culverts	0 Nos.

Source: Investment Manager

- The shareholding of VHL as on Valuation Date is as follows:

Sr. No.	Particulars	No. of Shares	%
1.	Dilip Buildcon Limited	1,14,596	50.98
2.	DBL Infraventures Private Limited	51,706	22.99
3.	Alpha Alternatives Holdings Private Limited	5,488	2.44
4.	Build India Infrastructure Fund	28,970	12.88
5.	Spectrum Edge LLP	23,994	10.67
6.	Bharat Singh*	10	0.01
7.	Sandeep Chandrakant Deshpande*	10	0.01
8.	Pradeep Suryavanshi*	10	0.01
9.	Seema Suryavanshi*	10	0.01
10.	Pankaj Rai*	10	0.01
11.	Devendra Jain*	10	0.004
	Total	2,24,814	100%

*Shares held as nominee on behalf of Dilip Buildcon Limited

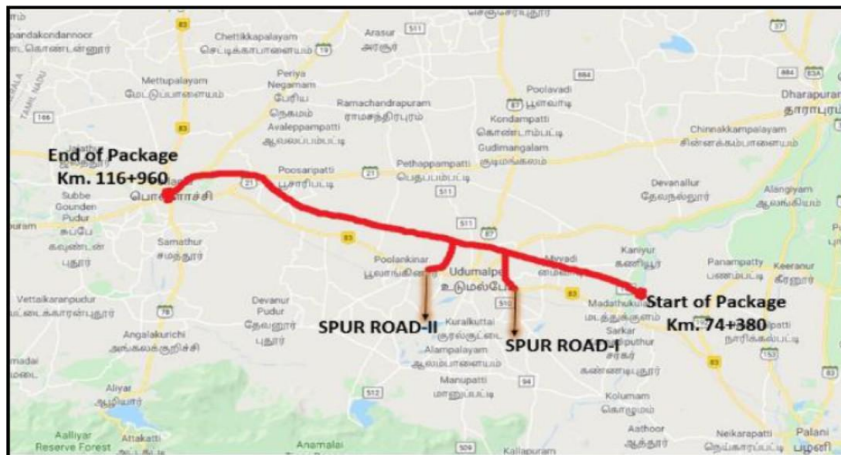
Source: Investment Manager

- My team had conducted physical site visit of the road stretch of VHL on 30th January 2025. Refer below for the pictures of the road stretch:



3.2.4. DPJ Pollachi HAM Project Private Limited (“DPHPPL”)

- DPHPPL had augmented the development, maintenance and management of the section from km 74.380 to km. 116.950 in accordance with the provisions of the Concession Agreement executed with NHAI on 5th December 2019 on Design, Build, Operate and Transfer (DBOT) on Hybrid Annuity Mode (HAM).
- DPHPPL Project, a four-lane highway with an aggregate length of 50.08 kms, comprising Madathukulam to Pollachi section of NH-209 (new NH-83*) from Km 74.38 to Km 116.95 under Bharatmala Pariyojana Phase I on Hybrid Annuity Mode in Tamil Nadu, operated by NHAI.
- The map below illustrates the location of the Project and the corridor it covers:



Source: Investment Manager

- Summary of project details of DPHPPL are as follows:

Parameters	Details
Lane Kms	200 Lane Kms
Nos. of Lanes	4
NH / SH	NH-209 (New NH-83)
State Covered	Tamil Nadu
Area (Start and End)	Madathukulam to Pollachi
Bid Project Cost	INR 7,240 Mn
LOA Date	13 th February 2019
Appointed Date	4 th December 2020
Name of EPC Contractor	DP Jain & Co. Infrastructure Pvt. Ltd
Model	HAM
Project Type	DBOT
Concession Granted by	NHAI
PCOD	5 th October 2023
COD	Pending
Nos. of Annuities	30
Construction Period	730 days from Appointed date
Operational Period	15 years from COD

Source: Investment Manager

- The salient features of the project are as follows:

Sr. No.	Salient Features	As per Site
1	Total Length of the Project Highway	50.078 Kms
2	Total length of Service Roads	2.480 Kms
3	Width of Service	0 Km
4	Bypass Length	34.74 Kms
5	Approaches to underpasses	0 No
6	No of Bypass Roads	2 Nos
7	Rigid Pavement for Main carriageway	50.078 Kms
8	Flexible Pavement for Main carriageway	
9	Toll Plaza	1 No
10	Bus Bays with Bus Shelters	1 No
11	Truck Lay Bays	1 No
12	No of Rest Areas	2 Nos
13	Major Junction	
14	Minor Junctions	19 Nos
15	No of Vehicular underpasses	10 Nos
16	Light Vehicular underpass	5 Nos
17	Small Vehicular underpass	5 Nos
18	No of Flyovers	7 Nos
19	Pedestrian/Cattle Underpass	0 No
20	ROB	0 No
21	Major Bridges	0 No
22	Minor Bridges	15 Nos
23	Box/Slab Culverts	149 Nos
24	Pipe Culverts	0 No

Source: Investment Manager

- The shareholding of DPHPPL as on Valuation Date is as follows:

Sr. No.	Particulars	No. of Shares	%
1.	D P Jain And Co Infrastructure Pvt Ltd	7,24,09,999	99.99
2.	Girish Jain*	1	0.01
	Total	7,24,10,000	100%

* Shares held as nominee on behalf of D P Jain And Co Infrastructure Pvt Ltd.

Note: Alpha Alternatives is in process of acquiring 100% stake in DPHPPL

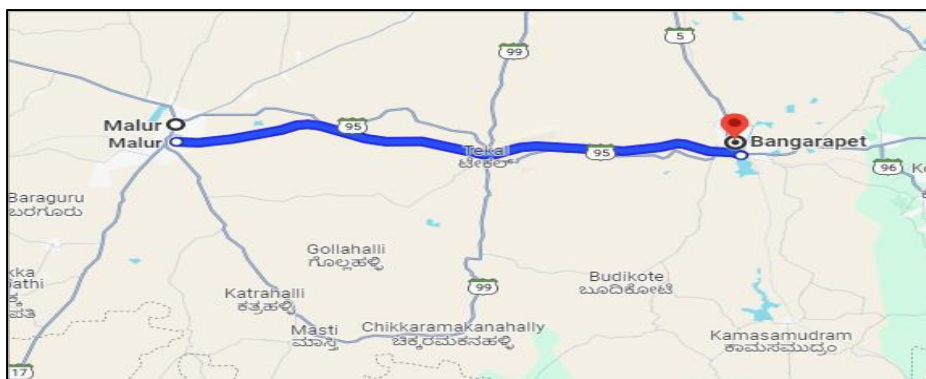
Source: Investment Manager

- My team had conducted physical site visit of the road stretch of DPHPPL on 25th March 2025. Refer below for the pictures of the road stretch:



3.2.5. **Malur Bangarpet Highways Limited ("MBHL")**

- MBHL was incorporated on 24th March 2022 as a private limited company under the Companies Act, 2013 pursuant to certificate of incorporation issued by the Registrar of Companies, Central Registration Centre. The registered office of MBHL is located at Plot No 5, Inside Govind Narayan Singh Gate, Chuna Bhatti, Kolar Road, Bhopal 462016, Madhya Pradesh, India.
- The Project corridor also includes 4 bypass around Khewra, Bahalgarh, Sonapat and Rohna along with new alignment at one location.
- The Project Stretch (Malur–Bangarpet Section) starts from Malur i.e., Design Chainage Ch.26+400 and terminates at Bangarpet in Kolar District i.e., Design Chainage. 53+500.
- The Malur-Bangarpet Section of Bangalore Chennai Expressway is a new program for the highways sector that focuses on optimizing efficiency of freight and passenger movement between Bangalore and Chennai by bridging critical infrastructure gaps through effective interventions like development of Economic Corridors, Inter Corridors and Feeder Routes, National Corridor Efficiency Improvement. A total of around 27.100 km are being considered in Package II.
- The Malur Bangarpet Highways Limited ("MBHL") Project, a four lane highway with an aggregate length of 27.10 kms, comprising Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpet section of Bangalore Chennai Expressway on Hybrid Annuity Mode under Bharatmala Pariyojana in the state of Karnataka (Phase I-Package II), operated by NHAI;
- The map below illustrates the location of the Project and the corridor it covers:



Source: Investment Manager

- Summary of project details of MBHL are as follows:

Parameters	Details
Lane Kms	108.40 Lane Kms
Nos. of Lanes	4
NH / SH	NH 207
State Covered	Karnataka
Area (Start and End)	Malur - Bangarpet
Bid Project Cost	INR 12,520 Mn
LOA Date	4 th March 2021
Appointed Date	20 th September 2021
Name of EPC Contractor	Dilip Buildcon Limited
Model	HAM
Project Type	DBOT
Concession Granted by	NHAI
PCOD	16 th May 2024
COD	Pending
Nos. of Annuities	30
Construction Period	730 days from Appointed date
Operational Period	15 years from COD

Source: Investment Manager

- The salient features of the project are as follows:

Sr. No.	Salient Features	As per Site
1	Total Length of the Project Highway	27.1 Km
2	Total length of Service Roads	0 Km
3	Widening	0 Km
4	New Alignment including bypass	0 Km
5	Emergency Call Box	0 Nos.
6	No of Bypass Roads	0 Nos.
7	Flexible Pavement for Main carriageway	0 Km
8	No of wayside amenities	1 Nos
9	Toll Plaza	1 Nos.
10	Bus Bays / Bus Shelters	0 Nos.
11	Truck Lay Bays	0 Nos.
12	No of Rest Areas	1 Nos.
13	Interchange	0 Nos.
14	Major/Minor Junction	0 Nos.
15	Grade Separator Intersections	0 Nos.
16	Vehicular underpasses	8 Nos.
17	Light Vehicular underpasses	6 Nos.
18	Vehicle overpass	3 Nos.
19	No of Subways	0 Nos.
20	Grade Separator Flyovers	0 Nos.
21	Pedestrian/Cattle Underpass	0 Nos.
22	ROB	1 No.
23	Major Bridges	9 Nos.
24	Minor Bridges	27 Nos.
25	Box/Slab Culverts	33 Nos.
26	Pipe Culverts	0 Nos.

Source: Investment Manager

- The shareholding of MBHL as on Valuation Date is as follows:

Sr. No.	Particulars	No. of Shares	%
1.	Dilip Buildcon Limited	5,88,782	50.98
2.	DBL Infraventures Private Limited	2,65,555	22.99
3.	Alpha Alternatives Holdings Private Limited	28,183	2.44
4.	Spectrum Edge LLP	1,23,229	10.67
5.	Build India Infrastructure Fund	1,48,782	12.88
6.	Bharat Singh*	10	0.01
7.	Sandeep Chandrakant Deshpande*	10	0.01
8.	Pankaj Rai*	10	0.01
9.	Devendra Jain*	10	0.01
10.	Seema Suryavanshi*	10	0.01
11.	Pradeep Suryavanshi*	10	0.01
Total		11,54,591	100%

* Shares held as nominee on behalf of Dilip Buildcon Limited

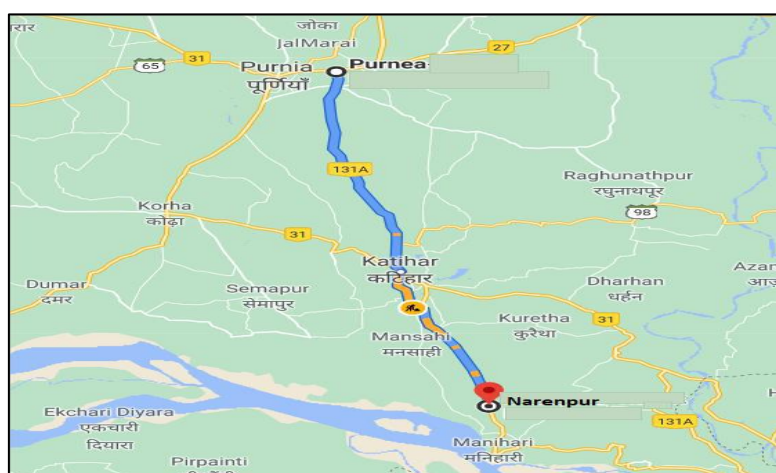
Source: Investment Manager

- My team had conducted physical site visit of the road stretch of MBHL on 3rd February 2025. Refer below for the pictures of the road stretch:



3.2.6. Narenpur Purnea Highways Limited (“NPHL”)

- NPHL was incorporated on 12th July 2023 as a limited company under the Companies Act, 2013 pursuant to certificate of incorporation issued by the Registrar of Companies, Central Registration Centre. The registered office of NPHL is located at Plot No 5, Inside Govind Narayan Singh Gate, Chuna Bhatti, Kolar Road, Bhopal 462016, Madhya Pradesh, India.
- The Government of India had entrusted to the Authority the development, maintenance and management of Construction and Up-gradation of NH-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970(design Ch 53+000) near Purnea to 4 lane standard and from Km 79.970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode in accordance with the terms and conditions to be set forth in a Concession Agreement dated 24-10-2020.
- National Highway NH-131A, which starts at near Narenpur in Katihar District and ends at Near Purnea in Purnea District is a part of NH- 131 A It is one of the important highways in Bihar state .
- The project road comprises the section of NH- 131A starts at capital city of Narenpur, passes through important towns like Lakhpura, pagalbari , Manoharpur , Kumaripur , Bhermara , Basantpur , Katihar bypass, routara , Chandi, abdulnager/Purnea total design length of 49.00 km
- The map below illustrates the location of the Project and the corridor it covers:



Source: Investment Manager

- Summary of project details of NPHL are as follows:

Parameters	Details
Lane Kms	196 Lane Kms
Nos. of Lanes	4
NH / SH	NH 131A
State Covered	Bihar
Area (Start and End)	Narenpur - Purnea
Bid Project Cost	INR 19,050 Mn
LOA Date	9 th September 2020
Appointed Date	18 th March 2021
Name of EPC Contractor	Dilip Buildcon Limited
Model	HAM
Project Type	DBOT
Concession Granted by	NHAI
PCOD	29 th March 2024
COD	Pending
Nos. of Annuities	30
Construction Period	730 days from Appointed date
Operational Period	15 years from COD

Source: Investment Manager

- The salient features of the project are as follows:

Sr. No.	Salient Features	As per Site
1	Total Length of the Project Highway	49 Km
2	Total length of Service Roads	27 Km
3	Length of Bypass	14.86 Km
4	No of Bypass Roads	1 No.
5	No of wayside amenities	1 Nos
6	Emergency Call box	11 Nos.
7	Toll Plaza	1 No.
8	Bus Bays	2 Nos.
9	Bus Shelters	16 Nos.
10	Truck Lay Bays	0 No.
11	No of Bus Bays	1 No.
12	Major Junction	2 Nos.
13	Minor Junctions	48 Nos.
14	Vehicular Underpass	3 Nos.
15	Light Vehicular underpasses	16Nos.
16	Small Vehicular underpasses	2 Nos.
17	Vehicle overpass	0 Nos.
18	No of Subways	0 Nos.
19	No of Flyovers	2 Nos.
20	Pedestrian/Cattle Underpass	0 Nos.
21	ROB	3 Nos.
22	Major Bridges	2 Nos.
23	Minor Bridges for Main Carriageway	15 Nos.
24	Box/Slab Culverts	76 Nos.
25	Pipe Culverts	2 Nos.

Source: Investment Manager

- The shareholding of NPHL as on Valuation Date is as follows:

Sr. No.	Particulars	No. of Shares	%
1.	Dilip Buildcon Limited	1,26,429	50.98
2.	DBL Infraventures Private Limited	57,037	22.99
3.	Alpha Alternatives Holdings Private Limited	6,053	2.44
4.	Spectrum Edge LLP	26,468	10.67
5.	Build India Infrastructure Fund	31,957	12.88
6.	Pankaj Rai*	10	0.01
7.	Bharat Singh*	10	0.01
8.	Sandeep Chandrakant Deshpande*	10	0.01
9.	Pradeep Suryavanshi*	10	0.01
10.	Javed Khan*	6	0.00
	Total	2,47,990	100%

* Shares held as nominee on behalf of Dilip Buildcon Limited

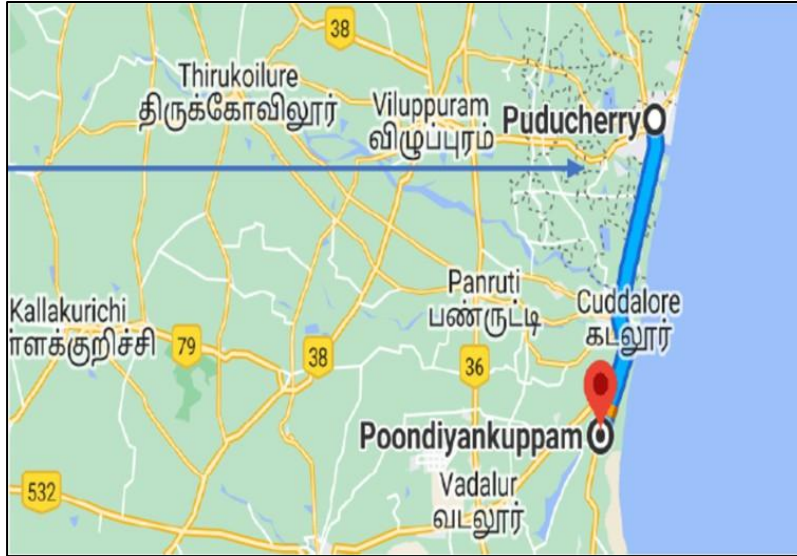
Source: Investment Manager

- My team had conducted physical site visit of the road stretch of NPHL on 1st March 2025. Refer below for the pictures of the road stretch:



3.2.7. Poondiyankuppam Highways Limited ("PHL")

- The Poondiyankuppam Highways Limited ("PHL") Project, a four lane highway with an aggregate length of 38.00 kms, comprising Puducherry-Poondiyankuppam section of NH-45A (new NH-32) from Km 29.00 to Km 67.00 under Bharatmala Pariyojana Phase I on Hybrid Annuity Mode in Tamil Nadu and Puducherry, operated by NHAI.
- The map below illustrates the location of the Project and the corridor it covers:



Source: Investment Manager

- Summary of project details of PHL are as follows:

Parameters	Details
Lane Kms	152 Lane Kms
Nos. of Lanes	4
NH / SH	NH-45A (New NH-32)
State Covered	Tamil Nadu
Area (Start and End)	Puducherry to Poondiyankuppam
Bid Project Cost	INR 12,280 Mn
LOA Date	17 th March 2021
Appointed Date	15 th November 2021
Name of EPC Contractor	M/s Dilip Buildcon Limited
Model	HAM
Project Type	DBOT
Concession Granted by	NHAI
PCOD	-
COD	-
Nos. of Annuities	30
Construction Period	730 days from Appointed Date
Operational Period	15 Years from COD

Source: Investment Manager

- The salient features of the project are as follows:

Sr. No.	Salient Features	As per Site
1	Total Length of the Project Highway	38 Kms
2	Total length of Service Roads	3.600 Kms
3	Width of Service	0 Km
4	Bypass Length	33.58 Kms
5	Approaches to underpasses	0 Nos
6	No of Bypass Roads	1 No
7	Rigid Pavement for Main carriageway	38 Kms
8	Flexible Pavement for Main carriageway	
9	Toll Plaza	
10	Bus Bays with Bus Shelters	12 Nos
11	Truck Lay Bays	2 Nos
12	No of Rest Areas	0 No
13	Major Junction	15 Nos
14	Minor Junctions	19 Nos
15	No of Vehicular underpasses	4 Nos
16	Light Vehicular underpass	0 No
17	Small Vehicular underpass	0 No
18	No of Flyovers	6 Nos
19	Pedestrian/Cattle Underpass	0 No
20	ROB	3 Nos
21	Major Bridges	3 Nos
22	Minor Bridges	12 Nos
23	Box/Slab Culverts	129 Nos
24	Pipe Culverts	0 No

Source: Investment Manager

- The shareholding of PHL as on Valuation Date is as follows:

Sr. No.	Particulars	No. of Shares	%
1.	Dilip Buildcon Limited	82,610	51.97
2.	DBL Infraventures Private Limited	36,557	23.00
3.	Alpha Alternatives Holdings Private Limited	2,274	1.43
4.	Spectrum Edge LLP	16,965	10.67
5.	Build India Infrastructure Fund	20,482	12.88
6.	Bharat Singh*	10	0.01
7.	Sandeep Chandrakant Deshpande*	10	0.01
8.	Pankaj Rai*	10	0.01
9.	Devendra Jain*	10	0.01
10.	Seema Suryavanshi*	10	0.01
11.	Pradeep Suryavanshi*	10	0.01
Total		1,58,948	100%

* Shares held as nominee on behalf of Dilip Buildcon Limited.

Note: As on the date, PHL is held 51.97% by Dilip Buildcon Limited, 23.00% by DBL Infraventures Private Limited, 0.06% by nominees of Dilip Buildcon Limited, 1.43% by Alpha Alternatives Holdings Private Limited, 10.67% by Spectrum Edge LLP and 12.88% by Build India Infrastructure Fund (Collectively, 24.98% by Alpha Alternatives Holdings Private Limited, Spectrum Edge LLP, and Build India Infrastructure Fund ("Alpha entities")). Prior to filing of the Offer Document, the Alpha entities will hold 26% in PHL. Thereafter, 49% of PHL is proposed to be transferred to the Trust, accordingly, the Trust is proposed to acquire 26% from AAHPL and/or its affiliates and 23% from DBL and/or its affiliates.

Source: Investment Manager

- My team had conducted physical site visit of the road stretch of PHL on 30th January 2025. Refer below for the pictures of the road stretch:



3.2.8. Repallewada Highway Limited (“RHL”)

- RHL was incorporated on 24th March 2022 as a limited company under the Companies Act, 2013 pursuant to certificate of incorporation issued by the Registrar of Companies, Central Registration Centre. The registered office of RHL is located at Plot No 5, Inside Govind Narayan Singh Gate, Chuna Bhatti, Kolar Road, Bhopal 462016, Madhya Pradesh, India.
- RHL is a stretch of road in Telangana State i.e the Four laning of the Repallewada to Telangana/Maharashtra Border section of NH-363 from km 42.00 to km 94.60 (between the existing Km 288+510 to Km 342+000) in Telangana /Maharashtra Border through Public Private Partnership (PPP) on the Hybrid Annuity Mode.
- The project section of NH-363, spanning a total length of 52.602Km, connects the districts of Mancherial and Asifabad at Rapallewada and ends at the Border of Telangana and Maharashtra on HyderabadKarimnagar-Chanda road in the state of Telangana and terminates at Wankidi.
- The Project Highway connects connects Mandamarri, Bellampalli, Tandur, Rebbana, Asifabad and terminating at Wankidi in the state of Telangana/Maharashtra. It serves movement of army vehicles to the border area and also a number of remote villages are also provided connectivity by this road. The total length of the project corridor is 212.107 km (existing length).
- The map below illustrates the location of the Project and the corridor it covers



Source: Investment Manager

- Summary of project details of RHL are as follows:

Parameters	Details
Lane Kms	210.40
Nos. of Lanes	4
NH / SH	NH 363
State Covered	Telangana
Area (Start and End)	Repallewada – Telengana/Maharashtra Border
Bid Project Cost	INR 11,160 Mn
LOA Date	14 th September 2020
Appointed Date	1 st March 2021
Name of EPC Contractor	Dilip Buildcon Limited
Model	HAM
Project Type	DBOT
Concession Granted by	NHAI
PCOD	20 th October 2023
COD	Pending
Nos. of Annuities	30
Construction Period	730 days from Appointed date
Operational Period	15 years from COD

Source: Investment Manager

- The salient features of the project are as follows:

Sr. No.	Salient Features	As per Site
1	Total Length of the Project Highway	52. 602 Km
2	Total length of Service Roads	25.536 Km
3	Widening	0 Km
4	No of bypass	1 No
5	LVUP	5 Nos
6	VUP	4 Nos
7	Toll Plaza	1 No.
8	Bus Bays / Bus Shelters	6 Nos.
9	Truck Lay Bays	2 Nos.
10	No of Rest Areas	1 No.
11	Major Junction	8 Nos.
12	Minor Junctions	27 Nos.
13	No of Vehicular underpasses	4 Nos.
14	Vehicle overpass	0 Nos.
15	No of Subways	0 Nos.
16	Elevated Structure	0 Nos.
17	Syphon pipe culverts	0 Nos.
18	Pedestrian/Cattle Underpass	0 Nos.
19	Foot Over Bridge	0 Nos.
20	ROB	0 Nos.
21	Major Bridges	2 Nos.
22	Minor Bridges	23 Nos.
23	Box/Slab Culverts	49 Nos.
24	Pipe Culverts	34 Nos.

Source: Investment Manager

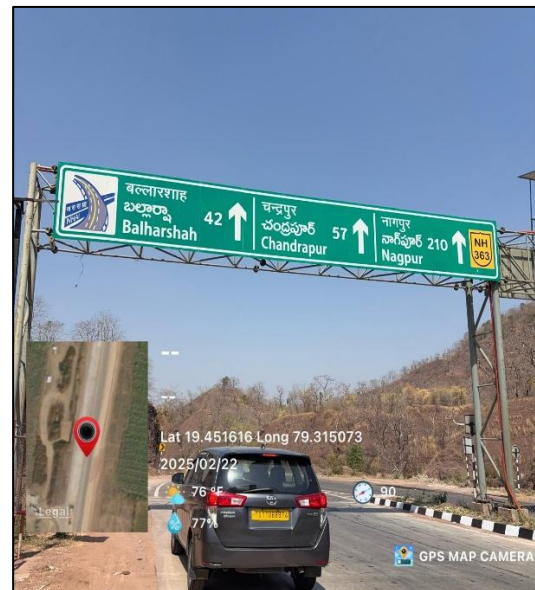
- The shareholding of RHL as on Valuation Date is as follows:

Sr. No.	Particulars	No. of Shares	%
1.	Dilip Buildcon Limited	4,00,684	50.98
2.	DBL Infraventures Private Limited	1,80,721	22.99
3.	Alpha Alternatives Holdings Private Limited	19,180	2.44
4.	Build India Infrastructure Fund	1,01,253	12.88
5.	Spectrum Edge LLP	83,863	10.67
6.	Pankaj Rai*	10	0.01
7.	Dilip Suryavanshi*	10	0.01
8.	Bharat Singh*	10	0.01
9.	Sandeep Chandrakant Deshpande*	10	0.01
10.	Pradeep Suryavanshi*	10	0.01
	Total	7,85,751	100%

*Shares held as nominee on behalf of Dilip Buildcon Limited

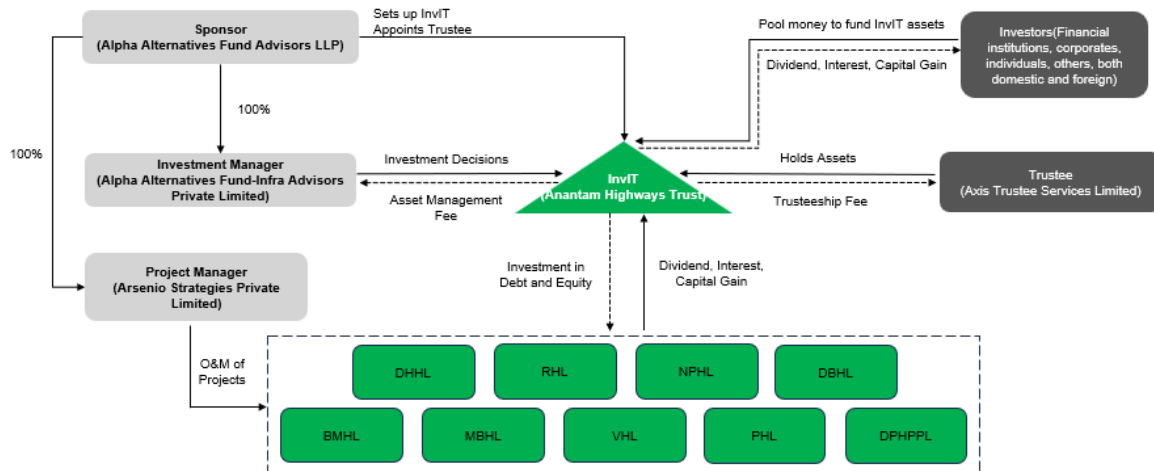
Source: Investment Manager

- My team had conducted physical site visit of the road stretch of RHL on 22nd February 2025. Refer below for the pictures of the road stretch:



3. Structure of the Trust

4.1. The following is structure of Anantam Highways Trust:



Source: Investment Manager

4.2. The following is the proposed acquisition structure:

Sr. No.	SPVs	Post Proposed Transaction Holding
1	BMHL	100%
2	DBHL	100%
3	DHHL	100%
4	VHL	100%
5	DPHPPL	100%
6	MBHL	100%
7	NPHL	100%
8	PHL	49%
9	RHL	100%

Source: Investment Manager

4. Overview of the Industry

4.1 Introduction

As India strives towards becoming a developed economy, the transport sector plays a crucial role. In the 2025-26 Budget, the capital expenditure allocation is set at Rs 11.21 lakh crore.

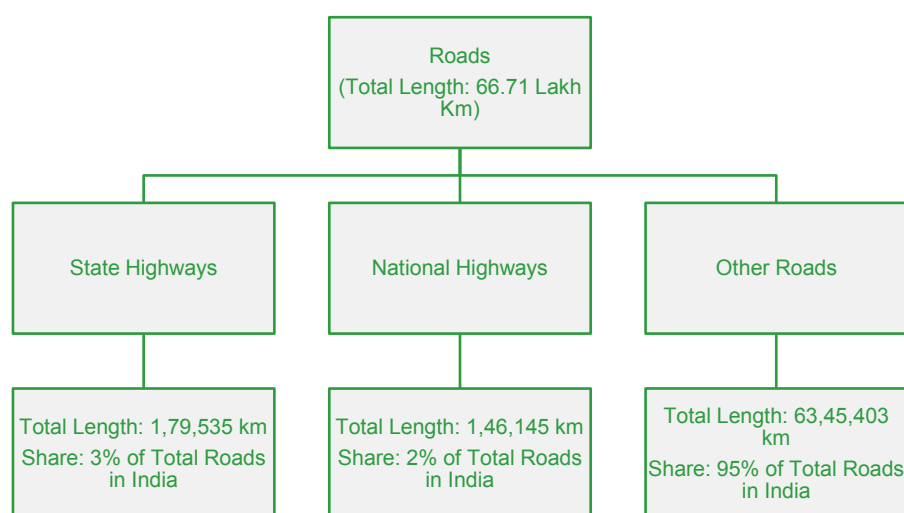
Creation and operation of quality road infrastructure continue to be major requirements for enabling overall growth and development of India in a sustained manner. Infrastructure related ministries to come up with 3-year pipeline of projects that can be implemented in public private partnership mode.

Rs 1.5 lakh crore have been outlaid for 50-year interest free loans to states for capital expenditure and incentives for reforms.

The second asset monetization plan for 2025-30 is to be launched for generating capital of Rs 10 lakh crore for new projects.

4.2 Road Network in India

India has the second largest road network in the world, spanning over 6.67 million kms. Over 64.5% of all goods in the country are transported through roads, while 90% of the total passenger traffic uses road network to commute.



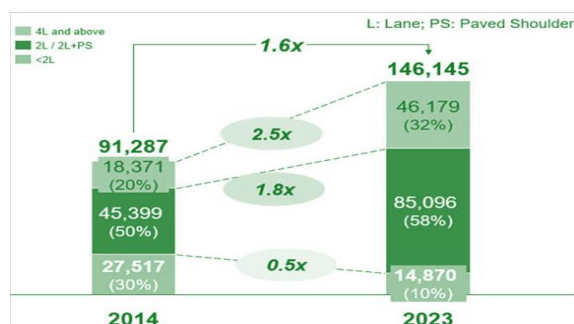
Source: MoRTH, Government of India

4.2.2 NHs constitute around 2 per cent of the total road network in the country but carry about 40% of the road traffic. The density of India's highway network at 1.89 km of roads per square kilometer of land – is similar to that of the France (1.98) and much greater than China's (0.49) or USA's (0.68).

<< This space is intentionally left blank >>

4.2.3 National Highway (NH) network increased by ~60% from 91,287 km in 2014 to 1,46,145 km in year 2024.

Year	Construction (per year)	Project Awarded (in km)	Construction (in km/day)
2015-16	6061	6397	16.6
2016-17	8231	4335	22.6
2017-18	9829	7400	26.9
2018-19	10855	6000	29.7
2019-20	10237	8948	28.1
2020-21	13327	10467	36.5
2021-22	10457	12731	28.6
2022-23	10331	7497	28.3
2023-24	~12,300	~2,500	34.0



Source: MoRTH, Government of India

4.3 Government Agencies for Road Development

- 4.3.1 The Ministry of Road Transport & Highway ("MoRTH") is responsible for development of Road Transport and Highways in general and construction & maintenance of National Highways.
- 4.3.2 The National Highways Authority of India ("NHAI") is an autonomous agency of the Government of India, set up in 1988 and is responsible for implementation of National Highways Development Project ("NHDP").
- 4.3.3 The NHDP in the context of NHs is nearing completion- in seven phases. Later, the other highway development programmes like Special Accelerated Road Development Programme for Development of Road Network in North Eastern States (SARDP- NE) and National Highways Interconnectivity Improvement Project (NHIP) were also taken up by MoRTH. Further, Bharatmala Pariyojana is ongoing. For majority of the projects under NHDP and Bharatmala Pariyojana, NHAI is the implementation agency. Other NH related programmes/works are being implemented through agencies like National Highways Infrastructure Development Corporation Limited (NHIDCL), State Public Works Departments (PWDs), State Road Development Corporations and the Border Road Organization.
- 4.3.4 The National Highways Authority of India (NHAI) has made a big step towards improving the highway user experience, with the introduction of 'Rajmargyatra,' a citizen-centric unified mobile application. This user-friendly app provides travellers with in-depth knowledge of Indian National Highways as well as an effective procedure for filing complaints.
- 4.3.5 National Highways Authority of India (NHAI) has also recently introduced a 'Knowledge Sharing' platform for sharing of knowledge and innovative best practices. This effort, which is hosted on the NHAI website, will assist the authority in working with specialists and citizens who want to exchange knowledge and views about subjects including road design, construction, road safety, environmental sustainability, and related sectors.

The platform will promote the exchange of best practices from all around the world and work to strengthen the nation's national highway system.

- 4.3.6 A total of 261 road projects under different Schemes of MoRTH with a total sanctioned cost of Rs. 1,02,594 crore (US\$ 12.33 billion) are under implementation through the National Highways Authority of India (NHAI), National Highways & Infrastructure Development Corporation Ltd. (NHIDCL), and State Public Works Departments (PWDs) in the North-Eastern States. The Ministry of Development of the North-Eastern Region, under the erstwhile North-East Road Sector Development Scheme (NERSDS) and the present North-East Special Infrastructure Development Scheme (NESIDS), has sanctioned a total of 77 road projects amounting to Rs. 3,372.58 crore (US\$ 405.5 million).
- 4.3.7 The Government of India has been consistently revising the Model Concession Agreement for BOT projects to plug delays by imposing a deadline on the NHAI and incentivising timely work by concessionaires. According to revised norms, the NHAI will have to hand over 90% of the project land (vacant and ready to build) to private developers, thus creating a more market-friendly sector and attracting more private players.
- 4.3.8 Roads in the jurisdiction of state governments are under different categories like State Highways ("SHs") and Major District Roads. They are being developed/ upgraded through State PWDs and State Road Development Corporations. Pradhan Mantri Gram Sadak Yojana is being implemented for rural roads through the Ministry of Rural Affairs with active participation by state governments. Further, roads within urban areas are maintained/ developed mostly with PWDs and Urban Local Bodies.
- 4.3.9 State Governments have a significant role to play in developing the SHs, Major District Roads, Other District Roads to ensure the last mile connectivity. States have varying levels of maturity in terms of road infrastructure development due to issues such as inadequate identification and prioritization of projects, funding shortfall, limited institutional capacity to implement projects, etc.

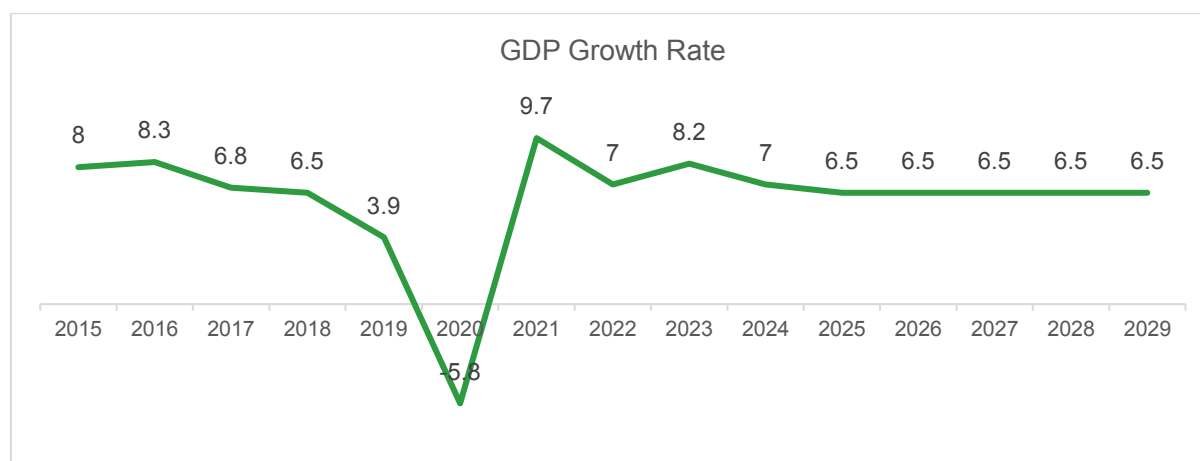
4.4 Trend of Road and Highways Construction

- 4.4.1 The current rate of road construction is almost three times that in 2007-08.
- 4.4.2 The launch of the Bharatmala Pariyojana in 2017 provided a big leap to construction activity, with the pace of construction doubling from 12 km per day in 2014-15 to 30 km per day in 2022-23, and peaking at 37 km per day in 2020-21.
- 4.4.3 Under Phase-I of Bharatmala Pariyojana, the Ministry has approved the implementation of 34,800 km of national highways in 5 years with an outlay of Rs. 5,35,000 crore (US\$ 76.55 billion). Under this scheme, 22 greenfield projects (8,000 km length) are being constructed; this is worth Rs. 3.26 lakh crore (US\$ 43.94 billion).
- 4.4.4 The government aims to take this up to 100 km per day in the next few years.
- 4.4.5 National Highway (NH) network increased by 60% from 91,287 km in 2014 to 1,46,145 km in year 2023
- 4.4.6 Length of 4 lanes and above NH increased by 2.5 times – 18,387 km (2014) to 46,179 km (Nov'23)
- 4.4.7 Length of less than 2 lane NH decreased from 30% (2014) to 10% (Nov'23)
- 4.4.8 Average pace of NH construction increased by 143% to 28.3 km/day from 2014
- 4.4.9 Expenditure is expected to increase by 9.4 times from 2014.
- 4.4.10 Out of 108 (3700 km) port connectivity road projects, 8 (294 km) are completed, 28 (1808 km) are awarded and DPR under-progress for 72 (1595 km) projects
- 4.4.11 With the Government permitting 100% Foreign Direct Investment (FDI) in the road sector, several foreign companies have formed partnerships with Indian players to capitalise on the sector's growth. Cumulative FDI inflows in construction development stood at US\$ 33.91 billion between April 2000 - March 2024.
- 4.4.12 The GST on construction equipment has been reduced to 18% from 28%, which is expected to give a boost to infrastructure development in the country.
- 4.4.13 The NHDP is a program to upgrade, rehabilitate and widen major highways in India to a higher standard. The project was started in 1998 to be implemented in 7 phases.

- 4.4.14 With the launch of Bharatmala project, 10,000 km of highway construction left under NHDP was merged with Phase I of the Bharatmala project.
- 4.4.15 The Indian government launched Gati Shakti-National Master Plan, which has consolidated a list of 81 high impact projects, out of which road infrastructure projects were the top priority. The major highway projects include the Delhi-Mumbai expressway (1,350 kilometres), Amritsar-Jamnagar expressway (1,257 kilometres) and Saharanpur-Dehradun expressway (210 kilometres).
- 4.4.16 The main aim of this program is a faster approval process by digitizing the process through a dedicated Gati shakti portal.
- 4.4.17 The development of market for roads and highways is projected to exhibit a CAGR of 36.16% during 2016-2025, on account of growing government initiatives to improve transportation infrastructure in the country.
- 4.4.18 **Economic and Financial Outlook**

- GDP Growth**

India's real GDP growth in FY26 is expected to be between 6.3 and 6.8%. The industrial sector is estimated to grow by 6.2 per cent in FY25. Strong growth rates in construction activities and electricity, gas, water supply and other utility services are expected to support industrial expansion.

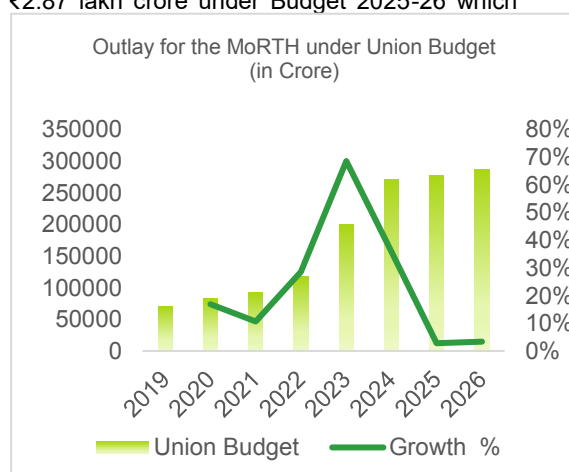


- Government Spending**

The Ministry of Road and Transport have been allocated ₹2.87 lakh crore under Budget 2025-26 which accounts to 5.7% of the total expenditure. This is an increase of 2.4% compared to the revised estimate for FY25.

Nearly 60% of the total allocation is set aside for the National Highways Authority of India (NHAI) at ₹1.7 lakh crore.

National Highways Authority of India (NHAI) spent a record-breaking Rs. 2,07,000 crore (US\$ 24.79 billion) on the construction of national highways in the fiscal year 2023-24. This was the highest capital expenditure ever recorded, representing a 20% increase from last year.



- Financing & Capital Structure**

Public Financing - Funding from government sources includes budgetary allocations, which are financed from taxes, cesses, or dedicated road funds. Publicly funded projects are usually given to contractors under various contract models such as the Engineering Procurement Construction (EPC).

Private Financing - Under private financing, the private developer builds a road, and in return has the right to collect toll for a specified period of time. The developer is responsible for the maintenance of roads during this period.

- Infrastructure debt funds (IDFs) - Government of India has set up the India Infrastructure Finance Company (IIFCL) to provide long-term funding for infrastructure projects. Interest payment on external commercial borrowings for infrastructure are now subject to a lower withholding tax of 5% vis-a-vis 20% earlier. IDF

4.5 Implementation of important projects and expressways:

4.5.1 Bharatmala Pariyojna

Bharatmala Pariyojana is a new umbrella program for the highways sector that focuses on optimizing efficiency of freight and passenger movement across the country by bridging critical infrastructure gaps through effective interventions like development of Economic Corridors, Inter Corridors and Feeder Routes, National Corridor Efficiency Improvement, Border and International connectivity roads, Coastal and Port connectivity roads and Green-field expressway.

The Bharatmala Pariyojana envisages development of about 26,000 km length of Economic Corridors, which along with Golden Quadrilateral (GQ) and North-South and East-West (NS-EW) Corridors are expected to carry majority of the Freight Traffic on roads.

In Bharatmala Pariyojana, 60% projects are on Hybrid Annuity Mode (HAM), 10% projects on BOT (Toll) Mode and 30% projects on EPC mode have been envisaged respectively.

Components under Bharatmala Pariyojana Phase-I are as given below:

Component	Length (Km)	Cost (INR Mn)
Economic corridors development	9,000	12,00,000
Inter-corridor & feeder roads	6,000	8,00,000
National Corridors Efficiency	5,000	10,00,000
Border & International connectivity	2,000	2,50,000
Coastal & port connectivity roads	2,000	2,00,000
Expressways	800	4,00,000
Sub Total	24,800	38,50,000
Other works - under NHDP	10,000	15,00,000
Total	34,800	53,50,000

Source: Ministry of Road Transport and Highways, Government of India

4.5.2 Char Dham Vikas Mahamarg Pariyojna:

This project envisages development of easy access to the four dhams in India – Gangotri, Yamunotri, Kedarnath and Badrinath. Development of this route of 889 km route is expected at an estimated cost of INR 12,000 Crores.

4.5.3 Eastern peripheral and western peripheral expressway

These two projects will connect NH-1 and NH-2 from western and eastern side of Delhi.

4.5.4 NH-544G Bengaluru–Vijayawada Economic Corridor

Mr. Nitin Gadkari has recently approved the development of 32 km long 6-lane Access Controlled Greenfield Highway on NH-544G Bengaluru–Vijayawada Economic Corridor in Hybrid Annuity Mode in Andhra Pradesh worth US\$ 157 million (Rs. 1,292.65 crores).

4.5.5 Setu Bharatam:

This project aims to replace crossings on NHs with Road Over Bridges and Road under Bridges. It is projected to construct 174 such structures.

4.5.6 To further augment road infrastructure, more economic corridors are also being planned by Government of India.

- a. Prime Minister Mr. Narendra Modi has dedicated a six-lane Greenfield motorway part of the Amritsar-Jamnagar Economic Corridor and the first phase of the Inter-State Transmission Line for Green Energy Corridor.
- b. 1,100 km of National Highway works in the State of Kerala at an investment of INR 65,000 Crores including 600 km section of Mumbai Kanyakumari corridor in Kerala.
- c. 675 km of highway works in the state of West Bengal at a cost of INR 25,000 Crores including upgradation of existing road-Kolkata –Siliguri.
- d. In the Union Budget of 2024-25, the Government of India allocated Rs. 2.7 lakh crore (US\$ 32.68 Billion) to the Ministry of Road Transport and Highways.
- e. Up to FY24, the Ministry of Road Transport and National Highways had awarded a total length of 2,595 kms.

4.6 Opportunities in road development & maintenance in India

- a. India has joined the league of 15 of global alliance which will work towards the ethical use of smart city technologies
- b. The Government aims to construct 65,000 kms of national highways at a cost of Rs. 53.5 lakh Mn (US\$ 741.51 billion).
- c. The government also aims to construct 23 new national highways by 2025.
- d. Road building in India is second least expensive in Asia.
- e. Andhra Pradesh will spend US\$ 296.05 million to build 8,970 kms of roads.

4.7 Asset Monetisation

4.7.1 TOT Model – Under this model, the right of collection of user fee (toll) in respect of selected operational highways constructed through public funding are assigned through a concession agreement as a result of bidding for a specified period of 15-30 years to the Concessionaire against upfront payment of a lump-sum amount quoted to the Government/NHAI. During the concession period, the responsibility for operations and maintenance of the road assets rests with the Concessionaire.

4.7.2 InViT Model – NHAI has set up an InViT under the SEBI InViT Regulations, 2014 which is a pooled investment vehicle that issues units to investors, while having three entities for management of the Trust – Trustee, Investment Manager and Project Manager. The three entities have defined roles and responsibilities under the SEBI Regulations.

4.7.3 Securitization through SPV Model – A SPV/DME (100% owned by NHAI), has been created by bundling road assets under consideration and securitizing the future user fee from the road assets. NHAI will collect tolls, maintain the road assets and periodically transfer payments to the SPV sufficient for servicing debt obligations at the SPV level. About Rs.3,70,000 Mn has already been raised through this method (DME- Delhi Mumbai Expressway) by NHAI so far.

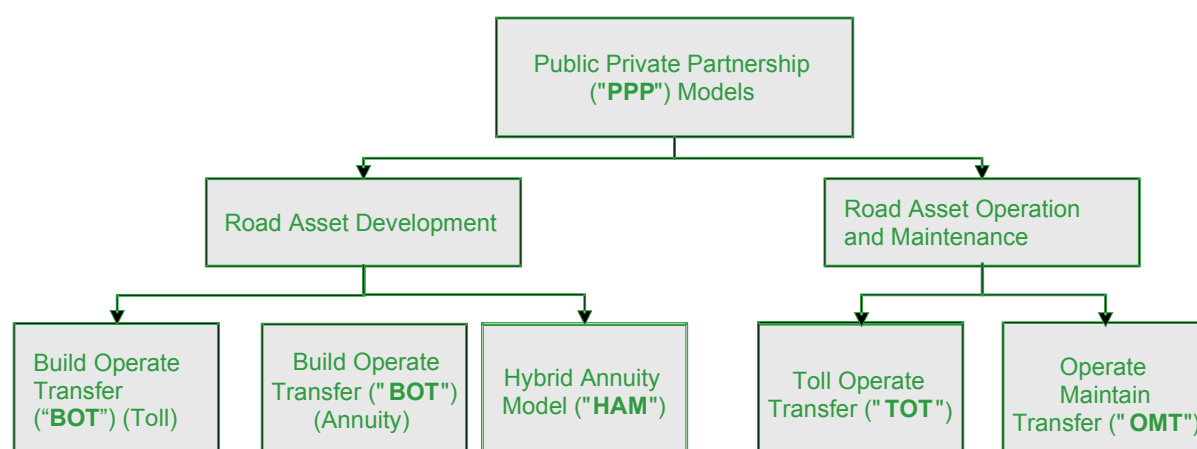
4.8 Utility Corridors

Working towards development of around 10,000 km of Optic Fibre Cables (OFC) infrastructure across the country by FY2024-25, National Highways Logistics Management Limited (NHLML), a fully owned Company of NHAI, is implementing the network of Digital Highways by developing integrated utility corridors along the National Highways to develop OFC infrastructure. Around 1,367 km on Delhi – Mumbai Expressway and 512 km on Hyderabad - Bangalore Corridor have been identified for the Digital Highway Development

4.9 Public Private Partnership (“PPP”) Models of road development and maintenance in India

4.9.1 India has a well-developed framework for Public-Private-Partnerships (PPP) in the highway sector. PPP has been a major contributor to the success story of the roads and highway sector in India. With the emergence

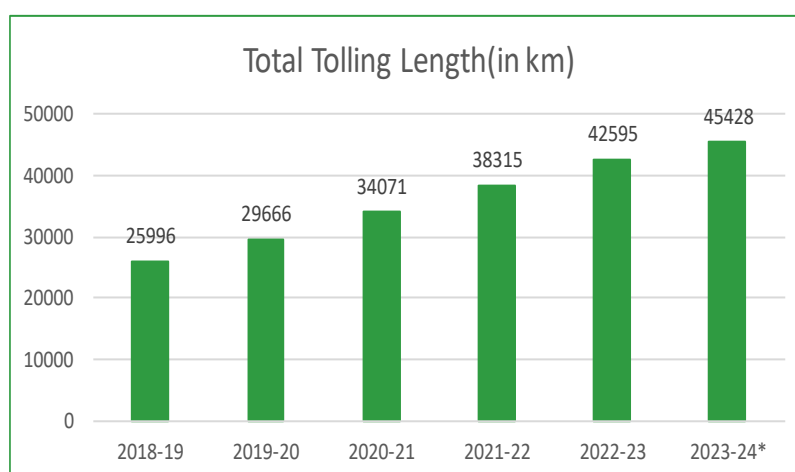
of private players over the last decade, the road construction market has become fragmented and competitive. Players bidding for projects also vary in terms of size. PPP modes have been used in India for both development and operation & maintenance of road assets.



4.10 Road Asset Development Models

- **BOT Toll**

In a BOT toll project, the concessionaire is responsible for designing, building, financing, operating, maintaining, tolling and transferring the project to the relevant authority at the end of the concession period. The concession period is project specific but is usually for 20-25 years. In BOT Toll model, the concessionaire earns revenue primarily in the form of toll revenue which in turns depends on the traffic on the road stretch. Toll rates are regulated by the government through rules.



- **BOT Annuity**

Similar to a BOT Toll projects, is BOT Annuity project, the concessionaire is responsible for designing, building, financing, operating, maintaining, tolling and transferring the project to the relevant authority at the end of the concession period. However, in these projects, the right to collect toll on road stretch lies with the government. The concessionaire earns revenue in the form of pre-determined semi-annual annuity payments.

- **HAM**

Similar to a BOT projects, in HAM project, the concessionaire is responsible for designing, building, financing, operating, maintaining and transferring the project to the relevant authority at the end of the concession period. However, in these projects, the right to collect toll on road stretch lies with the government. The construction period for HAM projects is project specific and a fixed operation period of 15 years.

4.11 Major Events of 2023 and 2024

- In March 2024, Prime Minister Narendra Modi inaugurated and laid the foundation stone for 112 national highway projects across various states, with a total worth of approximately US\$ 12.04 billion (Rs. 1 lakh crore).
- The country's first elevated eight-lane access control Dwarka expressway of 29.6 km length is built at a cost of Rs. 1 lakh crore (US\$ 12.04 billion).
- In FY24 approximately 12,300 km of National Highways were constructed.
- Delhi-Vadodara Expressway: The Hon'ble Prime Minister dedicated to the nation 244.50 km long stretch of Delhi-Vadodara Expressway developed at a cost of about Rs. 1,18,950 Mn.
- The Hon'ble Prime Minister dedicated to the nation a road project 'four laning of 59 km long Suryapet to Khammam section of NH-365BB' built at a cost of about Rs.24,600 Mn.
- The Hon'ble Prime Minister laid the foundation stone of key road projects that are part of Nagpur - Vijayawada Economic Corridor.
- Foundation Stone laying for Karnataka Section of Six Lane Surat – Chennai Expressway (1270 Km)
- Hon'ble Prime Minister dedicated 118 km long Bengaluru-Mysuru Expressway to the nation and laid the foundation stone for the 92 km Mysuru-Kushalnagar 4-lane highway in Mandya, Karnataka
- Hon'ble Prime Minister inaugurated and laid the foundation stone of road projects worth about Rs.37,000 Mn at Chennai, Tamil Nadu.
- Hon'ble Prime Minister inaugurated and laid the foundation stones for upgradation of two lanes roads in Rajsamand and Udaipur.
- Foundation stones of five National Highway projects worth Rs. 64,000 Mn were laid in Raipur on 07th July 2023.

4.12 Government Investment in the Sector

- 4.12.1** In the fiscal year 2024-25, the Indian government has allocated ₹2,78,000 crore to the Ministry of Road Transport and Highways, reflecting a commitment to enhancing the nation's road infrastructure. Of this, the National Highways Authority of India (NHAI) has been allocated ₹1,68,464 crore, maintaining the previous year's funding level. This substantial investment underscores the government's focus on expanding and upgrading the national highway network, including projects such as six-laning congested sections of the Golden Quadrilateral, developing roads in Naxal-affected areas, and improving last-mile connectivity through state Public Works Departments. These initiatives aim to boost economic growth, improve transportation efficiency, and enhance regional connectivity across the country.

4.13 Growth Drivers

4.13.1 Robust Demand :

Growing domestic trade flows have led to rise in commercial vehicles and freight movement; supported by rise in production of commercial vehicles which commands stronger road network in India. Higher individual discretionary spending has led to increased spending on two and four wheelers. Domestic sales of passenger vehicles, three-wheelers and two-wheelers, reached 3,069,499, 260,995, and 13,466,412 units, respectively. Road's traffic share of the total traffic in India has grown from 13.8% to 65% in freight traffic and from 32% to 90% in passenger traffic over 1951–2019.

4.13.2 Increasing Investment :

Huge investment have been made in the sector with total investment increasing more than three times from 2014-15 to 2018- 19. Plans are in place to raise up to INR 45,00,000 Mn through monetization, of which INR 3,00,000 Mn will be raised through ToT mode and INR1,50,000 Mn through InvITs. NHAI will bid out nearly 75% of new highway projects on PPP. Projects worth over INR 5000 Mn will preferably be executed through PPP mode.

4.13.3 Policy Support :

100% FDI is allowed under automatic route subject to applicable laws and regulations, standardized process for bidding and tolling. Government of India has set up India Infrastructure Finance Company (IIFCL) to provide long-term funding for infrastructure projects.

4.14 **Challenges & Issues in the Sector**

4.14.1 Land Acquisition Delays & Cost :

- Land acquisition cost has increased more than 30% since 2017, primarily due to enhanced compensation payment requirements as per 'The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013'.
- Delay in pre-construction activities (such as land acquisition, relocation) affects project timelines. Land acquisition for road projects involves various stages. Each stage involves a number of stakeholders and regulatory bodies. Thus processes consume considerable time.

4.14.2 Regulatory Approvals & Disputes :

- Road development process requires a number of approvals such as environmental clearance, forest clearance, railways clearance, etc. Each of these activities takes considerable time and non-adherence to timelines result in cost overruns due to delays.
- Claims arising out of disputes between the concessionaire/ contractor and the government authorities are also a significant cost which can lead to large liabilities.

4.14.3 Operational Issues :

- Uncertainty of toll revenue collection and variation of collected toll revenue compared to projected levels as Actual traffic is much less than the anticipated traffic.
- Often unforeseen weather conditions require unplanned O&M, over and above the routine and periodic maintenance activities. This results in enhanced O&M expenses. The increase in O&M costs is also affecting the project returns.

4.14.4 Financing road construction projects :

- In the case of toll motorways, the challenge of financing construction projects is different but still remains. Traditionally, the construction of toll motorways is a profitable investment but in the times of recession, funding may be rare or nonexistent.
- Powerful national economies may be able to efficiently tackle the problem but weaker economies can hardly find the financing sources for road construction projects.

4.14.5 Climate Change :

- The road sector is vulnerable to climate change impacts. Climate change and extreme weather events pose a significant challenge to the safety, reliability, effectiveness and sustainability of road transportation systems. Tsunami waves, wildfires, floods and hurricanes constitute a big risk for passengers, vehicles and goods, as well as for the integrity of the transport infrastructure.
- Since reliable road transport is an essential driver of economic growth and social wellbeing worldwide, national road authorities and motorway operators must adapt the infrastructure to climate change and increase the resilience of road transport to extreme weather.

4.14.6 Economy and cost effectiveness :

- Among all transport modes, road transport occupies a significant place in short- and medium distance travel operations. However, the unit cost of transportation (per ton × km), compared with other modes of transport, remains high and is getting higher and cost-ineffective as the travel distance increases.

- Road transport cost comprises direct costs (fuel, capital depreciation, maintenance, motorway tolls, ferry fares and wages) and external costs (noise, congestion, infrastructure damages, health and environmental issues).

4.15 Recent Initiatives by Government

4.15.1 Bhoomi Rashi – Land Acquisition Portal

The ministry has corroborated with the National Informatics Centre, to create Bhoomirashi, a web portal which digitises the cumbersome land acquisition process, and also helps in processing notifications relating to land acquisition online. Processing time, which was earlier two to three months has come down to one to two weeks now.

4.15.2 Central Road and Infrastructure Fund (CRIF)

A majority of the Ministry's expenditure is managed through transfers from the CRIF. A portion of the cess collected on motor spirit and high-speed diesel is earmarked for the development of NHs and SHs, and the amount is transferred to the non-lapsable CRIF. This amount is eventually released to the NHAI, and to the state/UT governments for the development of road infrastructure, and other projects (such as ports, railway track, airports) in the country. For 2024-25, the transfer from CRIF towards the Ministry is estimated at Rs 3,46,400 Mn.

4.15.3 National Investment Fund (NIF)

The NIF was created in 2005, and is credited with proceeds from disinvestments of public sector enterprises. The Ministry finances the Special Accelerated Road Development Programme in North East (SARDP-NE) with funds from the NIF.

4.15.4 FASTag – Electronic Toll Collection

National Electronic Toll Collection (NETC) system, has been implemented on pan India basis in order to remove bottlenecks and ensure seamless movement of traffic and collection of user fee as per the notified rates, using passive Radio Frequency Identification (RFID) technology.

4.15.5 Revival of languishing projects

Projects which were languishing for a number of years have been attempted to be revived, with the help of a number of policy measures taken by the government. Some of the policy measures like Premium deferment in stressed projects, extension of concession period for languishing projects to the extent of delay not attributable to concessionaires, One Time Capital Support for physical completion of languishing projects that have achieved at least 50 per cent physical progress, through one time fund infusion by NHAI, subject to adequate due diligence on a case to case basis.

4.15.6 Rural development

The Central government launched the Pradhan Mantri Gram Sadak Yojana to provide all-weather road connectivity to the eligible unconnected habitations in rural areas. Over 7 lakh kilometres of roads have been constructed under the first and second phases of the scheme, which is currently in its third phase. Under the Union Budget 2024-25, the Government of India allocated Rs.1,90,000 Mn (US\$ 2,370 million) for Pradhan Mantri Gram Sadak Yojana (PMGSY).

4.15.7 Improve safety standards

The Government of India has announced rules to improve road safety, such as fixed driving hours for commercial truck drivers and a mandate to install sleep detection sensors in commercial vehicles. A memorandum of understanding (MoU) has been signed with the National Highways Authority of India (NHAI) by Guru Nanak Dev University (GNDU) to conduct advanced research on various aspects, including highway architecture, protection and revitalisation. The GNDU will undertake studies on ~137 km length of the National Highways passing through Pathankot, Gurdaspur and Amritsar districts.

4.15.8 Portfolios in roads & highways sector

The National Investment and Infrastructure Fund (NIIF) is constantly making progress towards integrating its road and highway portfolio. The NIIF has acquired Essel Devanahalli Tollway and Essel Dichpally Tollway through the NIIF master fund. These road infra-projects will be supported by Athaang Infrastructure, NIIF's proprietary road network, assisted by a team of established professionals with diverse domain expertise in the transport field.

4.15.9 International Tie-ups

The Ministry of Road Transport and Highways signed a MoU with the Federal Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology of the Republic of Austria on technology cooperation in the road infrastructure sector.

4.15.10 Encourage private funding to reduce finance constraints

- FDI inflows in construction development stood at US\$ 33.91 billion between April 2000 – March 2024.
- Indian Government and Asian Development Bank signed US\$ 500 million loan agreement to build the longest bridge across river Ganga, in Bihar.
- The Government of India and New Development Bank (NDB) recently signed two loan agreements for US\$ 646 million for upgrading the state highway and district road networks in Andhra Pradesh.

4.16 Outlook

- i. Development and maintenance of road infrastructure is a key Government priority, the sector has received strong budgetary support over the years. During the past years, the standardized processes for Public Private Partnership & public funded projects and a clear policy framework relating to bidding and tolling have also been developed.
- ii. The major initiatives undertaken by the Government such as National Infrastructure Pipeline (NIP) and the PM Gati Shakti National Master Plan will raise productivity, and accelerate economic growth and sustainable development.
- iii. The highways sector in India has been at the forefront of performance and innovation. The government is committed towards expanding the National Highway network to 2 lakh kilometers by 2025 emphasizing the construction of the World Class Road infrastructure in time bound & target oriented way. India has a well-developed framework for Public-Private-Partnerships (PPP) in the highway sector.
- iv. The Asian Development Bank ranked India at the first spot in PPP operational maturity and also designated India as a developed market for PPPs. The Hybrid Annuity Model (HAM) has balanced risk appropriated between private and public partners and boosted PPP activity in the sector.
- v. The Government of India has allocated Rs. 111 lakh crore (US\$ 1.4 trillion) under the National Infrastructure Pipeline for FY25. The roads sector is likely to account for 18% capital expenditure over FY25.

4.17. **Toll, Operate & Transfer Projects Overview**

- vi. The TOT model has been developed to encourage private participation in the Highway sector. NHAI from time to time has awarded contracts for tolling, operation & maintenance of various National Highways stretches on a TOT basis.
- vii. In line with the National Monetization Plan, NHAI's total asset monetization program has crossed INR 1 lakh crore which includes INR 48,995 crore through TOT, INR 25,900 crore through InvIT and INR 42,000 crore through securitization.
- viii. Commenting on the award of the TOT Bundle-16 the same project under consideration in this report, NHAI Chairman Santosh Kumar Yadav said, "The success rate of TOT model in FY24 was 100 per cent and we have seen very encouraging response from the bidders."

Sources: IBEF Roads Report, August 2024; KPMG Report - Roads and Highway Sector; ICRA reports, website of Ministry of Road Transport and Highways, Government of India

5. Valuation Methodology and Approach

- 5.1. The present valuation exercise is being undertaken in order to derive the fair EV of the SPVs.
- 5.2. The valuation exercise involves selecting a method suitable for the purpose of valuation, by exercise of judgment by the valuers, based on the facts and circumstances as applicable to the business of the company to be valued.
- 5.3. There are three generally accepted approaches to valuation:
- (a) "Cost" approach
 - (b) "Market" approach
 - (c) "Income" approach

5.4. **Cost Approach**

The cost approach values the underlying assets of the business to determine the business value. This valuation method carries more weight with respect to holding companies than operating companies. Also, cost value approaches are more relevant to the extent that a significant portion of the assets are of a nature that could be liquidated readily if so desired.

Net Asset Value ("NAV") Method

The NAV Method under Cost Approach considers the assets and liabilities, including intangible assets and contingent liabilities. The Net Assets, after reducing the dues to the preference shareholders, if any, represent the value of a company.

The NAV Method is appropriate in a case where the main strength of the business is its asset backing rather than its capacity or potential to earn profits. This valuation approach is also used in cases where the firm is to be liquidated, i.e. it does not meet the "Going Concern" criteria.

As an indicator of the total value of the entity, the NAV method has the disadvantage of only considering the status of the business at one point in time.

Additionally, NAV does not properly take into account the earning capacity of the business or any intangible assets that have no historical cost. In many aspects, NAV represents the minimum benchmark value of an operating business.

5.5. **Market Approach**

Under the Market approach, the valuation is based on the market value of the company in case of listed companies, and comparable companies' trading or transaction multiples for unlisted companies. The Market approach generally reflects the investors' perception about the true worth of the company.

Comparable Companies Multiples ("CCM") Method

The value is determined on the basis of multiples derived from valuations of comparable companies, as manifest in the stock market valuations of listed companies. This valuation is based on the principle that market valuations, taking place between informed buyers and informed sellers, incorporate all factors relevant to valuation. Relevant multiples need to be chosen carefully and adjusted for differences between the circumstances.

Comparable Transactions Multiples ("CTM") Method

Under the CTM Method, the value is determined on the basis of multiples derived from valuations of similar transactions in the industry. Relevant multiples need to be chosen carefully and adjusted for differences between the circumstances. Few of such multiples are EV/Earnings before Interest, Taxes, Depreciation & Amortization ("EBITDA") multiple and EV/Revenue multiple.

Market Price Method

Under this method, the market price of an equity share of the company as quoted on a recognized stock exchange is normally considered as the fair value of the equity shares of that company where such quotations are arising from the shares being regularly and freely traded. The market value generally reflects the investors' perception about the true worth of the company.

5.6. **Income Approach**

The income approach is widely used for valuation under "Going Concern" basis. It focuses on the income generated by the company in the past as well as its future earning capability. The Discounted Cash Flow Method under the income approach seeks to arrive at a valuation based on the strength of future cash flows.

DCF Method

Under DCF Method value of a company can be assessed using the FCFF or Free Cash Flow to Equity Method ("FCFE"). Under the DCF method, the business is valued by discounting its free cash flows for the explicit forecast period and the perpetuity value thereafter. The free cash flows represent the cash available for distribution to both, the owners and creditors of the business. The free cash flows in the explicit period and those in perpetuity are discounted by the WACC. The WACC, based on an optimal vis-à-vis actual capital structure, is an appropriate rate of discount to calculate the present value of future cash flows as it considers equity-debt risk by incorporating debt-equity ratio of the firm.

The perpetuity (terminal) value is calculated based on the business' potential for further growth beyond the explicit forecast period. The "Constant Growth Model" is applied, which implies an expected constant level of growth for perpetuity in the cash flows over the last year of the forecast period.

The discounting factor (rate of discounting the future cash flows) reflects not only the time value of money, but also the risk associated with the business' future operations. The EV (aggregate of the present value of explicit period and terminal period cash flows) so derived, is further reduced by the value of debt, if any, (net of Cash and Cash Equivalents) to arrive at value to the owners of the business.

5.7. **Conclusion on Valuation Approach**

It is pertinent to note that the valuation of any company or its assets is inherently imprecise and is subject to certain uncertainties and contingencies, all of which are difficult to predict and are beyond my control. In performing my analysis, I have made numerous assumptions with respect to industry performance and general business and economic conditions, many of which are beyond the control of the SPVs. In addition, this valuation will fluctuate with changes in prevailing market conditions, and prospects, financial and otherwise, of the SPVs, and other factors which generally influence the valuation of companies and their assets.

The goal in selection of valuation approaches and methods for any business is to find out the most appropriate method under particular circumstances on the basis of available information. No one method is suitable in every possible situation. Before selecting the appropriate valuation approach and method, I have considered various factors, inter-alia, the basis and premise of current valuation exercise, purpose of valuation exercise, respective strengths and weaknesses of the possible valuation approach and methods, availability of adequate inputs or information and its reliability and valuation approach and methods considered by the market participants.

<<This space is intentionally left blank>>

5.7.1. Cost Approach

The existing book value of EV of the SPVs comprising of the value of its Net fixed assets, Financial assets, Other non-current assets and working capital based on the Special Purpose Combined Financial Statement as at 31st December for all the SPVs, prepared as per Indian Accounting Standards (Ind AS) are as under:

Sr. No.	SPVs	Book EV* 31 st December 2024	Adjusted EV** 31 st December 2024
1	BMHL	4,527	4,982
2	DBHL	4,939	5,290
3	DHHL	5,061	5,486
4	DVHL	5,129	5,327
5	DPHPPL	4,517	4,593
6	MBHL	5,245	5,656
7	NPHL	7,018	7,675
8	PHL	5,097	5,099
9	RHL	4,162	4,781
	Total	45,694	48,889

* Enterprise Value ("EV") is described as the total value of the equity in a business plus the value of its debt and debt related liabilities, minus any Cash and Cash Equivalents to meet those liabilities.

** Adjusted Enterprise Value of the SPVs is derived as the EV as defined above plus Cash and Cash Equivalents of the SPVs as at the Valuation Date.

In the present case, the SPVs operate and maintain the project facilities in accordance with the terms and conditions under the relevant concession agreement. During the concession period, the SPVs operate and maintain the road asset and earn revenues through annuity payment that are pre-determined as per the concession agreement. In such scenario, the true worth of the business is reflected in its future earning capacity rather than the cost of the project. Accordingly, I have not considered the cost approach for the current valuation exercise

Market Approach

The present valuation exercise is to undertake fair EV of the SPVs engaged in the road infrastructure projects for a predetermined tenure. Further, the tariff revenue and expenses are very specific to the SPVs depending on the nature of their geographical location, stage of project, terms of profitability. In the absence of any exactly comparable listed companies with characteristics and parameters similar to that of the SPVs, I have not considered CCM method in the present case. In the absence of adequate details about independent Comparable Transactions, I was unable to apply the CTM method as a measure of valuation. Currently, the equity shares of the SPVs are not listed on any recognized stock exchange of India. Hence, I was unable to apply market price method.

Income Approach

Each of the SPVs operates under a DBOT based concession agreement with NHAI.

Currently, all of the SPVs are fully completed and are revenue generating. In case of DPHPPL, the SPVs are likely to incur capital expenditure in order to complete the balance project work and are expected to receive the annuities along with past arrears at the pre-determined rate.

The revenue of the SPVs is based on tenure, annuity payments, operations and other factors that are unique to each of the SPVs. The revenue of the SPVs is mainly derived from the annuity payments (annuity fees), interest income on balance annuity payments (which is linked to bank rate/MCLR) and O&M payments (adjusted for inflation), that is defined under the respective Concession Agreement for the operation period.

The annuity fees are typically pre-determined with the relevant government authority (NHAI in this case) and cannot be modified to reflect prevailing circumstances. Interest on balance annuity payments are linked to bank rate/MCLR, which is changed by RBI based on prevailing market conditions. The rights in relation to the underlying assets of all the SPVs shall be transferred after the expiry of the Concession Period. Accordingly,

since all the SPVs are generating income based on pre-determined agreements / mechanism and since the Investment Manager has provided me with the financial projections of the SPVs for the balance tenor of the concession agreements, DCF Method under the income approach has been considered as the appropriate method for the present valuation exercise.

6. Valuation of the SPVs

- 6.1. I have estimated the fair EV and Adjusted Enterprise Value of the SPVs using the DCF Method. While carrying out this engagement, I have relied extensively on the information made available to me by the Investment Manager. I have considered projected financial statement of the SPVs as provided by the Investment Manager.

Valuation

- 6.2. The key assumptions of the projections provided to me by the Investment Manager are:

6.2.1. Revenue cash flows

The Cash flow for the SPVs can be divided into two segments:

Payment NHAI during the Construction Period:

Each SPV was entitled to receive 40% of the Bid Project Cost, adjusted for the price index multiple, in 5 equal installments during the construction period for DHHL, RHL, NPHL, DBHL, and DPHPPL. For BMHL, MBHL, VHL and PHL the amount was disbursed in 10 equal installments over the construction period.

I have been represented by the Investment Manager that all the SPVs have received the agreed portion of the inflation adjusted bid project cost (of 40%) as per their respective concession agreement. Hence, no further cash flow receipts are attributable towards this segment of cash flows.

Payment by NHAI during the Operation Period: Accordingly, the revenue of the SPVs would mainly consists of the following receipts:

- a. **Annuity payments:** The Bid Project Cost remaining, adjusted for the price index multiple, to be paid in pursuance of the respective concession agreements (i.e. the Balance Completion Cost) is eligible to be received by the respective SPVs by way of specified biannual installments as mentioned in their respective concession agreement for the balance period of operations.

Following table represents the balance number of biannual annuity installments expected to be received by the respective SPVs after 31st December, 2024:

SPV	Annuities received till valuation date	Balance Annuities to be Received
BMHL	1	29
DBHL	2	28
DHHL	2	28
VHL	1	29
DPHPPL	2	28
MBHL	1	29
NPHL	1	29
PHL	0	30
RHL	2	28

- b. **Interest:** As per the concession agreements, the SPVs DHHL, RHL, NPHL, DBHL and DPHPPL are entitled to receive interest on reducing Balance Completion Cost equal to applicable Bank Rate (as decided by the Monetary Policy Committee and published by the Reserve Bank of India) + 3.00% spread and the SPVs BMHL, MBHL, VHL and PHL are entitled to receive on reducing Balance Completion Cost equal to MCLR(of top 5 commercial banks) + 1.25% spread. Such interest is due and payable along with each of the biannual installments as mentioned above; and
- c. **Operation and Maintenance Revenue:** In lieu of O&M expenses to be incurred by SPV, SPVs are eligible for certain O&M income (as defined in the respective concession agreement) at each biannual installment date, duly adjusted for an appropriate inflation rate.

6.2.2. Expenditure:

Since all the SPVs are operational on the Valuation Date, following are the major costs incurred by the SPV:

Operation and Maintenance Costs (Routine) (“O&M Costs”)

These are routine costs incurred every year. These costs are related to the normal wear and tear of the road and hence involve repairing the patches damaged mainly due to heavy traffic movement. O&M Costs also includes staff salaries, project management fees, professional fees, insurance, security expenses, electricity, etc. The primary purpose of these expenses is to maintain the road as per the specifications mentioned in the respective concession agreement. The SPV is generally responsible for carrying out operation and maintenance activities at its road during its concession period. Within the scope of such operation and maintenance obligations, the SPV may be required to undertake routine maintenance of project roads, maintain and comply with safety standards to ensure smooth and safe traffic movement, deploy adequate human resources for incident management, maintain proper medical and sanitary arrangements for personnel deployed at the site, prevent any unauthorized entry to and exit from the project as may be required. The Investment Manager anticipates an annual escalation of ~4%. The following table shows the breakup of O&M cost for FY 2026 (exclusive of GST) which is used in our valuation:

	INR Mn								
Payments	BMHL	DBHL	DHHL	DVHL	DPHPPL	MBHL	NPHL	PHL	RHL
O&M Expense	70	85	87	91	100	78	139	42	85
PM Expense	8	8	10	9	10	8	16	10	10
CSR Expense	7	5	6	5	1	4	8	-	10
Total Payout	85	98	102	105	111	90	162	52	105

Further, Operation & Maintenance Costs have been considered based on the Technical Due Diligence (“TDD”) Reports prepared by Ruky Projects Pvt Ltd and Infinite Civil Services Pvt Ltd for the SPV as provided to me by the Investment Manager. Given the technical nature of this study, I have relied on the expert’s report for these costs.

Major Maintenance and Repairs Costs (“MMR Costs”)

Estimating the MMR Costs

Major maintenance expenses will be incurred on periodic basis. These are the costs incurred to bring the road assets back to its earlier condition or keep the road assets in its present condition. These expenses are primarily related to the construction or re-laying of the top layer of the road. Accordingly, such costs includes considerable amount of materials and labor. The Investment Manager anticipates an annual escalation of ~4%, based on the 10-year historical Bitumen prices movement (One of the key commodities required in the Major Maintenance activities). Additionally, the Compound Annual Growth Rate (CAGR) for the same indicates a lower than ~4% escalation over 10-year period. Taking a conservative approach, we have applied a ~4% escalation for our forecasted period.

Further, Major Maintenance Costs have been considered based on the Technical Due Diligence (“TDD”) Report for the SPV prepared by Ruky Projects Pvt Ltd and Infinite Civil Services Pvt Ltd as provided to me by the Investment Manager. Given the technical nature of this study, I have relied on the expert’s report for these costs.

Capital Expenditure (“Capex”): As represented by the Investment Manager, regarding the maintenance Capex, the same has already been considered in the Operation & Maintenance expenditure and Major Maintenance and Repairs expenditure for the projected period.

6.2.3. Direct Taxes: The SPVs have been filing their income tax returns basis the old regime of Income Tax Act, 1961. However, the Investment Manager have informed that the SPVs are contemplating to adopt the new provisions of Income Tax Act, 1961 (Section 115BAA) from FY 2023-24. Hence the new provisions of Income Tax Act, 1961 have been considered for the projected period of the SPVs.

6.2.4. **Working Capital:** The Investment Manager has provided projected financial information on biannual basis for the SPV. The biannual period are based on the annuity dates of the SPV. The amount of O&M expenses payable to O&M Contractor by the SPV on the basis of its O&M Agreements is also due and payable on the basis of the annuity amount and date on which annuities are received. Hence, for the SPV where annuity payments are material component of revenue, there are no receivables and payables estimated to be outstanding at their respective annuity dates during the biannually prepared projected period. Other working capital items outstanding as at the Valuation Date mainly represents the advance income tax, GST input tax (and cash) credit, prepaid expenses, MMR, DSRA ("Debt Service Reserve Account") etc.

The other income mainly relates to the interest earned in fixed deposits/DSRA etc. The Investment Manager has provided projected Working Capital information and Other Income information for the SPV. I have relied on the same.

6.2.5. **GST Claim:** The Investment Manager has informed us that due to the changes in extant provision of the Goods & Services Tax ("GST") laws, the SPVs are eligible to receive GST claim from NHAI which are as follows:

- i. **On Annuity:** As per the clarification notification of Ministry of Road Transport & Highways as on 27th August 2021 vis-à-vis Ministry of Finance circular dated 17th June 2021, SPVs are eligible to claim reimbursement of GST on annuity, considering change in law, after adjusting GST input credit lying with the SPVs.
- ii. **On Interest on Annuity:** As per the Ministry of Finance circular dated 17th June 2021, GST will be applicable on annuity (deferred payments) paid for construction of roads i.e. annuity plus interest, additionally Ministry of Road Transport & Highways issued clarification dated 17th June 2021 that the SPVs will be eligible to claim reimbursement of GST on interest.
- iii. **Change in GST rates:** Ministry of Finance vide notification no. 03/2022 dated 13th July 2022, increased the GST rates applicable on road construction services from 12% to 18%. As per the clarification of Ministry of Road Transport & Highways dated 20th September 2022, the above increase in GST rates are eligible for reimbursement from NHAI as it is considered as change in law (i.e. change of rate).

6.3. **Impact of Ongoing Material Litigation on Valuation**

As on 31st December 2024, there are ongoing litigations as shown in Appendix 5. Further, Investment Manager has informed us that majority of the tax litigations are low to medium risk and accordingly no material outflow is expected against the litigations, hence no impact has been factored on the valuation of the SPVs.

<<This space is intentionally left blank>>

6.4. Calculation of Weighted Average Cost of Capital for the SPVs

6.4.1. **Cost of Equity:**

Cost of Equity (CoE) is a discounting factor to calculate the returns expected by the equity holders depending on the perceived level of risk associated with the business and the industry in which the business operates.

For this purpose, I have used the Capital Asset Pricing Model (CAPM), which is a commonly used model to determine the appropriate cost of equity for the SPVs.

$$K(e) = R_f + [ERP \times \text{Beta}] + \text{CSRP}$$

Wherein:

K(e) = cost of equity

R_f = risk free rate

ERP = Equity Risk Premium

Beta = a measure of the sensitivity of assets to returns of the overall market

CSRP = Company Specific Risk Premium (In general, an additional company-specific risk premium will be added to the cost of equity calculated pursuant to CAPM).

For valuation exercise, I have arrived at adjusted cost of equity of the SPVs based on the above calculation (Refer Appendix 2).

6.4.2. **Risk Free Rate:**

I have applied a risk-free rate of return of 6.79% on the basis of the zero coupon yield curve as on 31st December 2024 for government securities having a maturity period of 10 years, as quoted on the website of Clearing Corporation of India Limited.

6.4.3. **Equity Risk Premium ("ERP"):**

Equity Risk Premium is a measure of premium that investors require for investing in equity markets rather than bond or debt markets. The equity risk premium is estimated based on consideration of historical realised returns on equity investments over a risk-free rate as represented by 10 year government bonds. For my estimation of the ERP, I have considered rolling historical returns of 10, 15 & 20 year of Nifty 50 index from year 2000 to 2024. The 10 year rolling return, 15 year rolling return and the 20 year return for several periods were calculated. I have computed equity risk premium for each rolling period and accordingly I have arrived at ERP in the range of 6.2%, 6.4% & 8.1% which averages to ~7.0%. Based on the aforementioned, a 7% equity risk premium for India is considered appropriate.

6.4.4. **Debt – Equity Ratio:**

I have considered the target debt-equity ratio as per the industry standards. I have considered the industry bench mark since the cost of capital is a forward looking measure, and captures the cost of raising new funds to buy the asset at any valuation date (not the current actually deployed). Specifically, such benchmark is required to consider the nature of the asset class, and the comparative facts from the industry to arrive at the correct assumption.

Given the risk profile of HAM projects, and considering the leverage at 70-80% of the total project cost based on a rating agencies report available in public domain, and further considering the InvIT Regulations allowing in general upto 70% leverage in assets where AAA rating has been obtained, a debt-to-equity ratio of 70% for HAM asset was found to be appropriate.

6.4.5. Beta:

Beta is a measure of the sensitivity of a company's stock price to the movements of the overall market index. In the present case, I find it appropriate to consider the beta of companies in similar business/ industry to that of the SPV for an appropriate period namely IRB InvIT Fund and Power Grid Infrastructure Investment Trust.

The selected comparables were chosen for Beta computation due to their structural and operational similarity to the InvIT and the SPV. Both derive the majority of revenues from fixed agreements, similar to that of the SPV, ensuring revenue predictability and minimizing market risk, making them reliable benchmarks for risk assessment. I have further unlevered the beta of such companies based on market debt-equity of the respective company using the following formula:

$$\text{Unlevered Beta} = \text{Levered Beta} / [1 + (\text{Debt} / \text{Equity}) * (1-T)]$$

Further I have re-levered it based on debt-equity at 70:30 based on the industry Debt: Equity ratio of BOT based projects using the following formula:

$$\text{Re-levered Beta} = \text{Unlevered Beta} * [1 + (\text{Debt} / \text{Equity}) * (1-T)]$$

Accordingly, as per above, I have arrived at re-levered betas of the SPV. (Refer Appendix 3)

6.4.6. Company Specific Risk Premium ("CSRP"):

Discount Rate is the return expected by a market participant from a particular investment and shall reflect not only the time value of money but also the risk inherent in the asset being valued as well as the risk inherent in achieving the future cash flows. In the present case, considering the counterparty risk for the SPV, considering the length of the explicit period for the SPV, and basis my discussion with Investment Manager, I found it appropriate to consider 0% CSRP for the SPV.

6.4.7. Cost of Debt:

The calculation of Cost of Debt post-tax can be defined as follows:

$$K(d) = K(d) \text{ pre-tax} * (1 - T)$$

Wherein:

K(d) = Cost of debt

T = tax rate as applicable

For valuation exercise, pre-tax cost of debt has been considered as 8.25%

6.4.8. Weighted Average Cost of Capital (WACC):

The discount rate, or the WACC, is the weighted average of the expected return on equity and the cost of debt. The weight of each factor is determined based on the company's optimal capital structure.

Formula for calculation of WACC:

$$\text{WACC} = [K(d) * \text{Debt} / (\text{Debt} + \text{Equity})] + [K(e) * (1 - \text{Debt} / (\text{Debt} + \text{Equity}))]$$

Accordingly, as per above, I have arrived the WACC for the explicit period of the SPVs.

(Refer Appendix 2 for detailed workings).

6.4.9. Cash Accrual Factor (CAF) and Discounting Factor

Discounted cash flow require to forecast cash flows in future and discount them to the present in order to arrive at present value of the asset as on Valuation Date. To discount back the projections we use the Cash Accrual Factor ("CAF"). The Cash Accrual Factor refers to the duration between the Valuation date and the point at which each cash flow is expected to accrue.

In case of HAM Projects, the annuities are received bi-annually at a predetermined date and the concession agreement provides that the annuities would be realized within 15 days from the annuity date. As represented by the Investment Manager, I have taken 5 days of collection for the purpose of this valuation exercise. Hence we have considered the annuity realizations date for the purpose of determination of the CAF. Accordingly, the cash flows during each year of the projected period are discounted back from the respective annuity realization to Valuation Date.

Discounted cash flow is equal to sum of the cash flow in each period divided by discounting factor, where the discounting factor is determined by raising one plus discount rate (WACC) to the power of the CAF.

$$DCF = [CF_1 / (1+r)^{CAF1}] + [CF_2 / (1+r)^{CAF2}] + \dots + [CF_n / (1+r)^{CAFn}]$$

Where,

CF = Cash Flows,

CAF = Cash accrual factor for particular period

R = Discount Rate (i.e. WACC)

- 6.5. At the end of the agreed concession period, the rights in relation to the underlying assets, its operations and the obligation to maintain the road reverts to the government authority that granted the concession. Hence, SPVs are not expected to generate cash flow after the expiry of their respective concession agreements. Accordingly, I found it appropriate not to consider terminal period value, which represents the present value at the end of explicit forecast period of all subsequent cash flows to the end of the life of the asset or into perpetuity if the asset has an indefinite life, in this valuation exercise.

7. Valuation Conclusion

- 7.1. The current valuation has been carried out based on the discussed valuation methodology explained herein earlier. Further, various qualitative factors, the business dynamics and growth potential of the business, having regard to information base, management perceptions, key underlying assumptions and limitations were given due consideration.
- 7.2. I have been represented by the Investment Manager that there is no potential devolvement on account of the contingent liability as of valuation date; hence no impact has been factored in to arrive at fair EV of the SPVs.
- 7.3. Based on the above analysis, the fair EV and Adjusted Enterprise Value as on the Valuation Date of the SPVs is as mentioned below:

INR Mn					
Sr. No.	SPVs	Approximate Projection Period (Balance Concession Period)	WACC	Fair EV	Fair Adj EV
1	BMHL	~14 Years 4 Months	7.73%	7,508	7,963
2	DBHL	~13 Years 9 Months	7.84%	5,808	6,159
3	DHHL	~13 Years 7 Months	7.70%	6,924	7,349
4	DVHL	~14 Years 3 Months	7.91%	6,730	6,928
5	DPHPPL	~13 Years 9 Months	7.88%	5,596	5,671
6	MBHL	~14 Years 4 Months	7.76%	8,300	8,710
7	NPHL	~14 Years 3 Months	7.68%	10,793	11,450
8	PHL	~15 Years 2 Months	7.86%	8,500	8,502
9	RHL	~13 Years 10 Months	7.70%	6,519	7,138
Total				66,677	69,872

(Refer Appendix 1 for detailed workings)

- 7.4. EV is described as the total value of the equity in a business plus the value of its debt and debt related liabilities, minus any Cash and Cash Equivalents to meet those liabilities.
- 7.5. Adjusted Enterprise Value is derived as EV as defined above plus Cash and Cash Equivalents of the SPVs as at 31st December 2024.
- 7.6. The fair EV of the SPVs is estimated using DCF method. The valuation requires Investment Manager to make certain assumptions about the model inputs including forecast cash flows, discount rate, and credit risk.
- 7.7. Valuation is based on estimates of future financial performance or opinions, which represent reasonable expectations at a particular point of time, but such information, estimates or opinions are not offered as predictions or as assurances that a particular level of income or profit will be achieved, a particular event will occur or that a particular price will be offered or accepted. Actual results achieved during the period covered by the prospective financial analysis will vary from these estimates and the variations may be material.
- 7.8. Accordingly, I have conducted a quantitative sensitivity analysis on certain model inputs, the results of which are as indicated below:
- WACC by increasing / decreasing it by 0.5%
 - WACC by increasing / decreasing it by 1.0%
 - Total Expenses by increasing / decreasing it by 20%

1. Fair Enterprise Valuation Range based on

a. WACC parameter (0.5%)

							INR Mn
Sr. No.	SPVs	WACC +0.5%	EV	Base WACC	EV	WACC -0.5%	EV
1	BMHL	8.23%	7,341	7.73%	7,508	7.23%	7,683
2	DBHL	8.34%	5,684	7.84%	5,808	7.34%	5,937
3	DHHL	8.20%	6,785	7.70%	6,924	7.20%	7,069
4	DVHL	8.41%	6,583	7.91%	6,730	7.41%	6,882
5	DPHPPL	8.38%	5,474	7.88%	5,596	7.38%	5,722
6	MBHL	8.26%	8,113	7.76%	8,300	7.26%	8,493
7	NPHL	8.18%	10,561	7.68%	10,793	7.18%	11,035
8	PHL	8.36%	8,294	7.86%	8,500	7.36%	8,714
9	RHL	8.20%	6,382	7.70%	6,519	7.20%	6,661
Total			65,218		66,677		68,196

b. WACC parameter (1.0%)

							INR Mn
Sr. No.	SPVs	WACC +1.0%	EV	Base WACC	EV	WACC -1.0%	EV
1	BMHL	8.73%	7,180	7.73%	7,508	6.73%	7,865
2	DBHL	8.84%	5,565	7.84%	5,808	6.84%	6,072
3	DHHL	8.70%	6,652	7.70%	6,924	6.70%	7,220
4	DVHL	8.91%	6,443	7.91%	6,730	6.91%	7,040
5	DPHPPL	8.88%	5,357	7.88%	5,596	6.88%	5,854
6	MBHL	8.76%	7,935	7.76%	8,300	6.76%	8,696
7	NPHL	8.68%	10,339	7.68%	10,793	6.68%	11,286
8	PHL	8.86%	8,098	7.86%	8,500	6.86%	8,937
9	RHL	8.70%	6,250	7.70%	6,519	6.70%	6,810
Total			63,818		66,677		69,781

c. Total Expenses by increasing / decreasing it by 20%

				INR Mn
Sr. No.	SPVs	EV at Expenses +20%	EV at Base Expenses	EV at Expenses - 20%
1	BMHL	7,311	7,508	7,706
2	DBHL	5,613	5,808	6,004
3	DHHL	6,715	6,924	7,133
4	VHL	6,266	6,730	6,950
5	DPHPPL	5,366	5,596	5,826
6	MBHL	8,094	8,300	8,505
7	NPHL	10,441	10,793	11,145
8	PHL	8,327	8,500	8,672
9	RHL	6,304	6,519	6,734
Total		64,437	66,677	68,675

2. Adjusted Enterprise Valuation Range based on**a. WACC parameter (0.5%)**

							INR Mn
Sr. No.	SPVs	WACC +0.5%	Adjusted EV	Base WACC	Adjusted EV	WACC -0.5%	Adjusted EV
1	BMHL	8.23%	7,796	7.73%	7,963	7.23%	8,138
2	DBHL	8.34%	6,035	7.84%	6,159	7.34%	6,288
3	DHHL	8.20%	7,210	7.70%	7,349	7.20%	7,494
4	DVHL	8.41%	6,782	7.91%	6,928	7.41%	7,080
5	DPHPPL	8.38%	5,550	7.88%	5,671	7.38%	5,798
6	MBHL	8.26%	8,524	7.76%	8,710	7.26%	8,904
7	NPHL	8.18%	11,219	7.68%	11,450	7.18%	11,692
8	PHL	8.36%	8,297	7.86%	8,502	7.36%	8,717
9	RHL	8.20%	7,001	7.70%	7,138	7.20%	7,281
Total			68,414		69,872		71,391

b. WACC parameter (1.0%)

							INR Mn
Sr. No.	SPVs	WACC +1.0%	Adjusted EV	Base WACC	Adjusted EV	WACC -1.0%	Adjusted EV
1	BMHL	8.73%	7,635	7.73%	7,963	6.73%	8,320
2	DBHL	8.84%	5,916	7.84%	6,159	6.84%	6,423
3	DHHL	8.70%	7,077	7.70%	7,349	6.70%	7,645
4	DVHL	8.91%	6,641	7.91%	6,928	6.91%	7,238
5	DPHPPL	8.88%	5,433	7.88%	5,671	6.88%	5,930
6	MBHL	8.76%	8,345	7.76%	8,710	6.76%	9,106
7	NPHL	8.68%	10,996	7.68%	11,450	6.68%	11,944
8	PHL	8.86%	8,101	7.86%	8,502	6.86%	8,940
9	RHL	8.70%	6,869	7.70%	7,138	6.70%	7,430
Total			67,013		69,872		72,976

c. Total Expenses by increasing / decreasing it by 20%

				INR Mn
Sr. No.	SPVs	Adjusted EV at Expenses +20%	Adjusted EV at Base Expenses	Adjusted EV at Expenses -20%
1	BMHL	7,766	7,963	8,161
2	DBHL	5,964	6,159	6,355
3	DHHL	7,140	7,349	7,558
4	VHL	6,464	6,928	7,148
5	DPHPPL	5,441	5,671	5,902
6	MBHL	8,504	8,710	8,915
7	NPHL	11,099	11,450	11,802
8	PHL	8,330	8,502	8,675
9	RHL	6,923	7,138	7,353
Total		67,631	69,872	71,869

8. Additional Procedures to be complied with in accordance with InvIT regulations

Scope of Work

- 8.1. The Schedule V of the SEBI InvIT Regulations prescribes the minimum set of mandatory disclosures to be made in the valuation report. In this reference, the minimum disclosures in valuation report may include following information as well, so as to provide the investors with the adequate information about the valuation and other aspects of the underlying assets of the InvIT.

The additional set of disclosures, as prescribed under Schedule V of InvIT Regulations, to be made in the valuation report of the SPVs are as follows:

- List of one-time sanctions/approvals which are obtained or pending;
- List of up to date/overdue periodic clearances;
- Statement of assets;
- Estimates of already carried as well as proposed major repairs and improvements along with estimated time of completion;
- Revenue pendencies including local authority taxes associated with InvIT asset and compounding charges, if any;
- On-going material litigations including tax disputes in relation to the assets, if any;
- Vulnerability to natural or induced hazards that may not have been covered in town planning/ building control.

Limitations

- 8.2. This Report is based on the information provided by the representatives of the Investment Manager. The exercise has been restricted and kept limited to and based entirely on the documents, records, files, registers and information provided to me. I have not verified the information independently with any other external source.
- 8.3. I have assumed the genuineness of all signatures, the authenticity of all documents submitted to me as original, and the conformity of the copies or extracts submitted to me with that of the original documents.
- 8.4. I have assumed that the documents submitted to me by the representatives of Investment Manager in connection with any particular issue are the only documents related to such issue.
- 8.5. I have reviewed the documents and records from the limited perspective of examining issues noted in the scope of work and I do not express any opinion as to the legal or technical implications of the same.

<<This space is intentionally left blank>>p

Analysis of Additional Set of Disclosures for the SPVs

A. List of one-time sanctions/approvals which are obtained or pending:

As informed by the Investment Manager, there are no pending applications for government sanctions/ approvals by the SPVs (related to the road stretches of the SPVs) which are pending as on 31st December 2024. The list of sanctions/ approvals obtained by the SPVs till 31st December 2024 is provided in Appendix 3.1 to Appendix 3.09.

B. List of up to date/ overdue periodic clearances:

The Investment Manager has confirmed that the SPVs are not required to take any periodic clearances and hence there are no up to date/ overdue periodic clearances as on 31st December 2024.

C. Statement of assets included:

The details of assets of the SPVs as per the provisional financial statements at 31st December 2024 are as mentioned below:

SPVs	INR Mn		
	Net Fixed Assets	Non-Current Assets	Current Assets
BMHL	2	3,896	1,132
DBHL	0.96	4,081	1312
DHHL	-	4,207	1,499
VHL	10	4200	1251
DPHPPL	2	3,277	1,678
MBHL	2	4,457	1,236
NPHL	2	5,999	2,209
PHL	-	4,502	654
RHL	2	3,745	1,257
Total	21	38,363	12,228

Source: Investment Manager

D. Estimates of already carried and proposed major repairs and improvements along with estimated time of completion:

I have been informed that maintenance is regularly carried out by SPVs in order to maintain the working condition of the assets.

Forecasted major repairs and Maintenance

SPV	INR Mn							
	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
BMHL	-	-	17	5	4	4	373	66
DBHL	-	24	29	9	9	133	140	12
DHHL	-	18	14	7	8	425	225	10
VHL	-	-	40	10	12	11	106	19
DPHPPL	-	-	-	-	-	573	-	-
MBHL	0	0	12	2	1	2	316	37
NPHL	-	-	30	7	8	7	820	16
PHL	-	-	11	37	12	13	43	105
RHL	-	11	18	5	6	276	398	10

SPV	INR Mn							
	FY33	FY34	FY35	FY36	FY37	FY38	FY39	FY40
BMHL	7	5	22	6	5	433	76	3
DBHL	10	36	36	10	155	163	10	
DHHL	8	25	17	7	497	264	6	
VHL	11	13	49	12	12	123	24	
DPHPPL	0	0	0	0	755	0	0	0
MBHL	2	2	15	3	2	366	43	1
NPHL	8	9	37	8	9	951	19	0
PHL	13	14	24	44	15	49	122	13
RHL	6	17	22	6	322	464	11	

Source: Investment Manager

- E. Revenue pendencies including local authority taxes associated with InvIT asset and compounding charges, if any:

Investment Manager has informed me that there are no material dues including local authority taxes (such as Municipal Tax, Property Tax, etc.) pending to be payable to the government authorities with respect to the SPVs (InvIT assets).

- F. On-going material litigations including tax disputes in relation to the assets, if any:

As informed by the Investment Manager, as on 31st December 2024, there are no ongoing material litigations except those shown in Appendix 5. Further, Investment Manager has informed us that majority of the tax litigations are low to medium risk and accordingly no material outflow is expected against the litigations, hence no impact has been factored on the valuation of the SPVs. Further, I have been informed by the Investment Manager that the tax litigations prior to acquisition of SPVs by the Trust shall be covered by an indemnity given by the Sponsor (Alpha Alternatives Fund Advisors LLP) for a period of eight years (from date of such transfer) through the Share Purchase Agreement ("SPA") to be executed between the Trust and the Sponsor.

- G. Vulnerability to natural or induced hazards that may not have been covered in town planning/ building control:

Investment Manager has confirmed to me that there are no natural or induced hazards which may impact town planning/ building control, that have not been considered.

9. Sources of Information

For the purpose of undertaking this valuation exercise, I have relied on the following sources of information provided by the Investment Manager:

- 9.1. Audited Financial Statements of all SPVs for Financial Year ("FY") ended 31st December 2024;
- 9.2. Special Purpose Combined Financial Statement for all SPVs for Financial Year ("FY") ended 31st December 2024;
- 9.3. Projected financial information for the remaining project life for each of the SPVs;
- 9.4. Technical Due Diligence Report for all the SPVs dated December 2024, prepared by Ruky Projects Private Limited and Infinite Civil Solutions for projected MMR and O&M Costs;
- 9.5. Details of projected Major Maintenance & Repairs (MMR) Expenditure and Capital Expenditure (Capex);
- 9.6. Signed O&M contracts for projected MMR and O&M Costs;
- 9.7. Written Down Value ("WDV") as on 31st December 2024;
- 9.8. Details of brought forward losses (as per Income Tax Act) of the SPVs as at 31st December 2024;
- 9.9. Concession Agreement of each of the SPVs with their respective concessioning authority;
- 9.10. List of licenses / approvals, details of tax litigations, civil proceeding and arbitrations of the SPVs;
- 9.11. Shareholding pattern as on Valuation Date of the SPVs and other entities mentioned in this Report;
- 9.12. Management Representation Letter by the Investment Manager dated 23rd March 2025;
- 9.13. Relevant data and information about the SPVs provided by the Investment Manager either in written or oral form or in the form of soft copy;
- 9.14. Information provided by leading database sources, market research reports and other published data.

The information provided to me by the Investment Manager in relation to the SPVs included but not limited to historical financial statements, forecasts/projections, other statements and assumptions about future matters like forward-looking financial information prepared by the Investment Manager. The forecasts and projections as supplied to me are based upon assumptions about events and circumstances which are yet to occur.

I have not tested individual assumptions or attempted to substantiate the veracity or integrity of such assumptions in relation to the forward-looking financial information, however, I have made sufficient enquiries to satisfy myself that such information has been prepared on a reasonable basis.

Notwithstanding anything above, I cannot provide any assurance that the forward looking financial information will be representative of the results which will actually be achieved during the cash flow forecast period.

<<This space is intentionally left blank>>

10. Exclusions and Limitations

- 10.1. My Report is subject to the limitations detailed hereinafter. This Report is to be read in totality, and not in parts, in conjunction with the relevant documents referred to herein.
- 10.2. Valuation analysis and results are specific to the purpose of valuation and is not intended to represent value at any time other than the valuation date of 31st December 2024 ("Valuation Date") mentioned in the Report and as per agreed terms of my engagement. It may not be valid for any other purpose or as at any other date. Also, it may not be valid if done on behalf of any other entity.
- 10.3. This Report, its contents and the results are specific to (i) the purpose of valuation agreed as per the terms of my engagements; (ii) the Valuation Date and (iii) are based on the financial information of the SPVs till 31st December 2024. The Investment Manager has represented that the business activities of the SPVs have been carried out in normal and ordinary course between 31st December 2024 and the Report Date and that no material changes have occurred in the operations and financial position between 31st December 2024 and the Report date, except for any events disclosed by the Investment Manager during the valuation exercise.
- 10.4. The scope of my assignment did not involve me performing audit tests for the purpose of expressing an opinion on the fairness or accuracy of any financial or analytical information that was provided and used by me during the course of my work. The assignment did not involve me to conduct the financial or technical feasibility study. I have not done any independent technical valuation or appraisal or due diligence of the assets or liabilities of the SPVs or any of other entity mentioned in this Report and have considered them at the value as disclosed by the SPVs in their regulatory filings or in submissions, oral or written, made to me.
- 10.5. In addition, I do not take any responsibility for any changes in the information used by me to arrive at my conclusion as set out here in which may occur subsequent to the date of my Report or by virtue of fact that the details provided to me are incorrect or inaccurate.
- 10.6. I have assumed and relied upon the truth, accuracy and completeness of the information, data and financial terms provided to me or used by me; I have assumed that the same are not misleading and do not assume or accept any liability or responsibility for any independent verification of such information or any independent technical valuation or appraisal of any of the assets, operations or liabilities of the SPVs or any other entity mentioned in the Report. Nothing has come to my knowledge to indicate that the material provided to me was misstated or incorrect or would not afford reasonable grounds upon which to base my Report.
- 10.7. This Report is intended for the sole use in connection with the purpose as set out above. It can however be relied upon and disclosed in connection with any statutory and regulatory filing in connection with the provision of SEBI InvIT Regulations. However, I will not accept any responsibility to any other party to whom this Report may be shown or who may acquire a copy of the Report, without my written consent.
- 10.8. It is clarified that this Report is not a fairness opinion under any of the stock exchange/ listing regulations. In case of any third party having access to this Report, please note this Report is not a substitute for the third party's own due diligence/ appraisal/ enquiries/ independent advice that the third party should undertake for his purpose.
- 10.9. Further, this Report is necessarily based on financial, economic, monetary, market and other conditions as in effect on, and the information made available to me or used by me up to, the date hereof. Subsequent developments in the aforementioned conditions may affect this Report and the assumptions made in preparing this Report and I shall not be obliged to update, revise or reaffirm this Report if information provided to me changes.
- 10.10. This Report is based on the information received from the sources as mentioned in Section 10 of this Report and discussions with the Investment Manager. I have assumed that no information has been withheld that could have influenced the purpose of my Report.
- 10.11. Valuation is not a precise science and the conclusions arrived at in many cases may be subjective and dependent on the exercise of individual judgment. There is, therefore, no indisputable single value. I have arrived at an indicative EV based on my analysis. While I have provided an assessment of the value based

on an analysis of information available to me and within the scope of my engagement, others may place a different value on this business.

- 10.12. Any discrepancies in any table / appendix between the total and the sums of the amounts listed are due to rounding-off.
- 10.13. Valuation is based on estimates of future financial performance or opinions, which represent reasonable expectations at a particular point of time, but such information, estimates or opinions are not offered as predictions or as assurances that a particular level of income or profit will be achieved, a particular event will occur or that a particular price will be offered or accepted. Actual results achieved during the period covered by the prospective financial analysis will vary from these estimates and the variations may be material.
- 10.14. I do not carry out any validation procedures or due diligence with respect to the information provided/extracted or carry out any verification of the assets or comment on the achievability and reasonableness of the assumptions underlying the financial forecasts, save for satisfying ourselves to the extent possible that they are consistent with other information provided to me in the course of this engagement.
- 10.15. My conclusion assumes that the assets and liabilities of the SPVs, reflected in their respective latest balance sheets remain intact as of the Report date.
- 10.16. Whilst all reasonable care has been taken to ensure that the factual statements in the Report are accurate, neither myself, nor any of my associates, officers or employees shall in any way be liable or responsible either directly or indirectly for the contents stated herein. Accordingly, I make no representation or warranty, express or implied, in respect of the completeness, authenticity or accuracy of such factual statements. I expressly disclaim any and all liabilities, which may arise based upon the information used in this Report. I am not liable to any third party in relation to the issue of this Report.
- 10.17. The scope of my work has been limited both in terms of the areas of the business & operations which I have reviewed and the extent to which I have reviewed them. There may be matters, other than those noted in this Report, which might be relevant in the context of the transaction and which a wider scope might uncover.
- 10.18. For the present valuation exercise, I have also relied on information available in public domain; however the accuracy and timelines of the same has not been independently verified by me.
- 10.19. In the particular circumstances of this case, my liability (in contract or under any statute or otherwise) for any economic loss or damage arising out of or in connection with this engagement, however the loss or damage caused, shall be limited to the amount of fees actually received by me from the Investment Manager, as laid out in the engagement letter for such valuation work.
- 10.20. In rendering this Report, I have not provided any legal, regulatory, tax, accounting or actuarial advice or opinion and accordingly I do not assume any responsibility or liability in respect thereof.
- 10.21. This Report does not address the relative merits of investing in InvIT as compared with any other alternative business transaction, or other alternatives, or whether or not such alternatives could be achieved or are available. I am not an advisor with respect to legal, tax and regulatory matters for the transaction occurred. No investigation of the SPVs' claim to title of assets has been made for the purpose of this Report and the SPVs' claim to such rights have been assumed to be valid. No consideration has been given to liens or encumbrances against the assets, beyond the loans disclosed in the accounts. Therefore, no responsibility is assumed for matters of a legal nature.
- 10.22. I have no present or planned future interest in the Trustee, Investment Manager or the SPVs and the fee for this Report is not contingent upon the values reported herein. My valuation analysis should not be construed as investment advice; specifically, I do not express any opinion on the suitability or otherwise of entering into any financial or other transaction with the Investment Manager or SPVs.
- 10.23. I have submitted the draft valuation report to the Trust and Investment Manager for confirmation of accuracy of the factual data used in my analysis and to prevent any error or inaccuracy in this Report.

Limitation of Liabilities

- 10.24. It is agreed that, having regard to the RV's interest in limiting the personal liability and exposure to litigation of its personnel, the Sponsor, the Settlor, the Investment Manager and the Trust will not bring any claim in respect of any damage against any of RV personally.
- 10.25. In no circumstances RV shall be responsible for any consequential, special, direct, indirect, punitive or incidental loss, damages or expenses (including loss of profits, data, business, opportunity cost, goodwill or indemnification) in connection with the performance of the services whether such damages are based on breach of contract, tort, strict liability, breach of warranty, negligence, or otherwise, even if the Investment Manager had contemplated and communicated to RV the likelihood of such damages. Any decision to act upon the deliverables (including this Report) is to be made by the Investment Manager and no communication by RV should be treated as an invitation or inducement to engage the Investment Manager to act upon the deliverable(s).
- 10.26. It is clarified that the Investment Manager will be solely responsible for any delays, additional costs, or other liabilities caused by or associated with any deficiencies in their responsibilities, misrepresentations, incorrect and incomplete information including information provided to determine the assumptions.
- 10.27. RV will not be liable if any loss arises due to the provision of false, misleading or incomplete information or documentation by the Investment Manager.
- 10.28. Further, this Report is necessarily based on financial, economic, monetary, market and other conditions as in effect on, and the information made available to me or used by me up to, the date hereof. Subsequent developments in the aforementioned conditions may affect this Report and the assumptions made in preparing this Report and I shall not be obliged to update, revise or reaffirm this Report if information provided to me changes.

Yours faithfully,



S. Sundararaman
Registered Valuer
IBBI Registration No.: IBB/RV/06/2018/10238
Asset Class: Securities or Financial Assets
Place: Chennai
UDIN: 25028423BMOMXE8730

Appendix 1 – Valuation of SPVs as on 31st December 2024

Abbreviations	Meaning
O&M	Operation and Maintenance
EBITDA	Operating Earnings Before Interest, Taxes, Depreciation and Amortization
MME	Major Maintenance and Repairs Expenditure
Capex	Capital Expenditure
WCap	Incremental Working Capital
FCFF	Free Cash Flow to the Firm
CAF	Cash Accrual Factor
WACC	Weighted Average Cost of Capital
DF	Discounting Factor
PVFCFF	Present value of Free Cash Flow to the Firm

<<This space is intentionally left blank>>

Appendix 1.1 – Valuation of BMHL as on 31st December 2024 under the DCF Method

INR Mn																
Period	Finance Income	O&M Income	Interest on BCC	Changes in Financial Asset	Other income	Total Inflow from NHAI	Routine O&M Expense	Cash EBITDA	MMR	Capex	WCap	Tax	FCFF	WACC	CAF	DF PV of FCFF
	A	B	C	D		E=A+B+C+D+E	G	H=F-G	I	J	K	L	M=H-I-J-K-L			O=M*N
May-25	170	16	419	-4	-	601	37	565	-		(102)	-	666	7.60%	0.4	0.97
Nov-25	174	17	407	30	6	635	48	586	-		(100)	-	686	7.60%	0.9	0.94
May-26	170	17	400	7	6	599	50	549	9		(121)	-	662	7.60%	1.4	0.90
Nov-26	172	17	388	9	6	593	59	534	9		(95)	-	621	7.60%	1.9	0.87
May-27	169	18	380	18	6	591	52	539	3		(43)	-	579	7.60%	2.4	0.84
Nov-27	171	18	369	21	6	586	66	520	3		-	-	517	7.60%	2.9	0.81
May-28	168	18	359	30	6	582	53	529	2		-	81	446	7.60%	3.4	0.78
Nov-28	169	19	346	36	6	575	62	513	2		-	86	425	7.60%	3.9	0.75
May-29	164	19	336	47	9	575	53	522	2		-	91	429	7.60%	4.4	0.72
Nov-29	165	20	323	52	11	570	62	508	2		-	95	411	7.60%	4.9	0.70
May-30	160	20	312	64	14	570	62	508	187		-	51	270	7.60%	5.4	0.67
Nov-30	160	20	298	71	10	559	70	489	187		-	52	251	7.60%	5.9	0.65
May-31	154	21	287	84	6	551	56	495	33		-	93	368	7.60%	6.4	0.62
Nov-31	153	21	273	92	8	547	62	484	33		-	95	356	7.60%	6.9	0.60
May-32	147	22	260	105	7	541	56	485	4		-	103	378	7.60%	7.4	0.58
Nov-32	143	22	244	116	7	533	62	472	4		-	104	364	7.60%	7.9	0.56
May-33	136	22	231	132	7	528	56	471	2		-	104	365	7.60%	8.4	0.54
Nov-33	132	23	215	144	7	520	61	459	2		-	104	352	7.60%	8.9	0.52
May-34	123	23	201	161	7	515	57	457	11		-	102	345	7.60%	9.4	0.50
Nov-34	118	24	184	174	6	507	62	445	11		-	101	333	7.60%	9.9	0.48
May-35	108	24	168	193	6	499	58	441	3		-	102	335	7.60%	10.4	0.46
Nov-35	101	25	151	209	5	492	60	432	3		-	102	327	7.60%	10.9	0.44
May-36	91	25	134	229	8	487	58	429	2		-	101	325	7.60%	11.4	0.43
Nov-36	81	26	116	243	11	477	58	420	2		-	100	318	7.60%	11.9	0.41
May-37	69	26	98	256	14	463	59	404	217		-	42	145	7.60%	12.4	0.40
Nov-37	58	27	79	281	10	455	59	396	217		-	41	139	7.60%	12.9	0.38
May-38	45	27	61	315	5	453	53	400	38		-	88	275	7.60%	13.4	0.37
Nov-38	31	28	40	332	5	436	53	384	38		-	84	262	7.60%	13.9	0.36
May-39	16	28	20	347	-0	412	32	380	2		(85)	93	371	7.60%	14.4	0.34
Enterprise Value																7,508
Adjustments:																
Cash and Cash Equivalents																455
Adjusted Enterprise Value																7,963

Appendix 1.2 – Valuation of DBHL as on 31st December 2024 under the DCF Method

INR Mn																	
Period	Finance Income	O&M Income	Interest on BCC	Changes in Financial Asset	Other income	Total Inflow from NHAI	Routine O&M Expense	Cash EBITDA	MMR	Capex	WCap	Tax	FCFF	WACC	CAF	DF PV of FCFF	
	A	B	C	D		E=A+B+C+D+E	G	H=F-G	I	J	K	L	M=H-I-J-K-L			N	O=M*N
Mar-25	18	17	302	75	-	412	61	351	-		(75)	-	426	7.60%	0.2	0.98	418
Sep-25	86	18	296	53	-	452	45	407	12		(71)	-	467	7.60%	0.7	0.95	441
Mar-26	83	18	287	59	6	454	53	401	12		(83)	-	472	7.60%	1.2	0.91	430
Sep-26	83	18	281	63	6	453	51	402	14		(69)	-	456	7.60%	1.7	0.88	400
Mar-27	81	19	272	70	6	448	55	393	14		(68)	-	446	7.60%	2.2	0.84	377
Sep-27	81	19	266	75	6	446	52	394	4		(69)	-	459	7.60%	2.7	0.81	373
Mar-28	78	20	257	82	6	443	57	386	4		(69)	-	450	7.60%	3.2	0.78	353
Sep-28	77	20	249	88	6	440	53	387	4		(31)	-	414	7.60%	3.7	0.75	312
Mar-29	74	20	239	96	8	437	55	382	4		-	-	378	7.60%	4.2	0.73	274
Sep-29	74	21	231	102	10	438	54	383	66		-	-	317	7.60%	4.7	0.70	222
Mar-30	70	21	221	111	10	432	54	378	66		-	-	312	7.60%	5.2	0.67	210
Sep-30	69	22	212	117	9	430	57	373	70		-	54	249	7.60%	5.7	0.65	161
Mar-31	66	22	201	126	9	424	57	367	70		-	56	242	7.60%	6.2	0.62	151
Sep-31	64	22	192	134	6	418	58	360	6		-	72	282	7.60%	6.7	0.60	169
Mar-32	61	23	182	143	8	416	58	359	6		-	74	278	7.60%	7.2	0.58	161
Sep-32	58	23	171	152	7	412	58	353	5		-	75	273	7.60%	7.7	0.56	152
Mar-33	54	24	159	162	7	407	60	347	5		-	75	267	7.60%	8.2	0.54	143
Sep-33	52	24	148	171	7	403	60	343	18		-	72	253	7.60%	8.7	0.52	131
Mar-34	47	25	136	182	7	397	59	338	18		-	72	248	7.60%	9.2	0.50	124
Sep-34	44	25	125	192	7	393	61	332	18		-	72	243	7.60%	9.7	0.48	116
Mar-35	40	26	111	204	7	387	61	327	18		-	71	238	7.60%	10.2	0.46	110
Sep-35	36	26	99	215	6	382	61	321	5		-	74	242	7.60%	10.7	0.44	107
Mar-36	31	27	86	224	8	375	61	314	5		-	73	237	7.60%	11.2	0.43	101
Sep-36	27	27	73	228	10	365	62	302	78		-	52	173	7.60%	11.8	0.41	71
Mar-37	22	28	59	244	9	362	62	300	78		-	52	170	7.60%	12.2	0.40	68
Sep-37	17	28	45	265	8	364	63	301	81		-	52	168	7.60%	12.8	0.38	64
Mar-38	11	29	30	274	8	352	63	289	81		-	49	159	7.60%	13.2	0.37	58
Sep-38	6	30	15	279	5	335	58	277	5		(105)	66	311	7.60%	13.8	0.35	110
Enterprise Value																	
5,808																	
Adjustments:																	
Cash and Cash Equivalents																	
351																	
Adjusted Enterprise Value																	
6,159																	

Appendix 1.3 – Valuation of DHHL as on 31st December 2024 under the DCF Method

INR Mn																	
Period	Finance Income	O&M Income	Interest on BCC	Changes in Financial Asset	Other income	Total Inflow from NHAI	Routine O&M Expense	Cash EBITDA	MMR	Capex	WCap	Tax	FCFF	WACC	CAF	DF	PV of FCFF
	A	B	C	D	E=A+B+C+D+E	G	H=F-G	I	J	K	L	M=H-I-J-K-L				N	O=M*N
Jan-25	120	17	375	101	4	618	40	578	-	-	(95)	-	672	7.70%	0.1	1.00	669
Jul-25	151	17	368	23	-	560	46	514	9	-	(91)	-	595	7.70%	0.6	0.96	571
Jan-26	153	18	357	26	7	561	56	505	9	-	(151)	-	647	7.70%	1.1	0.92	598
Jul-26	149	18	350	35	7	560	54	506	7	-	(89)	-	587	7.70%	1.6	0.89	523
Jan-27	150	19	338	39	7	554	60	494	7	-	(21)	-	507	7.70%	2.1	0.86	436
Jul-27	147	19	330	49	7	552	55	497	3	-	-	-	493	7.70%	2.6	0.83	408
Jan-28	147	19	320	55	7	548	62	486	3	-	-	79	404	7.70%	3.1	0.80	322
Jul-28	144	20	310	64	7	544	55	489	4	-	-	83	403	7.70%	3.6	0.77	309
Jan-29	143	20	297	71	11	542	63	480	4	-	-	88	388	7.70%	4.1	0.74	287
Jul-29	138	20	287	83	16	545	60	485	212	-	-	39	234	7.70%	4.6	0.71	167
Jan-30	137	21	274	90	13	536	66	470	212	-	-	40	218	7.70%	5.1	0.69	150
Jul-30	132	21	264	103	11	530	62	468	113	-	-	67	289	7.70%	5.6	0.66	191
Jan-31	130	22	250	111	11	524	66	458	113	-	-	68	278	7.70%	6.1	0.64	177
Jul-31	124	22	239	125	7	516	61	456	5	-	-	96	355	7.70%	6.6	0.61	218
Jan-32	121	23	226	135	9	514	64	450	5	-	-	97	348	7.70%	7.1	0.59	206
Jul-32	115	23	213	149	9	508	62	446	4	-	-	98	344	7.70%	7.6	0.57	196
Jan-33	111	23	198	161	8	502	65	436	4	-	-	98	334	7.70%	8.1	0.55	184
Jul-33	103	24	185	177	8	497	62	435	13	-	-	96	326	7.70%	8.6	0.53	173
Jan-34	98	24	169	190	8	490	67	423	13	-	-	96	315	7.70%	9.1	0.51	161
Jul-34	90	25	155	207	8	484	63	421	9	-	-	96	316	7.70%	9.6	0.49	156
Jan-35	84	25	139	222	8	477	67	411	9	-	-	95	307	7.70%	10.1	0.47	145
Jul-35	74	26	123	241	7	471	64	407	4	-	-	95	308	7.70%	10.6	0.46	140
Jan-36	67	26	107	253	12	465	66	399	4	-	-	95	300	7.70%	11.1	0.44	132
Jul-36	57	27	90	263	17	454	65	389	248	-	-	31	110	7.70%	11.6	0.42	47
Jan-37	47	27	73	287	14	448	65	384	248	-	-	30	105	7.70%	12.1	0.41	43
Jul-37	36	28	56	318	10	448	66	383	132	-	-	60	191	7.70%	12.6	0.39	75
Jan-38	25	29	37	333	11	434	65	369	132	-	-	57	180	7.70%	13.1	0.38	68
Jul-38	13	29	19	345	6	412	42	370	6	-	(191)	89	466	7.70%	13.6	0.37	170
Enterprise Value																	
Adjustments:																	
Cash and Cash Equivalents																	
Adjusted Enterprise Value																	

Appendix 1.4 – Valuation of VHL as on 31st December 2024 under the DCF Method

INR Mn																	
Period	Finance Income	Changes in Financial Asset	Interest on BCC	O&M Revenue	Other Income	Total Inflow from NHAI	Routine O&M Expense	Cash EBITDA	MMR	Capex	WCap	Tax	FCFF	WACC	CAF	DF PV of FCFF	
A	B	C	D	E=A+B+C+D+E	G	H=F-G	I	J	K	L M=H-I-J-K-L	N	O=M*N					
Apr-25	103	53	347	16	-	519	47	472	-	-	(82)	-	554	7.91%	0.3	0.98	543
Oct-25	103	66	337	17	8	531	58	472	-	-	(80)	-	552	7.91%	0.8	0.94	520
Apr-26	101	45	331	17	7	501	57	445	-	-	(119)	-	564	7.91%	1.3	0.91	512
Oct-26	100	50	321	17	7	496	61	435	20	-	(74)	-	489	7.91%	1.8	0.87	428
Apr-27	99	56	314	18	7	494	58	436	20	-	(76)	-	492	7.91%	2.3	0.84	414
Oct-27	98	62	306	18	7	490	65	425	5	-	(76)	-	496	7.91%	2.8	0.81	402
Apr-28	96	68	297	18	8	487	59	428	5	-	(75)	-	497	7.91%	3.3	0.78	388
Oct-28	95	75	286	19	8	482	61	421	6	-	(37)	-	452	7.91%	3.8	0.75	339
Apr-29	92	82	278	19	9	481	61	419	6	-	-	-	414	7.91%	4.3	0.72	299
Oct-29	91	89	267	19	10	476	63	413	5	-	-	-	408	7.91%	4.8	0.70	284
Apr-30	88	97	258	20	9	472	73	399	5	-	-	-	394	7.91%	5.3	0.67	264
Oct-30	86	105	247	20	8	466	75	391	53	-	-	-	338	7.91%	5.8	0.64	218
Apr-31	83	114	237	21	7	462	65	397	53	-	-	63	281	7.91%	6.3	0.62	174
Oct-31	81	122	226	21	10	459	65	395	10	-	-	77	309	7.91%	6.8	0.60	184
Apr-32	78	131	215	21	9	454	67	387	10	-	-	77	300	7.91%	7.3	0.58	173
Oct-32	74	141	202	22	9	448	67	381	6	-	-	79	297	7.91%	7.8	0.55	164
Apr-33	71	151	191	22	9	444	67	376	6	-	-	80	291	7.91%	8.3	0.53	155
Oct-33	67	161	178	23	9	437	67	370	7	-	-	80	284	7.91%	8.8	0.51	146
Apr-34	63	172	166	23	8	433	69	364	7	-	-	80	278	7.91%	9.3	0.49	137
Oct-34	59	183	152	24	8	426	69	357	25	-	-	75	258	7.91%	9.8	0.48	123
Apr-35	54	195	139	24	7	420	70	350	25	-	-	74	251	7.91%	10.3	0.46	115
Oct-35	50	207	125	25	8	415	70	345	6	-	-	78	260	7.91%	10.8	0.44	115
Apr-36	44	220	111	25	9	409	71	338	6	-	-	77	255	7.91%	11.3	0.42	108
Oct-36	39	230	96	26	9	399	71	329	6	-	-	76	247	7.91%	11.8	0.41	101
Apr-37	33	236	81	26	7	383	73	311	6	-	-	72	232	7.91%	12.3	0.39	91
Oct-37	27	253	66	27	7	380	73	307	61	-	-	58	188	7.91%	12.8	0.38	71
Apr-38	21	277	50	27	7	382	49	333	61	-	-	65	207	7.91%	13.3	0.36	75
Oct-38	14	286	33	28	7	368	49	319	12	-	-	74	233	7.91%	13.8	0.35	82
Apr-39	7	293	17	28	-0	345	33	312	12	-	(83)	73	311	7.91%	14.3	0.34	105
Enterprise Value																	6,730
Adjustments:																	
Cash and Cash Equivalents																	198
Adjusted Enterprise Value																	6,928

Appendix 1.5 – Valuation of DPHPPL as on 31st December 2024 under the DCF Method

INR Mn																	
Period	Finance Income	O&M Income	Interest on BCC	Changes in Financial Asset	Other income	Total Inflow from NHAI	Routine O&M Expense	Cash EBITDA	MMR	Capex	WCap	Tax	FCFF	WACC	CAF	DF	PV of FCFF
	A	B	C	D	E	F=A+B+C+D+E	G	H=F-G	I	J	K	L	M=H-I-J-K-L			N	O=M*N
Apr-25	54	101	136	1	2	294	53	242	-	-	(44)	-	285	7.88%	0.3	0.98	280
Oct-25	68	103	192	199	-	562	58	504	-	-	(88)	-	592	7.88%	0.8	0.94	559
Apr-26	51	105	235	64	-	456	51	405	-	-	(73)	-	477	7.88%	1.3	0.91	434
Oct-26	51	107	228	68	3	456	52	404	-	-	(73)	-	477	7.88%	1.8	0.87	417
Apr-27	50	109	223	73	5	459	54	405	-	-	(72)	-	477	7.88%	2.3	0.84	402
Oct-27	49	111	216	77	8	461	54	407	-	-	(20)	-	428	7.88%	2.8	0.81	347
Apr-28	48	114	210	82	10	463	62	401	-	-	-	-	401	7.88%	3.3	0.78	313
Oct-28	46	116	202	87	13	464	62	402	-	-	-	-	402	7.88%	3.8	0.75	302
Apr-29	45	118	196	93	15	466	71	396	287	-	-	-	109	7.88%	4.3	0.72	79
Oct-29	44	121	187	98	8	457	70	387	287	-	-	-	100	7.88%	4.8	0.70	70
Apr-30	42	123	181	104	-	450	67	383	-	-	-	-	383	7.88%	5.3	0.67	257
Oct-30	41	125	172	110	-	448	67	381	-	-	-	-	381	7.88%	5.8	0.65	246
Apr-31	39	128	165	116	-	448	66	382	-	-	-	78	304	7.88%	6.3	0.62	189
Oct-31	38	130	157	122	-	447	67	380	-	-	-	80	300	7.88%	6.8	0.60	179
Apr-32	36	133	148	129	-	446	75	371	-	-	-	80	291	7.88%	7.3	0.58	168
Oct-32	34	136	139	136	-	444	77	367	-	-	-	81	286	7.88%	7.8	0.55	159
Apr-33	32	138	130	143	-	444	70	374	-	-	-	84	290	7.88%	8.3	0.53	155
Oct-33	30	141	120	150	3	445	72	373	-	-	-	85	287	7.88%	8.8	0.51	148
Apr-34	28	144	111	158	7	447	75	373	-	-	-	86	287	7.88%	9.3	0.49	142
Oct-34	26	147	101	165	10	449	75	374	-	-	-	87	287	7.88%	9.8	0.48	137
Apr-35	23	150	91	174	13	451	77	374	-	-	-	88	286	7.88%	10.3	0.46	131
Oct-35	21	153	81	182	17	453	77	376	-	-	-	89	287	7.88%	10.8	0.44	127
Apr-36	18	156	70	188	20	452	105	347	377	-	-	-	-30	7.88%	11.3	0.43	-13
Oct-36	15	159	59	191	10	433	105	329	377	-	-	-	-48	7.88%	11.8	0.41	-20
Apr-37	13	162	48	203	-	425	93	332	-	-	-	51	281	7.88%	12.3	0.39	111
Oct-37	10	165	36	219	-	430	93	337	-	-	-	82	255	7.88%	12.8	0.38	97
Apr-38	6	168	25	224	-	423	88	335	-	-	-	82	253	7.88%	13.3	0.37	93
Oct-38	3	172	12	227	-	414	15	399	-	-	46	98	255	7.88%	13.8	0.35	90
Enterprise Value																	5,596
Adjustments:																	
Cash and Cash Equivalents																	76
Adjusted Enterprise Value																	5,671

Appendix 1.6 – Valuation of MBHL as on 31st December 2024 under the DCF Method

INR Mn																
Period	Finance Income	O&M Income	Interest on BCC	Changes in Financial Asset	Other income	Total Inflow from NHAI	Routine O&M Expense	Cash EBITDA	MMR	Capex	WCap	Tax	FCFF	WACC	CAF	DF PV of FCFF
	A	B	C	D		E=A+B+C+D+E	G	H=F-G	I	J	K	L	M=H-I-J-K-L			O=M*N
May-25	172	16	447	-4	-	632	41	591	-		(105)	-	696	7.60%	0.4	0.97
Nov-25	176	17	435	42	7	676	49	627	6		(114)	-	735	7.60%	0.9	0.94
May-26	171	17	427	17	7	639	52	586	6		(157)	-	737	7.60%	1.4	0.90
Nov-26	173	17	414	21	7	632	60	572	1		(103)	-	674	7.60%	1.9	0.87
May-27	170	18	405	30	6	629	54	575	1		(102)	-	676	7.60%	2.4	0.84
Nov-27	171	18	394	34	6	624	67	557	1		-	-	557	7.60%	2.9	0.81
May-28	168	18	383	44	7	620	55	565	1		-	-	564	7.60%	3.4	0.78
Nov-28	168	19	369	50	7	613	65	548	1		-	-	547	7.60%	3.9	0.75
May-29	163	19	359	61	9	612	56	556	1		-	82	473	7.60%	4.4	0.72
Nov-29	164	19	344	68	11	606	65	541	158		-	86	297	7.60%	4.9	0.69
May-30	158	20	333	81	14	605	64	542	158		-	89	295	7.60%	5.4	0.67
Nov-30	158	20	318	88	10	595	72	522	19		-	97	407	7.60%	5.9	0.64
May-31	152	21	306	102	6	586	59	527	19		-	103	405	7.60%	6.4	0.62
Nov-31	150	21	292	111	9	582	66	516	1		-	105	410	7.60%	6.9	0.60
May-32	144	21	277	125	8	576	60	516	1		-	111	403	7.60%	7.4	0.58
Nov-32	140	22	261	137	8	568	65	503	1		-	111	390	7.60%	7.9	0.55
May-33	133	22	247	153	8	562	59	502	1		-	112	390	7.60%	8.4	0.53
Nov-33	129	23	229	166	8	554	65	489	8		-	112	370	7.60%	8.9	0.51
May-34	120	23	214	183	7	548	61	487	8		-	110	370	7.60%	9.4	0.50
Nov-34	115	24	196	198	7	539	65	474	1		-	109	364	7.60%	9.9	0.48
May-35	105	24	180	216	6	531	61	470	1		-	109	359	7.60%	10.4	0.46
Nov-35	98	25	162	233	6	523	63	460	1		-	90	369	7.60%	10.9	0.44
May-36	87	25	143	253	9	517	61	456	1		-	90	366	7.60%	11.4	0.43
Nov-36	78	26	123	268	11	506	61	445	183		-	88	174	7.60%	11.9	0.41
May-37	66	26	105	280	13	490	62	428	183		-	84	160	7.60%	12.4	0.40
Nov-37	56	27	85	306	10	483	62	421	22		-	83	316	7.60%	12.9	0.38
May-38	43	27	65	341	6	482	55	426	22		-	98	307	7.60%	13.4	0.37
Nov-38	30	28	43	358	6	464	55	409	1		-	94	314	7.60%	13.9	0.35
May-39	15	28	22	372	-0	437	29	408	-		(127)	99	436	7.60%	14.4	0.34
Enterprise Value																8,300
Adjustments:																
Cash and Cash Equivalents																410
Adjusted Enterprise Value																8,710

Appendix 1.7 – Valuation of NPHL as on 31st December 2024 under the DCF Method

INR Mn																
Period	Finance Income	O&M Income	Interest on BCC	Changes in Financial Asset	Other income	Total Inflow from NHAI	Routine O&M Expense	Cash EBITDA	MMR	Capex	WCap	Tax	FCFF	WACC	CAF	DF PV of FCFF
	A	B	C	D		E=A+B+C+D+E	G	H=F-G	I	J	K	L	M=H-I-J-K-L		M	N=L*M
Mar-25	190	18	620	45	-	873	110	763	-		(137)	-	900	7.60%	0.2	0.98
Sep-25	281	18	609	42	-	951	73	877	-		(158)	-	1,035	7.60%	0.7	0.95
Mar-26	274	18	592	5	8	897	89	808	-		(250)	-	1,058	7.60%	1.2	0.91
Sep-26	279	19	580	9	8	894	89	805	15		(118)	-	908	7.60%	1.7	0.88
Mar-27	274	19	562	22	8	885	100	785	15		-	-	770	7.60%	2.2	0.85
Sep-27	277	19	550	27	8	881	91	790	3		-	114	672	7.60%	2.7	0.82
Mar-28	273	20	534	41	8	875	111	764	3		-	123	637	7.60%	3.2	0.79
Sep-28	274	20	517	50	8	869	90	779	169		-	89	521	7.60%	3.8	0.76
Mar-29	267	21	497	66	14	865	107	758	169		-	96	492	7.60%	4.2	0.73
Sep-29	269	21	482	75	20	866	94	773	165		-	104	504	7.60%	4.8	0.70
Mar-30	260	21	462	93	25	863	107	755	165		-	109	481	7.60%	5.2	0.68
Sep-30	260	22	446	104	31	864	102	762	165		-	112	484	7.60%	5.8	0.65
Mar-31	251	22	424	125	23	845	114	731	-		-	154	577	7.60%	6.2	0.63
Sep-31	249	23	407	137	8	824	99	725	8		-	152	565	7.60%	6.8	0.61
Mar-32	240	23	386	159	11	819	107	712	8		-	154	550	7.60%	7.2	0.58
Sep-32	235	24	365	176	10	809	100	709	4		-	155	550	7.60%	7.8	0.56
Mar-33	223	24	342	200	10	798	109	689	4		-	155	529	7.60%	8.2	0.54
Sep-33	217	25	321	219	10	791	100	691	4		-	156	531	7.60%	8.8	0.52
Mar-34	203	25	297	247	9	780	109	672	4		-	155	512	7.60%	9.2	0.50
Sep-34	194	25	275	268	9	772	103	669	19		-	151	500	7.60%	9.8	0.49
Mar-35	178	26	249	298	9	760	109	651	19		-	149	483	7.60%	10.2	0.47
Sep-35	167	26	225	323	8	750	103	647	196		-	103	347	7.60%	10.8	0.45
Mar-36	150	27	199	355	14	746	107	639	196		-	104	339	7.60%	11.3	0.43
Sep-36	134	28	173	379	21	735	104	631	192		-	103	336	7.60%	11.8	0.42
Mar-37	114	28	145	399	27	714	103	610	192		-	99	320	7.60%	12.3	0.40
Sep-37	97	29	119	440	33	717	106	611	192		-	100	320	7.60%	12.8	0.39
Mar-38	74	29	90	495	24	712	105	607	-		-	148	459	7.60%	13.3	0.38
Sep-38	52	30	60	522	7	671	63	608	10		-	146	452	7.60%	13.8	0.36
Mar-39	26	30	30	548	7	641	63	579	10		288	139	142	7.60%	14.3	0.35
Enterprise Value																
Adjustments:																
Cash and Cash Equivalents																
Adjusted Enterprise Value																
																10,793
																657
																11,450

Appendix 1.8 – Valuation of PHL as on 31st December 2024 under the DCF Method

INR Mn																
Period	Finance Income	O&M Income	Interest on BCC	Changes in Financial Asset	Other Income	Total Inflow from NHAI	Routine O&M Expense	Cash EBITDA	MMR	Capex	WCap	Tax	FCFF	WACC	CAF	DF PV of FCFF
	A	B	C	E	D	F=A+B+C+D+E	G	H=F-G	I	J	K	L	M=H-I-J-K-L			N O=M*N
Sep-25	164	16	451	-12	-	618	10	609	-		(107)	-	715	7.86%	0.7	0.95 678
Mar-26	165	16	440	-8	-	613	42	571	-		(103)	-	674	7.86%	1.2	0.91 615
Sep-26	168	16	433	48	-	665	44	621	6		(167)	-	783	7.86%	1.7	0.88 688
Mar-27	164	17	420	23	-	623	43	580	6		(103)	-	678	7.86%	2.2	0.85 574
Sep-27	166	17	412	27	-	621	45	576	18		(100)	-	658	7.86%	2.7	0.81 536
Mar-28	163	17	401	35	1	617	47	570	18		(100)	-	651	7.86%	3.2	0.78 511
Sep-28	163	18	390	40	1	613	49	564	6		(25)	-	583	7.86%	3.7	0.76 440
Mar-29	159	18	377	51	2	607	58	548	6		-	-	542	7.86%	4.2	0.73 394
Sep-29	160	18	367	57	3	604	50	554	7		-	-	548	7.86%	4.7	0.70 383
Mar-30	155	19	353	68	3	598	58	540	7		-	-	533	7.86%	5.2	0.67 359
Sep-30	155	19	342	74	4	595	53	542	22		-	89	432	7.86%	5.7	0.65 280
Mar-31	150	19	328	87	4	588	61	527	22		-	92	413	7.86%	6.2	0.63 258
Sep-31	149	20	316	95	4	584	57	527	53		-	87	387	7.86%	6.7	0.60 233
Mar-32	144	20	303	107	2	576	65	511	53		-	89	369	7.86%	7.2	0.58 214
Sep-32	141	21	289	117	-	568	52	516	7		-	103	406	7.86%	7.7	0.56 226
Mar-33	135	21	273	132	-	560	59	501	7		-	105	390	7.86%	8.2	0.54 209
Sep-33	132	21	259	142	-	555	53	502	7		-	106	389	7.86%	8.7	0.52 201
Mar-34	125	22	243	158	-	547	60	487	7		-	106	374	7.86%	9.2	0.50 186
Sep-34	121	22	228	171	-	542	53	488	12		-	105	371	7.86%	9.7	0.48 178
Mar-35	112	23	211	188	1	534	59	475	12		-	105	358	7.86%	10.2	0.46 165
Sep-35	107	23	195	202	1	528	53	475	22		-	103	350	7.86%	10.7	0.44 156
Mar-36	98	24	178	220	1	520	58	462	22		-	102	338	7.86%	11.2	0.43 145
Sep-36	91	24	160	237	1	513	53	459	7		-	105	347	7.86%	11.7	0.41 143
Mar-37	81	25	141	256	1	504	53	451	7		-	104	339	7.86%	12.2	0.40 135
Sep-37	73	25	123	270	1	492	54	438	24		-	97	316	7.86%	12.7	0.38 121
Mar-38	61	26	103	282	-0	471	54	418	24		-	93	300	7.86%	13.2	0.37 110
Sep-38	52	26	84	307	-0	469	55	413	61		-	84	269	7.86%	13.7	0.35 95
Mar-39	40	27	64	341	-2	469	55	414	61		-	84	268	7.86%	14.2	0.34 92
Sep-39	27	27	43	356	-2	451	43	409	7		-	97	305	7.86%	14.7	0.33 100
Mar-40	14	28	21	370	-	433	42	390	7		53	93	237	7.86%	15.2	0.32 75
Enterprise Value																8,500
Adjustments:																
Cash and Cash Equivalents																3
Adjusted Enterprise Value																8,502

Appendix 1.9 – Valuation of RHL as on 31st December 2024 under the DCF Method

INR Mn																
Period	Finance Income	O&M Revenue	Interest on BCC	Chnages in Financial Asset	Other incomes	Total Inflow from NHAI	Routine O&M Expense	Cash EBITDA	MMR	Capex	WCap	Tax	FCFF	WACC	CAF	DF PV of FCFF
	A	B	C	D	E	F=A+B+C+D+E	G	H=F-G	I	J	K	L	M=H-I-J-K-L		N	O=M*N
Apr-25	172	18	375	54	-	618	44	574	6		(98)	-	666	7.59%	-	0.98
Oct-25	172	18	364	0	6	560	61	499	6		(90)	-	583	7.59%	-	0.94
Apr-26	171	18	357	6	6	558	55	504	9		(259)	-	754	7.59%	-	0.91
Oct-26	171	19	346	11	6	553	64	488	9		(55)	-	534	7.59%	-	0.87
Apr-27	170	19	338	17	6	550	56	494	2		-	-	492	7.59%	-	0.84
Oct-27	170	20	328	23	6	547	68	479	2		-	80	397	7.59%	-79.7	0.81
Apr-28	169	20	318	30	6	543	55	488	138		-	50	300	7.59%	-50.3	0.78
Oct-28	167	20	306	38	11	542	65	477	138		-	55	284	7.59%	-54.8	0.75
Apr-29	165	21	297	46	16	544	64	481	135		-	58	288	7.59%	-58.0	0.73
Oct-29	163	21	284	54	15	538	71	467	135		-	60	272	7.59%	-60.2	0.70
Apr-30	160	22	274	65	16	536	73	462	135		-	60	267	7.59%	-60.2	0.67
Oct-30	158	22	261	74	13	527	79	448	-		-	95	354	7.59%	-94.8	0.65
Apr-31	153	22	250	85	6	516	63	454	5		-	96	353	7.59%	-95.9	0.63
Oct-31	150	23	238	95	8	514	66	448	5		-	98	345	7.59%	-97.7	0.60
Apr-32	145	23	225	108	7	508	62	446	3		-	98	344	7.59%	-98.4	0.58
Oct-32	140	24	210	120	7	501	67	435	3		-	98	333	7.59%	-98.4	0.56
Apr-33	133	24	198	135	7	497	63	434	9		-	97	328	7.59%	-97.1	0.54
Oct-33	127	25	183	149	7	491	68	422	9		-	97	317	7.59%	-96.7	0.52
Apr-34	120	25	169	165	7	486	65	421	11		-	96	315	7.59%	-95.6	0.50
Oct-34	112	26	153	181	7	478	68	410	11		-	95	305	7.59%	-94.8	0.48
Apr-35	103	26	139	199	6	472	65	407	160		-	56	190	7.59%	-56.2	0.47
Oct-35	94	27	123	217	11	471	64	407	160		-	57	190	7.59%	-57.0	0.45
Apr-36	83	27	106	233	16	466	66	400	157		-	57	186	7.59%	-56.6	0.43
Oct-36	72	28	89	244	16	449	66	383	157		-	53	173	7.59%	-52.9	0.42
Apr-37	60	28	73	270	16	447	67	380	157		-	53	170	7.59%	-52.6	0.40
Oct-37	47	29	55	303	14	448	67	381	-		-	93	288	7.59%	-92.9	0.39
Apr-38	32	29	37	321	5	425	31	394	5		-	95	293	7.59%	-95.1	0.37
Oct-38	16	30	18	337	5	407	31	376	5		16	91	264	7.59%	-90.9	0.36
Enterprise Value																6,519
Adjustments:																
Cash and Cash Equivalents																620
Adjusted Enterprise Value																7,138

Appendix 2 – Weighted Average Cost of Capital (WACC) of the SPVs as on 31st December 2024

Particulars	BMHL	DBHL	DHHL	VHL	DPHPPL	Remarks
Risk Free Rate (Rf)	6.79%	6.79%	6.79%	6.79%	6.79%	Risk Free Rate has been considered based on zero coupon yield curve as at 31 st March 2024 of Government Securities having maturity period of 10 years, as quoted on CCIL's website.
Equity Risk Premium (ERP)	7.00%	7.00%	7.00%	7.00%	7.00%	Based on the historical realized returns on equity investments over a risk free rate of as represented by 10 year government bonds, a 7% equity risk premium is considered appropriate for India.
Beta (Relevered)	0.59	0.60	0.59	0.60	0.60	Beta has been considered based on the beta of companies operating in the similar kind of business in India.
Base Cost of Equity	10.93%	10.98%	10.91%	11.02%	11.00%	Base Ke = Rf + (β x ERP)
Company Specific Risk Premium (CSRP)	0.00%	0.00%	0.00%	0.00%	0.00%	Risk Premium/ Discount Specific to the SPVs
Adjusted Cost of Equity (Ke)	10.93%	10.98%	10.91%	11.02%	11.00%	Adjusted Ke = Rf + (β x ERP) + CSRP
Pre-Tax Cost of Debt	8.25%	8.25%	8.25%	8.25%	8.25%	As per Management Representation Letter
Tax Rate of SPV	22.88%	21.23%	23.31%	20.26%	20.73%	Average tax rate for the life of the SPVs have been considered
Post-Tax Cost of Debt (Kd)	6.36%	6.50%	6.33%	6.58%	6.54%	Effective cost of debt. Kd = Pre tax Kd * (1-Effective Tax Rate)
Debt / (Debt+Equity)	70%	70%	70%	70%	70%	The debt - equity ratio computed as [D/(D+E)] is considered as 70% as per industry standard.
WACC	7.73%	7.84%	7.70%	7.91%	7.88%	WACC = [Ke*(1-D/(D+E))]+[Kd*(1-t)*(D/(D+E))]

Appendix 2 – Weighted Average Cost of Capital (WACC) of the SPVs as on 31st December 2024

Particulars	MBHL	NPHL	PHL	RHL	Remarks
Risk Free Rate (Rf)	6.79%	6.79%	6.79%	6.79%	Risk Free Rate has been considered based on zero coupon yield curve as at 31st March 2024 of Government Securities having maturity period of 10 years, as quoted on CCIL's website.
Equity Risk Premium (ERP)	7.00%	7.00%	7.00%	7.00%	Based on the historical realized returns on equity investments over a risk free rate of as represented by 10 year government bonds, a 7% equity risk premium is considered appropriate for India.
Beta (Relevered)	0.58	0.59	0.60	0.60	Beta has been considered based on the beta of companies operating in the similar kind of business in India.
Base Cost of Equity	10.85%	10.90%	10.99%	10.96%	Base Ke = Rf + (β x ERP)
Company Specific Risk Premium (CSRP)	0.00%	0.00%	0.00%	0.00%	Risk Premium/ Discount Specific to the SPVs
Adjusted Cost of Equity (Ke)	10.85%	10.90%	10.99%	10.96%	Adjusted Ke = Rf + (β x ERP) + CSRP
Pre-Tax Cost of Debt	8.25%	8.25%	8.25%	8.25%	As per Management Representation Letter
Tax Rate of SPV	21.98%	23.63%	21.02%	23.66%	Average tax rate for the life of the SPVs have been considered
Post-Tax Cost of Debt (Kd)	6.44%	6.30%	6.52%	6.30%	Effective cost of debt. Kd = Pre tax Kd * (1-Effective Tax Rate)
Debt / (Debt+Equity)	70%	70%	70%	70%	The debt - equity ratio computed as [D/(D+E)] is considered as 70% as per industry standard.
WACC	7.76%	7.68%	7.86%	7.70%	WACC = [Ke*(1-D/(D+E))]+[Kd*(1-t)*(D/(D+E))]

Appendix 3 – Computation of Unlevered and Relevered Beta

Source: Information provided by database sources, market research, other published data and internal workings.

Particulars	Raw Beta	Debt to Market Capitalization	Effective Tax Rate (%)	Unlevered Beta
IRB InvIT Fund	0.40	77%	25.17%	0.25
PowerGrid Infrastructure Investment Trust	0.18	5%	25.17%	0.17
			Average	0.21

Particulars	BMHL	DBHL	DHHL	VHL	DPHPPL	MBHL	NPHL	PHL	RHL
Unlevered Beta	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Debt Equity Ratio Considered	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.33
Effective Tax rate of SPVs	22.88%	21.23%	23.31%	20.26%	20.73%	21.98%	23.63%	21.02%	23.66%
Relevered Beta	0.59	0.60	0.59	0.60	0.60	0.58	0.59	0.60	0.60

Justification of Companies used for calculation of Beta for HAM SPV's:

1) IRB InvIT Fund

The IRB InvIT fund is a dedicated trust that manages toll roads and related infrastructure projects. With a portfolio comprising six highway assets, the fund has a focused strategy in the road sector, making it comparable to other infrastructure trusts. Its structure shares similarities with entities like Anantam Highways Trust, which makes IRB InvIT Fund a key player in the road sector for the purpose of beta computation in the valuation exercise under consideration. Further, the IRB InvIT is operating and earning cash flows from completed and earning cash flows from completed road assets similar to Anantam Highways Trust. Hence for the reasons mentioned above I found it appropriate to consider the same for Beta calculation.

2) PG InvIT

PG InvIT primarily holds and operates high-voltage power transmission lines, providing essential services for the transmission of electricity across the country. The trust collects fees from utilities for the use of its infrastructure, which are typically based on long-term, fixed contracts. Similar to PG InvIT, Anantam Highways Trust's valuation could be evaluated using standard InvIT valuation techniques, such as Discounted Cash Flow (DCF), which focus on future cash flows and the yield investors can expect. EV/EBITDA multiples, which are commonly used for infrastructure-based valuations, can also be compared between PG InvIT and Anantam Highways Trust's, as both are expected to generate long-term returns for their investors. Considering this history, I found it appropriate to use these projects as a basis for calculation Beta, as the valuation arrived by the company is similar to those of HAM SPV's.

Source: The above information has been derived from annual reports, investor presentations, investor call transcripts and other relevant data which is publicly available and can be verified independently by any reader.

Appendix 4.1 – BMHL: Summary of approval and licenses

Sr. No.	Approvals	Date of Issue	Valid upto	Issuing Authority
1	Provisional Certificate certifying completion of the project highway	3 rd July 2024		Satra Services and Solutions Pvt. Ltd.
2	Environmental Clearance for quarrying of building stone	8 th August 2019		State Environment Impact Assessment Authority
3	CTE for setting up of hot mix plant	5 th August 2021		Karnataka PCB
4	CTO obtained pursuant to Water Act and Air Act			Karnataka PCB
5	Certificate of Registration for Employer	31 st December 2021		Office of the Registering Officer, GOI
6	License obtained pursuant to CLRA Act	24 th November 2021		Office of the Assistant Labour Commissioner

Source: Investment Manager

Appendix 4.2 – DBHL: Summary of approval and licenses

Sr. No.	Approvals	Date of Issue	Valid upto	Issuing Authority
1	Provisional Certificate certifying completion of the project highway	4 th November 2024		LEA Associates South Asia Pvt. Ltd.
2	Consolidated Consent and Authorisation for discharge of trade effluent and emission	8 th July 2021		Gujarat Pollution Control Board
3	Consent to establish for setting up of manufacturing unit	10 th June 2021		Gujarat Pollution Control Board
4	Consolidated Consent and Authorization for operation of industrial plant obtained	9 th October 2023		Gujarat Pollution Control Board
5	Licence obtained pursuant to Contract Labour	16 th February 2024		Office of the Assistant Labour Commissioner
6	Environmental clearance for mining of black trap of certain quarry area obtained	9 th January 2023		State Environment Impact Assessment Authority
7	Certificate of registration of employer obtained	3 rd March 2022		Office of the registering officer

Source: Investment Manager

Appendix 4.3 – DHHL: Summary of approval and licenses

Sr. No.	Approvals	Date of Issue	Valid upto	Issuing Authority
1	Provisional Certificate certifying completion of the project highway	29 th July 2023		L.N. Malviya Infra Projects Pvt. Ltd.
2	CTE obtained pursuant to Water Act and Air Act			Karnataka State Pollution Control Board
3	CTO obtained pursuant to Water Act and Air Act			Karnataka State Pollution Control Board
4	Registration for Employer pursuant to BOCW Act	29 th March 2021		Assistant Labour Commissioner, Bangalore
5	License obtained pursuant to CLRA Act	25 th March 2021		Assistant Labour Commissioner, Bangalore
6	Licence obtained pursuant to Contract Labour	31 st July 2024		Office of the Assistant Labour Commissioner
7	Certificate of registration of employer	29 th March 2021		Office of the registering officer, GOI

Appendix 4.4 – VHL: Summary of approval and licenses

Sr. No.	Approvals	Date of Issue	Valid upto	Issuing Authority
1	Provisional Certificate certifying completion of the project highway	24 th April 2024		L.N. Malviya Infra Projects Pvt. Ltd.
2	Environmental clearance for mining/ quarrying of minor minerals	23 rd November 2016		Chairman, State Level Environment Impact Assessment Authority – Tamil Nadu
3	CTO obtained pursuant to Water Act and Air Act			District Environmental Engineer, Tamil Nadu
4	CTE obtained pursuant to Water Act and Air Act			District Environmental Engineer, Tamil Nadu
5	Certificate of Registration for Employer	12 th January 2022		Office of the Assistant Labour Commissioner
6	Licence obtained pursuant to Contract Labour	12 th January 2022 (Renewed)		Office of the Assistant Labour Commissioner
7	Certificate of registration of employer	12 th January 2022 (Amended)		Office of the registering officer, GOI

Appendix 4.5 – DPHPPL: Summary of approval and licenses

Sr. No.	Approvals	Date of Issue	Valid upto	Issuing Authority
1	Provisional Certificate certifying completion of 36.50 km out of 50.08 km of the project highway comprising the section from Highway Km 74.380 to Km 116.950, being fit to enter into commercial operation.	7 th November 2023 (effective from 5 th October 2023)		Independent Engineer (Aarvee Associates Architects Engineers & Consultants Pvt. Ltd)
2	Consent for operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981)	15 th March 2024	21 st March 2026	Tamil Nadu Pollution Control Board
3	Consent for operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974)	3 rd May 2024	21 st March 2026	Tamil Nadu Pollution Control Board
4	Registration and License to work a factory obtained pursuant to Tamil Nadu Factories Rules 1950	21 st October 2024	31 st December 2025	Joint director of Industrial Safety and Health II, Coimbatore
5	Licence obtained pursuant to CLRA Act	11 th October 2019	10 th October 2025	Office of the Licensing Officer - Regional Labour Commissioner
6	Certificate of Registration for Employer obtained pursuant to the BOCW Act	29 th October 2019	-	Office of the Registering Officer, GoI
7	Approval for 100% change in ownership	18 th September 2024	-	NHAI

Appendix 4.6 – MBHL: Summary of approval and licenses

Sr. No.	Approvals	Date of Issue	Valid upto	Issuing Authority
1	Completion of the project highway	3 rd July 2024		Satra Services and Solutions Pvt. Ltd.
2	Environmental Clearance for quarrying of building stone	15 th December 2022		State Environment Impact Assessment Authority
3	CTE for setting up of hot mix plant	5 th August 2021		Karnataka PCB
4	CTO obtained for discharge of effluent and emission			Karnataka PCB
5	Certificate of Registration for Employer	31 st December		Office of the Registering Officer, Assistant Labour Commissioner, Bangalore
6	Licence obtained pursuant to CLRA Act	24 th November		Office of the Assistant Labour Commissioner

II

Appendix 4.7 – NPHL: Summary of approval and licenses

Sr. No.	Approvals	Date of Issue	Valid upto	Issuing Authority
1	Provisional Certificate certifying completion of the project highway	26th April 2024		Voyants Solutiona Pvt. Ltd.
2	NOC pursuant to the Water Act and Air Act	19th january 2021		Bihar State PCB
3	Emission Consent Order obtained pursuant to Water Act and Air Act			
4	Certificate of Registration for Employer	1st March 2021		Office of the Assistant Labour Commissioner

Appendix 4.8 – PHL: Summary of approval and licenses

Sr. No.	Approvals	Date of Issue	Valid upto	Issuing Authority
1	CTE Obtained for setting up of manufacturing unit for blue metal jelly, m-sand, p-sand, ready mix concrete	28 th October 2021		Tamil Nadu Pollution Control Board
2	CTO Obtained for discharge of sewage/trade effluents and emission for blue metal jelly, m-sand and p-sand	17 th December 2021		Tamil Nadu Pollution Control Board
3	Environmental Clearance for mining/ quarrying of rough stone and gravel	7 th October 2022		State Environment Impact Assessment Authority, Tamil Nadu, MoEFCC
4	Licence obtained pursuant to Contract Labour	24 th December 2021		Office of the Licensing Officer, GOI
5	Certificate of Registration for Employer	24 th December 2021		Office of the Registering Officer, GOI
6	Licence obtained pursuant to Inter-State Migrant Workmen	13 th January 2024		Office of the Registering Officer, GOI
7	NOC for installation of Equipments	17 th June 2021		

Appendix 4.9 – RHL: Summary of approval and licenses

Sr. No.	Approvals	Date of Issue	Valid upto	Issuing Authority
1	Provisional Certificate certifying completion of the project highway	15 th November 2023		Satra Services and Solutions Pvt. Ltd.
2	Completion Certificate for completion of commercial operation of the project highway	5 th June 2024		Satra Services and Solutions Pvt. Ltd.
3	CTE for Ready Mix Cement Concrete pursuant to Water Act, Air Act and Hazardous Wastes Management Rules.			Maharashtra Pollution Control Board for Crushed Stone Metal and by district TS-iPASS Committee on behalf of Telangana State Pollution Control Board
4	CTO for Crushed Stone Metal obtained pursuant to Water Act, Air Act and Hazardous Wastes Management Rules	21 st January 2021		Maharashtra Pollution Control Board
5	Consolidated consent and authorisation for establishing and operation of hot mix plant, wet mix plant and ready mix concrete plant			Telangana State Pollution Control Board.
6	License obtained pursuant to CLRA Act	22 nd August 2023		Office of Licensing officer, Government of India
7	License obtained pursuant to Contract Labour	29 th August 2024		Office of the Assistant Labour Commissioner
8	Certificate of registration of employer	7 th June 2021		Office of the registering officer, GOI

Appendix 5.1 – BMHL: Summary of ongoing Litigations

Sr No	Matter	Pending Before	Particulars
1	The Commercial Arbitration Petition is filed by Bharat Construction Company to set aside the arbitral award dated 03.10.2024 passed by the Ld. Sole Arbitrator in Arbitration Proceedings at AC NO. 293/2024. prayed for The Respondent (M/s Bangalore Malur Highways Pvt. Ltd.) to remit a sum of Rs.1,01,69,862/- (Rupees One Crore One Lac Sixty-Nine Thousand Eight Hundred Sixty-Two only) towards Royalty, GST @ 18% on Royalty, GST @ 5% on purchase of boulders, consideration and owner Royalty in accordance with the terms and conditions of the Contract Agreement dated 01.09.2022. Along with interest @ 15% per annum from the date of raising the running account bills. Next Date of Hearing - 28.02.2025 for Summons to appearance	Commercial Court, Bengaluru, Karnataka	Civil Litigation
2	1. Exemption - Documents 2. Short declaration of rate of tax 3. Trade payables 4. Borrowings 5.Difference in outward turnover IGSTR3B v/s p&L account 6.other Income 7.Ineligible ITC	DC of Commercial Taxes (Enforcement)-2 Mysuru	Indirect Tax Matter - GST
3	1. Short-payment of Tax liabilities on account of short-declared taxable value in the GST Return(s), due to "Cum-Tax" Valuation; claimed, for the Audit Period, 2. Short-Payment of taxes [GSTI in the; STR-3Bi GSTR-9 3.Non-reversal of Input Tax Credits claimed on In-eligible 4.Non-payment of LATE Fee on the delayed filing of GSTR-I	AC CGST Audit, Mysuru, Karnataka	Indirect Tax Matter - GST

Appendix 5.2 – DBHL: Summary of ongoing Litigations

Sr No	Matter	Pending Before	Particulars
1	Difference in GSTR-3B vs 1 (2Avs 3B)	STO Commercial Taxes, Ahmedabad, Gujarat	Indirect Tax Matter - GST

Appendix 5.3 – DHHL: Summary of ongoing Litigations

Sr No	Matter	Pending Before	Particulars
1	Difference in taxable Turnover in GSTR-7 vs 3B	AC DGSTO Mysuru, Karnataka	Indirect Tax Matter - GST
2	1. Interest on belated payment of tax 2.Short Declaration rate of Tax 3.Exemptions claimed: 4.Adjustment in Turnover due to reasons not listed above 5.Trade payables 6.Borrowings 7. Difference in outward turnover (GSTR3B v/s P&L account 8. Other Income 9. Other Income 10. Ineligible ITC:	DC of Commercial Taxes (Enforcement)-2 Mysuru	Indirect Tax Matter - GST

Appendix 5.4 – NPHL: Summary of ongoing Litigations

Sr No	Matter	Pending Before	Particulars
1	Diff. in GSTR 7 & 3B EXEMPT NIL RATED SUPPLY	AC CGST, Patna, Bihar	Indirect Tax Matter - GST

Appendix 5.5 – PHL: Summary of ongoing Litigations

Sr No	Matter	Pending Before	Particulars
1	Difference between P &L and GSTR-3B, short supply of services arrived from the difference between GSTR-3B & 2A	DC Cuddalore, Tamil Nadu	Indirect Tax Matter - GST
2	Ineligible ITC as per Sec17(2)	STO Cuddalore, Tamil Nadu	Indirect Tax Matter - GST

Appendix 5.6 – RHL: Summary of ongoing Litigations

Sr No	Matter	Pending Before	Particulars
1	Audit - documents requirements	AC Commercial Taxes, Telangana	Indirect Tax Matter - GST
2	GSTR 2A Vs 3B	AC Commercial Taxes, Telangana	Indirect Tax Matter - GST
3	ITC Disallowed GSTR 2A Vs 3B	AC Commercial Taxes, Telangana	Indirect Tax Matter - GST

Appendix 6: Brief Details about the Valuer

Professional Experience

Sundararaman is a fellow member from the Institute of Chartered Accountants of India, Graduate member of the Institute of Cost and Works Accountants of India, Information Systems Auditor (DISA of ICAI) and has completed the Post Qualification Certification courses of ICAI on IFRS, Valuation. He is a registered Insolvency Professional and a Registered Valuer for Securities or Financial Assets, having been enrolled with the Insolvency and Bankruptcy Board of India (IBBI) after passing the respective Examinations. He possesses more than 30 years of experience in servicing large and medium sized clients in the areas of Corporate Advisory including Strategic Restructuring, Governance, Acquisitions and related Valuations and Tax Implications apart from Audit and Assurance Services.

His areas of specialization include valuation for various Infrastructure Companies including valuation for Investment Infrastructure Trusts (InvITs)

Professional Qualifications & Certifications

- FCA
- Grad CWA
- Certificate Courses on Valuation
- Certificate Course on IFRS
- Information Systems Audit (DISA of ICAI)
- Registered Insolvency Professional
- IBBI Registered Valuer

Contact Details:

Mr. S. Sundararaman IBBI Registered Valuer
Mobile: +91 97909 28047
Email: chennaissr@gmail.com

Registration Details

IBBI Registration No - IBBI/RV/06/2018/10238

<< *End of Report* >>

ANNEXURE B - TECHNICAL REPORTS

(The remainder of this page is intentionally left blank)

Technical Due Diligence Report

REPORT NO:

24085_TDD_MADATHUKULAM_POLLACHI_FINAL REPORT



INFINITE HOUSE, FP-25, Nr. Aditya Elegance & Railway Track,
CIMS Hospital Road, Sola, Ahmedabad-380060.

E Mail: info@inficivil.com | Web: www.inficivil.com

+91-98980-12321, +91-97259-16639

Four Laning of Madathukulam to Pollachi section of NH-209 (New NH-83) from Design Km. 74.380 to Km. 116.950 (Length = 50.078 km) under Bharatmala Pariyojana Phase -I under the category of residual works of NHDP on HAM in the State of Tamil Nadu.

AUTHORITY:




NATIONAL HIGHWAYS AUTHORITY OF INDIA
 MINISTRY OF ROAD TRANSPORT AND HIGHWAYS
 GOVERNMENT OF INDIA
 NEW DELHI



TECHNICAL DUE DILIGENCE STUDY FINAL REPORT MARCH 2025

SUBMITTED TO:

ANANTAM HIGHWAYS TRUST

DATE	REV	DESCRIPTION	PREPARED	CHECKED	APPROVED
17-03-2025	R0	FOR REVIEW			PSG 

DISCLAIMER AND CONSENT FOR USE

This document has been prepared by INFINITE CIVIL SOLUTIONS Private Limited ("INFINITE") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between INFINITE and the Client.

Any information provided by the Client, third parties and referred to herein has not been solely checked or verified by INFINITE, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of INFINITE. This report is prepared based on document(s)/information provided by the Client through virtual data room, through visual inspection, test report provided by the Client and site surveys and investigation works carried out by INFINITE.

TABLE OF CONTENTS

1	EXECUTIVE SUMMARY	8
1.1.	General	8
1.2.	Scope of Works	8
1.3.	Description of Project Road	9
1.4.	The Project Data	11
1.5.	Brief scope of the project	12
1.6.	Key Findings	12
1.7.	Project Asset Condition	17
2	PROJECT DESCRIPTION & TECHNICAL DETAILS	20
2.1.	Salient features of the Project	20
2.2.	Typical Cross Section Schedule	22
2.3.	Road side Drainage	37
2.4.	Concrete Crash barrier.....	37
2.5.	New Jersey crash barrier	37
2.6.	RCC Retaining wall	38
2.7.	RE wall.....	38
2.8.	Boundary wall on ROW edge	42
2.9.	Toll Plaza	43
2.10.	Other Project Facilities Provided as per Schedule C of CA.....	44
3	ROAD INVENTORY & PAVEMENT CONDITION	50
3.1.	General	50
3.2.	Road Inventory	50
3.3.	Pavement Condition	50
3.3.1.	Rut Depth.....	52
3.3.2	Texture Depth	52
3.3.3	Roughness Survey	53
4	PAVEMENT DESIGN AND PAVEMENT CRUST VALIDATION	54
4.1	Pavement Design Validation	54
4.2	Pavement Design Crust Thickness	54
4.3	FWD Survey.....	56
4.4	Bituminous Core test	57
4.5	Test Pit at Shoulder.....	58
5	INVENTORY AND CONDITION OF STRUCTURES	60
5.1	General Assessment and Condition of the Structures	60
5.2	Inventory of Structures	60
5.3	Details of Flyover	60
5.4	Details of Underpasses (LVUP/SVUP)	61

5.5	Details of Aqueduct	62
5.6	Details of Vehicular overpass cum aqueduct.....	62
6	INVENTORY AND CONDITION OF CULVERTS.....	63
6.1	Details of Culverts	63
7	OVERLAY SCHEDULES	64
7.1	Maintenance/Overlay Schedule	64
8	SAFETY AUDIT OF ROAD.....	65
8.1	General	65
8.2	Conclusion	68
9	TOLL PLAZA & ATMS	69
9.1	Toll plaza, Control Room and Related Equipment	69
9.2	Equipment/Vehicles for Maintenance	69
9.3	Advanced Traffic Management System (ATMS)	69
10	OPERATION & MAINTENANCE	71
10.1	General	71
10.2	O&M forecasts	71
10.2.1	Major Maintenance	71
10.2.2	Operation & Maintenance Works.....	71
11	REVIEW OF CONCESSION AGREEMENT	75
12	BALANCE WORKS SUMMARY	83

LIST OF TABLES

Table 1-1 Project Data Summary	11
Table 1-2 Risk Categorisation Philosophy	12
Table 1-3 Salient Features of the Project	13
Table 1-4 Summary of Asset Condition	17
Table 2-1 Salient Features of the Project	20
Table 2-2 Typical Cross Section of the Project – Main Carriageway	22
Table 2-3 Typical Cross Section of the Project – Spur Road -I	23
Table 2-4 Typical Cross Section of the Project – Spur Road -II	24
Table 2-5 Summary of Project Stretch	24
Table 2-6 Summary of Observations based on Site Visit	24
Table 2-7 List of Retaining Wall Locations	38
Table 2-8 Assessment of RE Wall works as per site execution	38
Table 2-10 Assessment of PCC + Chute Drains works at RE Wall locations as per site execution	40
Table 2-11 Details of Bus Shelter(s) as per site execution	48
Table 3-1 Road Inventory	50
Table 3-2 Pavement Condition Summary	51
Table: 3-3 – Pavement Distress and Roughness Index Based Rating	51
Table: 4-1 – Proposed Pavement Crust	55
Table: 4-2 – Remaining Life Summary	56
Table 4-3 Bituminous layer thickness from Core	57
Table 4-4 Pavement Crust from Test Pits	59
Table 5-1 List of Structures	60
Table 5-2 Inventory of Flyover	60
Table 5-3 Inventory of Underpasses (LVUP/SVUP)	61
Table 8-1 Referred IRC Publications	65
Table 8-2 Safety Provisions recommended prior to COD	66
Table 9-1 List of Equipment required along the project corridor for maintenance period	69
Table 9-2 Observations on ATMS Items pending for installation as per site visit	70
Table 10-1 Estimate of Major Functional Overlay part of Major Maintenance of Project Highway	71
Table 10-2 Preventive & Routine Maintenance	72
Table 10-3 TMS & ATMS Replacement & Maintenance	73
Table 10-4 Highway Lighting running & replacement	73
Table 10-5 Project Manpower Cost, IMV	73

LIST OF FIGURES

Figure 1-1 Project Road and Location Map	10
Figure 2-1 : Representative Photos of Concrete Crash Barrier assessment	37
Figure 2-2 : Representative Photos of New Jersey Crash Barrier at Built up locations	38
Figure 2-11 : Representative Photos of locations where boundary wall works are pending/in progress	43
Figure 2-12 : Status of works at Toll Plaza and Building locations.....	44
Figure 2-13 : Rain water Harvesting Chamber Location Condition Assessment.....	46
Figure 2-14 : Highway Lighting Condition Assessmen	47
Figure: 3-1- Typical View of Network Survey Vehicle	50
Figure 3-2 : Representative Photos of Pavement Condition Survey.....	51
Figure 4-1 : Photos of Core Sample	57
Figure 4-2 : Trial pit showing pavement Layer & Soil Subgrade	58
Figure 4-3 : Bar Chart showing pavement Layer thickness.....	59

1 EXECUTIVE SUMMARY

1.1. GENERAL

- 1) **DPJ POLLACHI HAM PROJECT PRIVATE LIMITED** (herein after referred to as the “Concessionaire”) had augmented the development, maintenance and management of the section from km 74.380 to km. 116.950 (approx. 50.078 km) in accordance with the provisions of the Concession Agreement executed with National Highways Authority of India (herein after referred to as the “Authority”) on 5th December, 2019 on Design, Build, Operate and Transfer (DBOT) on Hybrid Annuity Mode (HAM).
- 2) **ANANTAM HIGHWAYS TRUST.** have appointed **INFINITE CIVIL SOLUTIONS PVT. LTD** as consultant for Technical Due Diligence services for the said road project to know-how the present condition of carriageway, structures, cross drainage works, other project facilities, probable costs of Operations and Maintenance during balance Concession period, additional road safety requirements etc. in accordance with the agreed terms of reference.

1.2. SCOPE OF WORKS

This report is prepared as per scope of work defined in the Letter of Engagement/Work Order and as discussed in various meetings to include key findings in the report and based on visual condition survey of highway and structures and documents/test report provided to us by the Client. Our work, which is summarized in this Technical Due Diligence Report, has been limited to matters which we have identified that would appear to us to be of significance within the context of our scope.

In this report, **INFINITE CIVIL SOLUTIONS PVT. LTD.** provides an overview of the asset based on site survey conducted in the year 2025 from technical perspective, comparison between scope of works as per contract and executed at site, review of operation and maintenance approach adopted by the Client, review of Major Maintenance (MM) approach and methodology and balance works (if any).

- **Sources of Information**

We have reviewed the information provided by the Client electronically through mails, and links.

Primarily the following documents have been studied:

Project Document:

Documents received from Concessionaire are listed below:

- Signed Concession Agreement
- Schedule A, B, C and D
- Approved Plan and Profile (Main Carriageway & Service Road)

- Approved Drainage Plan
- Approved Signage Plan
- Pavement Design Report including Mix Design, Test pits
- Highway Lighting Design and Drawings
- Structure Drawings
- Report from Safety Consultant
- List of NCR & Punch List
- PCOD Letter (if applicable/available)
- Copy of Settlement Agreement
- Comparative statement Scope Vs Achievement
- Traffic Survey Report, Axle Load Survey Data
- List of Change of Scope (as applicable)
- Maintenance Manual
- Maintenance Programme
- O&M IE MPRs
- Monthly Progress Report prepared by IE
- Tests on completion
- SOR and Material Rates
- RE Wall drawings
- Toll Plaza, TMS and ATMS details
- Misc. items details such as Thrie Beam Metal Crash Barrier, etc.

From Surveys/Investigation Conducted by ICS:

- Field Inventory / Reconnaissance Survey
- Structure Inventory / Condition Survey
- Pavement Evaluation by FWD & NSV
- Trial Pits along paved shoulder and core cutting

1.3. DESCRIPTION OF PROJECT ROAD

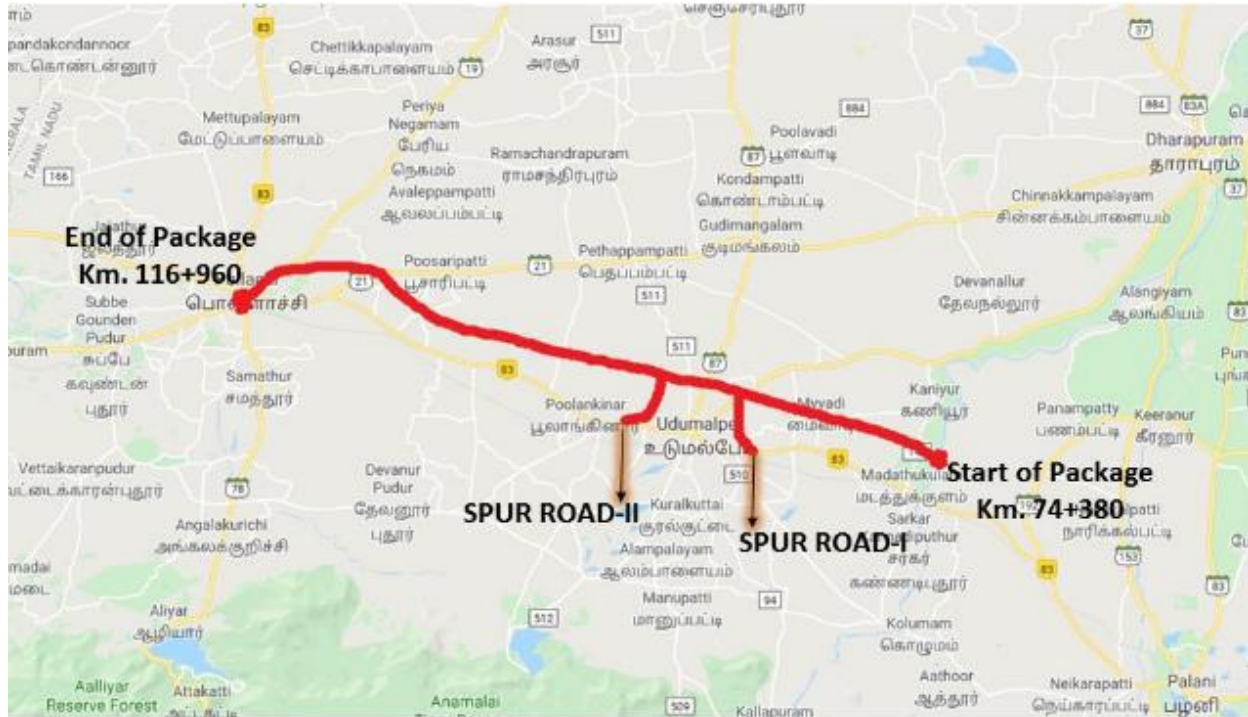
- **Background**

The project road is passing through National Highway (NH-83) in Tamil Nadu. It starts at Madathukulam and terminates at Pollachi. It has a total length of 50.078 kms including with Spur roads. The Ministry of Road Transport & Highways (the “Authority”) through National Highway Authority of India (NHAI) engaged in the development of National Highways and as part of this endeavor, it has decided to undertake Four laning of NH-83 from Madathukulam (Design km. 74+380) to Pollachi (Design km. 116+950) (design length 50.078 kms.) in the state of Tamil Nadu under Bharatmala Pariyojana Phase-I under the category of Residual works of NHDP on HAM.

- **Project Road**

The project road is a part of NH-83 in the state of Tamil Nadu starts at km. 74+380 Madathukulam and ends at km 116+950 at Pollachi. The project road enroute passes through important towns and villages viz. Udumalpet, Mukkonam, Gomangalam pudur, Gedimedu and Kolarpatti etc. in the state of Tamil Nadu. The location map of the project road is as shown in Figure: 1.1.

Figure 1-1 Project Road and Location Map



The project Strip chart is as shown in Figure: 1.2

1.4. THE PROJECT DATA

Summary of Project Data is presented in Table 1.1 below:

Table 1-1 Project Data Summary

Sr. No.	Particulars	Details
1.	Name of the project	Four laning of NH-209 (New NH-83) from Madathukulam (Design Km 74+380) to Pollachi (Design Km 116+950) (Design Length =50.078 Km)
2.	Road Type	Highway, Widening and Green field alignment, realignment & bypasses, Terrain: Plain
3.	Name of the Authority	NATIONAL HIGHWAYS AUTHORITY OF INDIA (NHAI)
4.	Name of the Concessionaire	M/s DPJ Pollachi HAM Project Private Limited
5.	Name of the EPC Contractor	DP Jain & Co. Infrastructure Pvt. Ltd.
6.	Name of the Independent Consultant	M/s. Aarvee Associates Architects Engineers & Consultants
7.	LOA no. and Date	NHAI/11012/MP/HAM/13/2018/1032 dtd. 13.02.2019
8.	Date of Concession Agreement	5 th December 2019
9.	Design Length as per CA	Main Carriageway: a. Bypasses (2 nos.) – 34.74 km b. Realignment (5 locations) – 3.16 km c. Widening & strengthening – 4.67 km Spur Roads (2 nos.): 7.508 km Service Road: 2.480 km Slip Road: 28.500 km (CA) + 6.280 km (COS)
10.	Project Lane configuration	4 lane with raised median of 5m including kerb shyness
11.	Bid Project Cost (Article 23.1)	724.00 Crs. (as per CA)
12.	Nature of Contract	Hybrid Annuity
13.	Concession Period	15 years from COD
14.	Original Construction Period (Schedule-G)	730 days from Appointed Date -03.12.2022
15.	Provisional Commercial Operation Date (PCOD)	Pre-COD issued for 36.502 kms on 05.10.2023 – commencement of O&M from this date
16.	Scheduled Completed Date	03.12.2022 (730 days from Appointed Date) 29.05.2023 (As per revised EOT) 27.02.2024 (As per Settlement Agreement) + Grace Period of 3 months 30.11.2024 (As per Settlement Agreement – 2) signed on 11.07.2024

Sr. No.	Particulars	Details
		As per meeting with NHAI Chairman held on 17.12.2024, revised date - 15.03.2025 (refer. IE MPR – Jan 2025)
17.	Annuity Payments	Twice in a year for 15 years (commences only after 180 days of COD)

1.5. BRIEF SCOPE OF THE PROJECT

Brief Scope of the Project is summarised as below:

- Construction of 4 lane carriageway including Spur Roads (1 & 2), service/slip road as applicable
- Minor Bridges on Main carriageway and service/slip road as applicable
- Flyover
- Vehicular underpass cum Minor Bridge
- Vehicular Overpass
- Aqueduct(s)
- New Underpasses (SVUP/LVUP)
- PCC Toe wall, Retaining wall, RE Wall, RS Wall as applicable
- Drains – Earthen Drain, covered drain including footpath, Median Drain
- Major/Minor Junction including development below grade separated structures
- Toll Plaza, Highway Nest Mini, Bus Bay, Truck lay bye
- Traffic Aid Post, Medical Aid Post, Vehicular Rescue Post
- Road Furniture
- Environmental Management Plan, Landscaping, Avenue and Median Plantation
- ATMS and TMS
- Utilities, Rain water harvesting
- RCC Boundary Wall on both sides of ROW
- Operation and Maintenance of Project Road

1.6. KEY FINDINGS

Following are the Key findings rated with Red/Amber/Green for high risk, medium risk and low risk respectively.

Table 1-2 Risk Categorisation Philosophy

Sr. No.	Risk Category	Remarks
1.	HIGH	Critical risks that will have major impact on the cost of the project during the balance concession period

Sr. No.	Risk Category	Remarks
2.	MEDIUM	Risks that will have moderate impact on the cost of the project during the balance concession period
3.	LOW	Risks that will have low impact on the cost of the project during the balance concession period
4.	NIL	No Risks

Table 1-3 Salient Features of the Project

Sr. No.	Diligence Area	Findings	Risk
1.	Handing Over of Land	As on date there are no pending land acquisition issues in the project, 40.322 km (80.52%) of land was handed over before Appointed Date, 27.747 km (55.45%) of land was handed over within 146 days from AD, 46.654 km (93.16%) of land handed over as per SA-1 on 02.08.2023, total 50.078 km (100%) encumbrance free land handed over as on 31.08.2024 (as per SA-2)	NIL
2.	Utility Shifting	EHT Tower Shifting works at km 79+200, km 78+650, km 93+800 are under progress. ,	MEDIUM
3.	Tree cutting, Encumbrance free Land	No issues pertaining to tree cutting and provision of encumbrance free land are observed	NIL
4.	Balance Works Summary	Based on site assessment, approx. 90% of the physical works are complete, with works primarily at flyover locations approaches works in progress. Rock cutting works are under progress, additional SR construction works are in progress. <i>It is anticipated that at least 2 months will be required for completion of these balance works.</i>	MEDIUM

Sr. No.	Diligence Area	Findings	Risk
5.	Pavement Design	<p>(A) For Main carriageway with Design traffic 20 MSA</p> <p>By using Fatigue Model of 90% reliability with air void around 4.17 percent and the volume of bitumen of about 10.85 per cent is given as approved mix design, the resultant Fatigue life evaluated is 15.82 MSA less than the required Design traffic of 20 MSA. However, based on FWD evaluation, remaining life is more than design life of 20 MSA, hence pavement crust is adequate.</p> <p>(B) For Service Road with Design traffic of 10 MSA</p> <p>Proposed Pavement crust is Safe for design traffic of 10 MSA as per mix design parameter Va and Vb considered.</p> <p>Considering the combination of above two methods, pavement crust is safe and adequate for the life of the concession.</p>	NIL
6.	Pavement Structural Survey Test	The remaining life is more than Design traffic of 20 MSA.	NIL
7.	Pavement Condition	Roughness Index is less than 1800 mm/Km for each lane on either side of carriageway. Hence, Carriageway is in good condition.	NIL
8.	Drainage Condition	Proper grading, slope adjustment, and cleaning of the earthen drains are required to ensure effective water drainage. Median drains are provided at curvature portions, Chute drains and construction of energy dissipation basins and the related toe drains are being completed by the Concessionaire	LOW
9.	Slope protection works	The condition of the slope along a portion of the highway needs to be maintained throughout the life of the Concession to ensure no deterioration. Same is being done by the Concessionaire.	LOW
10.	Metal Beam Crash Barrier	Metal Beam crash barriers (MBCB) are proposed on either side of main carriageway i.e. on the earthen shoulder throughout the highway as per the approved typical cross sections. At narrow median locations, Metal Beam Crash Barrier is provided as per codal provisions,. At few locations (median side), end treatment is found missing and is being addressed.	LOW

Sr. No.	Diligence Area	Findings	Risk
11.	Condition of Structures	General condition of Minor Bridges and Underpasses (SVUP/LVUP/VOP/Flyover) is fair. Structural defects were not noticed.	LOW
12.	Condition of Culverts	General structural condition of culverts (Box) is fair. However, vegetation growth and debris is observed in vent ways which needs to be cleared off and maintained regularly during maintenance period.	LOW
13.	Toll Plaza	The project has one main Toll Plaza at Km 97+200 (4 + 4 lanes) one Toll Plaza with 1.8 m median. The same is constructed according to NHAI policy circular no 17.5.82 dated 24.05.2021. Rigid pavement is provided at tapered portion and centre portion of toll lanes. As per site investigation, the Toll Plaza construction works are in progress. Foot over bridge construction work in progress, building works are complete but ATMS installation works are in progress.	NIL
14.	TMS & ATMS	TMS & ATMS installation works are pending as construction works are in progress	NIL
15.	Road Safety & Highway Lighting	Road safety appurtenances in the form of sign board road marking, Metal beam metal crash barrier etc. are proposed as per Concession Agreement. However, sign boards at few location and lighting works below the structures is missing/yet to be installed. Few light poles are titled/ damaged. Retro reflectivity test results do not meet minimum coefficient of reflection values and so this may pose issues in road safety	LOW

16.	Change of Scope Order	Change of Scope amount approved under COS-I:		LOW	
		Sr. No.	Description		Amount
		1	Box Culvert 3 Nos Changed to Minor Bridge		44,48,001
		2	Vent Height Increasing of LVUP at Km.100+130 & MNB at Km 100+460		4,21,02,813
		3	Vent Height Increasing of SVUP at Km.114+095 & Box Culvert at Km 114+520		2,71,22,320
		4	Additional SVUP at Km. Km.77+835		1,05,12,919
		Total Amount (Excluding GST and LC)			8,41,86,053
		Change of Scope amount approved under COS-II:			
		Sr. No.	Description		Amount
		1.	Additional SVUP at Km. 112+941		1,48,84,099
		2.	Additional SVUP at km. 114+590		2,13,28,798
		3.	Additional Service Road from Km. 109+760 to Km. 110+300		4,11,73,729
4.	Additional Service Road along with culverts & Structures From ch 80+300 TO 81+100 (BS), From ch 90+490 to 91+280 (BS), From ch 91+850 to 93+010 (BS)	17,08,41,178			
5.	Additional Bus Bay 2 locations Km. 113+960 (BS)	49,30,957			
6.	RCC Pipe Drain to RCC Box Drain	(3,76,94,696)			
7.	Modification of Toll Plaza as per existing circular	(10,71,56,865)			
Total Amount (Excluding GST and LC) (A)		10,83,07,201			
Change of Scope amount approved under COS-III:					
Sr. no	Description	Amount			
1	Canal Lining at km 0+400 & Km 107+422	12,34,484			
2	Additional Utility Duct	70,11,239			
Total Amount (Excluding GST and LC)		82,45,723			
COS related works are partially undertaken and works are in progress at site.					
17.	Dispute Raised	No major disputes are pending as of now.	NIL		

1.7. PROJECT ASSET CONDITION

In general, the condition of asset is in fair condition at the time of February 2025. As per our study, with existing arrangement for Operation and Maintenance and routine maintenance works executed on regular basis, the project road will continue to fulfil Level of Service as set forth in Schedule L and O&M Requirement of Concession Agreement except some improvements are required:

- a. Safety enhancement
- b. Roughness Survey and FWD Survey to be conducted as per frequency stated in Schedule-L

Table 1-4 Summary of Asset Condition

Sr. No.	Asset(s)	Condition
1.	Main Carriageway	Project Road is of 50.0 km, out of which approx. 90.00% physical work is completed. The project road in general is 4 Lane dual carriageway road with paved and earthen shoulder on either carriageway with 4m wide median excluding shyness. Typically, the paved width of the MCW is 8.5m (excluding shyness) except at GS structure approaches where the paved width is 9m (excluding shyness).
2.	Spur Road(s)	There are 2 nos. of Spur Roads of approx. 7.508 km, the works for the same is completed. Over all condition of the spur roads is fair.
3.	Service/Slip Road(s)	Approx. 24.200 km of total service road/slip road is completed. Approx. 11.9 km is balance length.
4.	Median	Majority of project road has raised median which is generally 4.0m wide. Overall condition of median is fair.
5.	Drainage Condition	Earthen Drain is providing however needs regular maintenance. At Service Road/Slip Road locations, Box Drain is provided. Overall condition of box drain is fair. In cutting section, Box drain is provided at the MCW edge on BHS, overall condition of the Box Drain in this section is fair. However, drain is found to be damaged or choked in few locations
6.	Metal Beam Crash Barrier	Metal Beam Crash Barriers are proposed on earthen shoulder at majority of the project stretch. It is observed that at some locations, median side of carriageway, end treatment of MBCB is required to be done. At few locations connection between post and Metal Beam is missing which needs to be done.
7.	RCC Crash Barrier and Railing	RCC Crash Barrier/Railings are present in structure approaches, bridges, underpasses, overpass. The condition of these are generally found to be fair.

Sr. No.	Asset(s)	Condition
8.	Vehicular Over Pass cum Aqueduct	There is 01 no. of Vehicular Overpass cum Aqueduct on the project stretch. The type of superstructure for VOP side is RCC/PSC Girder type and the substructure is PCC/RCC type supported on open foundations with POT-PTFE Bearings and Strip Seal Expansion joints. RCC crash barriers and railing are provided.
9.	Minor Bridge	There are 18 nos. of Minor bridges on the project stretch. 5 Nos. of Minor bridges are RCC/PSC Girder type (total length from 15 to 32 m) and the substructure is RCC Pier/Abutment supported on open/Pile foundations. Other Minor Bridges are RCC Box type structures. Expansion joints are Strip Seal type and bearings are Elastomeric Bearings. RCC Crash barriers are provided for all structures.
10.	Underpasses	There are 05 nos. of LVUP and 08 nos. of SVUP in the project stretch as per CA. The type of superstructure for LVUP and SVUP is RCC Box with filler board. RCC crash barriers are provided. Overall condition of underpasses is fair.
11.	Box Culverts	There are 92 nos. culverts along the project highway on Main Carriageway & Spur Roads - 1 & 2, additionally there are 51 nos. of culverts on cross roads, all of which are RCC Box culverts. In general, the condition of Box culverts is fair, but the culverts are covered with debris or vegetation growth is observed. Hence, vent cleaning of culverts is highly recommended for clear waterway. At few locations, protection works are missing and needs to be provided as per approved drawings
12.	Toll Plaza	The project has one main Toll Plaza at Km 97+200 (4 + 4 lanes) one Toll Plaza with 1.8 m median. The same is constructed according to NHAI policy circular no 17.5.82 dated 24.05.2021. Rigid pavement is provided at tapered portion and centre portion of toll lanes. As per site investigation, the Toll Plaza construction works are in progress. Building works are complete and ATMS installation works are in progress.
13.	ATMS	Majority of the field equipment are pending for installation.
14.	Building Works	Building works associated with Medical Aid Post, Traffic Aid Post, Vehicle Rescue Post, Toilet Block, Residential Quarters, Dormitory Building etc. are complete and functional.

Sr. No.	Asset(s)	Condition
15.	Rest Area	01 no. Rest Area is De-scoped – As per NHAI Policy Circular No. 18.89/2023 dated 05-07-2023. Grading is done there.
16.	Highway Lighting and High Mast	In general, Highway lighting is to be provided at Toll Plaza, Highway Mini Nest, Truck Lay Bye and all SVUP/VUP locations. Provision of High Mast is considered at Plaza location. It is observed that lighting work is complete in PCOD stretches with lighting lux level achieved as per site verification, at other locations pole erection works are in progress.

2 PROJECT DESCRIPTION & TECHNICAL DETAILS

2.1. SALIENT FEATURES OF THE PROJECT

The salient features of the Project as per Schedule B and Schedule C of Concession Agreement (CA) including Change of scope are listed in the following Table 2-1.

Table 2-1 Salient Features of the Project

Sr. No.	Particulars	Unit	As per CA	As per Execution	Remarks (if any)
1.	Total Length of the Project Highway including bypasses	Km	50.078	46.00	Construction works under progress in approx. 4.5 km length BC completed in approx. 46 km length
2.	Bypasses	Km	34.74	34.74	2 nos. – Udumalpet Bypass & Pollachi Completed
3.	Realignment	Km	3.16	3.16	5 location – Completed
4.	Widening & Strengthening of Existing Road	Km	4.67	4.67	In Progress
5.	Spur Road – (02 nos.)	Km	7.508	7.508	Udumalpet Spur Road – I & Udumalpet Spur Road - II
6.	Service Road	Km	2.480	2.480	6.28 Km COS, approx. 24.5 km works completed
7.	Slip Road	Km	28.50	28.50 + 6.28	
8.	Minor Bridges	Nos.	15	15	
9.	Box Culverts – MCW, Spur & Slip Roads	Nos.	149	92+51	
10.	Flyover(s)	Nos.	07	07	06 nos. of flyover Construction under progress
11.	Light Vehicular Underpass(es)	Nos.	05	05	Completed
12.	Small Vehicular Underpass(es)	Nos.	05	08	03 nos. COS
13.	Vehicular Over Pass	Nos.	01	01	Cross Road development works in progress
14.	Aqueduct(s)	Nos.	02	02	Completed
15.	Toll Plaza	Nos.	01	01	Km 97+200
16.	Highway Mini Nest	Nos.	02	01	
17.	Major Intersection	Nos.	05		
18.	Minor Intersection	Nos.	07		
19.	Junction Development	Nos.	19		
20.	Bus Bays- MCW	Nos.	01	01	Completed
21.	Bus Shelter(s)	Nos.	38		In progress at few locations
22.	Truck Lay Bye	Nos	01	01	BHS – 104+180 km
23.	Rest Areas	Nos.	02	01	Descoped – 01 no. at km 113+750

Sr. No.	Particulars	Unit	As per CA	As per Execution	Remarks (if any)
24.	Traffic Aid Post	Nos	01	01	
25.	Medical Aid Post	Nos	01	01	
26.	Vehicle Rescue Post	Nos	01	01	
27.	Covered Drain Cum Foot Path	Km	13.12		Work in Progress
28.	Boundary Wall	Km	91.586	61.73	Approx. 21.5 km length gaps identified
29.	Avenue Plantation	Nos.	43300		Work in Progress
30.	Median Plantation	Nos.	26200		Work in Progress

2.2. TYPICAL CROSS SECTION SCHEDULE

The Concessionaire has followed the Typical Cross Section Schedule, as per Schedule B of CA during the Construction.

Table 2-2 Typical Cross Section of the Project – Main Carriageway

Sr. No.	As per CA				As per Execution				Remarks
	Design Ch. From (km)	Design Ch. To (km)	Length (m)	TCS Type	Design Ch. From (km)	Design Ch. To (km)	TCS Type	Length (m)	
1.	74+380	76+000	1620	5	74+380	76+000	1620	5	Udumalpet Bypass
2.	76+000	76+890	890	6	76+000	76+890	890	6	Udumalpet Bypass
3.	76+890	79+040	2150	5	76+890	79+040	2150	5	Udumalpet Bypass
4.	79+040	79+600	560	6	79+040	79+600	560	6	Udumalpet Bypass
5.	79+600	80+290	690	5	79+600	80+290	690	5	Udumalpet Bypass
6.	80+290	81+100	810	6A	80+290	81+100	810	6A	Udumalpet Bypass
7.	81+100	84+020	2920	5	81+100	84+020	2920	5	Udumalpet Bypass
8.	84+020	87+600	3580	6	84+020	87+600	3580	6	Udumalpet Bypass
9.	87+600	90+490	2890	5	87+600	90+490	2890	5	Udumalpet Bypass
10.	90+490	91+280	790	6A	90+490	91+280	790	6A	Udumalpet Bypass
11.	91+280	91+800	520	5	91+280	91+800	520	5	Udumalpet Bypass
12.	91+800	92+710	910	6A	91+800	92+710	910	6A	Udumalpet Bypass
13.	92+710	95+520	2810	5	92+710	95+520	2810	5	Udumalpet Bypass
14.	95+520	96+320	800	6	95+520	96+320	800	6	Udumalpet Bypass
15.	96+320	96+700	380	5	96+320	96+700	380	5	Realignment
16.	96+700	97+700	1000	TP	96+700	97+700	1000	TP	Toll Plaza
17.	97+700	97+790	90	5	97+700	97+790	90	5	Realignment
18.	97+790	98+490	700	4C	97+790	98+490	700	4C	Realignment
19.	98+490	99+730	1240	3D	98+490	99+730	1240	3D	Realignment
20.	99+730	99+830	100	4C	99+730	99+830	100	4C	Realignment
21.	99+830	99+910	80	4C	99+830	99+910	80	4C	Eccentric (Left)
22.	99+910	100+330	420	4C	99+910	100+330	420	4C	Concentric
23.	100+330	100+510	180	4C	100+330	100+510	180	4C	Eccentric (Right)
24.	100+510	100+650	140	4C	100+510	100+650	140	4C	Concentric
25.	100+650	100+850	200	4C	100+650	100+850	200	4C	Eccentric (Right)
26.	100+850	101+240	270	4C	100+850	101+240	270	4C	Realignment
27.	101+240	101+440	200	2E	101+240	101+440	200	2E	Concentric
28.	101+440	101+730	200	2F	101+440	101+730	200	2F	Eccentric (Right)
29.	101+730	101+870	140	2F	101+730	101+870	140	2F	Eccentric (Left)
30.	101+870	102+120	250	4C	101+870	102+120	250	4C	Eccentric (Left)
31.	102+120	102+660	540	4C	102+120	102+660	540	4C	Concentric
32.	102+660	102+900	240	4C	102+660	102+900	240	4C	Realignment
33.	102+900	103+010	110	4C	102+900	103+010	110	4C	Eccentric (Right)
34.	103+010	103+150	140	4C	103+010	103+150	140	4C	Realignment

Sr. No.	As per CA				As per Execution			Length (m)	Remarks
	Design Ch. From (km)	Design Ch. To (km)	Length (m)	TCS Type	Design Ch. From (km)	Design Ch. To (km)	TCS Type		
35.	103+150	103+260	110	2F	103+150	103+260	110	2F	Eccentric (Right)
36.	103+260	103+400	140	2E	103+260	103+400	140	2E	Concentric
37.	103+400	103+500	100	2F	103+400	103+500	100	2F	Eccentric (Left)
38.	103+500	104+820	1320	5	103+500	104+820	1320	5	Pollachi Bypass
39.	104+820	105+910	1090	6	104+820	105+910	1090	6	Pollachi Bypass
40.	105+910	107+275	1365	5	105+910	107+275	1365	5	Pollachi Bypass
41.	107+275	107+575	300	7	107+275	107+575	300	7	Pollachi Bypass
42.	107+575	108+000	425	5	107+575	108+000	425	5	Pollachi Bypass
43.	108+000	108+145	145	11A	108+000	108+145	145	11A	Pollachi Bypass
44.	108+145	108+147	2	11	108+145	108+147	2	11	Pollachi Bypass
45.	108+147	108+368	221	11A	108+147	108+368	221	11A	Pollachi Bypass
46.	108+368	108+381	13	11B	108+368	108+381	13	11B	Pollachi Bypass
47.	108+381	108+900	519	11A	108+381	108+900	519	11A	Pollachi Bypass
48.	108+900	109+100	200	5	108+900	109+100	200	5	Pollachi Bypass
49.	109+100	109+760	660	6	109+100	109+760	660	6	Pollachi Bypass
50.	109+760	111+650	1890	5	109+760	111+650	1890	5	Pollachi Bypass
51.	111+650	112+650	1000	6	111+650	112+650	1000	6	Pollachi Bypass
52.	112+650	113+850	1200	5	112+650	113+850	1200	5	Pollachi Bypass
53.	113+850	114+600	750	6A	113+850	114+600	750	6A	Pollachi Bypass
54.	114+600	115+460	860	5	114+600	115+460	860	5	Pollachi Bypass
55.	115+460	115+620	160	1	115+460	115+620	160	1	Pollachi Bypass
56.	115+620	116+300	680	1B	115+620	116+300	680	1B	Pollachi Bypass
57.	116+300	116+400	100	1B	116+300	116+400	100	1B	Eccentric (Right)
58.	116+400	116+550	150	1B	116+400	116+550	150	1B	Concentric
59.	116+550	116+950	400	1A	116+550	116+950	400	1A	Concentric
Total			42570					42570	

Table 2-3 Typical Cross Section of the Project – Spur Road -I

Sr. No.	As per CA				As per Execution			Length (m)	Remarks
	Design Ch. From (km)	Design Ch. To (km)	Length (m)	TCS Type	Design Ch. From (km)	Design Ch. To (km)	TCS Type		
1.	00+000	00+800	800	2F	00+000	00+800	2F	800	SPR-I
2.	00+800	01+240	440	5	00+800	01+240	5	440	SPR-I
3.	01+240	01+410	170	5D	01+240	01+410	5D	170	SPR-I
4.	01+410	04+656	3246	5E	01+410	04+656	5E	3246	SPR-I
Total			4656					4656	

Table 2-4 Typical Cross Section of the Project – Spur Road -II

Sr. No.	As per CA				As per Execution			Length (m)	Remarks
	Design Ch. From (km)	Design Ch. To (km)	Length (m)	TCS Type	Design Ch. From (km)	Design Ch. To (km)	TCS Type		
1.	00+000	00+600	600	5	00+000	00+600	5	600	SPR-II
2.	00+600	00+770	170	5D	00+600	00+770	5D	170	SPR-II
3.	00+770	02+852	2082	5E	00+770	02+852	5E	2082	SPR-II
4.		Total	2852					2852	

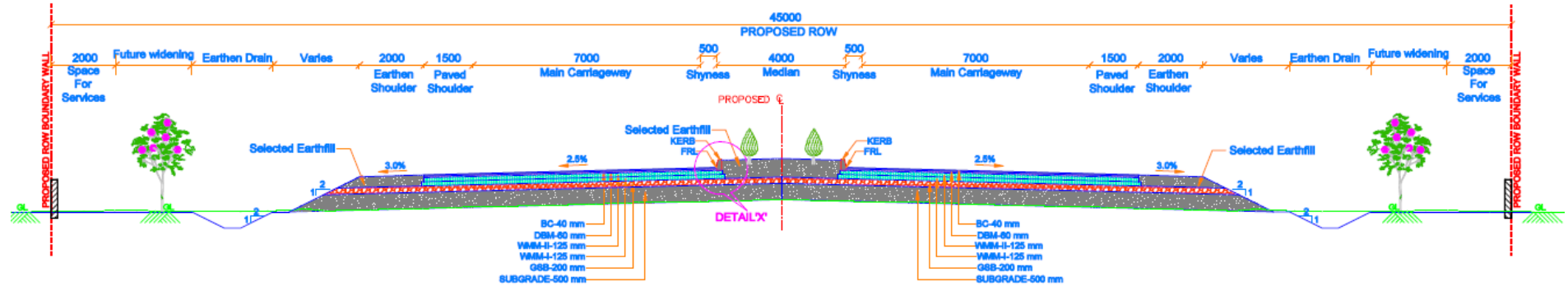
Table 2-5 Summary of Project Stretch

Sr. No.	As per CA				As per Execution			
	Design Ch. From (km)	Design Ch. To (km)	Length (m)	Remarks	Design Ch. From (km)	Design Ch. To (km)	Length (m)	Remarks
1.	00+000	116+950	42570	Main Project Road	00+000	116+950	42570	Works in Progress
2.	00+000	04+656	4656	Spur Road- I	00+000	04+656	4656	Spur Road- I
3.	00+000	02+852	170	Spur Road - II	00+000	02+852	170	Spur Road - II
		Total	50078				50078	
		Total (km)	50.078				50.078	

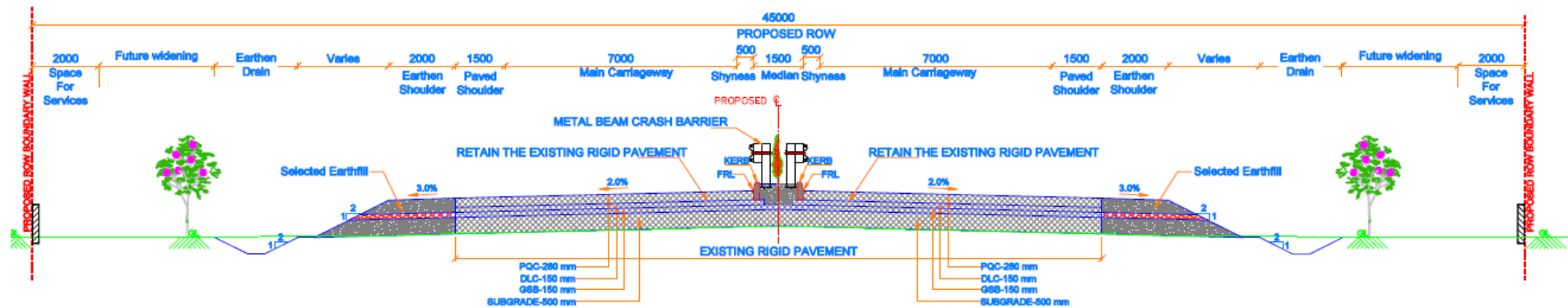
Table 2-6 Summary of Observations based on Site Visit

Sr. No.	Chainage		Side	Remarks based on Site Visit
	From	To		
1.	80+300	81+000	BHS	COS-Service Road (Only Subgrade filled up)
2.	84+020	84+360	BHS	Slope Protection Wall Pending
3.	84+360	84+920	BHS	RE Wall & Structure Under Construction
4.	86+220	86+470	BHS	GSB Fill up & Structure Under Construction
5.	90+490	91+280	BHS	Service Road - COS, Under Construction
6.	91+850	93+010	BHS	Service Road - COS, Under Construction
7.	91+860	93+010	BHS	Service Road Under Construction
8.	92+140	93+010	BHS	Only Subgrade filled up - COS SR
9.	95+800	96+380	BHS	Structure & RE Wall in progress - Only Subgrade filled up
10.	97+860	98+370	LHS	Slope Protection Wall in progress & Road Marking Pending
11.	107+840	107+600	RHS	SR- WMM filled up
12.	109+080	109+640	BHS	Structure Under Construction
13.	109+080	109+350	BHS	SR- WMM filled up
14.	109+350	109+640	LHS	SR- WMM filled up
15.	109+350	109+640	RHS	SR-GSB filled up
16.	110+020	110+140	BHS	Blasting work ongoing - BC Remaining
17.	109+640	110+340	BHS	Service Road – in Progress
18.	111+900	112+700	BHS	MCW - Structure Under Construction
19.	111+900	112+180	BHS	SR - WMM filled up

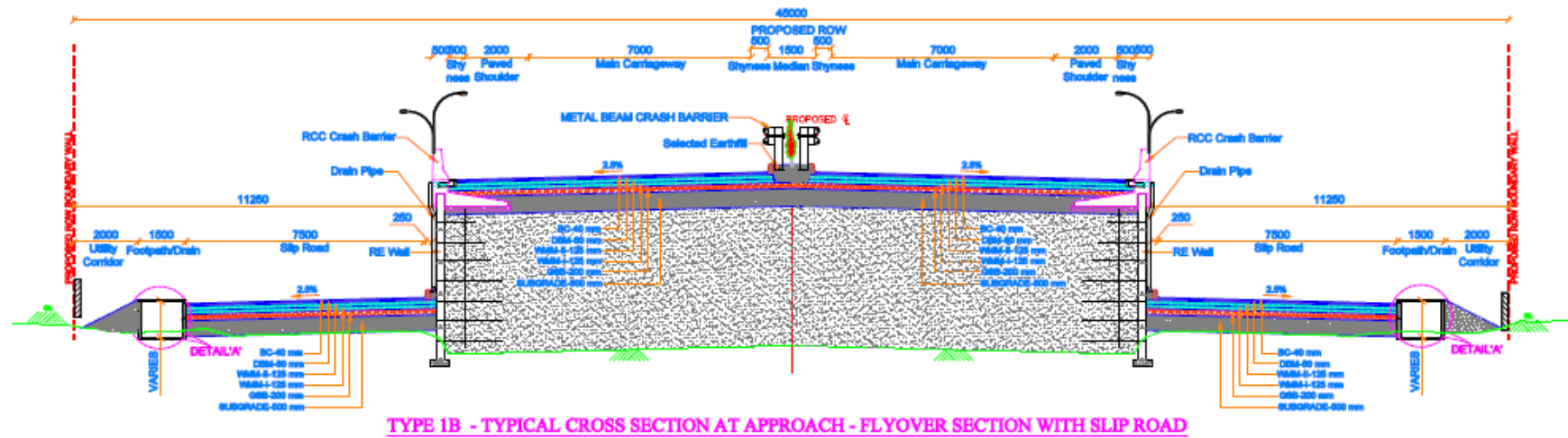
Sr. No.	Chainage		Side	Remarks based on Site Visit
	From	To		
20.	112+180	112+700	BHS	SR - GSB filled up
21.	115+700	116+950	BHS	MCW - Structure Under Construction
22.	115+700	115+960	BHS	SR - GSB Fill up - Under Construction
23.	116+160	116+200	RHS	SR - WMM Filled up
24.	116+130	116+300	BHS	Structure and RE Wall Work Ongoing
25.	116+300	116+950	BHS	SR - Subgrade fill up, other work ongoing
26.	113+700		RHS	Rest Area - Under Construction

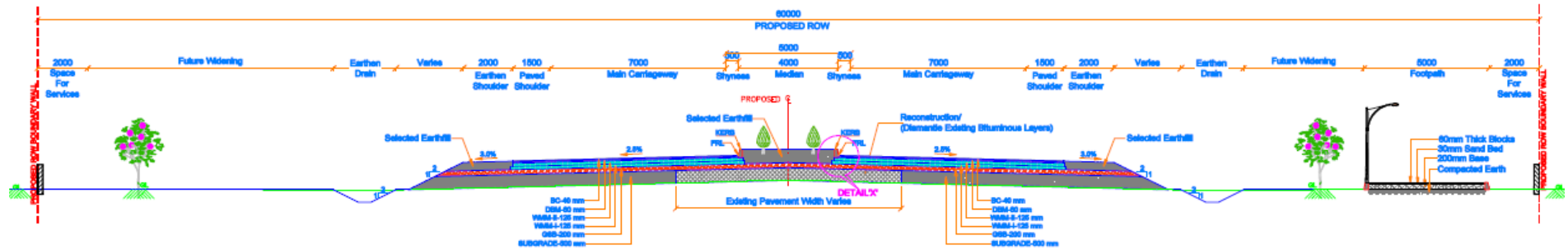


TYPE 1 - TYPICAL CROSS SECTION OF 4 LANE DIVIDED CARRIAGEWAY WITH PAVED SHOULDER IN BYPASS

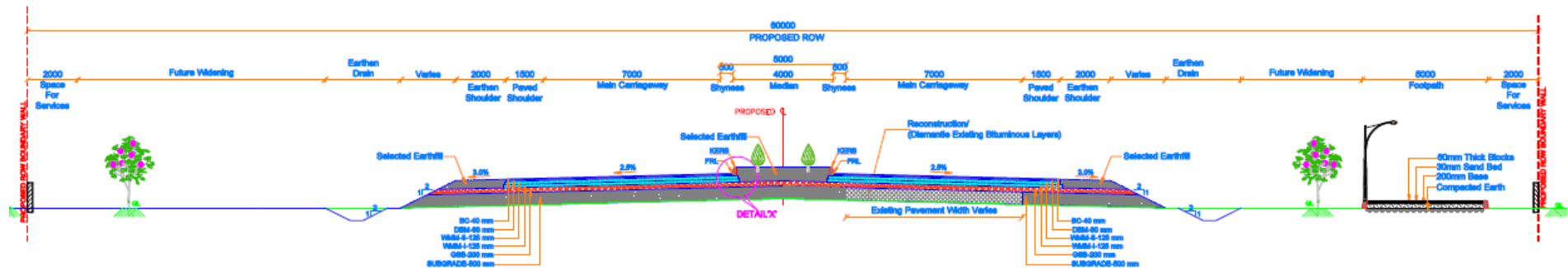


TYPE 1A - TYPICAL CROSS SECTION OF 4 LANE DIVIDED CARRIAGEWAY WITH EXISTING RIGID PAVEMENT

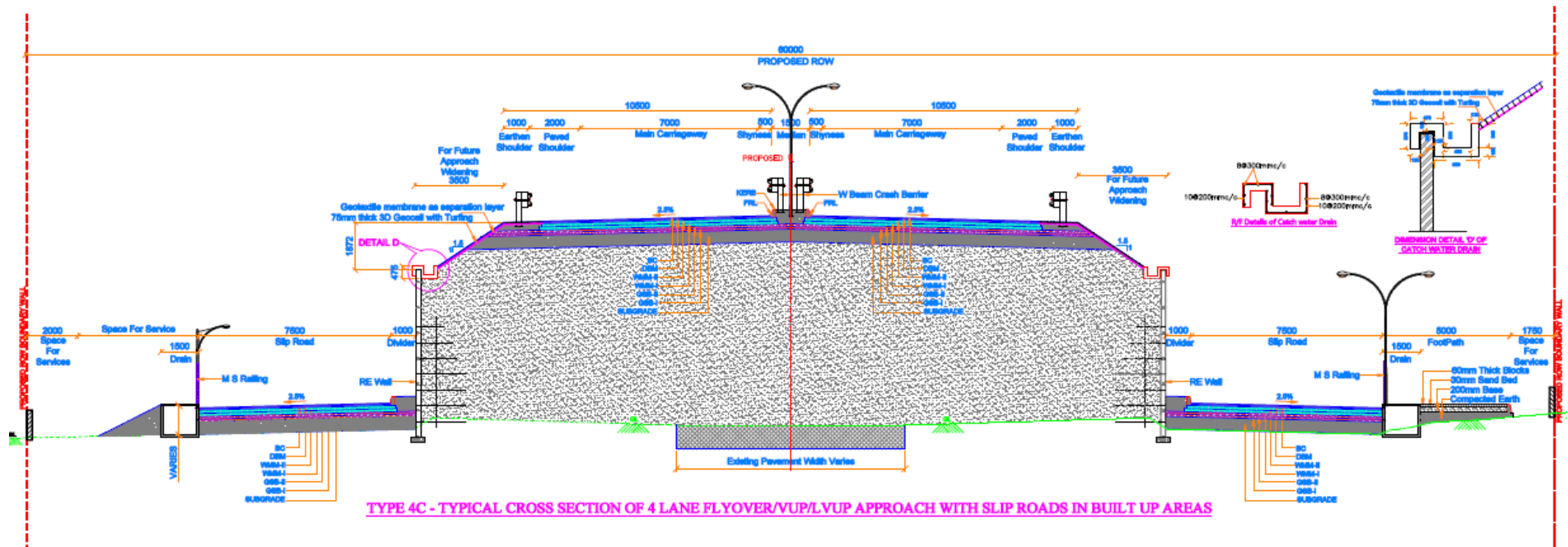
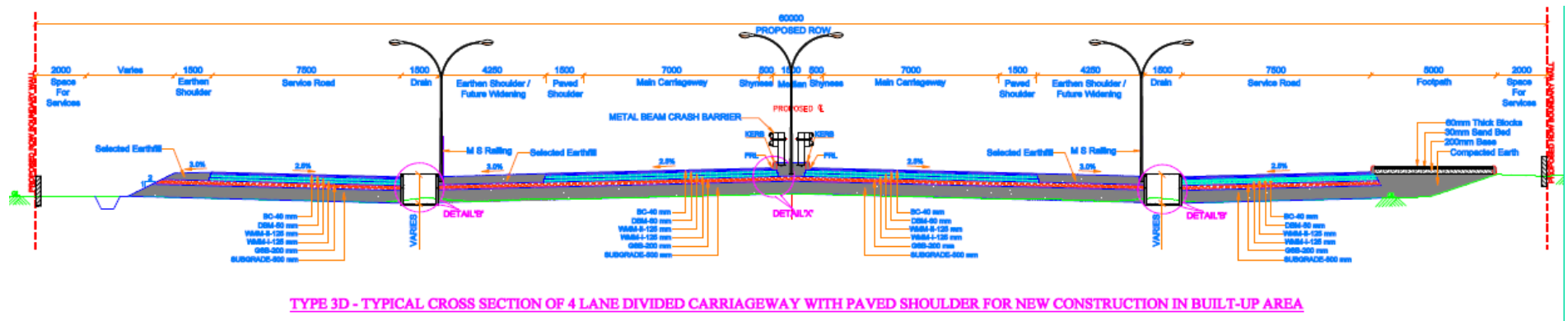




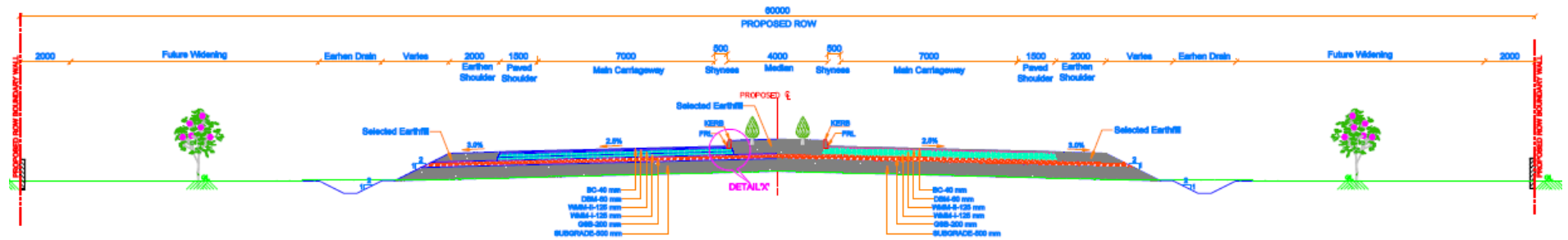
TYPE 2E - TYPICAL CROSS SECTION OF 4 LANE DIVIDED CARRIAGEWAY WITH PAVED SHOULDER AND FOOTPATH ON RHS FOR CONCENTRIC WIDENING IN RURAL AREA



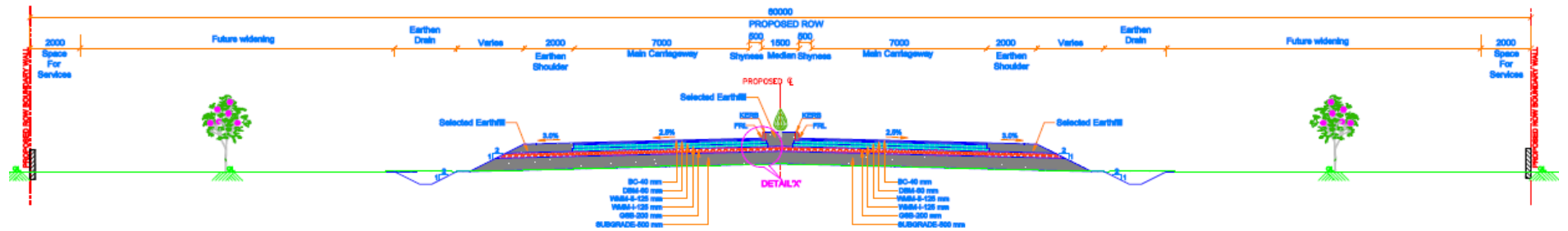
TYPE 2F - TYPICAL CROSS SECTION OF 4 LANE DIVIDED CARRIAGEWAY WITH PAVED SHOULDER AND FOOTPATH ON RHS FOR ECCENTRIC WIDENING IN RURAL AREA



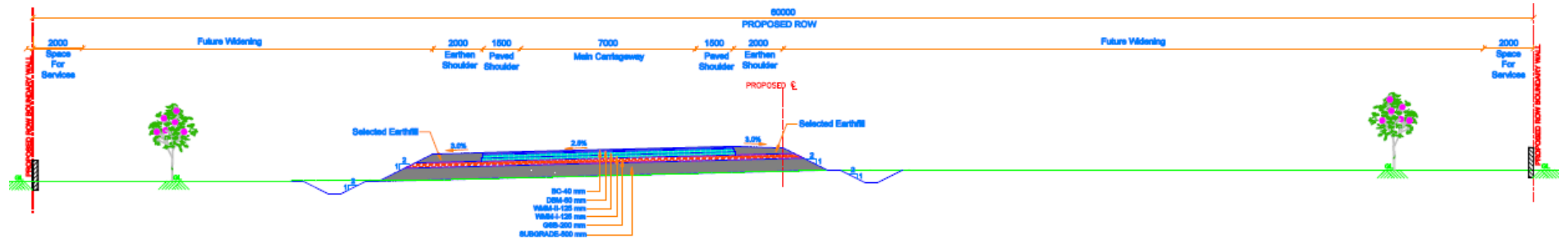
manabhin and shivan in "form" unless otherwise specified



TYPE 5 - TYPICAL CROSS SECTION OF 4 LANE DIVIDED CARRIAGEWAY WITH PAVED SHOULDER FOR BYPASS IN RURAL AREA

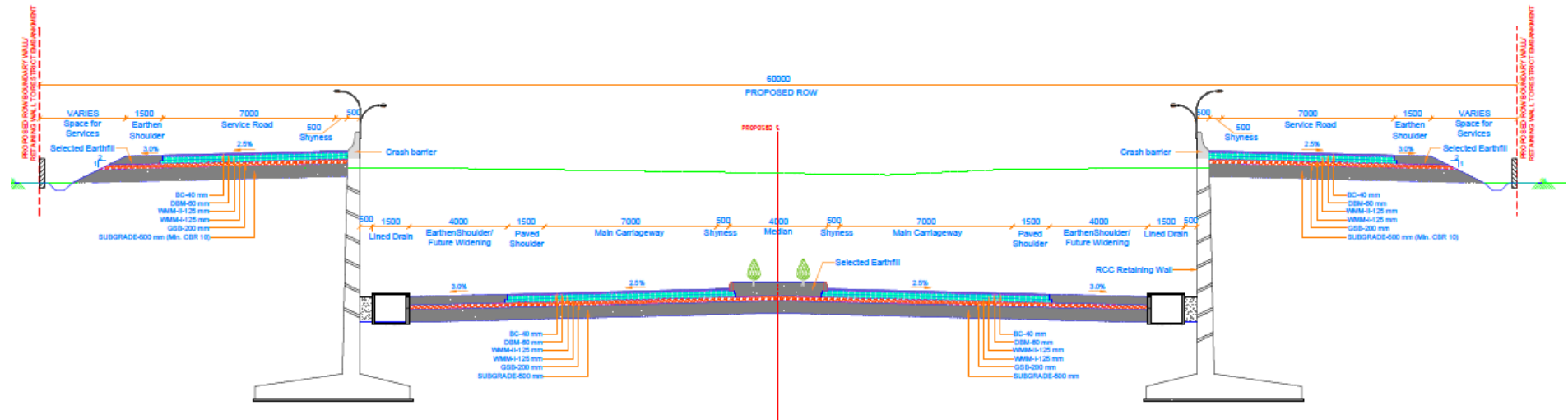


TYPE 5D - TYPICAL CROSS SECTION OF 4 LANE DIVIDED CARRIAGEWAY AT JUNCTION LOCATIONS

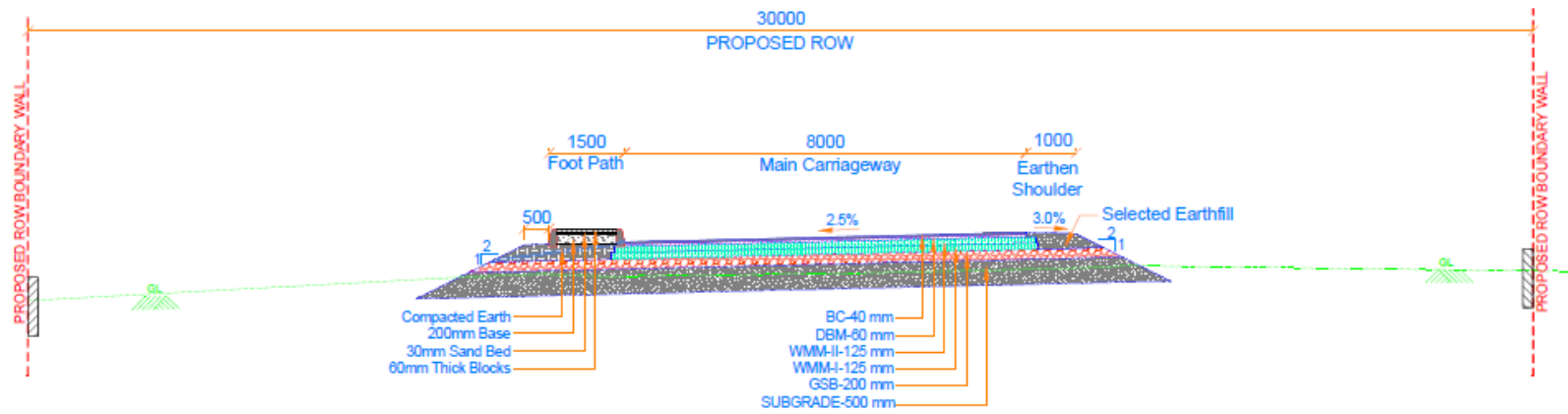


**TYPE 5E - TYPICAL CROSS SECTION OF 2-LANE CARRIAGEWAY WITH PAVED SHOULDER AT BYPASS LOCATIONS
NEW CONSTRUCTION**

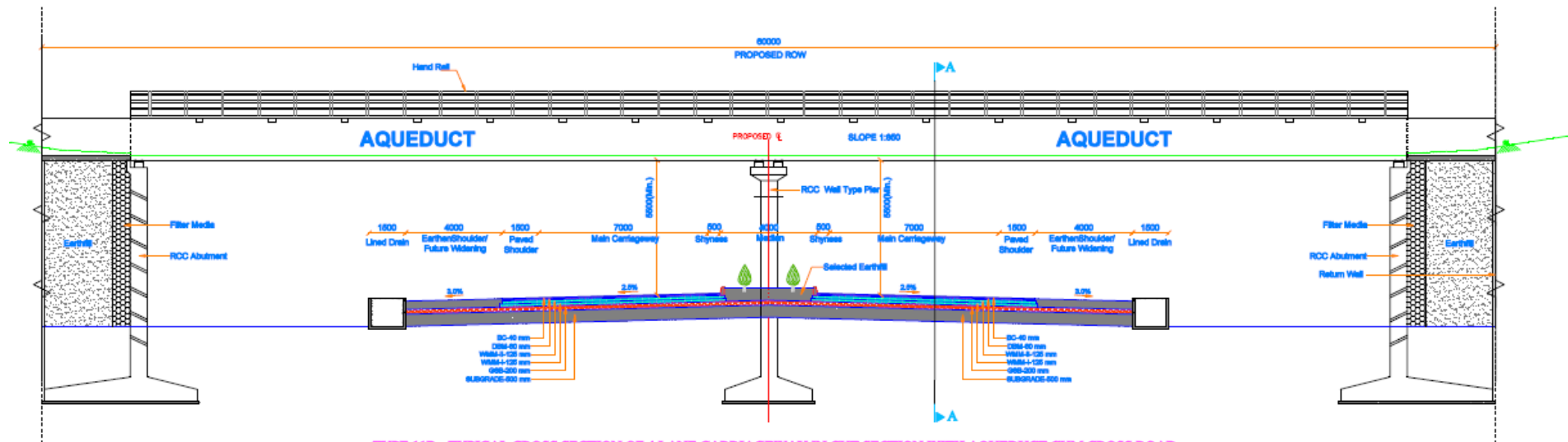
TYPE - 6A TYPICAL CROSS SECTION OF 4 LANE SVUP APPROACH BYPASS/REALIGNMENT SECTIONS



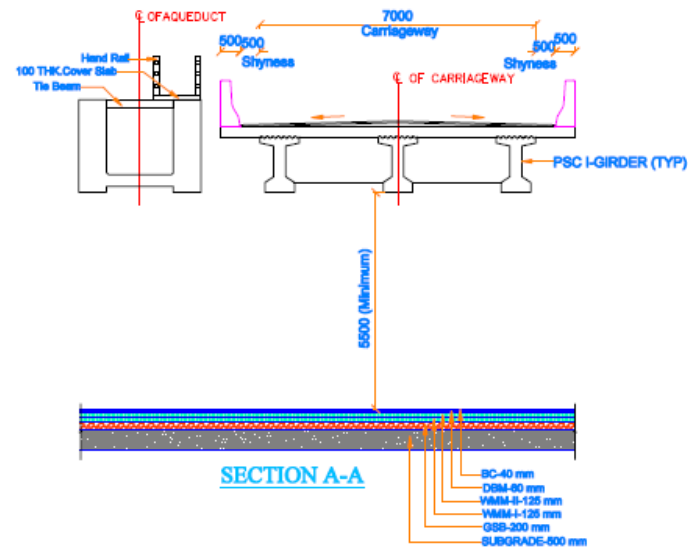
TYPE 7B - 4 LANE DIVIDED CARRIAGEWAY NEW CONSTRUCTION FOR BYPASS WITH SLIP ROAD @ VOP LOCATION



TYPE 8B - TYPICAL CROSS SECTION OF 2-LANE FOR CROSS ROADS



TYPE 11B - TYPICAL CROSS SECTION OF 4 LANE CARRIAGEWAY IN CUT SECTION WITH AQUEDUCT CUM CROSS ROAD



Dimensions are shown in 'mm' unless otherwise specified.
Use of pavement layers shall be executed as per approved pavement design.

2.3. ROAD SIDE DRAINAGE

The purpose of surface drainage is to ensure proper drainage of the highway. This includes a combination of Unlined Trapezoidal Drain, Box Drain, Median Drain, Chute Drain, and Dissipation Basin & connecting drain. As per approved TCS drawings, Unlined Trapezoidal Drain and Trapezoidal Lined Drain is to be provided at toe level to drain out water from road surface to nearest drainage structure. Unlined Drain provided need regular maintenance. Box Drain Provision is done at service road/slip road locations (built up areas). Proper cleaning is required for effective drainage.

2.4. CONCRETE CRASH BARRIER

- Concrete Crash Barriers are proposed at structure locations and generally are found in fair to good condition wherever the works are completed.
- At flyover locations, and other pending structure work locations, the crash barrier works are still in progress.



Concrete Crash Barrier @ SVUP location



Concrete Crash Barrier pending works at Flyover location

Figure 2-1 : Representative Photos of Concrete Crash Barrier assessment

2.5. NEW JERSEY CRASH BARRIER

Since, the project traverses through approx. 3.45 km of built-up area, narrow median of 1.5 m excluding shyness is provided in TCS – 4C (approach of Grade separated structure), & 3D (built up area). Accordingly, provision of NJB and MBCB is made. NJB is found from km 98+510 to km 99+730 and is in fair condition.



New Jersey Crash Barrier at Built up area location in the median, end termination connection with MBCB

Figure 2-2 : Representative Photos of New Jersey Crash Barrier at Built up locations

2.6. RCC RETAINING WALL

RCC Retaining wall is provided at structure locations and in cutting sections to retain side slopes. The same is reviewed and in general found to be in order as per the approved design and drawings. Inventory & condition survey of Retaining wall is attached herewith as **Annexure 2.4**.

Table 2-7 List of Retaining Wall Locations

Sr. No.	Chainage		Length (M)	Retaining Wall	Side	Remarks
	From	To				
1	106+960	107+730	770	Fair	LHS	Some Finishing & Parapet work In Progress
	106+960	107+730	770	Fair	RHS	Some Finishing & Parapet work In Progress

2.7. RE WALL

RE Wall is provided as per the provisions of Schedule B of the Concession Agreement. Based on verification carried out at site, RE wall works are pending at approach locations where structure construction is going on esp. flyover locations. Also, RE wall works are not yet commenced at few locations. Detailed Inventory & Condition survey of RE wall works is attached herewith as **Annexure 2.4**.

Table 2-8 Assessment of RE Wall works as per site execution

Sr. No.	Chainage		Length (m.)	RE Wall + Catch Water Drain (Condition)	Side	Remarks
	From	To				
1	76+068	76+720	652	Fair	LHS	Completed
	76+068	76+720	652	Fair	RHS	Completed
2	79+120	79+464	344	Fair	LHS	Completed
	79+120	79+464	344	Fair	RHS	Completed
3	84+165	84+310	145	(Vegetation Removal Required)	LHS	Completed
	84+310	84+400	90	Pending	LHS	Work in Progress

Sr. No.	Chainage		Length (m.)	RE Wall + Catch Water Drain (Condition)	Side	Remarks
	From	To				
	84+400	84+451	51	Flyover Structure Gap	-	-
	84+451	84+850	399	Fair	LHS	Completed
	84+165	84+310	145	(Vegetation Removal Required)	RHS	Completed
	84+310	84+400	90	Pending	LHS	Work in Progress
	84+400	84+451	51	Structure Gap	-	-
	84+451	84+850	399	Fair	RHS	Completed
4	85+500	85+629	129	Fair	LHS	Completed
	85+629	85+643	14	SVUP Structure Gap	-	-
	85+643	86+409	766	Fair	LHS	Completed
	86+409	86+441	32	Flyover Structure Gap	-	-
	86+441	87+590	1149	Fair	LHS	Completed
	85+500	85+629	129	Fair	RHS	Completed
	85+629	85+643	14	SVUP Structure Gap	-	-
	85+643	86+409	766	Fair	RHS	Completed
	86+409	86+441	32	Flyover Structure Gap	-	-
	86+441	87+590	1149	Fair	RHS	Completed
5	95+720	95+904	184	Fair	LHS	Completed
	95+904	95+936	32	Flyover Structure Gap	-	-
	95+936	96+320	384	Pending	LHS	Work in Progress
	95+720	95+904	184	Fair	RHS	Completed
	95+904	95+936	32	Flyover Structure Gap	-	-
	95+936	96+320	384	Pending	LHS	Work in Progress
6	98+010	98+140	130	Fair	LHS	Completed
	98+140	98+160	20	LVUP Gap	-	-
	98+160	98+370	210	Fair	LHS	Completed
	98+010	98+140	130	Fair	RHS	Completed
	98+140	98+160	20	LVUP Gap	-	-
	98+160	98+370	210	Fair	RHS	Completed
7	99+770	101+120	1350	Fair	LHS	Completed
	101+120	101+140	20	LVUP Gap	-	-
	101+140	101+200	60	Fair	LHS	Completed
	99+770	101+120	1350	Fair	RHS	Completed
	101+120	101+140	20	LVUP Gap	-	-
	101+140	101+200	60	Fair	RHS	Completed
8	102+040	102+262	222	Fair	LHS	Completed
	102+262	102+282	20	LVUP Gap	-	-
	102+282	102+840	558	Fair	LHS	Completed
	102+040	102+262	222	Fair	RHS	Completed
	102+262	102+282	20	LVUP Gap	-	-
	102+282	102+840	558	Fair	RHS	Completed
9	104+890	105+144	254	Fair	LHS	Completed
	105+144	105+176	32	Flyover Gap	-	-

Sr. No.	Chainage		Length (m.)	RE Wall + Catch Water Drain (Condition)	Side	Remarks
	From	To				
	105+176	105+520	344	Fair	LHS	Completed
	104+890	105+144	254	Fair	RHS	Completed
	105+144	105+176	32	Flyover Gap	-	-
	105+176	105+520	344	Fair	RHS	Completed
10	109+130	109+600	470	Work in Progress	LHS	Pending
	109+130	109+600	470	Work in Progress	RHS	Pending
11	111+650	112+650	1000	Yet to Start	LHS	Pending
	111+650	112+650	1000	Yet to Start	RHS	Pending
12	115+620	116+550	930	Work In Progress	LHS	Pending
	115+620	116+550	930	Work In Progress	RHS	Pending

As per the approved TCS drawings, provision for future approach widening is considered for 3.5 m in grade separated structure locations, accordingly the side slopes are proposed to be protected with geotextile membrane as separation layer at the approach locations, however, as per site investigation, the future approach widening side slopes are protected with PCC layer as per Authority's direction.

Table 2-9 Assessment of PCC + Chute Drains works at RE Wall locations as per site execution

Sr. No.	Chainage		Length (m)	PCC + Chute Drain Work (Condition)	Side	Remarks
	From	To				
1	75+920	76+800	880	Fair	LHS	Completed
	75+920	76+800	880	Fair	RHS	Completed
	76+060	76+760	700	Fair	Median	PCC Only
2	79+090	79+560	470	Fair	LHS	Completed
	79+090	79+560	470	Fair	RHS	Completed
	79+100	79+485	385	Fair	Median	PCC Only
3	84+100	84+195	95	Fair	LHS	Completed
	84+195	84+210	15	-	LHS	Pending
	84+210	84+870	660	Fair	LHS	Completed
	84+870	84+880	10	-	LHS	Pending
	84+880	84+920	40	Fair	LHS	Completed
	84+210	84+870	660	Fair	Median	Completed
	84+100	84+195	95	Fair	RHS	Completed
	84+195	84+210	15	-	RHS	Pending
	84+210	84+870	660	Fair	RHS	Completed
	84+870	84+880	10	-	RHS	Pending
4	84+880	84+920	40	Fair	RHS	Completed
	85+400	86+240	840	-	LHS	Completed
	86+240	86+560	320	Str. Work in Progress	LHS	Pending
	86+560	87+600	1040	Fair	LHS	Completed
	85+480	86+180	700	Fair	Median	Completed
	86+600	87+580	980	Fair	Median	Completed
	85+400	86+240	840	-	RHS	Completed
	86+240	86+560	320	Str. Work in Progress	RHS	Pending

Sr. No.	Chainage		Length (m)	PCC + Chute Drain Work (Condition)	Side	Remarks
	From	To				
	86+560	87+600	1040	Fair	RHS	Completed
5	95+680	95+800	120	Fair	LHS	Completed
	95+800	95+904	104	-	LHS	Pending
	95+904	95+936	32	Flyover Structure Gap	-	-
	95+936	96+320	384	-	LHS	Pending
	95+680	95+800	120	Fair	RHS	Completed
	95+800	95+904	104	-	RHS	Pending
	95+904	95+936	32	Flyover Structure Gap	-	-
	95+936	96+320	384	-	RHS	Pending
6	97+840	97+900	60	-	LHS	Pending
	97+900	97+950	50	Fair	LHS	Completed
	97+950	98+140	190	-	LHS	Pending
	98+140	98+160	20	LVUP Structure Gap	-	-
	98+160	98+420	260	-	LHS	Pending
	98+420	98+440	20	Fair	LHS	Completed
	98+440	98+490	50	-	LHS	Pending
	97+800	98+010	210	-	RHS	Pending
	98+010	98+140	130	Fair	RHS	Completed
	98+140	98+160	20	LVUP Structure Gap	-	-
	98+160	98+390	230	Fair	RHS	Completed
	98+390	98+490	100	-	RHS	Pending
7	99+710	101+120	1410	Fair	LHS	Completed
	101+120	101+140	20	LVUP Structure GAP	-	-
	101+140	101+240	100	Fair	LHS	Completed
	99+740	101+240	1500	Fair	Median	Completed
	99+680	101+120	1440	Fair	RHS	Completed
	101+120	101+140	20	LVUP Structure GAP	-	-
	101+140	101+160	20	Very Poor	RHS	Completed
	101+160	101+240	80	-	RHS	Pending
8	101+940	102+262	322	Fair	LHS	Completed
	102+262	102+282	20	LVUP Structure GAP	-	-
	102+282	102+900	618	Fair	LHS	Completed
	101+870	103+150	1280	Fair	Median	Completed
	101+940	102+262	322	Fair	RHS	Completed
	102+262	102+282	20	LVUP Structure GAP	-	-
	102+282	102+900	618	Fair	RHS	Completed
9	104+840	105+144	304	Fair	LHS	Completed
	105+144	105+176	32	Flyover Structure Gap	-	-
	105+176	105+590	414	Fair	LHS	Completed
	104+890	105+520	630	Fair	Median	Completed
	104+840	105+144	304	Fair	LHS	Completed
	105+144	105+176	32	Flyover Structure Gap	-	-
	105+176	105+590	414	Fair	LHS	Completed

Sr. No.	Chainage		Length (m)	PCC + Chute Drain Work (Condition)	Side	Remarks
	From	To				
10	109+100	109+760	660	Yet to Start	LHS	Pending
	109+100	109+760	660	Yet to Start	RHS	Pending
11	111+650	112+650	1000	Yet to Start	LHS	Pending
	111+650	112+650	1000	Yet to Start	RHS	Pending
12	115+620	116+550		No PCC - Friction Slab	LHS	
	115+620	116+550		No PCC - Friction Slab	RHS	



2.8. BOUNDARY WALL ON ROW EDGE

As per the scope of works in Schedule C, Boundary Wall is to be provided at the outer edge of ROW on either side of the entire project length except cross roads/built up areas as per TCS. Based on verification carried out at site, Boundary wall works are incomplete at various locations as the construction works are in progress on the main carriageway. The details of the boundary wall are provided in **Annexure 2.6**





Completed Boundary Wall – approx. 33 km (cumulative LHS & RHS)

Figure 2-3 : Representative Photos of locations where boundary wall works are pending/in progress

2.9. TOLL PLAZA

The project has one main Toll Plaza at Km 97+200 (4 + 4 lanes) one Toll Plaza with 1.8 m median. The same is constructed according to NHAI policy circular no 17.5.82 dated 24.05.2021. Rigid pavement is provided at tapered portion and centre portion of toll lanes. As per site investigation, the Toll Plaza construction works are in progress. Foot over bridge construction work in progress, building works are complete but ATMS installation works are in progress.



Pavement works completed at Toll Plaza



Foot over Bridge works in progress at Toll Plaza



Completed Medical Aid Post Works



Traffic Aid Post Works completed

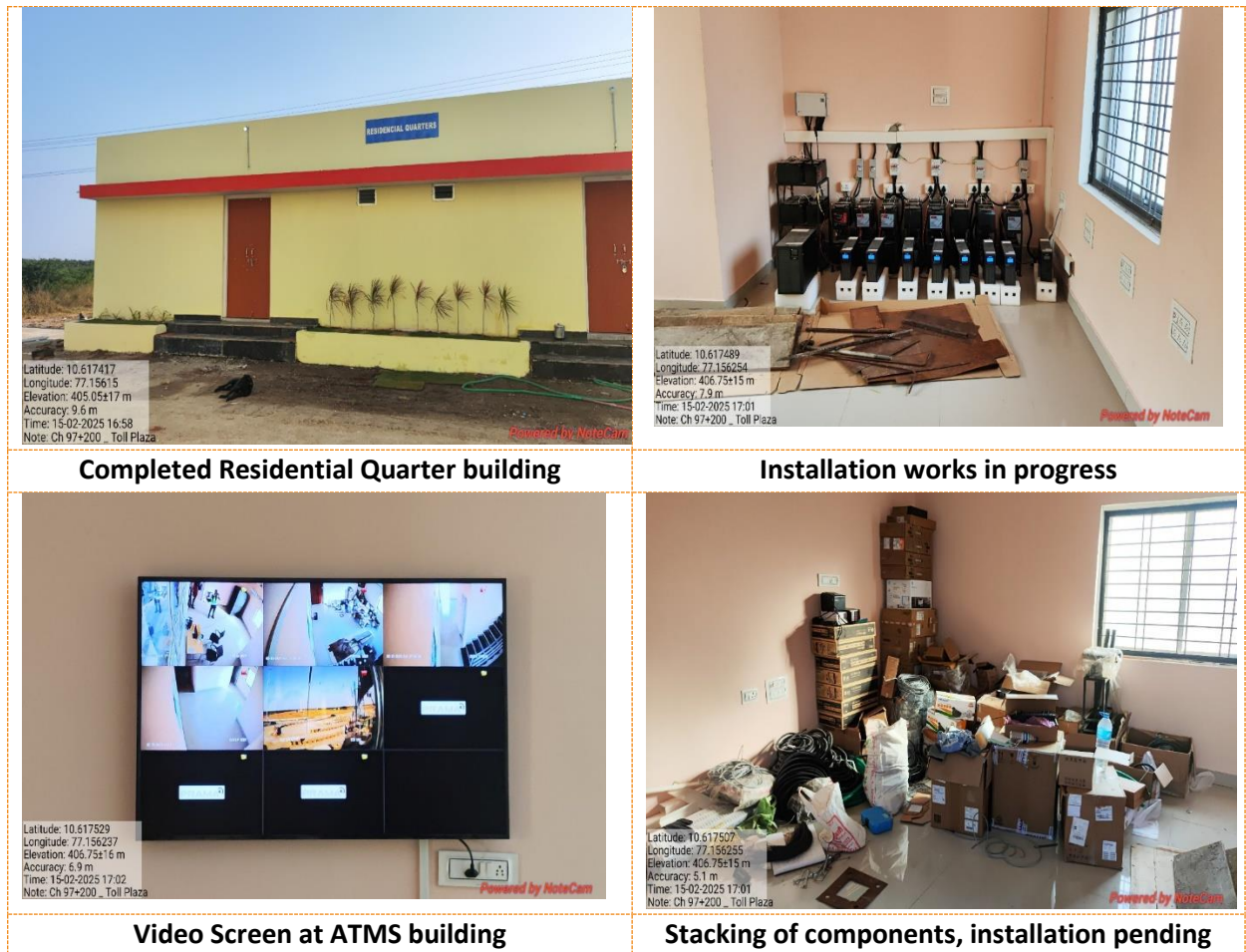


Figure 2-4 : Status of works at Toll Plaza and Building locations

2.10. OTHER PROJECT FACILITIES PROVIDED AS PER SCHEDULE C OF CA

- Roadside furniture: Sign Boards, Road Marking works are provided in partial locations, works are in incomplete/progress in sections where construction works are pending. Moreover, as construction works are in progress there are various concerning issues such as unauthorised median openings for movement of construction vehicles, damaged median kerbs, poor kerb painting, poor reflectivity of sign boards.

**Pending Road marking – 114+690 RHS****Unauthorised median opening – km 108+070 RHS**

**Faded kerb painting****Kerb works to be completed**

- Landscaping & Tree Plantation: Median plantation works and Avenue plantation on both sides of the Project Corridor are carried out in PCOD stretches, however works are incomplete in balance works stretches.
- Rest Area: 01 no. is operational, however, 01 no. De-scoped – As per NHAI Policy Circular No. 18.89/2023 dated 05-07-2023. However, area grading is done.
- Building Work: Residential Quarters, Traffic Aid Post, Medical Aid Post, Toilet Block building work is complete and are functional.
- Highway Lighting: In general, Highway lighting is to be provided at Toll Plaza (96+700 to 97+700), Way Side Amenities, Interchanges, and all SVUP/VUP/LVUP locations (76+500, 79+285, 80+705, etc.). Provision of High Mast is considered at Toll Plaza and Rest area locations.
- It is observed that lighting work is in progress with considerable pole erection pending. For details refer **Annexure 2.7**
- TMS Works: The TMS system is not yet installed as Toll Plaza construction works are in progress.
- Utilities: Provision of accommodating utilities has been made over as well as underground within utility corridor on either side of the Project Highway. Works are under progress at many locations.
- Rainwater harvesting: Rainwater harvesting chambers are provided at 4 locations, however condition is found not satisfactory as cleaning is essential due to heavy vegetation.



Rain water harvesting at 4 locations, one location pending

Figure 2-5 : Rain water Harvesting Chamber Location Condition Assessment



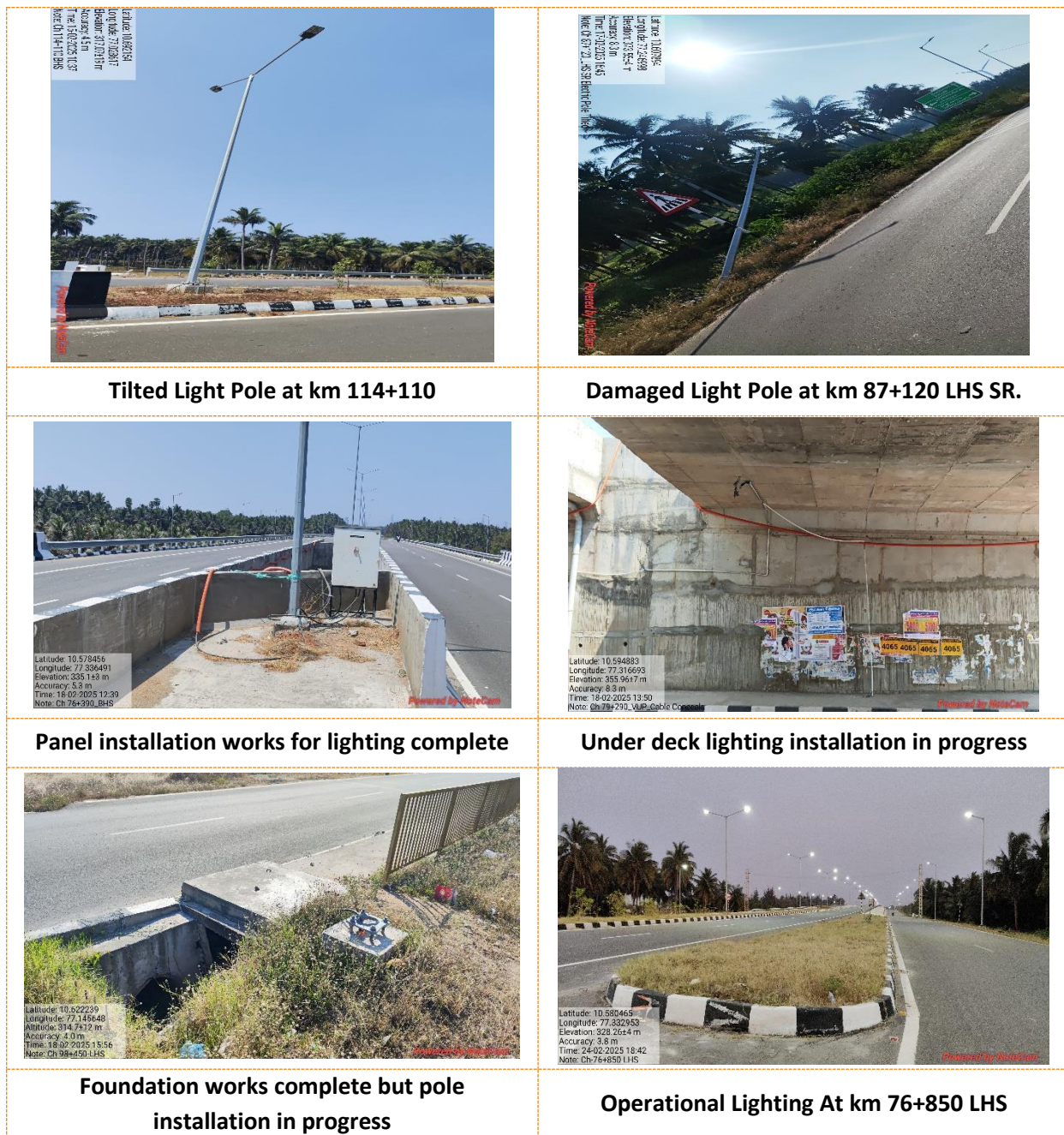
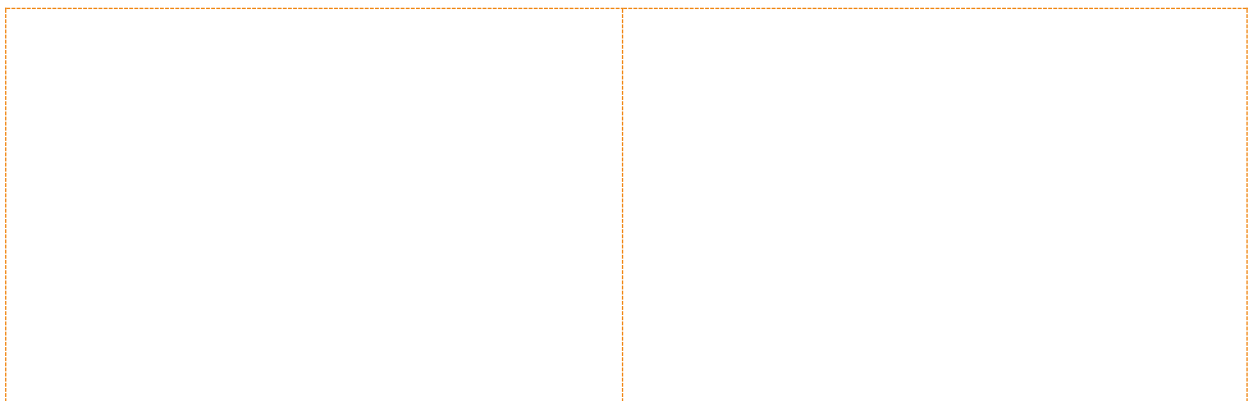


Figure 2-6 : Highway Lighting Condition Assessment

- Bus Bays/Shelters: Bus Shelter are provided as per CA, works in progress at few locations



Status of Bus Shelter as per Site Visit – few locations works are in progress/pending for installation

Summary of Details of Bus Shelter is presented in Table below:

Table 2-10 Details of Bus Shelter(s) as per site execution

Details of Bus Shelter(s)			
Sl. No.	Ch	Side	Remarks
1	74+490	LHS	Not Installed
2	76+280	LHS	Installed
3	76+580	RHS	Installed
4	79+160	LHS	Installed
5	79+360	RHS	Installed
6	80+330	LHS	Not Installed
7	80+940	RHS	Not Installed
8	84+320	LHS	Not Installed
9	84+530	RHS	Installed
10	86+280	LHS	Installed
11	86+560	RHS	Installed
12	87+050	LHS	Installed
13	87+400	RHS	Installed
14	90+400	LHS	Not Installed
15	90+700	RHS	Not Installed
16	95+820	LHS	Installed
17	96+020	RHS	Not Installed
18	98+110	LHS	Installed
19	98+110	RHS	Installed
20	100+030	LHS	Installed
21	100+220	RHS	Installed
22	102+280	LHS	Installed
23	102+340	RHS	Installed
24	105+020	LHS	Installed
25	105+320	RHS	Installed
26	107+230	LHS	Not Installed
27	107+630	RHS	Not Installed
28	109+240	LHS	Not Installed
29	109+440	RHS	Not Installed
30	112+170	LHS	Not Installed
31	112+370	RHS	Not Installed
32	113+965	LHS	Not Installed
33	113+965	RHS	Not Installed
34	116+020	LHS	Not Installed
35	116+200	RHS	Not Installed
Spur Road - 01			
1	02+200	LHS	Installed
2	02+419	RHS	Installed

Details of Bus Shelter(s)			
Sl. No.	Ch	Side	Remarks
Spur Road - 02			
1	0+780	LHS	Installed
2	0+835	RHS	Installed

- Truck Lay Bye: Truck Lay Bye are provided as per CA, provision considered as per site investigation



Status of Truck Lay Bye as per Site Visit – complete at km 104+180

3 ROAD INVENTORY & PAVEMENT CONDITION

3.1. GENERAL

Road Inventory and pavement condition surveys were carried out by a team of Engineers and the features noted at site are presented in the sections provided below.

3.2. ROAD INVENTORY

Table 3-1 Road Inventory

Sr. No.	Features	Remarks
1.	Terrain	Plain
2.	Land Use	Agriculture
3.	Four Lane Length	Approx. 50.078 – Spur Road approx. 5.328 km
4.	Toll Plazas	01

3.3. PAVEMENT CONDITION

Pavement condition survey was carried out on the project road by Network Survey Vehicle (NSV). The Dynatest make Network Survey Vehicle (NSV) is used for automatic collection of road inventory and pavement condition data using vehicle mounted Laser Crack Measurement System from Pavemetrics.

A typical view of the Network Survey Vehicle is given in Figure 3.1. Different components of NSV are installed in the survey vehicle to facilitate inventory and condition data collection. The system utilizes a combination of hardware and software installed into a vehicle to collect road data.



Figure: 3-1- Typical View of Network Survey Vehicle

The NSV with LCMS options allows capturing of detailed pavement images and road inventory information in less time, with precision and at normal traffic speeds. This automatic data collection eliminates visual survey carried by the engineers manually which is time consuming and laborious also.

The criteria adopted for the classification of condition of the pavement is as per of IRC 83-2018.

Table 3-2 Pavement Condition Summary

From (km)	To (km.)	Length (Kms)	Condition
74.380	116.950	47.478*	Good
*The length is excluding the under construction stretch of approx. 2.6 km			

Few representative photographs of Pavement Condition are presented below.



Figure 3-2 : Representative Photos of Pavement Condition Survey

Table: 3-3 – Pavement Distress and Roughness Index Based Rating

Defect (Type)	Range of Distress					
	Excellent to Good		Satisfactory to Fair		Poor to Fair	
Cracking (%)	<5		5 to 10		>10	
Raveling (%)	<1		1 to 10		>10	
Potholes (Number)	Nil		1 to 2		>2	
Patching (%)	<1		1 to 10		>10	
Rut Depth (mm)	<5		5 to 10		>10	
Maximum Permissible Range of Roughness Index						
Surface Type	IRI (m/km)	RI (mm/km)	IRI (m/km)	RI (m/km)	IRI (m/km)	RI (m/km)
Bituminous Concrete	<2.55	<1800	2.55 to 3.30	1800 to 2400	>3.30	>2400

3.3.1. RUT DEPTH

The Summary of average rut depth of pavement in mm is given in table below. Details are given in ANNEXURE 3.1

Parameters	Average Rut Depth (in mm)
Left Carriageway (L1)	4.92
Left Carriageway (L2)	4.34
Average of Left Carriageway	4.63
Right Carriageway (R1)	4.92
Right Carriageway (R2)	4.35
Average of Right Carriageway	4.63

Inference:

Average Rut Depth is 4.63 mm on LHS side and on RHS side which is less than 5 mm. Hence, Carriageway is in good condition.

3.3.2 TEXTURE DEPTH

The Summary of average Texture Depth of pavement in mm is given in table below. Details are given in ANNEXURE 3.2

Texture Depth	Parameters	Average Texture Depth (in mm)
	Left Carriageway (Lane 1)	0.74
	Left Carriageway (Lane 2)	0.71
	Average of Left Carriageway	0.73
	Right Carriageway (Lane 1)	0.74
	Right Carriageway (Lane 2)	0.72
	Average of Right Carriageway	0.73

Inference:

Average Texture Depth is less than 0.73 mm on both sides. Hence, Carriageway is in good condition.

3.3.3 ROUGHNESS SURVEY

Roughness is an important parameter for the evaluation of surface condition of a road and forms an important input in Pavement Management System in deciding upon the management strategies to be applied on the surface. The Pavement Roughness is defined as the irregularities in the pavement surface that affect the ride ability of a vehicle and thus the comfort of the road users. Roughness increases the road user cost and causes uncomfortable ride for the road users. Roughness data is collected in conjunction with pavement condition survey by MFV. Roughness was measuring by travelling the MFV in each lane and covering the total carriageway width.

The roughness value is measured in terms of IRI (International Roughness Index in m/km) and then converted to BI (Bump Integrator Roughness in mm/km) or RI (Roughness Index in mm/km). As per ANNEXURE-I of IRC : SP:16-2004, following conversion factor is adopted to convert IRI (in m/km) to BI (in mm/km) or RI (Roughness Index in mm/km)

$$\text{RI or BI (in mm/km)} = 630 \times (\text{IRI})^{1.12} \text{ (in m/km)}$$

Where RI (Roughness Index in mm/km), BI (Bump Integrator Roughness in mm/km) and IRI (International Roughness Index in m/km)

The summarized roughness value data collected for main carriageway is stated herewith and the details in description are provided in **ANNEXURE 3.3**

Roughness Value	Parameters	International Roughness Index (IRI) (m/Km)	Roughness Index (RI) (mm/Km)
	Left Carriageway (Lane 1)	2.08	1432
	Left Carriageway (Lane 2)	1.96	1340
	Average of Left	2.02	1386
	Right Carriageway (Lane 1)	2.05	1404
	Right Carriageway (Lane 2)	1.97	1349
	Average of Right	2.01	1376

Inference: Roughness Index is less than 1800 mm / Km for each lane on either side of carriageway.

Hence, Carriageway is in good condition.

4 PAVEMENT DESIGN AND PAVEMENT CRUST VALIDATION

4.1 PAVEMENT DESIGN VALIDATION

Review of Pavement design report includes providing insights on design life of pavement, crust thickness, pavement condition and CA provisions.

4.2 PAVEMENT DESIGN CRUST THICKNESS

- **Schedule B Provisions:**

As per clause 4.10 of Schedule B,

Notwithstanding anything to the contrary contained in this agreement or the Manual, the design of the pavement shall be carried out in accordance with Section 5 of the Manual subject to minimum design requirement as detailed below keeping in view of the stage construction. Further, as Ministry circular No. RW/NH-35072/05/218-S&R(P&B) dated 24.08.2018, only VG40 grade of bitumen shall be used for DBM layers and modified bitumen (using polymer/crumb rubber/natural rubber) or VG-40 grade of bitumen shall be used for wearing coat of BC layer.

MCW + SR

Section	Pavement layer	Minimum Design Requirements			
		Traffic (MSA)	CBR	Design Period	Crust
Main Carriageway and Spur roads	Base + Sub base	32	10%	15	450
	Bituminous	20	10%	10	90
Service Road	Base + Sub base	10	10%	15	45
	Bituminous	10	10%	10	90

Toll Plaza

Pavement Layer	Pavement Type	Minimum Crust Layer thickness (mm)
Pavement Quality Concrete (PQC)	Rigid	280
Dry Lean Concrete (DLC)		150
Granular Sub-base (GAB)		150

• **As per Pavement Design Report and Mix Design:**

Proposed Pavement crust as per Pavement design report are as given below:

Table: 4-1 – Proposed Pavement Crust

Sr No	Pavement Layer	Thickness (in mm)
A	Main carriageway	
1	Bituminous course (BC)	40
2	Bituminous base course (DBM)	60
3	Wet Mix Macadam (WMM)	250
4	Granular Subbase (GSB)	200
5	Subgrade (Effective CBR 14%)	500
B	Service road	
1	Bituminous Concrete (BC) (GR II)	40
2	Bituminous base course (DBM)	50
3	Wet Mix Macadam (WMM)	250
4	Granular Subbase (GSB)	200
5	Subgrade (Effective CBR 10%)	500

Proposed Pavement crust thickness has been reviewed as per IRC:37-2018 and Observations are as follows:

1. In Pavement Design report, Effective CBR of 14.0% for MCW and 10% for SR has been considered.
2. Comparative statement of Volumetric Mix design Parameter (i.e. Pavement Design Report Vs Approved Mix Design) is given in table below:

Parameter		As per Pavement Design Report	As per Mix Design [#]
(A) For MCW DBM-I (Grade-II) (Bottom DBM)			
Air Void (V _a) %		3.72%	4.17
Binder Content (%)	OBC	---	4.6
	By Weight (V _{be})	---	4.52
	By Volume (V _{be})	11.2%	10.85*
Fatigue Life in MSA		21.69	15.82

Parameter		As per Pavement Design Report	As per Mix Design [#]
(B) For Service Road DBM (Grade-II) 10 MSA			
Air Void (Va) %		3.72%	4.17%
Viscosity Grade		VG40	
Binder Content (%)	OBC	---	
	By Weight (V_{be})	---	
	By Volume (V_{be})	11.2%	10.85*
Fatigue Life in MSA		32	23
* DBM (Grade-II) mix, Considering Sp. Gr of Bitumen as 1020, Density of Mix as 2.46 gm/cc as per Mix design			

Inference:**(A) For Main carriageway with Design traffic 20 MSA**

By using Fatigue Model of 90% reliability with air void around 4.17 percent and the volume of bitumen of about 10.85 per cent is given as approved mix design, the resultant Fatigue life evaluated is 15.82 MSA less than the required Design traffic of 20 MSA. However, based on FWD evaluation, remaining life is more than design life of 20 MSA, hence pavement crust is adequate.

(B) For Service Road with Design traffic of 10 MSA

Proposed Pavement crust is Safe for design traffic of 10 MSA as per mix design parameter Va and Vb considered.

4.3 FWD SURVEY

Estimated Maximum Allowable Traffic or Remaining Life in MSA from Structural Evaluation of Flexible Pavement using FWD is given in table 4-2 below. Detailed Calculation with FWD Data is attached herewith as **Annexure 3.4**.

Table: 4-2 – Remaining Life Summary

Direction	Design Km as per FWD Test Locations		FWD Survey Stretch Length	Layer Thickness (mm)		Corrected Backcalculated Moduli (MPa) KGPBack			Calculated Strain		Remaining Life		Design MSA	Result		Remarks
	From	To	Km	Existing Bituminous surface	Existing Granular base	Existing Bituminous surface	Existing Granular base	Subgrade	Fatigue	Rutting	Fatigue Life (MSA)	Rutting Life (MSA)		BC	DBM	
LHS Side	74.830	116.950	42.12	100	450	1964	393	86	0.000202	0.000291	27	153	20	Safe	Safe	15 th Percentile Moduli
RHS Side	74.830	116.950	42.12	100	450	1703	393	86	0.000210	0.000295	26	142	20	Safe	Safe	15 th Percentile Moduli

Inference:

The Estimated Remaining Life (ERL) of the new constructed project highway is given in Table above. The remaining life is more than Design traffic of 20 MSA.

4.4 BITUMINOUS CORE TEST

Bituminous core sampling was carried out at wheel path at regular interval to study thickness of BC and DBM. Total 06 nos. of full depth Core up to DBM bottom were extracted and all are in good condition. Average thickness of bituminous course including BC and DBM is 108 mm against proposed thickness of 100 mm.

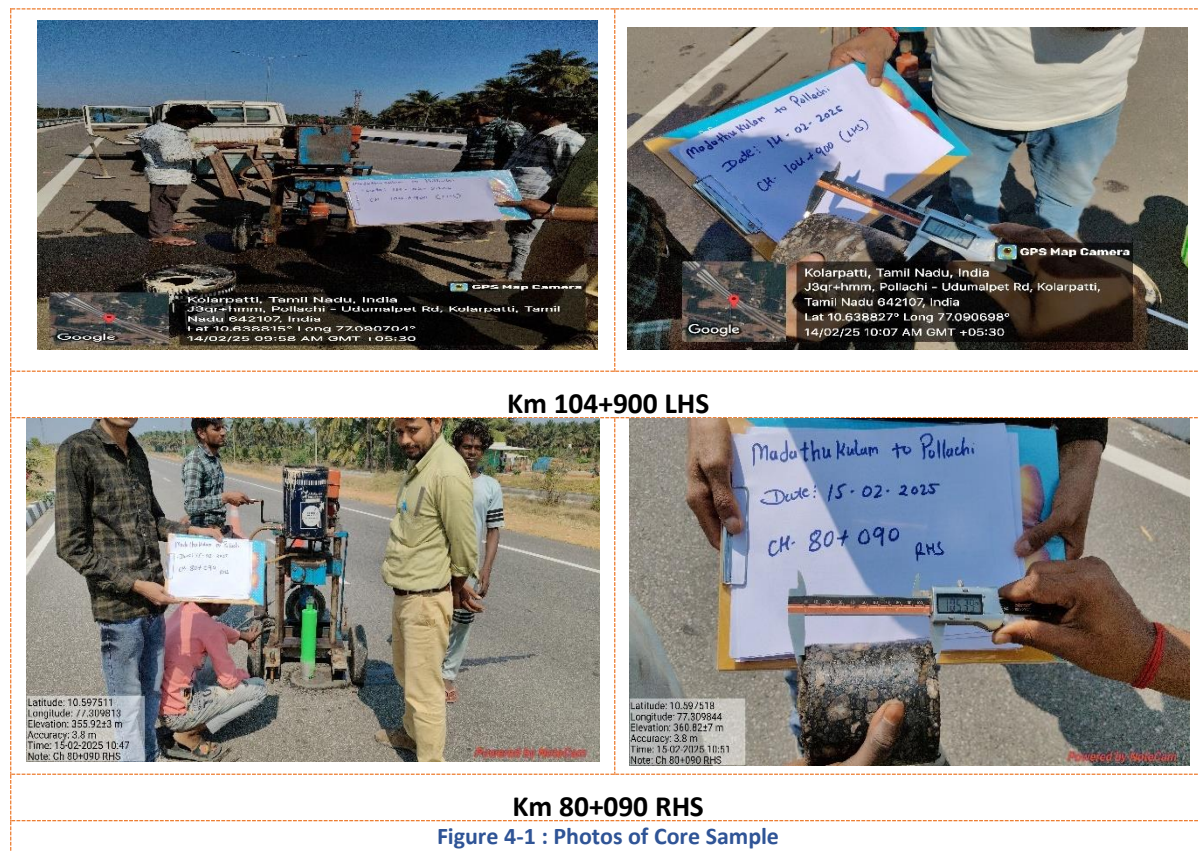


Table 4-3 Bituminous layer thickness from Core

Location Design Km	Existing Bituminous Thickness in mm
	BC/DBM
74+430 (LHS)	128
80+090 (RHS)	105
85+000 (LHS)	120
90+000 (RHS)	100
95+000 (LHS)	102

Location Design Km	Existing Bituminous Thickness in mm
	BC/DBM
100+000 (RHS)	103
104+900 (LHS)	102
109+915 (RHS)	102
115+000 (LHS)	111
Average	108

4.5 TEST PIT AT SHOULDER

The trial pits of dimensions 1.0m x 1.0m x 0.75m depth were excavated manually at regular interval on either side of the existing road. The pits were excavated at carriageway shoulder interface extending through the pavement layers and to the top of subgrade. The investigations like field and laboratory testing as described below are carried.

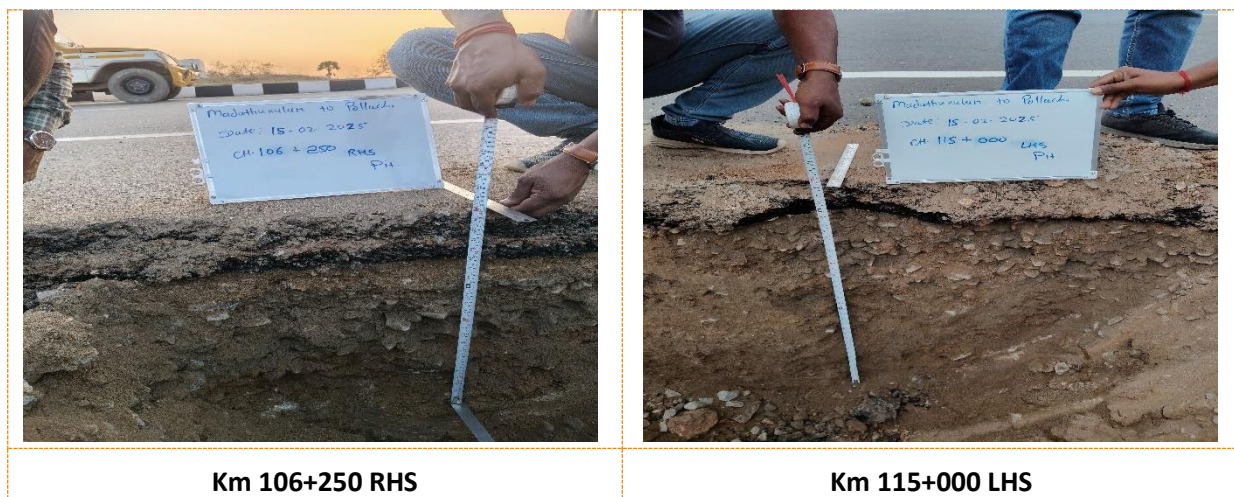


Figure 4-2 : Trial pit showing pavement Layer & Soil Subgrade

For each test pit, the following information was recorded:

- Test Pit Reference (Identification number, location)
- Pavement Layer Composition (material and thickness)
- Subgrade (textural classification) and condition (dry, wet)

The details of existing pavement layers like soil subgrade, sub-base, base and asphalt layers are given in table below:

Table 4-4 Pavement Crust from Test Pits

Location Design Km	Existing Crust Thickness in mm		
	BC/DBM	Base Course	Sub Base Course
75+000 (LHS)	120	255	225
85+300 (RHS)	115	280	220
95+000 (LHS)	110	260	210
106+250 (RHS)	130	270	215
115+000 (LHS)	120	260	220
Average	119	265	218

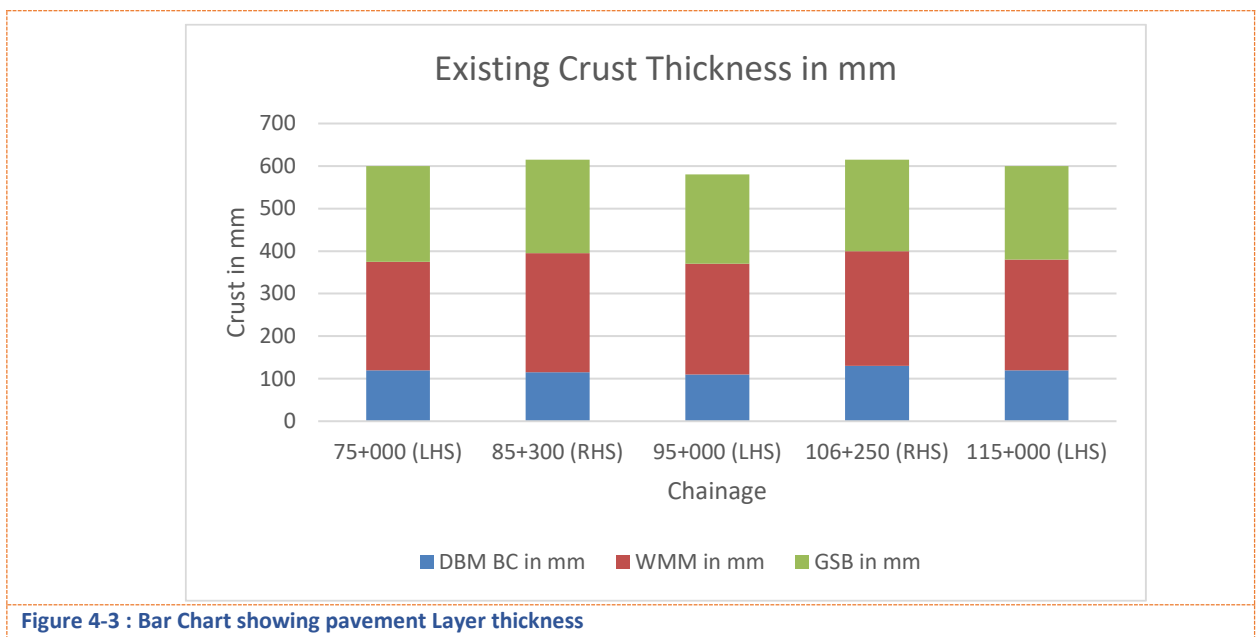


Figure 4-3 : Bar Chart showing pavement Layer thickness

The pavement composition of the existing pavement generally consists of bituminous course, base course and sub-base course. The average thickness of bituminous course including BC and DBM is 119 mm and average thickness of (WMM) base course is 265 mm and sub-base (GSB) is 218 mm.

The graphical representation for pavement crust composition at various sections along the project corridor is presented in Fig-4.2 above

5 INVENTORY AND CONDITION OF STRUCTURES

5.1 GENERAL ASSESSMENT AND CONDITION OF THE STRUCTURES

Inspection of existing structures on the project section was carried out, detailed inventory and condition is examined during the site visit as per the guide lines provided in IRC SP: 52-1999 & IRC SP: 35-1990.

5.2 INVENTORY OF STRUCTURES

List of Structures on the project road is presented in table below:

Table 5-1 List of Structures

Sr. No.	Type of Structure	Qty in Nos.	Remarks
1.	Flyover	07	At few locations, deck slab, crash barrier, railing works are pending, also RE wall approaches including filling is pending
2.	LVUP & SVUP	13	Structure works are generally complete at majority of the locations, at one location crash barrier works are pending, service road works are pending hence side slope protection works are pending
3.	MNB	18	Works in progress at few locations, Stone pitching works pending, MBCB end treatment pending at few locations
4.	MNB cum VUP	01	Complete and Fair condition
5.	Aqueduct	02	Complete and Fair condition
6.	VOP	01	Overall complete but retaining wall works and approach road pending

5.3 DETAILS OF FLYOVER

There are 07 nos. of Flyover on the project stretch. The type of superstructure for Flyover PSC Girder type and the substructure is PCC/RCC conventional wall/circular type supported on open/pile foundations. Expansion joints are Strip seal type and bearings are POT PTFE Bearings. RCC crash barriers/railings are proposed for all the flyovers however works are ongoing at few locations

Table 5-2 Inventory of Flyover

Sr. No.	Chainage	Span Arrangement	Status	Remarks
1.	84+420	1x44	Work in Progress	RE Wall work Completed on one side approach but Chute Drain & PCC & Road Work Pending
2.	86+425	1x27	Work in Progress	Girder erection work complete, RE Wall approach in progress

Sr. No.	Chainage	Span Arrangement	Status	Remarks
3.	95+920	1x27	Work in Progress	Girder erection complete, Dirt Wall, Crash Barrier construction in progress, RE wall work in progress on one side approach
4.	105+160	1x27	Completed	Structure and approach work complete in all respect
5.	109+340	1x33.27	Work in Progress	Girder erection complete, Dirt Wall, Crash Barrier construction in progress, RE wall work in progress on one side approach
6.	112+274	1x27	Completed	Girder erection complete, Dirt wall, Crash Barrier works in progress, RE wall approach works in progress
7.	116+100	2x31.6	Completed	Girder erection complete, Dirt wall, approach slab, construction works in progress

5.4 DETAILS OF UNDERPASSES (LVUP/SVUP)

There are 05 nos. of LVUP and 08 nos. of SVUP in the project stretch as per CA. The type of superstructure for LVUP and SVUP is RCC Box with filler board. RCC crash barriers are provided

Table 5-3 Inventory of Underpasses (LVUP/SVUP)

Sr. No.	Design Chainage (km)	Type of Structure	Length of Span (m)	Structure Type	Remarks
1.	76+420	LVUP	1x12	RCC Box - MCW - Skew - 47	Completed and Fair condition
2.	77+835	SVUP	1x7	RCC Box - COS - MCW	Completed and Fair condition
3.	79+285	LVUP	1x12	RCC Box - MCW	Completed and Fair condition
4.	80+705	SVUP	1x7	RCC Box - MCW	Completed and Fair condition
5.	85+636	SVUP	1x7	RCC Box - MCW - SKEW -14	Completed and Fair condition
6.	90+820	SVUP	1x7	RCC Box - MCW - SKEW -14	Completed and Fair condition
7.	92+290	SVUP	1x7	RCC Box - MCW	Completed and Fair condition
8.	98+150	LVUP	1x12	RCC Box - MCW - Skew - 7	Completed and Fair condition
9.	100+130	LVUP	1x12	RCC Box - MCW	Completed and Fair condition
10.	102+272	LVUP	1x12	RCC Box - MCW	Completed and Fair condition
11.	112+941	SVUP	1x7	RCC Box - COS - MCW - Skew -17	Structure complete, RCC Crash Barrier works in progress

Sr. No.	Design Chainage (km)	Type of Structure	Length of Span (m)	Structure Type	Remarks
12.	114+095	SVUP	1x7	RCC Box - MCW	Completed and Fair condition
13.	114+590	SVUP	1x7	RCC Box - COS - MCW - Skew -26	Structure complete, RCC Crash Barrier works in progress

5.5 DETAILS OF AQUEDUCT

There are 2 nos. of Aqueduct in the project stretch as per CA.

Sr. No.	Chainage	Span Arrangement	Status	Remarks
1.	108+128	2x26.9	Completed	RCC U Girder supported on pier at median and at end
2.	108+375	2x30.505	Completed	RCC U Girder supported on pier at median and at end slopes

5.6 DETAILS OF VEHICULAR OVERPASS CUM AQUEDUCT

There is one vehicular over pass cum aqueduct in the project stretch as per CA, the construction works are completed with crash barrier works, adjoining retaining wall works and road construction works in progress.

6 INVENTORY AND CONDITION OF CULVERTS

6.1 DETAILS OF CULVERTS

There are 92 nos. culverts along the project highway on Main Carriageway & Spur Roads - 1 & 2, additionally there are 51 nos. of culverts on cross roads, all of which are RCC Box culverts. In general, the condition of Box culverts is fair, but the culverts are covered with debris or vegetation growth is observed. Hence, vent cleaning of culverts is highly recommended for clear waterway. At few locations, protection works are missing and needs to be provided as per approved drawings.

7 OVERLAY SCHEDULES

7.1 MAINTENANCE/OVERLAY SCHEDULE

Periodic Maintenance includes Profile corrective course overlaid with the periodic renewal of the wearing course of BC for service roads/connecting roads.

The detail maintenance schedule is summarized below.

Routine maintenance - Every year as per maintenance programme requirements.

Periodic Renewal for Flexible Pavement– Next Proposed Functional overlay is scheduled on or before 7th year & 13th year from COD

Periodic Maintenance for Rigid Pavement – Re-texturing shall be done at least once in 10 years from construction. (As per IRC 58-2015).

8 SAFETY AUDIT OF ROAD

8.1 GENERAL

Road Safety Audit (RSA) is defined as “the formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users”.

Road Safety is a multi- sectorial and multi-dimensional issues. It incorporates the development and management of road infrastructure, provisions of safer vehicles, legislations and law enforcements, mobility planning, provisions of health and hospital services, child safety, urban land use planning.







A Key feature of a road safety audit is the use of a team of professionals with varied expertise. The team shall include highway safety engineers, highway design engineers, maintenance personal, and law enforcement. Additional specialties shall be added to the team as needed.


Central Road Research Institute (CRRRI) has studied road safety elements extensively in the past and has come up with various manuals such as manual for safety in road design (1998), Road safety Audit Manual (2003) and Revised Road Safety Audit manual (2010). Indian Road Congress (IRC) has published Special publication SP-88, Manual on road Safety Audit. The methodology used for the design stage audit process is based on these manuals like Type Designs for Intersections on National Highways, 1992.

Table 8-1 Referred IRC Publications

Sr. No.	IRC Code No.	Structural Configuration
1.	IRC: 35	Code of Practice for Road Markings
2.	IRC: 38	Guidelines for Design of Horizontal curves for highways and Design tables
3.	IRC: 67	Code of Practice for Road signs
4.	IRC: 73	Geometric Design standards for rural highways (non-urban)
5.	IRC:103	Guidelines for Pedestrian Facilities
6.	IRC: SP-15	Ribbon Development along highways and its prevention
7.	IRC: SP-23	Vertical curves for highways
8.	IRC: SP-41	Guidelines on design of at-grade intersections in Rural and Urban areas
9.	IRC: SP-55	Guidelines for safety in construction zones
10.	IRC: SP-88	Manual of Road Safety Audit

Table 8-2 Safety Provisions recommended prior to COD

Sr. No.	Safety Aspect	Recommendation		
1.	Roadside Hazards	Metal Beam Crash Barrier (MBCB): Metal Beam crash barriers (MBCB) are proposed on earthen shoulder side of each main carriageway i.e. on the earthen shoulder throughout the highway as per the approved typical cross sections, however at few locations MBCB is found damaged/missing end terminations at which needs to be rectified for safety purpose.		
		 <p>Latitude: 10.570207 Longitude: 77.352358 Elevation: 340.85116 m Accuracy: 4.1 m Time: 18-02-2023 11:27 Name: CH 74+380_RHS MBCB</p>	 <p>Latitude: 10.021022 Longitude: 77.4645 Elevation: 400.50417 m Accuracy: 5.0 m Time: 16-02-2023 17:19 Name: CH 34+130_LIS</p>	 <p>Latitude: 10.570207 Longitude: 77.352358 Elevation: 340.85116 m Accuracy: 4.1 m Time: 18-02-2023 11:27 Name: CH 74+380_RHS MBCB</p>
		Pedestrian Guard Rail (PGR): At built up locations, Pedestrian Guard Rail is provided to ensure safe movement of traffic over service roads and there is no fatality on main project road. PGR is found damaged/missing at few locations which shall require rectification and regular maintenance during O&M period.		
		 <p>OPPO Reno8 5G</p>		 <p>OPPO Reno8 5G</p>
		Damaged PGR at built up location	No major structural deficiency observed, over PGR is in Fair condition	Proper maintenance required at PGR location

Sr. No.	Safety Aspect	Recommendation		
2.	Sign Boards, Pavement Markings & Delineation	Installation of Sign Boards, Road Studs, Pavement markings, delineators etc. in general is carried out in accordance with the design and drawings and as per codal provisions, however, Sign Boards are missing at some location given in Annexure 8.1 .		
		Retro Reflectivity Test was done as per IRC:67 – 2022, at few sign boards it is observed that results do not meet minimum value of co-efficient of retro reflection values		
		 <p>Latitude: 10.645348 Longitude: 77.085705 Elevation: 337.9727 m Accuracy: 16.3 m Time: 17-02-2025 18:22 Note: Ch 105+780, LHS MCW (Merging Retro)</p>	 <p>Latitude: 10.645263 Longitude: 77.086059 Elevation: 169.29422 m Accuracy: 7.3 m Time: 17-02-2025 18:37 Note: Ch 105+780, RHS MCW (Object Hazard)</p>	 <p>Latitude: 10.610979 Longitude: 77.180722 Elevation: 396.9443 m Accuracy: 3.8 m Time: 16-02-2025 15:18 Note: Ch 93+550, RHS Retro Speed Limit Board</p>
		Retro reflectivity test 105+780 MCW LHS (merging sign board)	Retro reflectivity test 105+780 MCW RHS (Object Hazard marker)	Retro reflectivity test 93+550 RHS (Speed Limit Sign Board)
3.	Lighting	Lighting works at Toll Plaza, Truck Lay Bye are in general complete as per design and drawings & codal provisions. Same is verified by lux level measurement conducted and average illumination is found more than 40 Lux. However, lighting at and below the structures is pending or work is in progress. At locations where construction works are pending, lighting works are yet to be installed.		
		 <p>Latitude: 10.63548 Longitude: 77.093618 Elevation: 256.3366 m Accuracy: 4.6 m Time: 17-02-2025 18:20 Note: Ch 104+247, RHS (Truck Lay Bye)</p>	 <p>Latitude: 10.606887 Longitude: 77.244299 Elevation: 307.1456 m Accuracy: 7.4 m Time: 17-02-2025 15:20 Note: Ch 97+400, RHS SR Bus Shelter (Lux)</p>	 <p>Latitude: 10.62936 Longitude: 77.22901 Elevation: 335.8943 m Accuracy: 5.1 m Time: 16-02-2025 15:15 Note: Ch 99+500, LHS MCW Junction (SP-2 Junction)</p>
		Lux measurement at Truck Lay Bye	Lux measurement at Bus Shelter	Lux measurement at SP-2 Junction

8.2 CONCLUSION

It is the Concessionaire's duty and responsibility to provide safe road for the commuters by assuring safe and hindrance free movement for Traffic and along the highway. The Concessionaire is required to maintain the safety features in good condition from time to time in accordance with the provisions of Schedule K of the Concession Agreement. Safety arrangements are to be made for road users along the Project Road which shall be in conformity with project road requirements and good industry practice. Moreover, a continuous monitoring on safety arrangements is highly necessary, during the maintenance period.

9 TOLL PLAZA & ATMS

9.1 TOLL PLAZA, CONTROL ROOM AND RELATED EQUIPMENT

Based on review of Toll Plaza Drawings and site inspection along with design document, following is the summary of list of buildings, equipment/software/hardware considered by the Concessionaire for operation and maintenance of the project. Since Toll Plaza construction works are in progress, TMS related works are pending for installation.

9.2 EQUIPMENT/VEHICLES FOR MAINTENANCE

The list of equipment/vehicles to be provided in the project corridor for effective operations and maintenance purpose and as per requirements of the CA.

Table 9-1 List of Equipment required along the project corridor for maintenance period

Sr. No.	Type	Nos.	Status
1.	Ambulance	1	Available at site
2.	Patrolling Vehicle	1	Available at site
3.	Towing Vehicle	1	Status Unknown
4.	Water Tanker	1	Status Unknown
5.	JCB	1	Status Unknown
6.	Crane	1	Available at site
7.	Tipper	1	Status Unknown

9.3 ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS)

The Advanced Traffic Management System (ATMS) integrates multiple technologies to improve the flow of vehicle traffic and improve safety. Real-time traffic data from a traffic detection system flows into a Traffic Control Center (TCC) where it is integrated and processed and may result in actions (e.g. traffic routing, VMS messages) with the goal of improving traffic flow and minimizing losses.

The specific scope of work covers implementation & maintenance of the ATMS systems and subsystems:

- Traffic Monitoring Camera System (TMCS)
- Video Incident Detection & Enforcement System (VIDES)
- Vehicle Actuated Speed Display System (VASD)
- Variable Message Sign System (VMS)
- Digital Transmission System (OFC Communication)
- ATMS Control Centre with Central Processing System & ATMS Software

Based on review of ATMS Design document and drawings and site inspection, following is the summary of list of equipment/software/hardware considered by the Concessionaire for operation and maintenance of the project. As per site execution ATMS related works are pending for installation.

Table 9-2 Observations on ATMS Items pending for installation as per site visit

ATMS Equipment Pending for Installation		
Sr. No.	Equipment Description	Quantity as per ATMS document
1	PTZ Camera	32
2	Fixed Camera	2
3	VIDS Camera	9
4	VARSD System	4
5	ECB System	28
6	VMS Full	2
7	VMS Compact	4
8	VMS Portable	1
9	Portable WIM	1
10	MET System	1
11	ATCC System	1
12	ATMS Control Center	1

10 OPERATION & MAINTENANCE

10.1 GENERAL

As per Article 17 of CA, the Concessionaire will operate and maintain the Project roads by itself or through O & M Contractors and comply with specification and standards, and other requirements set forth in the Agreement, Good Industry Practice, Applicable Laws, applicable permits and manufacturer guidelines and instructions with respect to toll system.

10.2 O&M FORECASTS

The O&M costs were estimated based on various parameters of CA, design reports and previous experience. The cost summary is given below, and detailed cost estimations are given **ANNEXURE – 10.1**.

10.2.1 MAJOR MAINTENANCE

Major Maintenance is required to comply requirement of Concession Agreement and to maintain performance level as defined in Schedule K.

Table 10-1 Estimate of Major Functional Overlay part of Major Maintenance of Project Highway

Sr. No	Key Maintenance Activity	Maintenance Schedule	Approx. Qty	Total Amount in INR
1.	Functional Overlay – Main Carriageway	7 th & 13 th Year	Entire Project Corridor 100% of project length	61,88,14,435.62
2.	Functional Overlay – Junctions, Service Road, Spur Road etc.	7 th & 13 th Year	100% of Qty	23,28,11,921.65
			Total in INR =	85,16,26,357.27
			Total in Crs. =	85.16 Crs.

10.2.2 OPERATION & MAINTENANCE WORKS

The Concessionaire Shall Operate and Maintain the Project Highway till end of concession period (15 years). O & M cost has worked out under following heads:

- Annual Road Maintenance (Preventive & Routine Maintenance)
- TMS & ATMS Replacement & Maintenance Cost
- Highway Lighting running & replacement expenses
 - *For Highway Lighting, total working hours are taken as 10 hrs out of which 1 Hr is assumed on DG and balance 9 Hrs on Grid*

- *For Toll Plaza lighting, it is assumed that they will be operated on Grid for 3 months (Monsoon) and for balance months, it will run on Solar Power*

- Manpower Cost
- Incident Management Vehicles Running & Replacement

Assumptions considered for Preventive & Routine maintenance and estimate by us is provided below. No inflation of rates is considered in the price calculation.

Table 10-2 Preventive & Routine Maintenance

Sr. No.	Key Maintenance Activity	Maintenance Schedule	Approx. Qty	Total Amount in INR
1.	Lane Marking (MCW, SR etc.)	7 th & 14 th Year	Entire Project Corridor	5,44,39,602.77
2.	Maintenance of Concrete Panel Joints (Toll Plaza)	Annually	-	32,67,111.11
3.	Replacement of Concrete Panel (Toll Plaza)	Annually, after 2 years from COD	0.25% of the total panels	22,65,153.83
4.	Replacement of Sign Boards	Every 3 rd year from COD	25% of total signboards	3,56,84,685.28
5.	Metal Beam Crash Barrier repair & replacement work	Annually	2.5% of total length	9,68,09,303.50
6.	Kerb stones repair and replacement works	Every 5 th year from COD	2% of total length	38,09,189.47
7.	Kerb Painting	Every 7 th year from COD	100% of length	93,06,478.00
8.	Km Stones	4 th & 11 th year from COD	50% of total nos.	4,99,006.85
9.	Km Stone and Concrete Crash Barrier Painting	Every 3 rd year from COD	25% of total Qty	1,51,72,070.44
10.	Maintenance of Paver Blocks	Annually	2% of total qty	84,03,673.60
11.	Repair/Replacement of Pitching & Apron	Annually	2% of total qty	74,21,185.84
12.	MS Railing	Annually	2% of total qty	1,67,79,070.41
13.	Wearing Coat Over Structure	10 th year from COD	100%	1,23,71,357.40
14.	Expansion Joint Replacement	14 th Year	10%	11,19,339.99
15.	Stud Replacement	7 th and 14 th year from COD	100%	57,75,000.00
16.	Routine Testing	Annually		89,29,900.00
17.	Replacement of Solar Battery	7 th Year	100%	10,47,100.00
18.	Pot Hole Repairing	Annually	-	5,28,39,360.00
19.	Maintenance of Plantation	Annually	100% length	1,42,87,840.00
20.	Routine Maintenance Manpower	Annually	-	8,57,78,784.00

Sr. No.	Key Maintenance Activity	Maintenance Schedule	Approx. Qty	Total Amount in INR
21.	Routine Maintenance Machinery	JCB, Tractor Brommer, Utility Crane, Soil Compactor, Motor Grader, Boom Lift (1 Nos each)		6,30,00,000.00
		Total in INR =		49,90,05,212.49
		Total in Crs. =		49.9005 Crs.

Table 10-3 TMS & ATMS Replacement & Maintenance

Sr. No	Key Maintenance Activity	Maintenance Schedule	Total Amount in INR
1.	Toll Equipment's Comprehensive AMC including repair & replacement	Annually from 3 rd year from COD	8,77,66,071.73
2.	ATMS Comprehensive AMC including repair & replacement	Annually from 3 rd year from COD	11,37,88,014.90
		Total in INR =	20,15,54,086.63
		Total in Crs. =	20.15 Crs.

Table 10-4 Highway Lighting running & replacement

Sr. No.	Key Maintenance Activity	Maintenance Schedule	Approx. Qty	Amount in INR
1.	Luminaire replacement	Annually	5%- 10% of total qty	3,10,49,172.00
2.	Electricity units	Annually	16,31,336 units	20,64,61,934.78
3.	Gen Set Electricity (1 hr)	Annually	Balance Units	5,58,27,956.80
			Total in INR =	29,33,39,063.58
			Total in Crs. =	29.3339 Crs.

Table 10-5 Project Manpower Cost, IMV

Sr. No.	Key Maintenance Activity	Approx. Qty	Amount in INR
1.	Corridor Management Manpower	-	17,67,36,000.00
2.	IMV Running	Ambulance: 1 No Crane: 1 No Patrolling Vehicle: 1 No SPV Vehicle: 1 No	2,80,26,806.54
3.	IMV Replacement Cost	20% of capex in 6 th &	3,14,00,000.00

Sr. No.	Key Maintenance Activity	Approx. Qty	Amount in INR
		12 th year from COD	
		Total in INR =	23,61,62,806.54
		Total in Crs. =	23.61628065

11 REVIEW OF CONCESSION AGREEMENT

Review of Concession Agreement was undertaken and major clauses are detailed herein after:

Sr. No.	Particulars	Details
1.	Letter of Award	After evaluation of the bids received, Authority has selected one bidder considering their score in technical and financial bids. Accordingly, Letter called LOA (Letter of Award) is issued to the selected bidder and subsequently the execution of Concession agreement is done within the stipulated time.
2.	General Scope of Work (Article 2)	<p>Article 2 of the CA provides the scope of work, which includes the following:</p> <ul style="list-style-type: none"> • Operation and Maintenance of the Project Highway on the Site set forth in Schedule A and as specified in Schedule B together with provision of Project Facilities as specified in Schedule C, and in conformity with the Specifications and Standards set forth in Schedule D; • Collection of Fee from the Users of the Project; subject and in accordance with the provisions of the Concession Agreement; • Performance and fulfilment of all other obligations of the Contractor in accordance with the provisions of this Agreement and matters incidental thereto or necessary for the performance of any or all of the obligations of the Contractor under this Agreement.
3.	Conditions Precedent (Article 4)	<p>Conditions precedent to be fulfilled by the Authority</p> <ul style="list-style-type: none"> • procured for the Concessionaire the Right of Way to the Site in accordance with the provisions of Clauses 10.3.1 and 10.3.2; • procured all Applicable Permits relating to environmental protection, and conservation in respect land forming part of the Right of Way under Clause 10.3.1 and 10.3.2 • procured forest clearance for and in respect land forming part of the Right of Way under Clause 10.3.1 and 10.3.2, save and except permission for cutting trees; and <p>Provided that the Authority shall be entitled to an additional period, not exceeding 90 (ninety) days beyond the period of 150 days without being liable for payment of any damages, for fulfilment of the Conditions Precedent set forth in this Clause.</p> <p>Status – As per PCOD certificate, 36.502 km out of 50.078 km of Project Highway w.e.f. 05.10.2023 is certified as completed works.</p>

Sr. No.	Particulars	Details
		<p>Conditions precedent to be fulfilled by the Concessionaire</p> <ul style="list-style-type: none"> provided Performance Security to the Authority in terms of Clause 9.1 of this Agreement. For the avoidance of doubt, it is clarified and agreed that the Concessionaire is required to provide the Performance Security within 30 days of signing of this Agreement; Executed and procured Escrow Agreement & Substitution Agreement Procured all applicable permits specified in Schedule E of CA Executed financing Agreements and delivering 3 copies of Financial Package delivered to the Authority 3 (three) true copies of the Financial Package and the Financial Model, duly attested by a Director of the Concessionaire, along with 3 (three) soft copies of the Financial Model in MS Excel version or any substitute thereof, which is acceptable to the Senior Lenders; and delivered to the Authority {from the Consortium Members, their respective} confirmation of the correctness of the representations and warranties set forth in Sub-clauses (k), (l) and (m) of Clause 7 .1 of this Agreement.
4.	Major Obligations of the Concessionaire (Article 5 – Clause 5.1, Sub clause 5.1.4)	<ul style="list-style-type: none"> The Concessionaire shall obtain necessary permits in conformity with the applicable laws Procure appropriate rights for obtaining materials Perform and fulfil its obligations under financing Agreements make reasonable efforts to maintain harmony and good industrial relations among the personnel employed by it or its Contractors in connection with the performance of its obligations under this Agreement; upon written request from the Authority, make reasonable efforts to facilitate the acquisition of land and procuring of environmental and forest clearances required for the purposes of the Agreement;

Sr. No.	Particulars	Details
		<ul style="list-style-type: none"> • ensure and procure that its contractors comply with all applicable permits and Applicable laws in the performance by them of any Concessionaires obligations under this Agreement • always act in a manner consistent with the provisions of this Agreement and not cause or fail to do any act, deed or thing, whether internationally or otherwise, which may in any manner be violative of any of the provisions of this Agreement • support, cooperate with and facilitate the Authority in the implementation and operation of the Project in accordance with the provisions of this Agreement; and • Transfer the project road upon termination of the Concession Agreement
5.	Major Obligations of the Authority (Article 6 – Clause 6.1 Sub clause 6.1.2)	<ul style="list-style-type: none"> • Provide reasonable support and assistance to the Concessionaire in procuring Applicable Permits required from any Government Instrumentality for implementation and operation of the Project; • provide reasonable assistance to the Concessionaire in obtaining access to all necessary infrastructure facilities and utilities, including water and electricity at rates and on terms no less favourable to the Concessionaire than those generally available to commercial customers receiving substantially equivalent services; • procure that no barriers are erected or placed on or about the Project by any Government Instrumentality or persons claiming through or under it, except for reasons of Emergency, national security or law and order; • Subject to and in accordance with Applicable Laws, grant to the Concessionaire the authority to regulate use of the Project; • Assist the Concessionaire in procuring police assistance for regulation of Users, removal of trespassers and security on or at the Project • Not do or omit to do any act, deed or thing which may in any manner is violating of any of the provisions of this Agreement;

Sr. No.	Particulars	Details
		<ul style="list-style-type: none"> • support, cooperate with and facilitate the Concessionaire in the implementation and operation of the Project in accordance with the provisions of this Agreement; • Provide reasonable assistance to the Concessionaire and any expatriate personnel of the Concessionaire or its contractor to obtain applicable visas and work permit • undertake rehabilitation and resettlement of persons affected by construction of the Project and bear all costs and expense in respect thereof, save and except as otherwise provided in this Agreement; and • subject to the Concessionaire complying with Applicable Laws, provide reasonable support and assistance to the Concessionaire in procuring approvals, other than approval of the General Approval Drawings of the Railway authorities for construction of such road over bridges/under bridges.
6.	Performance Security (Article 9)	<ul style="list-style-type: none"> • The Concessionaire shall submit the Performance security to the Authority within 30 days from the date of the Agreement; • The Performance security shall remain in force and effect for a period of one year from the Appointed Date; • Performance Security shall be released upon the Concessionaire expending on Project Construction an Aggregate sum that is not less than 30% of the Total Project Cost.

Sr. No.	Particulars	Details
7.	Provisional Certificate (Article 14)	<p>As per Article 14 Sub Clause 14.3 For issuance of provisional completion certificate to the concessionaire subject to the compliance of the following</p> <ul style="list-style-type: none"> • Ensure that Project highway considered for provisional certificate of completion has been constructed as specified in the Schedule-B and Schedule- C and in conformity with the Specifications and Standards set forth in Schedule-D of the Concession Agreement. Any item found left to be completed as per scope of works may be added in the punch-list. • Ensure that no item of Punch list should be beyond the provisions mentioned under clause 42.1 of CA before issuance of provisional certificate of completion. • All Tests have been conducted in accordance with Schedule-I and have been witnessed by representative of the Authority. The IE shall observe, monitor and review the results of the Tests to determine compliance of the Project Highway with Specifications and Standards. The IE shall ensure that the Tests are successful and the Project Highway can be safely and reliably placed in commercial operation. • Ensure that the Concessionaire shall comply with the provisions of the Concession Agreement. Applicable Laws and Applicable Permits and conform to Good Industry Practice for securing the safety of the Users • All lapses, defects or deficiencies observed by the Independent Engineer in the construction of the Project Highway are rectified and all NCRs issued are closed in accordance with the provision of the Concession Agreement <p>Accordingly, in pursuance to clause 14.3 of Concession Agreement, IE has been issued the “provisional completion certificate” for the following stretches:</p> <ol style="list-style-type: none"> 1. Km 74+380 to km 74+470 2. Km 74+680 to km 75+590 3. Km 75+670 to Km 77+740

Sr. No.	Particulars	Details
		<p>4. Km 78+180 to Km 84+100</p> <p>5. Km 84+890 to km 86+200</p> <p>6. Km 86+590 to km 95+800</p> <p>7. Km 96+370 to Km 97+050</p> <p>8. Km 97+370 to Km 97+840</p> <p>9. Km 98+400 to Km 100+110</p> <p>10. Km 101+400 to km 102+860</p> <p>11. Km 104+110 to Km 104+660</p> <p>12. Km 104+850 to km 107+300</p> <p>13. Km 108+060 to Km 108+600</p> <p>14. Km 110+460 to Km 111+550</p> <p>15. Km 113+130 to Km 113+540</p> <p>16. Km 115+220 to Km 115+680</p> <p>17. Spur Road – 1 Km 0+000 to Km 4+320</p> <p>18. Spur Road -2 Km 0+000 to Km 2+852</p> <p>i.e. Total Length of 36.502 km stretch of the project highway is hereby provisionally declared fit for entry into operation with effect from 5th Day of October 2023, accordingly the 1st annuity date is 2nd April 2024 (Paid) – Provisional Completion certificate letter is attached herewith as Annexure 11.1.</p>
8.	Completion Certificate (Article 14 – Clause 14.3)	<p>Upon completion of Punch list items appended to the Provisional Completion Certificate within 90 days of issuance of Provisional Complete Certificate, Completion Certificate shall be issued to the Concessionaire.</p> <p>Status: The punch list details mentioned are provided as part of PCOD certificate attached in ANNEXURE –11.2</p>
9.	Commercial Operation Date (Article 15 – Clause 15.1)	<p>Commercial Operation Date (COD) shall be the date on which the Completion Certificate/Provisional Completion Certificate is issued by the Independent Engineer. With COD the Project shall enter into commercial service and the Concessionaire is entitled to demand and Annuity payments in accordance to the provisions of the CA</p>
10.	Change of Scope (Article 16)	<p>As per SA-1, in principle approval of COS-1 for Rs. 9.51 Cr. is conveyed to the Concessionaire, in- principle approval for COS -2 for Rs. 11.37 Cr. (Net) and COS-3 for Rs (-) 3.0 Cr. (approx..).</p>

Sr. No.	Particulars	Details
		The work for COS items is in progress at site and expected to be completed by April 2025 Refer ANNEXURE – 11.3
11.	O&M Obligations of the Concessionaire (Article 17)	As mentioned in Sub-division 10.3 of this document
12.	Maintenance Requirements (Article 17 – Clause 17.2 and Clause 17.3)	<p>The Contractor shall procure that at all times during the Operations period; the project road conforms to the maintenance requirements set forth in Schedule K of CA (The “Maintenance Requirements”)</p> <p>No later than 90 (ninety) days prior to the Scheduled Completion Date, the Contractor shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual (the “Maintenance Manual”) for the regular and preventive maintenance of the Project in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years and the provisions of this Clause shall apply, mutatis mutandis, to such revision.</p> <p>Maintenance Manual is already prepared by the Concessionaire as per the requirements of the Concession Agreement.</p>
13.	Maintenance Programme (Article 17 – Clause 17.4)	On or before COD and no later than 45 days prior to the beginning of each accounting year during the Operation Period as the case may be the Concessionaire shall provide to the Authority and Independent Engineer its proposed annual Programme of preventive, urgent and other schedule maintenance (“the Maintenance Program”) to comply with the Maintenance Requirements, Maintenance Manual and Safety Requirements.
14.	Damages for Breach in Maintenance Obligations (Article 17 – Clause 17.8)	<p>In the event that the Contractor fails to repair or rectify any defect or deficiency set forth in the Maintenance Requirements within the period specified therein, it shall be deemed to be in breach of the Agreement and the Concessionaire shall be entitled to recover Damages, to be calculated and paid for each day of delay until the breach is cured, at the higher of the following:</p> <ul style="list-style-type: none"> • 2% (two percent) of the performance security, and • 0.1% (zero point one per cent) of the cost of such repair or rectification as estimated by the Independent Engineer.

Sr. No.	Particulars	Details
15.	Monthly Status Reports (Article 19 – Clause 19.1)	<p>During the Operation Period, the Contractor shall, no later than 7 (seven) days after the close of each month, furnish to the Concessionaire, the Authority and the Independent Engineer a monthly report stating in reasonable detail the condition of the Project including its compliance or otherwise with the Maintenance Requirements, Maintenance Manual, Maintenance Program and Safety Requirements, and shall promptly give such other relevant information as may be required by the Concessionaire, Independent Engineer or the Authority. In particular, such report shall separately identify and state in reasonable detail the defects and deficiencies that require rectification.</p> <p>Status: - According to the PCC-1 the maintenance period has been commenced, IE - MPR of the Operation and Maintenance period for August 2024 is available. Refer ANNEXURE – 11.4</p>
16.	Payment of Bid Project Cost (Article 23 – Clause 23.1)	<p>The Authority agrees to pay 40% of the Bid Project Cost in five instalments against the achievement of Project Milestones specified in Clause 23.4 of the Concession Agreement and the amount shall be adjusted with Price index.</p> <p>Remaining balance completion cost shall be paid as per the % of balance completion cost biannually over a period of 15 years commencing from the date of COD. Percentage of amounts payable for each Annuity is specified in 23.6.3 of the Concession Agreement.</p>
17.	Change in Law (Article 35)	Any Increase in costs or reduction in costs incurred by the Concessionaire as a result of any change in law shall be executed as per Article 35 of the Concession Agreement.

12 BALANCE WORKS SUMMARY

Based on the review of the Monthly progress report of the Independent Engineer for the Month of January 2025 enclosed in **Annexure 11.4** and Site Visit conducted by the team, the physical progress of the project is approx. **90.23%** with Road Works 62.554%, Major Bridge & Structures 6.110% and Other Works 21.563%. Works are in progress at following location:

- I. **Km 84+300 to Km 84+475 – 175 m**
Flyover(s) at km 84+420 – Structure works almost completed, RE wall approach works almost completed,
- II. **Km 86+220 to Km 86+455 – 235 m**
Flyover(s) at km 86+425 – Structure works almost completed, RE wall approach works almost completed,
- III. **Km 95+810 to Km 96+360 – 550 m**
Flyover(s) at km 95+920 – Structure works almost completed, RE wall approach works partially completed,
- IV. **Toll Plaza at km 97+200**
Construction works of Toll Plaza at Km 97+200 are ongoing, TMS & ATMS installation of field equipment is in progress.
- V. **Km 109+080 to Km 109+600 – 520 m**
Flyover(s) at km 109+340 – Structure works partially completed, RE wall approach works not completed,
- VI. **Km 110+010 to Km 110+150 – 140m**
Rock Cutting Area – works are under progress
- VII. **Km 111+910 to Km 112+680 – 770 m**
Flyover(s) at km 112+274 – Structure works almost completed, RE wall approach works partially completed,
- VIII. **Km 115+690 to Km 116+550 – 860 m**
Minor Bridge at Km 115+775 works in progress, Flyover at Km 116+100 – Structure works almost completed, RE wall approach works partially completed
- IX. **Km 4+340 to Km 4+420 & Km 4+600 to Km 4+656 on Spur Road -1**
Balance Length of 136 m, connection with round about flyover at km 84+420 works are in progress

Anantam Highways Trust

Four Laning of Viluppuram – Puducherry section of NH 45A (New NH 332) from Km 0.000 to Km 29.000 (Design Chainage) under Bharatmala Pariyojana Phase I (Residual NHDP IV works) in the State of Tamilnadu and Union Territory of Puducherry under DBOT Annuity Mode

(FINAL REPORT)



FEBRUARY, 2025



**RUKY Projects Private Limited
Hyderabad**

www.rukyprojects.com | contact@rukypjrojects.com | 040 4855 7777



BLANK PAGE



Four Laning of Viluppuram – Puducherry section of NH 45A (New NH 332) from Km 0.000 to Km 29.000 (Design Chainage) under Bharatmala Pariyojana Phase I (Residual NHDP IV works) in the State of Tamilnadu and Union Territory of Puducherry under DBOT Annuity Mode

REVISION RECORD

This document has been issued and amended as follows:

Document No.	Issue	Date	Description
RU-337/AHT/TDD/DVHPL	R0	15-02-2025	Final Report



DISCLAIMER AND CONSENT FOR USE

This report has been prepared for the benefit of Anantam Highways Trust for and in connection with initial offer of units representing an undivided beneficial interest in the Trust. In Preparing this report, RUKY Projects Pvt Ltd has relied, in whole or in part, on data and information provided by Anantam Highways Trust and M/s Villupuram Highways Private Limited which RUKY Project Pvt Ltd has assumed to be accurate, complete, reliable and correct.

This report may be reproduced and included in the preliminary placement memorandum, placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust and may be made available for inspection in the manner specified therein. In connection with the report, the following details in relation to the Technical Consultant may be included in preliminary placement memorandum and the placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust.

Technical Consultant:

RUKY PROJECTS PRIVATE LIMITED
Flat No. 1403A, 14th Floor,
Manjeera Trinity Corporate,
JNTU-Hitech City Road, Kukatpally,
Hyderabad – 500072
www.rukyprojects.com
contact@rukypjrojects.com
+91-040-4855 7777

TABLE OF CONTENTS

CHAPTER 1. EXECUTIVE SUMMARY	6
1.1 Project Description	6
1.2 Extension of Time:.....	6
1.3 Present status of the Project	6
1.4 Condition of Project Corridor.....	7
1.4.1. Pavement Condition	7
1.4.2. Condition of Structures.....	7
1.4.3. Condition of Project Facilities	7
1.5 Status of Completion Certificate.....	7
1.6 O&M Cost Estimate.....	7
CHAPTER 2. INTRODUCTION	8
2.1 Project Background.....	8
2.2 Project Geography	9
2.3 Project Overview.....	10
2.4 Chainage Equation	11
CHAPTER 3. SCOPE OF CONSULTANCY SERVICES	12
3.1 Scope of Consultancy Services	12
CHAPTER 4. SALIENT FEATURES OF THE PROJECT	13
4.1 Typical Cross Section (TCS) Schedule.....	13
4.2 Bypass/Realignment	14
4.3 Service Roads/Slip Roads	14
4.4 Drainage.....	15
4.5 Summary of the Carriageway and Pavement Details	15
4.6 Summary of Structures	15
4.7 Project Facilities	16
CHAPTER 5. REVIEW OF AGREEMENTS	17
5.1 Review of Concession Agreement	17
5.1.1. Concession (Article 3)	17
5.1.2. Provisional COD scenario in the project	17
5.2 Status of Punch List A & B.....	17
5.2.1. O&M Obligations of the Concessionaire (Clause 17.1).....	18
5.2.2. Maintenance Requirements (Clause 17.2)	18
5.2.3. Maintenance Manual (Clause 17.3).....	19
5.2.4. Maintenance Programme (Clause 17.4)	19
5.2.5. Damages for Breach of Maintenance Obligations (Clause 17.8)	19
5.2.6. Monthly status reports (Clause 19.1)	19
5.2.7. IE O&M Inspection reports (Clause 19.2)	20
5.2.8. Tests During O&M Period (Clause 19.3)	20
5.2.9. Appointment of Independent Engineer (Article 21)	20
5.3 Review of Correspondence	20
5.4 Non-performance of the O&M Operations:	21
5.5 Non Conformance Report (NCRs):	21

5.6	Insurance.....	21
5.7	Monthly status reports (Clause 19.1)	21
5.8	IE O&M Inspection reports (Clause 19.2)	22
5.9	Review of Pavement design report.....	22
5.10	Review of Pavement Design Report	22
5.10.1.	Rigid Pavement for main carriageway	23
5.10.2.	Rigid Pavement for Service Road/Slip Road	23
5.10.3.	Site Investigations.....	24
CHAPTER 6.	SITE APPRAISAL	26
6.1	General.....	26
6.2	Highways.....	26
6.2.1.	Road Inventory.....	26
6.2.2.	Type of Terrain.....	26
6.2.3.	Land use	26
6.2.4.	Villages/Towns Along the Project	27
6.2.5.	Main Carriageway status and Condition.....	27
6.2.6.	Kerb.....	45
6.3	Structures.....	45
6.3.1.	Culverts	46
6.4	Project Facilities	47
6.4.1.	Toll Plaza	47
6.4.2.	Road Furniture	49
6.4.3.	Rest Areas	52
6.4.4.	Bus Bay and Bus shelters	52
6.4.5.	Traffic Aid Post	53
6.4.6.	Medical Aid Post	53
6.4.7.	Vehicle Rescue Posts	53
6.4.8.	Operation and Maintenance (O&M) Centre	54
6.4.9.	Telecom System	54
6.4.10.	Advance Traffic Management System (ATMS)	54
6.4.11.	Road Studs	54
CHAPTER 7.	REVIEW OF O&M AGREEMENT.....	55
CHAPTER 8.	SCHEDULE OF ANNUITY PAYMENTS	57
8.1	Hybrid Annuity Model (HAM)	57
8.2	Schedule of Annuity Payments	57
CHAPTER 9.	COST ESTIMATES	59
9.1	Maintenance of Project Cost	59
9.2	O&M Expense forecasts.....	60
CHAPTER 10.	CONCLUSION	62

LIST OF TABLES

Table 1-1: Key Dates	6
Table 1-2: Key Features	6
Table 1-3: Summary of Cost Estimate	7
Table 2-1: Project Data	10
Table 2-2: Design chainage corresponding to Existing chainage.....	11
Table 4-1: Salient Features of the Project.....	13
Table 4-2: Summary of TCS as per CA	13
Table 4-3: Details of Bypass.....	14
Table 4-4: Service Road and Slip Road locations as per Schedule B of CA	14
Table 4-5: Summary of the Carriageway and Pavement Details	15
Table 5-1: De-Scope Proposals of Punch List A & B.....	18
Table 5-2: Details of Insurance Policies.....	21
Table 5-3: Correspondence related to pavement design submission and approvals.....	22
Table 5-4: Correspondence related to pavement design submission and approvals.....	22
Table 5-5: Designed pavement crust summary as per pavement design report	23
Table 5-6: Pavement Composition for Toll Plaza	23
Table 5-7: Pavement Design Thickness Vs Executed Crust Thickness for MCW.....	24
Table 5-8: Pavement Design Thickness Vs Executed Crust Thickness for Service Road	24
Table 6-1: Land use details along the project road.....	26
Table 6-2: Summary of Structures	46
Table 6-3: Structure work status.....	46
Table 6-4: Box/Slab culverts work status as per May 2024.....	47
Table 6-5: List and Status of Equipment at Toll Plaza and Control Room.....	47
Table 6-6: Status of Traffic Sign Boards.....	49
Table 6-7: Status of traffic sign boards.....	50
Table 6-8: Status of Avenue and median plantation	51
Table 6-9: Summary of Highway lighting	52
Table 6-10: Location of Rest Areas	52
Table 6-11: Details of Bus bays and shelters	52
Table 8-1: Schedule of Payment Milestones	57
Table 8-2: Details of Annuity payments.....	57
Table 9-1: Summary of Cost Estimate.....	60

LIST OF FIGURES

Figure 2.1: Project Location Map.....	9
Figure 5.1: Bar Chart showing Design thickness vs Executed thickness for MCW	25
Figure 6.1: Status of Lined Drain.....	45
Figure 6.2: Photographs showing the condition of Pavement.....	45
Figure 6.4: Photographs showing status of Toll Plaza	49
Figure 6.5: Status of Overhead gantry.....	50
Figure 6.6: Photographs showing status of Median Plantation	51
Figure 6.7: Photographs of W Beam Crash Barrier.....	51
Figure 6.8: Photographs of Bus Bay & Shelter.....	53

LIST OF ANNEXURES

Annexure-1: Pavement Condition	64
Annexure-2: Inventory and Condition of Project Facilities.....	83
Annexure-3: Inventory and Condition of Structures.....	104
Annexure-4: Operation and Maintenance Cost Estimates	108

ABREVIATIONS

Abbreviation	Meaning	Abbreviation	Meaning
3A/3D/3G	Stages of Land Acquisition	EPC	Engineering Procurement Construction
AADT	Annual Average Daily Traffic	ESAL	Equivalent Standard Axle Load
AASHTO	American Association of State Highway and Transportation Officials	ESMF	Environment and Social Management Framework
ADT	Average Daily Traffic	Exc	Excavation
ATMS	Advance Traffic Management System	FOB	Foot Over Bridge
BBD	Benkelman Beam Deflection	FWD	Falling weight Deflectometer
BC	Bituminous Concrete	GDP	Gross Domestic Product
BI	Bump Integrator- Roughness (mm/Km.)	GFC	Good For Construction
BM	Bituminous Macadam	GNP	Gross National Product
BOQ	Bill of Quantities	GOI	Government of India
BOT	Built Operate and Transfer	GSB	Granular Sub Base
BPC	Bid Project cost	HAM	Hybrid Annuity Mode
C&G	Clearing and Grubbing	HFL	High Flood Level
C/s	Cross-section	HPC	Hume Pipe culvert
CA	Concession Agreement	HS	Hard Shoulder
CapEx	Capital Expenditure	Ht	Height
CBR	California Bearing Ratio	HTMS	Highway Traffic Management System
Ch	Chainage	IE	Independent Engineer
cm	Centimetre	IRC	Indian Roads Congress
COD	Commercial Operation date	IRI	International Roughness Index
Concessionaire/ DVHPL	M/s DBL Villupuram Highways Private Limited (DBHPL)	IS	Indian Standard
Cos	Change of Scope	Kg	Kilogram
Cr.	Crores	Km.	Kilometre
cum	Cubic Meter	LHS	Left Hand Side
CV	Commercial Vehicles	Ltr	Litre
CVPD	Commercial Vehicles per Day	m (or) Mts	Metre/Meter
DBM	Dense Bituminous Macadam	M/s	Messers
DFBOT	Design, Finance, Build, Operate and Transfer	MCW	Main Carriageway
DFO	District Forest Officer	MDD	Maximum Dry Density
Dia (or) *	Diameter	MDR	Major District Road
DLC	Dry Lean Concrete	Misc	Miscellaneous
DLP	Defect liability Period	MJB	Major Bridge
DPR	Detailed Project Report	mm	Millimetre
DTM	Digital Terrain Model	MM	Major Maintenance
EIA	Environment Impact Assessment	MNB	Minor Bridge
EIRR	Economic Internal Rate of Return	MORTH	Ministry of Road Transport & Highways
Emb	Embankment	MOU	Memoranda Of Understanding
EOT	Extension Of Time	MSA	Million Standard Axles

Abbreviation	Meaning
MT (or) T	Metric Tonne
NCR	Non-Conformance Report
NDT	Non-Destructive Test
NH	National Highway
NHAI	National Highway Authority of India
NHDP	National Highways Development Project
No. (or) Nos.	Numbers
NPV	Net Present value
NSDP	Net State Domestic Product
O&M	Operation and Maintenance
O-D	Origin and Destination
OpEx	Operative Expenditure
PCU	Passenger Car Unit
PIA	Project Influence Area
PIU	Project Implementation Unit
PM	Periodic Maintenance
PQC	Pavement Quality Concrete
PSC	Pre-stressed Concrete
RCC	Reinforced Cement Concrete
RE	Reinforced Earth

Abbreviation	Meaning
RHS	Right Hand Side
RoB	Road over Bridge
ROW	Right Of Way
RUB	Road Under bridge
RUKY	RUKY Projects Private Limited
SDBC	Semi Dense Bituminous Concrete
SF	Seasonal Factor
SH	State Highway
SPV	Special Purpose Vehicle
Sqm	Square Meter
SR	Service Road
TCS	Typical Cross Section
TDD	Technical Due Diligence
TOR	Terms of Reference
VDF	Vehicle Damage Factor
VOC	Vehicle Operating Costs
VOP	Vehicular Overpass
VUP	Vehicular Underpass
WMM	Wet Mix Macadam

CHAPTER 1. EXECUTIVE SUMMARY**1.1 Project Description**

Project pertains to Four Laning of Viluppuram – Puducherry section NH-45A (NEW NH 332) from Km 0.000 to Km 29.000 (Design Chainage) in the State of Tamilnadu and Union Territory of Puducherry on Hybrid Annuity Mode. Key Dates and Key features are given in tables below.

Table 1-1: Key Dates

Particulars	Dates / Period
LOA	17-03-2021
Appointed date	25-11-2021
Scheduled Construction End Date	24-11-2023
Concession Period	15 years from COD
Commercial Operation Date	04-04-2024
Completion Certificate	Applied for CC

Table 1-2: Key Features

S No	Particulars	As per CA	At site
1	Total Length of Four Lane MCW (Rigid Pavement)	29.000 Km.	---
2	No. of Bypasses	1 No.	16.35 Km
3	Service road/Slip road (2 x 21.65)	43.300 Km	42.546 Km Including (-) Negative COS
4	Major Bridges	Nil	---
5	Minor Bridges	02 Nos	04 Nos Including COS
6	VUP	07 Nos	
7	LVUP	-	01 Nos including COS
8	PUP	-	02 Nos including COS
9	Fly Over	04 Nos	
10	ROB	04 Nos	
11	Slab Culvert	0	03 Nos including COS
12	Slab/Box culverts	101 Nos	106 Nos Including COS
13	Rest Area	01 No	De Scoped
13	Toll Plaza	1 No.	---

1.2 Extension of Time:

The Authority has revised the scheduled completion time from 24-11-2023 to 30-06-2024, as per the EOT, including a 90-day grace period, as stated in the IE May MPR 2024.

1.3 Present status of the Project

PCOD Certificate was issued for the length of 27.250 Km out of 29.000 Km of project length provisionally declared for entry into Commercial operation on 04-04-2024 along with the punch list.

1.4 Condition of Project Corridor**1.4.1. Pavement Condition**

Overall assessment of pavement condition of the project road is good

1.4.2. Condition of Structures

Overall assessment of the structures' condition for the entire project is good.

1.4.3. Condition of Project Facilities

Project has one Toll plaza same is operational and in good condition. All signboards along the project road are in good reflective condition. Bus Bays are in good condition

1.5 Status of Completion Certificate

P- COD was given for 27.25 km out of 29.00 km on 04/04/2024, the remaining length are listed in Punch List B at the time of issuing the COD by the Independent Engineer. However, Punch list items are now completed.

1.6 O&M Cost Estimate

The summary of year wise O&M and any immediate cost estimate are given below:

Table 1-3: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2024-2025	-	1.78	5.95	7.72	
2025-2026	-	1.85	6.25	8.10	
2026-2027	4.00	2.60	6.58	13.17	
2027-2028	1.00	2.67	6.84	10.50	
2028-2029	1.15	2.65	7.10	10.91	
2029-2030	1.06	2.84	7.39	11.29	
2030-2031	10.58	4.80	7.81	23.19	
2031-2032	1.91	2.76	8.12	12.79	
2032-2033	1.15	3.07	8.20	12.42	
2033-2034	1.31	3.02	8.42	12.75	
2034-2035	4.92	3.19	8.65	16.76	
2035-2036	1.22	3.26	8.88	13.36	
2036-2037	1.24	3.20	9.12	13.56	
2037-2038	12.27	3.40	9.37	25.04	
2038-2039	2.36	3.31	4.81	10.48	Concession End Date 25.11.2038
2039-2040	-	-	4.95	4.95	
Total Expenditure in Cr. Rs	44.16	44.41	118.43	207.00	

CHAPTER 2. INTRODUCTION

2.1 Project Background

Ministry of Shipping, Road Transport & Highways, Government of India, through National Highways Authority of India, have been contemplating to enhance the traffic capacity and safety of goods and passenger traffic on selected, heavily trafficked corridors in India, and had identified one such stretch of road in Tamilnadu State and Union Territory of Puducherry i.e., *existing 2 lane highway of NH-45A (Present NH-332) between Viluppuram - Puducherry km 0+000 to km 29+000, (29.000 km) Hybrid Annuity Basis.*

The project section of NH-45A, spanning a total length of 29.00 Km., connects Viluppuram in Tamilnadu State and Puducherry City in Union Territory of Puducherry in the state of Tamilnadu.

After evaluation of the bids received from prospective bidders, Authority had selected M/s Dilip Buildcon Limited and issued LOA vide letter: NHAI/NHDP-IV/11013.NH45A/ HAM/2019/23930 dated 17th March 2021. Further the selected bidder formed an SPV in the name and style as M/s Viluppuram Highways Private Limited as per Companies Act, 2013 and Concession Agreement (CA) was executed between the Authority and the Concessionaire on 17-05-2021.

Subsequently, the Concessionaire appointed Dilip Buildcon Limited as EPC contractor for construction of afore said work. Viluppuram, Kandamanadai, Kolathur, Kavanipakkam, Anangur, Mazhavarayanur, Salayambalayam East, Salayambalayam West, Arpisambalayam, Valavanur, Gangarambalayam, Aliyur and Puducherry city. Project Location map is given at **Figure 2.1.**

Anantam Highways Trust appointed RUKY Projects Pvt. Ltd. as consultant for detailed Technical Due Diligence services of the above Road Project to know-how the present condition of Carriageway and Structures, estimate costs of Operations and Maintenance during balance Concession Period, additional road safety requirements if any and to review the annuity payments received and future schedule of annuity payments. etc. The Scope of Consultancy services is narrated under Chapter-3 of this report.

The data and observations provided in this report are based on the status of the project observed by the Consultant.

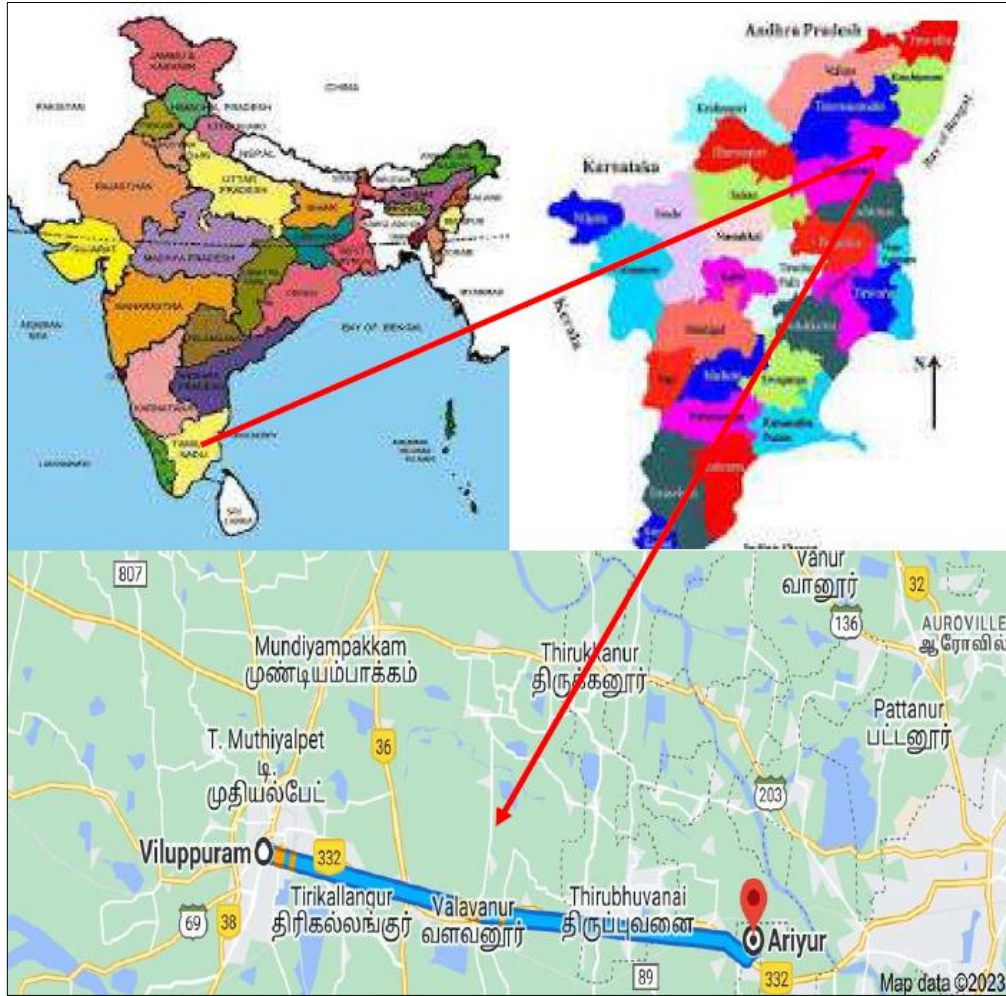


Figure 2.1: Project Location Map

This report is prepared based on documents made available, information shared by the Concessionaire, Client and observations made by the Consultants during the site visit

2.2 Project Geography

Climate: The climate condition is hot and Humid with 34°C. The period from January to February forms the cold season followed by hot and dry summer from March to June having transition monsoon period from October to December.

Terrain

The Project road passes through plain terrain. The land use is mainly agricultural with inter spread barren and built-up areas.

Villages and Towns

Important Villages and towns covered under this Project Highway are Viluppuram, Kandamanadai, Kolathur, Kavanipakkam, Anangur, Mazhavarayanur, Salayambalayam East, Salayambalayam West, Arpysambalayam, Valavanur, Gangarambalayam, Aliyur and Puducherry city.

2.3 Project Overview

Key features and timelines of the project are presented in the table below.

Table 2-1: Project Data

S.No.	Particulars	Details
1	Name of the project	Four Laning of Viluppuram – Puducherry section from km. 0+000 to km 29+000 in the State of Tamilnadu and Union Territory of Puducherry under Bharatmala Pariyojana Phase I (Residual NHDP IV) to be executed as on DBOT Annuity / Hybrid Annuity basis
2	Road Type	National Highway
3	Name of the Authority	National Highways Authority of India (NHAI)
4	Name of the Bidder	M/s. Dilip Buildcon Limited
5	Name of the Concessionaire/SPV	M/s DBL Viluppuram Highways Private Limited
6	EPC contractor	M/s. Dilip Buildcon Limited
7	Independent Engineer	M/s L N Malviya Infra Projects Private Limited in association with Highway Engineering Consultant
8	Independent Engineer during Operation Period	M/s L N Malviya Infra Projects Private Limited in association with Highway Engineering Consultant
9	Project Length as per Schedule B of CA	29.000 Km.
10	Project Lane Configuration	Four Lane
11	Manual specifications and standards	IRC:SP:84:2014
12	Nature of contract	Hybrid Annuity Mode (HAM)
13	Total Project Cost	1013.00Cr
14	Toll collected by	Authority
16	Letter of Award	17-03-2021
17	Date of CA	17-05-2021
18	Appointed date	25-11-2021
19	Construction Period	730 days from Appointed date
20	Operation Period	15 years on issuing COD
21	Performance security	30.39 Cr.
22	Scheduled Construction End Date	21-11-2023

S.No.	Particulars	Details
23	Commercial Operation C Date	04-04-2024
24	Completion Certificate	Applied for CC

2.4 Chainage Equation

To avoid confusion while reviewing drawings and report, it is necessary to understand the chainage equation between existing and new design chainages. As given in Appendix A-I of CA, the Project design chainage corresponding to existing chainages are shown in the table below. Increase in length of new alignment compared to existing alignment is due to provision of bypass and re-alignment in proposed alignment. Unless otherwise specifically mentioned all chainages referred in this document are design chainages.

Table 2-2: Design chainage corresponding to Existing chainage

Existing Chainage as per Schedule A	Design Chainage as per Schedule B
0+000 to 25.624	0+000 to 29+000
25.624 Km.	29.000 Km.

CHAPTER 3. SCOPE OF CONSULTANCY SERVICES

3.1 Scope of Consultancy Services

The consultant shall carry out the Technical Due Diligence services for the afore mentioned asset and the scope of work for the same is as follows:

- Review of various contractual documents
- Carryout detailed assessment of pavement condition and propose maintenance plan along with BOQ.
- Carrying out inventory & condition survey of all elements of road like embankment slope, plantation, road furniture of the project.
- Carrying out inventory & condition survey of all structures (Major Bridges, Minor Bridges, ROB, RE Wall, Flyovers, VUPs, PUPs, Culverts etc.), suggest any rehabilitation & maintenance requirements along with BOQ.
- Carryout road safety audit on Project highway and provide suggestions for improvement.
- Assess and Provide BOQ and cost estimate for routine & periodic maintenance including O&M.
- Review of validity of insurance and statutory compliances related to Project.
- Review of correspondence exchanged between parties on contract related issues and claims etc. Submission of detailed report on technical due diligence of the RUKY Projects Pvt Ltd.

CHAPTER 4. SALIENT FEATURES OF THE PROJECT

The salient features of the Project as per Schedule B and C of Concession Agreement (CA) are listed in the following Table.

Table 4-1: Salient Features of the Project

S No	Particulars	As per CA	At site
1	Total Length of Four Lane MCW (Rigid Pavement)	29.000 Km.	---
2	No. of Bypasses	1 No.	---
3	Service road/Slip road	43.100 Km	42.546 Km
4	Grade Separated Junctions	11 Nos	
5	Minor Junctions	24 Nos	1 No Minor junction additionally constructed
6	Major Bridges	Nil	---
7	Minor Bridges	02 Nos	04 Nos Including COS
8	VUP	07 Nos	
9	LVUP	-	01 Nos including COS
10	PUP	-	02 Nos including COS
11	Fly Over	05 Nos	
12	ROB	04 Nos	
13	Slab Culvert	0	03 Nos including COS
14	Slab/Box culverts	101 Nos	106 Nos Including COS
15	Pipe Culverts	0	3 Nos Including COS
16	Rest Area	01 No	Km.24+300 on RHS
17	Toll Plaza	1 No.	---
18	Bus bays with Bus shelter	8 Nos.	
19	Bus Shelter only	28 Nos.	

4.1 Typical Cross Section (TCS) Schedule

As per provisions of Schedule B of CA, there are 13 types of Typical Cross Sections (TCS) for the development of the Project Highway.

Based on the site conditions 18 Nos of TCS are developed in GFC drawings. and TCS summary as per CA is given below

Table 4-2: Summary of TCS as per CA

TCS Type	Length (Km.)	TCS Length in %
TCS - 1	7.750	26.72
TCS - 1A	1.600	5.52
TCS - 1D	1.440	4.97
TCS - 2A	4.680	16.14
TCS - 2A-1	1.050	3.62
TCS - 3	3.341	11.52

TCS Type	Length (Km.)	TCS Length in %
TCS - 3A	0.830	2.86
TCS - 4	3.699	12.76
TCS - 4A	1.923	6.63
TCS - 4A-1	1.400	4.83
TCS - 4A-2	0.320	1.10
TCS - 4A-3	0.080	0.28
TCS - 4A-4	0.100	0.34
TCS - 6	0.300	1.03
TCS - 7.2A	0.092	0.32
TCS - 7.2C	0.137	0.47
TCS - 7.3	0.070	0.24
TCS - 7.8A	0.188	0.65
Total	29.000	100

4.2 Bypass/Realignment

As per provisions of Schedule B of the Concession Agreement the details of realignment and Bypass are given in the table below.

Table 4-3: Details of Bypass

S. No.	Name of Bypass	Existing Chainage		Design Chainage		Length (Km.)
		From	To	From	To	
1	Viluppuram Bypass	0+000	13+000	00.000	16.350	16.350

There is no realignment in the project corridor.

4.3 Service Roads/Slip Roads

Following are the stretches where Service roads are provided on both sides of MCW along the project Road as per details furnished by Client

Table 4-4: Service Road and Slip Road locations as per Schedule B of CA

Service Road

S No	Design Chainage		Length in Km	Side	Service Road Width, m	Total Length, Km	Remarks
	From	To					
1	16+620	17+700	1.08	Both	7.5	2.16	Gangarampalyam
2	19+300	24+920	5.62	Both	7.5	11.24	
3	24+920	26+080	1.16	Both	5.75	2.32	ROB
4	26+080	29+000	2.92	Both	7.5	5.84	
Ramps at trumpet interchange							
5	UP Ramp		1.8		7.5	1.8	From Chennai to Puducherry & Trichy to Puducherry

S No	Design Chainage		Length in Km	Side	Service Road Width, m	Total Length, Km	Remarks
	From	To					
6	Down Ramp		1.22		7.5	1.22	Puducherry to Trichy & Puducherry to Chennai
	Total		13.8			24.58	

Slip Road:

S No	Design Chainage		Length in Km	Side	Service Road Width, m	Total Length, Km	Remarks
	From	To					
1	0+300	1+200	0.9	Both	5.5	1.8	ROB in Rural
2	3+280	3+850	0.57	Both	5.5	1.14	VUP Grade-II
3	3+850	4+140	0.29	Both	5.5	0.58	Slip road Extended
4	4+140	5+350	1.21	Both	5.75	2.42	ROB in Rural
5	5+350	5+800	0.45	Both	5.5	0.9	Slip road Extended
6	5+800	6+550	0.75	Both	5.5	1.5	VUP Grade-II
7	9+250	10+050	0.8	Both	5.5	1.6	VUP
8	13+020	13+820	0.8	Both	5.5	1.6	VUP Grade-II
9	13+820	14+220	0.4	Both	5.5	0.8	Slip road Extended
10	14+220	15+420	1.2	Both	5.75	2.4	VUP Grade-II cum ROB in Rural
11	15+420	15+720	0.3	Both	5.5	0.6	Slip road Extended
12	15+720	16+520	0.8	Both	5.5	1.6	Flyover
13	16+520	16+620	0.1	Both	5.5	0.2	Flyover
Ramps at trumpet interchange							
14	UP Ramp		1		5.5	1	From Chennai to Puducherry
15	Down Ramp		0.58		5.5	0.58	Puducherry to Trichy
	Total		10.05			18.52	

4.4 Drainage

As per provisions of Schedule B of CA, 25.764 Km. drains shall be provided as per Schedule G.

4.5 Summary of the Carriageway and Pavement Details**Table 4-5: Summary of the Carriageway and Pavement Details**

S No.	Description	Carriageway Width (m)	Length (Km)	Pavement Type
1	Main Carriageway	21.50 / 23.00 / 24.00 / 26.00 / 35.00 m Including Median & 21.00 / 24.00 m excluding Median	29.000	Rigid
2	Service/Slip Road	5.50 / 5.75 / 7.50 m.	43.100	Rigid

4.6 Summary of Structures

Summary of Structures as per provisions of schedule B of the CA is given in **Table 4.1**

4.7 Project Facilities

As per Schedule C of CA, the following facilities shall be provided in the project highway

- Toll Plazas 1 no., at Km. 18+500 (Design Chainage).
- Roadside furniture shall be provided as per Relevant Clauses of Manual of Specifications and Standards IRC: SP: 84-2014.
- Pedestrian facilities: which include 150 m length of guard rail at each bus Shelter, Pedestrian walk way, Ramps and Steps at Fly overs and Pedestrian crossing facilities at Service roads.
- Highway Lighting (LED) Shall be provided at Toll Plaza, Rest area, Truck lay bye, Bus bays and shelter, interchanges, Grade separators, ROB, Major Bridges and at Grade Junctions.
- Landscaping and tree plantations include
 - i) Median plantation where width is 3.0m and more
 - ii) Landscaping at Service area, Inter changes and Entry/Exit ramps
 - iii) Avenue plantation
- Rest areas at Km: 24.300 RHS (Design Chainage) location as per Schedule “C” of CA
- Bus bays and Bus shelters at 36 locations
- Highway Patrol, Ambulances and Cranes Confirming to Specifications mentioned in Schedule-C of CA
- Advance Traffic Management Systems (ATMS) confirming to Schedule-D of CA and as per NHA Policy matter – Technical (214/2016) vide reference No.11041/218/2007-Admn, dated:15.09.2016.
- Operating and Maintenance Centre
- Fencing
- Construction of Toilet at Toll Plaza.

Review of Project facilities is done in detail under **Chapter-7**.

CHAPTER 5. REVIEW OF AGREEMENTS

5.1 Review of Concession Agreement

Commercial operations are commenced in the Project with effect from 4-4-2024 (PCOD Date). Currently the Project is under operation phase.

5.1.1. **Concession (Article 3)**

Subject to and in accordance with the provisions of this Agreement, the Applicable Laws and the Applicable Permits, the Authority hereby grants to the Concessionaire the concession set forth herein including the exclusive right, license and authority to construct, operate and maintain the Project (the “Concession”) for a period of 730 (Seven Hundred and Thirty) days as Construction Period commencing from the Appointed Date and 15 (Fifteen) years commencing from COD.

In accordance with the provisions of the Concession Agreement Appointed date was declared as 25-11-2021. As per the above Clause, schedule Concession Period end date is 24-11-2038.

5.1.2. **Provisional COD scenario in the project**

The Concession Agreement (CA) was executed on 17-05-2021. After fulfilling all the requirements as per Article 4 and Article 22 of CA, the Appointed date was fixed on 25-11-2021 and the development of the project Highway was commenced. As of January, 2025, the Concessionaire achieved 99.8% of Physical Progress.

5.1.3 **Provisional Completion Certificate (Article 14)**

According to Clause 14.3 of CA, the Independent Engineer may, at the request of the Concessionaire issue a Provisional Certificate completion substantially in the form set forth in Schedule J if the Tests as are successful, duly appending the list of Outstanding items signed jointly by the Independent Engineer and the Concessionaire (“the Punch List”). All items of the Punch List shall be completed within 90 days of the date of issuance of the Provisional Completion Certificate.

Provisional Completion Certificate was issued on 04-04-2024 for the length of 27.25 Km vide Letter no LNMIPPL/DBL/NHAI/Villu-Pudu/2024-25/726 dated 24-04-2024 along with the Punch List items as per Clause 14.3 under Clause 14 and the status of Punch List which was certified by IE in the month of June 2024 is referred in Table 1.4.

5.2 Status of Punch List A & B

In response to the Concessionaire's letter No. DBL-RO/NHAI/Villipuram-Puducherry/2024-25/992 dated 13-07-2024, it was stated that due to the occurrence of unusual rainfall under Force Majeure, the balance of Punch List A items remains incomplete. The IE issued a letter to the Concessionaire after a joint site visit, requesting the submission of De-Scope proposals and estimates for Punch List A & B items, as the Concessionaire is unable to complete the Punch List items. This request was made via letter No. LNM/NH-45A/DBL/Vilu-Pudu/2021/371 dated 31-07-2024. The De-Scope proposals for Punch List A & B are provided in the table below.

Table 5-1: De-Scope Proposals of Punch List A & B

Punch List A				
Sl.No.	Description	Unit	As per Punch List Quantity	De scope Quantity as per actual site Condition
1	Earthen Drain	M	8930	3110
2	Rain water Harvesting	No	37	17
3	PCC lining for Earthen drain	M	12774	5776
4	Junction –Culvert	No	22	2
5	Protection work	No	62.5	26.5
6	Toe wall	M	10278	3000
7	Concrete crash Barrier	M	4548	1890
Punch List B				
1	Chain Link fencing	m	30603	29403

5.2.1. O&M Obligations of the Concessionaire (Clause 17.1)

- Permitting safe, smooth and uninterrupted flow of traffic on the Project Road.
- Collecting and appropriating the Fee
- Minimizing the disruption to traffic in the event of accidents or other incidents affecting safety. Providing Rapid and effective response and liaison with emergency services of the State.
- Carrying Periodic preventive maintenance of the Project Highway.
- Undertaking routine maintenance including prompt repairs of pot holes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices
- Undertaking major maintenance such as resurfacing of pavements, repairs and refurbishments of tolling system and other equipment
- Preventing any unauthorized use of the Project Road.
- Preventing encroachments on the Project Highway.
- Protection of environment and provision of equipment and materials
- Complying with safety Requirements in accordance with the provisions of the CA.
- O&M of all communications, control and Administrative systems for efficient operation of Project Highway
- Maintain a Public relations unit
- Complying with Safety requirements in accordance with Article 18

Upon review of the documents no adversity of the correspondence was noticed.

5.2.2. Maintenance Requirements (Clause 17.2)

The Contractor shall procure that at all times during the Operations period; the project Road conforms to the maintenance requirements set forth in Schedule K of CA (The “**Maintenance Requirements**”).

Upon review of the documents it is observed that the Concessionaire is fulfilling the Maintenance Requirements set forth in Schedule K of the CA. No adverse correspondence was noticed in this regard.

5.2.3. Maintenance Manual (Clause 17.3)

No later than 90 (ninety) days prior to the schedule completion date, the Concessionaire shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual (the “**Maintenance Manual**”) for the regular and preventive maintenance of the Project in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years and the provisions of this Clause shall apply, mutatis mutandis, to such revision.

Upon review of the documents shared with the Consultant, it is observed that Maintenance Manual was submitted by the Concessionaire vide Letter No.DBL-RO/NHAI/Villuppuram-Puducherry/2023-24/833 dated 02-09-2023.

5.2.4. Maintenance Programme (Clause 17.4)

On or before COD and no later than 45 days prior to the beginning of each accounting year during the Operation Period as the case may be the Concessionaire shall provide to the Authority and Independent Engineer its proposed annual Program of preventive, urgent and the schedule maintenance.

Upon review of the documents shared with the Consultant, it is observed that Maintenance Programme is submitted by the Concessionaire

5.2.5. Damages for Breach of Maintenance Obligations (Clause 17.8)

- In the event that the Contractor fails to repair or rectify any defect or deficiency set forth in the Maintenance Requirements within the period specified therein, it shall be deemed to be in breach of the Agreement and the Concessionaire shall be entitled to recover Damages, to be calculated and paid for each day of delay until the breach is cured, at the higher of the following.
- 2% (two percent) of the performance security, and
- 0.1% (zero decimal one per cent) of the cost of such repair or rectification as estimated by the Independent Engineer.

Upon review of the documents, no adverse correspondence was noticed in this regard

5.2.6. Monthly status reports (Clause 19.1)

During the Operation Period, the Contractor shall, no later than 7 (seven) days after the close of each month, furnish to the Concessionaire, the Authority and the Independent Engineer a monthly report stating in reasonable detail the condition of the Project including its compliance or otherwise with the Maintenance Requirements, Maintenance Manual, Maintenance Program and Safety Requirements, and shall promptly give such other relevant information as may be required by the Concessionaire, Independent Engineer or the Authority. In particular, such report shall separately identify and state in reasonable detail the defects and deficiencies that require rectification.

Upon reviewing the documents, it is observed that the Concessionaire started that the submitting Monthly Status Reports as per the above clause.

5.2.7. IE O&M Inspection reports (Clause 19.2)

As per Clause 19.2 of CA the Independent Engineer shall inspect the Project Highway at least once in a month and make a report of such inspection (the “O&M Inspection Report”) stating in reasonable detail, the defects or deficiencies, if any with particular reference to the Maintenance requirements, Maintenance manual, Maintenance Programme and Safety requirements. It shall send the Report to the Authority and Concessionaire within 7 days of such inspection. Upon receipt of such inspection report, the Concessionaire shall rectify or remedy the defects if any, stated in the report.

Upon review of the documents, it is observed that the O&M Inspection Reports are being submitted regularly by the Concessionaire as per the above Clause.

5.2.8. Tests During O&M Period (Clause 19.3)

For determining the project Highway conforms to the Maintenance Requirements, the Independent Engineer shall require the Concessionaire to carry out or cause to be carried out, tests specified by it in accordance with good industry practice. The Concessionaire carry out all such tests and furnish results of such tests forthwith to the Independent Engineer. One half of the costs of such tests to the extent certified by the IE as reasonable shall be reimbursed by the Authority.

Upon review of the documents it is observed that no additional tests have been instructed by the Independent Engineer as per the above Clause.

5.2.9. Appointment of Independent Engineer (Article 21)

The Authority shall appoint a consulting Engineer firm substantially in accordance with the selection criteria set forth in Schedule M, to be the Independent Engineer.

The appointment shall be made no later than 60 days from the date of this Agreement and shall be for a period of Construction period plus 6 months. On expiry or termination of the aforesaid appointment, the Authority shall appoint Independent Engineer for a further term of 3 years in accordance with the provisions of Schedule M of the CA.

One half of the remuneration cost and expenses incurred by the IE shall be reimbursed by the Concessionaire to the Authority pursuant to Clause 21.3 of the CA.

Upon review of the documents, M/s L.N.Malvia Infra Projects Private limited was appointed as Independent Engineer.

5.3 Review of Correspondence

The Concessionaire provided letters exchanged between Concessionaire, EPC contractor and Independent Engineer. After review of the correspondence provided, the major issues dealt with are as follows:

Observation	Comment
Damages for failure in Maintenance requirements.	No adverse comment
Report on quality control issues	No adverse comment
Non-Confirmation Reports.	No Pending NCR
Safety issues and accident report	Regularly submitted in MPR
Weather Report	Regularly submitted in MPR

5.4 Non-performance of the O&M Operations:

Upon review of the Monthly Progress Reports, IE inspection and site visit along with the Concessionaire, no defects were identified during the joint inspection

Upon review of the documents, no adverse correspondence was noticed in this regard.

5.5 Non Conformance Report (NCRs):

Upon reviewing the document, it has been observed that all Non-Conformance Reports (NCRs) are closed, with no pending NCRs.

5.6 Insurance

As per Clause 26.1, Concessionaire shall effect and maintain at its own cost, during the construction period and operation period. The details of insurance policy are given in the following table:

Table 5-2: Details of Insurance Policies

S. No	Description of Insurance	Policy No	Name of Insurance Company
1	All Risk Policy	321300112310000029	National Insurance Co Ltd

5.7 Monthly status reports (Clause 19.1)

During the Operation Period, the Concessionaire shall, no later than 7 (seven) days after the close of each month, furnish to the Authority and the Independent Engineer a monthly report stating in reasonable detail the condition of the Project including its compliance or otherwise with the Maintenance Requirements, Maintenance Manual, Maintenance Program and Safety Requirements, and shall promptly give such other relevant information as may be required by the Independent Engineer or the Authority. In particular, such report shall separately identify and state in reasonable detail the defects and deficiencies that require rectification.

Upon reviewing the documents, it is observed that the Concessionaire started submitting Monthly Status Reports as per the above clause. PCOD was issued on 04-04-2024. There are no adverse findings in these reports.

5.8 IE O&M Inspection reports (Clause 19.2)

As per Clause 19.2 of CA the Independent Engineer shall inspect the Project Highway at least once in a month and make a report of such inspection (the “O&M Inspection Report”) stating in reasonable detail, the defects or deficiencies, if any with particular reference to the Maintenance Requirements, Maintenance Manual, Maintenance Programme and Safety Requirements, it shall send the Report to the Authority and Concessionaire within 7 days of such inspection. Upon receipt of such inspection report, the Concessionaire shall rectify or remedy the defects if any, stated in the report.

Upon review of the documents, it is observed that the Monthly Inspection Reports are being submitted regularly by the IE as per the above Clause and upon pursuing same, it is observed that there are no adverse comments from IE.

5.9 Review of Pavement design report

The Concessionaire under the provisions of Article 10 submitted Pavement Design vide various letters given as under. Independent Engineer reviewed the submitted designs for its compliance under project specifications and standards and accorded their approval/consent. Reference correspondence related to submissions and approvals are given in the table below.

Table 5-3: Correspondence related to pavement design submission and approvals

S No.	Document Description	Report Reference
1	Pavement Design Report (Part I) For Main Carriageway	20047/RD/PS/PD/0001
2	Pavement Design Report (Part II) For Service Road	20047/RD/PS/PD/0002

The above pavement designs submitted and approved by the Independent Engineer were reviewed by the Consultant and is discussed in the following paragraphs.

5.10 Review of Pavement Design Report

The Concessionaire under the provisions of Article 10 submitted Pavement Design vide various letters given as under. Independent Engineer reviewed the submitted designs for its compliance under project specifications and standards and accorded their approval/consent. Reference correspondence related to submissions and approvals are given in the table below.

Table 5-4: Correspondence related to pavement design submission and approvals

S No.	Document Description	Report Reference
1	Pavement Design Report For Main Carriageway and Service/Slip Road	21041/RD/PS/PD/0001
2	Pavement Design Report For Rest Area	21041/RD/PS/PD/0002

The above pavement designs submitted and approved by the Independent Engineer were reviewed by the Consultant and is discussed in the following paragraphs.

5.10.1. Rigid Pavement for main carriageway**Design traffic (CVPD)**

As stated in Clause 1.3.7 of Schedule-B, “The Rigid pavement type for Main Carriageway shall be designed for a minimum design traffic of 12316 CVPD for a minimum design period of 30 years.”

Sub grade CBR

The concessionaire has been adopted 8 % CBR for Sub grade.

The pavement was designed by the design consultant based on homogeneous sections (HS) traffic and sub grade CBR as per pavement design report. The design traffic homogeneous sections wise summarized in the table below.

Table 5-5: Designed pavement crust summary as per pavement design report

Description	Rigid pavement
Designed CBR	8 %
Pavement Quality Concrete (PQC) - mm	280
A de-bonding interlayer of polythene sheet having minimum thickness of 125 micron is provided between DLC and PQC, as per Cl:5.7.5 of IRC:58-2015.	
Dry Lean Concrete (DLC) - mm	150
Drainage Layer (GSB) - (mm)	150
Diameter of Dowel Bar (mm)	36
Length of Dowel Bar (mm)	500
Spacing of Dowel Bars (mm)	300
Diameter of Tie Bar (mm)	12 (Deformed)
Length of Tie Bar (mm)	640
Spacing of Tie Bars (mm)	560

As per IRC:58-2015 the pavement crust proposed is satisfying the design traffic with 8 % CBR. Hence Rigid pavement design for MCW is in order based on traffic and as per schedule B requirement.

5.10.2. Rigid Pavement for Service Road/Slip Road

The rigid pavement shall be designed as per IRC 58-2015 with 8% CBR, as per pavement design report, the design calculations are found in order, and the adopted rigid pavement crust for Toll Plaza is given below.

Table 5-6: Pavement Composition for Toll Plaza

Description	Rigid pavement
Designed CBR	8 %
Pavement Quality Concrete (PQC) - mm	230
A de-bonding interlayer of polythene sheet having minimum thickness of 125 micron is provided between DLC and PQC, as per Cl:5.7.5 of IRC:58-2015.	
Dry Lean Concrete (DLC) - mm	150
Drainage Layer (GSB) - (mm)	150
Diameter of Dowel Bar (mm)	36

Description	Rigid pavement
Length of Dowel Bar (mm)	500
Spacing of Dowel Bars (mm)	300
Diameter of Tie Bar (mm)	12 (Deformed)
Length of Tie Bar (mm)	640
Spacing of Tie Bars (mm)	560

5.10.3. Site Investigations

During site visit, core cutting test/ Trial pit test was conducted at some of the locations along the project stretch to compare the executed crust thickness with the design crust thickness and found that the crust thicknesses are in compliance with the design thickness. The representative photographs and test locations were given below.

Table 5-7: Pavement Design Thickness Vs Executed Crust Thickness for MCW

S. No	Test Location	Side	As per Design Report				As per site test pits		
			PQC (mm)	DLC (mm)	GSB (mm)	Subgrade (mm)	PQC (mm)	DLC (mm)	GSB (mm)
1	4+100	LHS	280	150	150	500	280	150	150
2	25+200	LHS	280	150	150	500	287	150	150
3	10+600	RHS	280	150	150	500	284	150	150
4	15+000	RHS	280	150	150	500	285	150	150
5	25+200	LHS	280	150	150	500	287	150	150

Table 5-8: Pavement Design Thickness Vs Executed Crust Thickness for Service Road

S. No	Test Location	Side	As per Design Report				As per site test pits		
			PQC (mm)	DLC (mm)	GSB (mm)	Subgrade (mm)	PQC (mm)	DLC (mm)	GSB (mm)
1	15+600	LHS	230	150	150	500	232	150	150
2	5+930	RHS	230	150	150	500	230	150	150

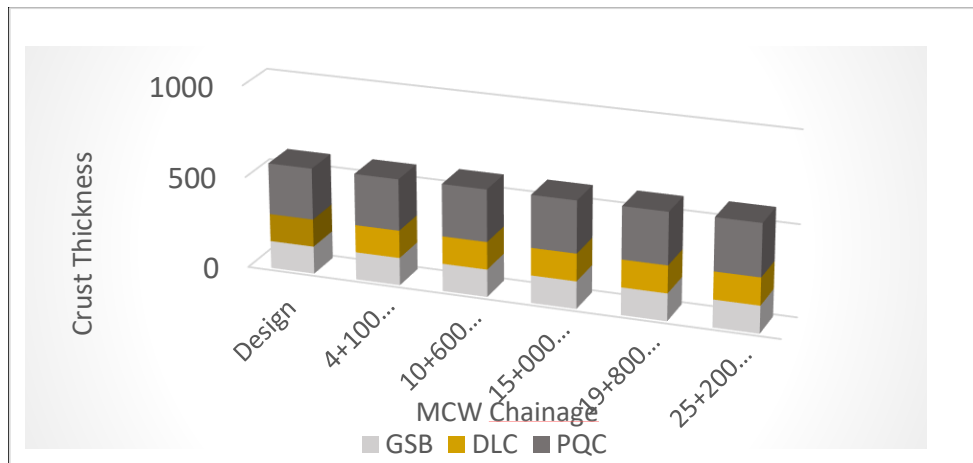
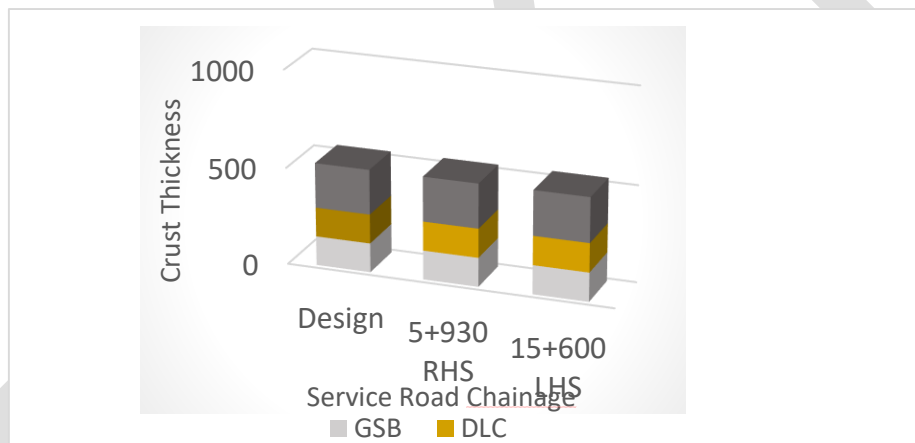


Figure 5.1: Bar Chart showing Design thickness vs Executed thickness for MCW



CHAPTER 6. SITE APPRAISAL

6.1 General

The TDD Consultant team visited from 27-01-2025 to 29-01-2025, and collected Road inventory besides examining the condition of pavement, structures and physical progress of site work.

6.2 Highways

6.2.1. Road Inventory

The objective of road inventory is to collect and compare information on all physical and visible features of the road with the GFC drawings, to assess progress of construction and to have visual quality inspection. All the details were recorded by actual measurements made at site, according to IRC-SP-19 format duly modified as per the project requirements. The Road Inventory was recorded under the following sub-heads: -

- Type of Terrain - (Plain/ Rolling/Hilly)
- Land use - (Built-up/Agri. /Forest/ Industrial/ Barren)
- Name of Village/Town
- Carriageway and Shoulder - Type/ Width/ Condition
- Embankment Height
- Submergence / water logging Area – location if any
- Details of Crossroads - Location/Road Name. /Carriageway Width
- Roadside Drainage (Non-Existing, Partially Functional, Functional)

6.2.2. Type of Terrain

The project road passes through Plain terrain all along its length.

6.2.3. Land use

The project road passes through built up and agriculture sections all along its length. The details are given below.

Table 6-1: Land use details along the project road

S.No.	From (Km.)	To (km.)	Length (Km)	Land use	Village
1	0+000	16+620	16.620	Agriculture	
2	16+620	17+700	1.080	Built-up	Gangaramapalyam
3	17+700	19+300	1.600	Agriculture	
4	19+300	19+650	0.350	Built-up	Thirubhuvanai
5	19+650	20+570	0.920	Agriculture	
6	20+570	21+160	0.590	Built-up	Thirubhuvanai
7	21+160	22+300	1.140	Agriculture	
8	22+300	22+760	0.460	Built-up	Thirubhuvanai
9	22+760	23+820	1.060	Agriculture	
10	23+820	24+920	1.100	Built-up	Thiruvandarkoil

S.No.	From (Km.)	To (km.)	Length (Km)	Land use	Village
11	24+920	26+080	1.160	Agriculture	
12	26+080	27+330	1.250	Built-up	Kandamangalam
12	27+330	28+100	0.770	Agriculture	
13	28+100	29+000	0.900	Built-up	Ariyur and Pangoor built-up

6.2.4. Villages/Towns Along the Project

The villages/towns along the project starts at Viluppuram, Gangaramapalyam, Thirubhuvanai, Thiruvandarkoil, Kandamangalam and ends at Ariyur and Pangoor.

6.2.5. Main Carriageway status and Condition

The project road is Four lane divided carriageway with Rigid Pavement and Service / Slip Roads with Flexible Pavement. The survey on general pavement conditions was primarily a visual exercise undertaken by means of slow drive-over survey supplemented with measurements wherever necessary.

Overall assessment of pavement condition of the project road is good. The riding quality is observed to be good.



Chennai to Trichy Highway & Villupuram link Road flyover



Chennai to Trichy highway



Ch: 0+400 Trichy link road @ ROB location



Ch: 1+580 median opening & junction area solar lights fixed



Ch: 1+450 Gantry board & VMS board fixed



Ch: 2+100 to 2+350 Median Drain & Bus bay with Shulter, urban light fixed



Ch: 2+600 to 3+050 Median drain in Super Elevation portion



Ch: 2+950 BHS Bus Bay with shelter, urban light fixed



Ch: 3+700 to 4+200 Curve location MBCB, median plantation, Bus shelter & urban lights fixed



Ch: 3+100 to 3+700 VUP location MBCB, median plantation, Bus shelter, urban lights fixed & Service Road with junction



Ch: 3+700 to 4+200 MCW & SR curve location MBCB, median plantation, Bus shelters & urban lights fixed



CH: 4+698 ROB LOCATION MBCB, MEDIAN PLANTATION & URBAN LIGHTS FIXED



CH: 5+000 TO 5+200 MCW & SR CURVE LOCATION MBCB, MEDIAN PLANTATION, BUS SHULTER, RCC DRAIN & URBAN LIGHTS FIXED



CH: 5+500 TO 6+000 MCW & SR CURVE LOCATION MBCB, MEDIAN PLANTATION, GANTRY BOARD, PTZ CAMERA & URBAN LIGHTS FIXED



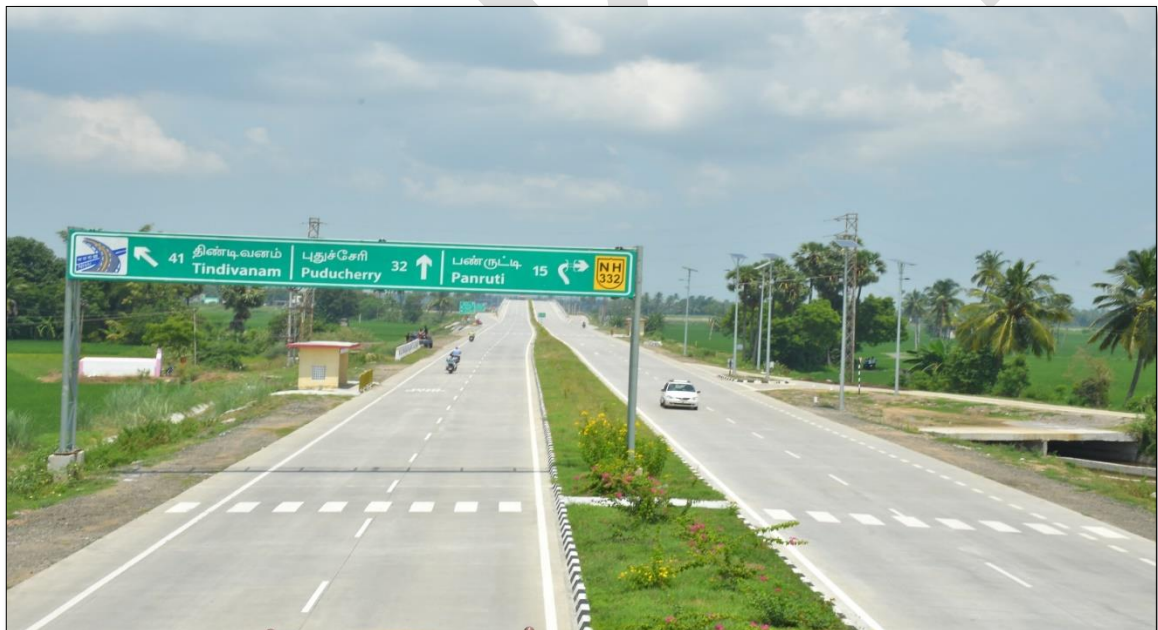
CH: 6+190 VUP LOCATION MCW & SR CURVED AREA MBCB, MEDIAN PLANTATION, BUS SHELTER & URBAN LIGHTS FIXED



CH: 6+800 TO 7+100 MCW & SR MERGING PORTION, CURVED AREA LOCATION MBCB, MEDIAN PLANTATION, PTZ CAMERA & URBAN LIGHTS FIXED



CH: 7+000 TO 9+100 MCW MEDIAN PLANTATION & AVENUE PLANTATION



CH: 8+800 TO 9+000 MCW WITH BUS SHULTER & JUNCTION LOCATION, MEDIAN PLANTATION, GANTRY BOARD & SOLAR LIGHTS FIXED



CH: 9+100 TO 9+700 MCW & SR MERGING PORTION, MBCB FIXED IN HIGH EMBANKMENT AREA, MEDIAN PLANTATION, PTZ CAMERA & URBAN LIGHTS FIXED



CH: 9+700 TO 10+200 FLYOVER PORTION MCW & SR MERGING WITH SR, MCW MBCB, MEDIAN PLANTATION & URBAN LIGHTS FIXED



CH: 10+300 TO 11+000 BHS MCW MBCB FIXED IN HIGH EMBANKMENT AREA WITH CHUTE DRAIN, MEDIAN PLANTATION, PTZ CAMERA FIXED



CH: 11+200 TO 12+000 MCW CURVED PORTION, MEDIAN DRAIN, PTZ CAMERA, BUS BAY WITH SHULTER & URBAN LIGHTS FIXED



CH: 12+800 BHS MEDIAN PLANTATION, PTZ CAMERA & JUNCTION AREA SOLAR LIGHTS FIXED



CH: 9+100 TO 9+700 MCW & SR MERGING PORTION, MEDIAN PLANTATION, GANTRY BOARD & URBAN LIGHTS FIXED



CH: 13+600 TO 14+200 MCW & SR MBCB, MEDIAN PLANTATION, BUS SHULTER & URBAN LIGHTS FIXED

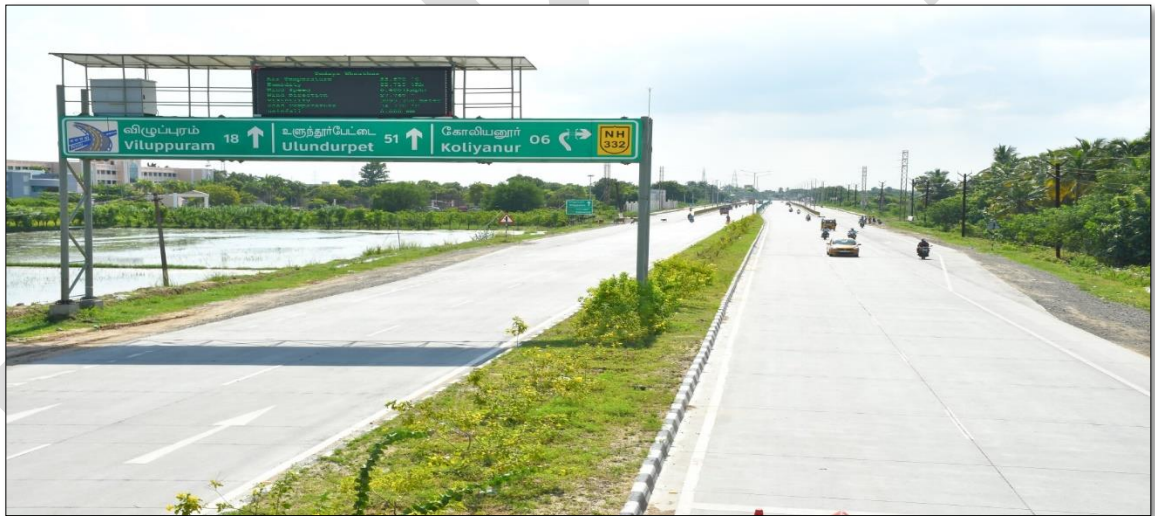


CH: 15+000 TO 15+500 MCW & SR MBCB, MEDIAN PLANTATION, RCC DRAIN & URBAN LIGHTS FIXED



CH: 16+800 TO 17+600 MCW & SR NJCB WITH ANTI GLARED POST, GUARD RAIL, VASD, RCC DRAIN & URBAN LIGHTS FIXED

CH:



17+800 TO 18+000 MCW & SR MERGING, GANTRY BOARD WITH VMS, MEDIAN PLANTATION, LINED DRAIN & URBAN LIGHTS FIXED



CH: 18+300 TO 18+900 MCW , MEDIAN PLANTATION, VIDS CAMERA, RCC DRAIN, TOLLPLAZA BOARD, WIGHT BRIDGE,O&M BUILDING, URBAN LIGHTS & HIGH MOIST LIGHTS FIXED



CH: 18+500 TOLLPLAZA, RCC DRAIN & HIGH MOIST LIGHTS FIXED



CH: 19+300 TO 20+000 MCW & SR NJCB WITH ANTI GLARED POST, GUARD RAIL, VASD, PTZ CAMERA, GANTRY BOARD, RCC DRAIN & URBAN LIGHTS FIXED



CH: 19+300 TO 20+000 VUP LOCATION MBCB, MEDIAN PLANTATION, RCC DRAIN, URBAN LIGHTS FIXED & SERVICE ROAD WITH JUNCTION



CH: 21+600 TO 21+900 VUP LOCATION, MCW & SR MBCB, MEDIAN PLANTATION, RCC DRAIN, URBAN LIGHTS FIXED



CH: 22+000 TO 22+300 MCW & SR MBCB WITH MEDIAN PLANTATION, VASD, RCC DRAIN & URBAN LIGHTS FIXED



CH: 23+500 TO 24+000 MCW & SR MBCB WITH PLANTATION, NJCB WITH ANTI GLARED POST, GUARD RAIL, VASD, PTZ CAMERA, RCC DRAIN & URBAN LIGHTS FIXED



CH: 24+000 TO 24+900 MCW & SR MBCB WITH PLANTATION, NJCB WITH ANTI GLARED POST, GUARD RAIL, VASD, RCC DRAIN & URBAN LIGHTS FIXED

During the site visit, the consultant observed that the drainage condition is good.



Figure 6.1: Status of Lined Drain

6.2.6. Kerb

Entire length of Kerb stone amounting to 54.787 kms is complete out of 56.648 km and drain condition is good.

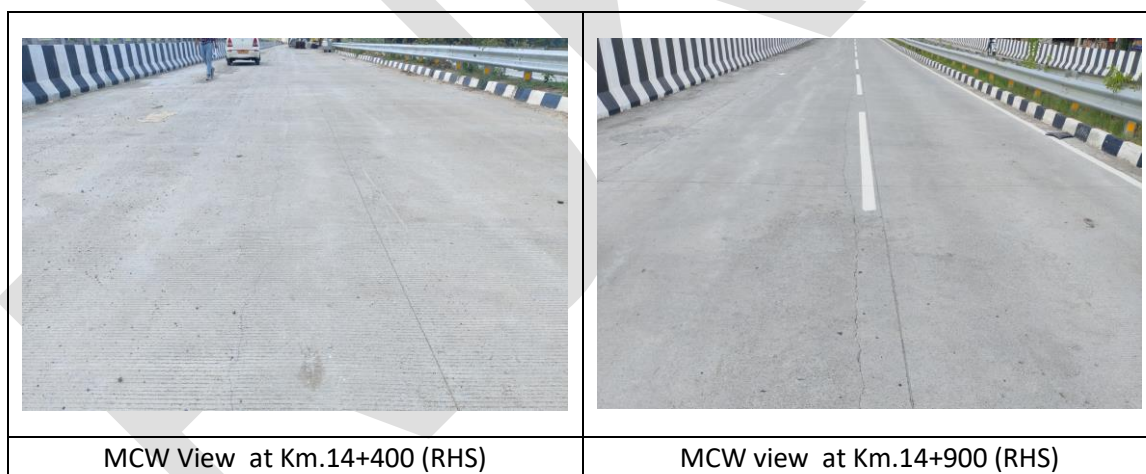


Figure 6.2: Photographs showing the condition of Pavement

Details of Pavement Condition is shown at **Annexure-1**.

6.3 Structures

Detailed inventory and condition of structures on the project road were carried out during the site visit as per the guide lines provided in IRC: SP: 52-1999 & IRC: SP: 35-1990. The summary of structures on the project road is given below:

Table 6-2: Summary of Structures

S. No.	Type of Structure	As per schedule B	COS (+ve)	De Scope	Total	As per site
1	Major bridges	-	-	-	-	-
2	Minor Bridges	02	02	-	04	04
3	VUP	07	-	-	07	07
4	LVUP	-	01	-	01	01
5	PUP	-	02	-	02	02
6	Flyover	05	-	-	05	05
7	ROB	4	-	-	04	04
8	Slab culverts	0	03	-	03	03
9	Slab/Box Culverts	101	05	-	106	106

Condition survey and repair rehabilitation proposals are given below. Detailed inventory and condition survey of all Major bridges, Minor bridges, VUPs, PUPs, ROB and Flyovers are given in **Annexure-3**.

For detailed inventory and condition survey of Culverts are given in **Annexure-3**

Table 6-3: Structure work status

Sl.No.	Type of structure	Unit	Side	Foundation as per Schedule G			Sub structure as per Schedule G			Superstructure as per Schedule G		
				Scope	Completed	Work in Progress	Scope	Completed	Work in Progress	Scope	Completed	
1	Minor Bridges	Nos	LHS	2.0	2.0	-	2.0	2.0	-	2.0	2.0	-
			RHS	2.0	2.0	-	2.0	2.0	-	2.0	2.0	-
2	underpasses	Nos	LHS	7.0	7.0	-	7.0	7.0	-	7.0	7.0	-
			RHS	7.0	7.0	-	7.0	7.0	-	7.0	7.0	-
3	Flyover	Nos	LHS	8.0	8.0	-	8.0	8.0	-	5.0	5.0	-
			RHS	8.0	8.0	-	8.0	6.0	-	5.0	4.0	-
4	Trumpet	Nos	LHS	8.0	8.0	-	8.0	8.0	-	6.0	6.0	-
			RHS	5.0	5.0	-	5.0	5.0	-	4.0	4.0	-
5	ROB	Nos	LHS	16.0	16.0	-	16.0	16.0	-	12.0	9	-
			RHS	16.0	16.0	-	16.0	15.0	-	12.0	9	-

6.3.1. Culverts

6.3.1.1. Inventory

There are 106 Box and 03 Pipe Culverts in the project stretch. Detailed inventory and condition survey of Culverts is given in **Annexure-3**.

As per IE MPR for the month of January, 2025 the work status of the Box /Slab culverts are as follows:

Table 6-4:Box/Slab culverts work status as per May 2024

Sl. No.	Type of structure	Unit	Side	Scope	Excavation	Raft	Wall	Slab
1	Box culverts (New and Reconstruction)	Nos	LHS	62	62	62	62	62
		Nos	RHS	62	62	62	62	62
2	Box culverts(Widening)	Nos	LHS	4	4	4	4	4
		Nos	RHS	4	4	4	4	4
3	Box culverts (separated)	Nos	LHS	11	4	4	4	4
		Nos	RHS	11	4	4	4	4
4	Box culverts(Junction)	Nos	LHS	24	5	5	5	5
		Nos	RHS	24	9	9	9	9

6.4 Project Facilities

6.4.1. Toll Plaza

Concession agreement under Schedule C provides construction of one Toll Plaza on the project road at Km.18+500 with 7+1 toll lanes in each direction. As per GFC drawings one Toll Plaza with 7+1 toll lanes in each direction is provided at Km 18+500. The facilities to be provided as per CA at Toll Plaza location are listed below:

1	All toll lanes to be equipped with ETC equipment
2	Toilet facility for road users near Toll Plaza
3	Weigh in motion (WIM) provided in all lanes
4	One Static Weigh bridge on each direction
5	Administrative building
6	Operation and maintenance centre
7	ATMS Control centre

List of equipment to be provided at Toll Plaza and control room and its status is given below

Table 6-5: List and Status of Equipment at Toll Plaza and Control Room

S.No.	Materials Description	Status
A	Toll Plaza Building	Completed
B	Land Scalping & Plantation	Completed
C	Lane Items	Completed
D	Booth Items	Completed
E	Server Room Items	Completed
F	ATMS Control Room Items	Completed
G	Ups Room Items	Completed
H	Lighting Arrangement	Completed

S.No.	Materials Description	Status
I	Sign Boards	Completed
J	Power Back Up Generators	Completed

	
Toll plaza at Km. 18+500 (RHS)	Administrative Block
	
Toll plaza at Km. 18+500 (LHS)	Administrative Block
	
Traffic & Medical Aid Post	O&M Center



Figure 6.3: Photographs showing status of Toll Plaza

Inventory of the Toll Plaza is shown in **Annexure-2**, the present status of Toll plaza is completed.

6.4.2. Road Furniture

6.4.2.1. Traffic signs

All the requisite traffic sign boards are installed along the project highways and are in good condition.

Table 6-6 : Status of Traffic Sign Boards

S. No.	Category	Remarks
1	Mandatory	Provided
2	Warning	Provided
3	Informatory	Provided
4	Facility	Provided

6.4.2.2. Overhead Signs

As per the provision of CA, minimum 20 Nos. of gantry overhead signs (excluding Toll Plaza location) are to be erected in the project. During the site visit erection of overhead Gantry is Completed . Location of overhead Gantry sign boards is provided below.

Table 6-7 : Status of traffic sign boards

S.no	Chainage	Side	Status
1	166+300	LHS	fixed
2	1+350	RHS	Fixed
3	8+750	LHS	Fixed
4	10+300	RHS	Fixed
5	15+520	LHS	Fixed
6	17+930	RHS	Fixed
7	19+110	LHS	Fixed
8	21+060	BHS	Fixed
9	22+620	BHS	Fixed
10	29+000	BHS	Fixed



Figure 6.4: Status of Overhead gantry

6.4.2.3. Landscaping & Tree Plantation

As per the Schedule-C of CA and Code, Minimum Nos of Avenue and Median Plantation has been Provided at site.

Table 6-8: Status of Avenue and median plantation

S.No	Description	Scope	Executed	Balance
1	Median & Avenue Plantation	56.648 km	56.648 km	Completed



Figure 6.5: Photographs showing status of Median Plantation

6.4.2.4. Pavement marking

As per the provision of CA and marking plan the Road marking is being done along the project except Land Problem Locations.

Road marking is completed and condition was good.

6.4.2.5. Metal beam Crash Barrier

During the site visit, it is observed that all Metal crash barrier installed and condition is good. details are provided in **Annexure-2**.



Figure 6.6: Photographs of W Beam Crash Barrier

6.4.2.6. Hectometer/Km. stones

Kilometre stones and Hectometre stones has been provided along the projects road.

6.4.2.7. Highway Lighting

Highway Lighting shall be provided at Toll Plaza, Bus Bay, MJBs, grade separators, built-up sections and junctions. Details of highway lighting is provided in **Annexure-2**.

Table 6-9: Summary of Highway lighting

S.no	Description	Scope	Executed	Balance
1	Highway Lighting	1289 Nos	1289	Completed

6.4.3. Rest Areas

As per Schedule C, Rest area shall be provided at 24+300 (RHS). Due to unavailability of land rest has been De-scoped.

Table 6-10: Location of Rest Areas

S.no	Description	Scope	Executed	Balance	
1	Rest Area	01	00	00	De-Scoped

6.4.4. Bus Bay and Bus shelters

As per the Provision of Schedules of CA there are 08 no's of Bus bay with shelter & 28 no's of Bus shelters. Details condition of Bus bay & Bus Shelter are given in **Annexure-2**.

Table 6-11: Details of Bus bays and shelters

S.no	Design Chainage	Description	Side
1	1+700	Bus Bay with Shelter	LHS
2	2+150	Bus Bay with Shelter	RHS
3	2+930	Bus Bay with Shelter	LHS
4	2+950	Bus Bay with Shelter	RHS
5	4+000	Bus Shelter	LHS
6	4+000	Bus Shelter	RHS
7	5+430	Bus Shelter	LHS
8	5+530	Bus Shelter	RHS
9	6+030	Bus Shelter	LHS
10	6+340	Bus Shelter	RHS
11	8+830	Bus Shelter	LHS
12	8+950	Bus Shelter	RHS
13	9+700	Bus Shelter	LHS
14	9+790	Bus Shelter	RHS
15	10+700	Bus Shelter	LHS
16	10+900	Bus Shelter	RHS
17	11+850	Bus Bay with Shelter	LHS
18	11+850	Bus Bay with Shelter	RHS
19	13+360	Bus Shelter	RHS
20	13+500	Bus Shelter	LHS
21	14+200	Bus Shelter	RHS
22	14+600	Bus Shelter	LHS
23	16+810	Bus Shelter	LHS

S.no	Design Chainage	Description	Side
24	16+810	Bus Shelter	RHS
25	18+040	Bus Bay with Shelter	LHS
26	18+050	Bus Bay with Shelter	RHS
27	20+152	Bus Shelter	LHS
28	20+350	Bus Shelter	RHS
29	21+720	Bus Shelter	LHS
30	21+790	Bus Shelter	RHS
31	23+150	Bus Shelter	LHS
32	23+350	Bus Shelter	RHS
33	24+800	Bus Shelter	LHS
34	24+800	Bus Shelter	RHS
35	27+100	Bus Shelter	RHS
36	27+250	Bus Shelter	LHS

As per the IE report of July 2024 and Schedule G, the status of the bus bays and bus shelters is completed and Condition was good.

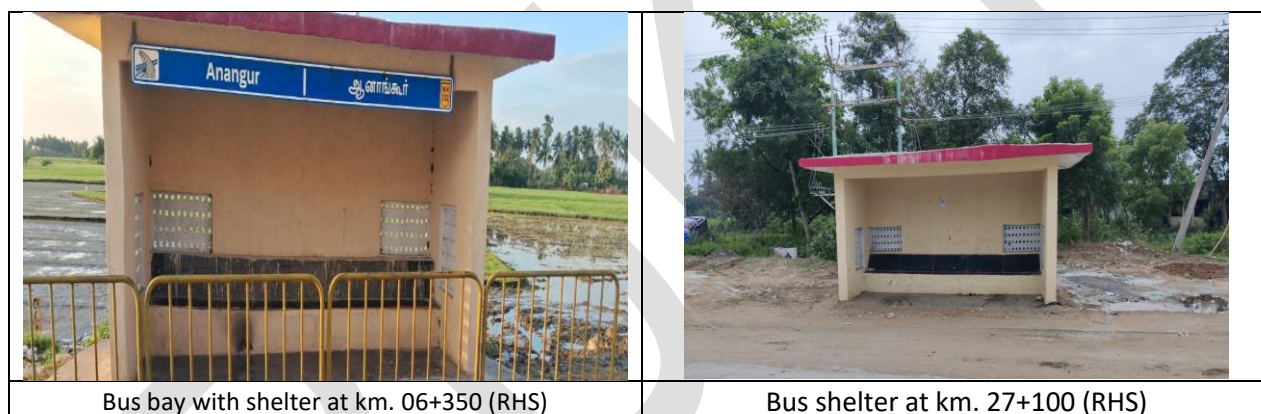


Figure 6.7: Photographs of Bus Bay & Shelter

6.4.5. Traffic Aid Post

Traffic Aid post shall be constructed at Toll Plaza as per schedule C, Traffic aid post building is completed at Toll Plaza and 2 No. of patrolling vehicles is mobilized to carry out the obligations.

6.4.6. Medical Aid Post

Medical Aid post shall be constructed at Toll Plaza as per schedule C. Medical aid post building is completed at Toll Plaza and 2 No. of ambulance vehicle is mobilized in each Toll Plaza.

6.4.7. Vehicle Rescue Posts

Vehicle rescue post shall be constructed at Toll Plaza as per schedule C, vehicle rescue post building is completed at Toll Plaza and 2 No. of cranes vehicle is mobilized at every Toll plaza to tow away the breakdown vehicles. Details of incident management system are shown at **Annexure-2**.

6.4.8. Operation and Maintenance (O&M) Centre

O&M center shall be constructed as per schedule C; O&M building is completed at each Toll Plaza.

6.4.9. Telecom System

The telecom communication system shall be provided as per schedule C, accordingly Installation of ECB (Emergency Call Box or SOS) is under progress at 28 locations for road users.

6.4.10. Advance Traffic Management System (ATMS)

ATMS shall be provided for convenience of users of Project Highway in accordance with IRC: SP:87-2019. During the site visit it is noticed that ATMS are provided entire project length. Installation of Full display two VMS and seven compacted VMS are Completed. Details are shown at **Annexure-2**.

6.4.11. Road Studs

As per the provision of CA, road studs shall be provided all along the road.

CHAPTER 7. REVIEW OF O&M AGREEMENT

The Operation and Maintenance agreement was signed between M/s Villupuram Highways Private Limited and Dilip Buildcon Limited.

We have reviewed the provisions under various clauses of this O&M Agreement and our specific comments are indicated below:

Sr No	Clause No	Description in brief
1	Senior Lenders	Means financial institutions, banks, funds or trusts who provide or refinance the debt component of the cost of the Project
2	Contract Period	Contract period for this agreement shall be equivalent to a period commencing from the date of the COD achieved by the Concessionaire in accordance with the Concession Agreement and expiring on the earlier of a) completion of the Operations Period; b) early termination of the Concession Agreement or c) Stake sale of the Concessionaire
3	Scope of Work	O&M Contractor's scope under this Agreement shall be completely and fully in line with the scope of works defined in relevant schedules of the Concession Agreement including and not limited to any remedial/rectification works Scope of work shall confirm to the provisions, specifications and standards design and drawings and other parameters stipulated in the Concession Agreement
4	Contract Price	In consideration of its obligations under this Agreement, during the Contract Period, the O&M Contractor shall be paid an aggregate lump sum fixed contract price for each financial year. It is clarified that the O&M Contractor shall not be entitled to any adjustment of the Contract Price as a result or in consequence of : i. Any escalation of price and / or inflation; and/ or ii. Any quantities of non – consumables, consumables, spares or equipment required for the execution of the Works
	Payment Terms	O&M Contractor would raise bill half-yearly within 7 days of Annuity Payment Dates. Any shortfall in Annuity payments and/or O&M payments by authority would result in similar reduction in payment under the RA Bill, provided that it is demonstrated that such shortfall in release of the Annuity Payment and O&M Payment by the Authority to the Concessionaire has been solely due to default of the O&M Contractor under this agreement. Any defects found in O&M by Authority/ IE would be rectified by the O&M Contractor at its sole expense without recourse to the Concessionaire.

Sr No	Clause No	Description in brief
6	Assignment	Assignment by the Concessionaire: The Concessionaire may, subject to the provisions of the Concession Agreement, assign or transfer or enter into an agreement to assign or transfer this Agreement or the rights and benefits hereunder, in favour of or for the benefit of the Senior Lenders.
7	Termination	Concessionaire has rights to terminate the O&M agreement on account of O&M event of default and vice-versa

CHAPTER 8. SCHEDULE OF ANNUITY PAYMENTS

8.1 Hybrid Annuity Model (HAM)

Hybrid annuity model is the PPP model in which Authority makes payment of 40% of the Bid Project cost during construction period based on progress milestones set forth in Concession Agreement. Payment of the balance 60% of the Bid Project Cost is made in form of bi-annual annuities with interest during the operational phase of concession.

Table 8-1: Schedule of Payment Milestones

S. no	Payment Milestone Number	Criteria for releasing the Payment
1	I	On Achievement of 5% of Physical Progress
2	II	On Achievement of 10% of Physical Progress
3	III	On Achievement of 20% of Physical Progress
4	IV	On Achievement of 30% of Physical Progress
5	V	On Achievement of 40% of Physical Progress
6	VI	On Achievement of 50% of Physical Progress
7	VII	On Achievement of 60% of Physical Progress
8	VIII	On Achievement of 70% of Physical Progress
9	IX	On Achievement of 80% of Physical Progress
10	X	On Achievement of 90% of Physical Progress

During the Operation Period following payment components are payable.

Annuity Payment as per the Annuity Payment Schedule provided in 23.6.3 of the Concession Agreement. Interest to be paid on the interest @ average one year MCLR of top 5 commercial bank plus 1.25%. O&M Payment as a lump sum amount as per Clause 23.7.1 of the Concession Agreement.

8.2 Schedule of Annuity Payments

Table 8-2:Details of Annuity payments

Annuity	Percentage of BCC	Annuity Due Date
1	2.10%	01-10-2024
2	2.17%	01-04-2025
3	2.24%	01-10-2025
4	2.31%	01-04-2026
5	2.38%	01-10-2026
6	2.45%	01-04-2027
7	2.52%	01-10-2027
8	2.60%	01-04-2028
9	2.68%	01-10-2028
10	2.76%	01-04-2029
11	2.84%	01-10-2029
12	2.93%	01-04-2030
13	3.02%	01-10-2030
14	3.11%	01-04-2031

Annuity	Percentage of BCC	Annuity Due Date
15	3.20%	01-10-2031
16	3.30%	01-04-2032
17	3.40%	01-10-2032
18	3.50%	01-04-2033
19	3.61%	01-10-2033
20	3.72%	01-04-2034
21	3.83%	01-10-2034
22	3.94%	01-04-2035
23	4.06%	01-10-2035
24	4.18%	01-04-2036
25	4.25%	01-10-2036
26	4.25%	01-04-2037
27	4.44%	01-10-2037
28	4.71%	01-04-2038
29	4.75%	01-10-2038
30	4.75%	01-04-2039

CHAPTER 9. COST ESTIMATES

9.1 Maintenance of Project Cost

The maintenance methodology and yearly maintenance program will guide the Maintenance team to undertake the routine & periodic maintenance works of the Project Facilities. This program is the basic indicator of the intended works to be carried out by the Maintenance Team over a period of one year

Road maintenance can be carried out in four ways as listed below.

- i. Preventive Maintenance
- ii. Routine Maintenance
- iii. Periodic Maintenance
- iv. Special repairs

- **Preventive Maintenance:**

Preventive maintenance is an organized, systematic process of applying a series of preventive treatments over the life of the pavement to minimize life cycle costs.

The strategy of applying periodic treatments at appropriate times in a pavement's life is economical than applying treatment at the end of pavement's life. Preventive maintenance is designed to retard pavement deterioration. Regular preventive maintenance will be carried out to ensure adherence to the Design Requirements and specifications throughout the Concession period.

The flexible pavement is in good condition and hence does not require any immediate or preventive interventions.

- **Routine Maintenance:**

Routine maintenance, which involves repairing of cracks, replacement of safety girders along the highway, clearance of debris following accidents, ensuring functionality of signposts, maintenance of a security set-up, and such other activities

- **Periodic Maintenance**

In contrast to preventive maintenance treatments, periodic maintenance treatments are ideally applied on pavements to improve surface integrity and waterproofing, or to improve skid resistance, without increasing the strength of the pavement significantly

Schedule of Periodic Maintenance	
Description	Scheduled Year
1 st Periodic Maintenance	FY 2031
2 nd Periodic Maintenance	FY 2038

- Special Repairs

The group of activities performed to restore the roadway following damage due to natural calamities such as heavy floods, sand storms, hurricanes, cyclones, earthquakes or landslides which shall be unpredictable. The affected Project Road shall be rectified, and the system shall be restored to function as per program prepared in consultation with Independent Engineer.

Typical activities include:

- Culvert and bridge repairs;
- Retaining wall repairs and construction;
- Construction of Diversions;
- Roadway repairs; and
- Flood damage restoration works, etc.

9.2 O&M Expense forecasts

The O&M costs were estimated based on various parameters of CA, and design reports. The cost summary is given below, and detailed cost estimations are given in ANNEXURE-4. Proposed Plan for Future Operation & Maintenance Costs (in Crores)

Table 9-1: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2024-2025	-	1.78	5.95	7.72	
2025-2026	-	1.85	6.25	8.10	
2026-2027	4.00	2.60	6.58	13.17	
2027-2028	1.00	2.67	6.84	10.50	
2028-2029	1.15	2.65	7.10	10.91	
2029-2030	1.06	2.84	7.39	11.29	
2030-2031	10.58	4.80	7.81	23.19	
2031-2032	1.91	2.76	8.12	12.79	
2032-2033	1.15	3.07	8.20	12.42	
2033-2034	1.31	3.02	8.42	12.75	
2034-2035	4.92	3.19	8.65	16.76	
2035-2036	1.22	3.26	8.88	13.36	
2036-2037	1.24	3.20	9.12	13.56	
2037-2038	12.27	3.40	9.37	25.04	
2038-2039	2.36	3.31	4.81	10.48	

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2039-2040	-	-	4.95	4.95	
Total Expenditure in Cr. Rs	44.16	44.41	118.43	207.00	

DRUKY

CHAPTER 10. CONCLUSION

Based on detailed site inspection, review of various documents and reports as described in the preceding chapters technical over view of the Project is provided below.

- Pavement Condition

The Pavement condition for the overall project is good. RCC drains are constructed in Built up locations and earthen drains in rural locations which facilitates effective drainage system along the project road. Shoulder condition is good.

- Condition of Structures

Condition of Bridges is good. No structural defects were noticed. The general condition of Culverts is good.

- Toll Plaza

Toll Plaza is operational with ETC Toll collection system and connected by network system monitored in administrative building. Bus bays and truck Lay byes are in good condition. Medical Aid posts found functional. Avenue plantation and landscaping at Toll Plaza is provided and being maintained well. Highway lighting is provided at toll plaza, bus bay and truck lay bye locations and the same is found functional.

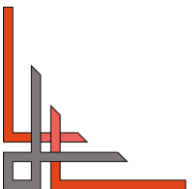
- Road Safety

Pavement marking is in good condition and number of sign boards are provided as per IRC SP 73-2007. The condition of sign boards & other road appurtenances like metal beam crash barriers is good.

-----End of Report -----



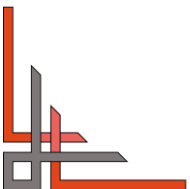
ANNEXURES








Annexure-1


Inventory & Condition of Pavement Condition





		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.															
Surveyed By :			Somesh & sai Chandu				Side : LHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
+000	+200	P	AG	CC	10.5	G		2	F								
+200	+400	P	AG	CC	10.5	G		2	F								
+400	+600	P	AG	CC	10.5	G		2	F								
+600	+800	P	AG	CC	10.5	G		2	F								
+800	1+000	P	AG	CC	10.5	G		2	F								
1+000	1+200	P	AG	CC	10.5	G		2	F								
1+200	1+400	P	AG	CC	7	G		2	F								
1+400	1+600	P	AG	CC	7	G		2	F								
1+600	1+800	P	AG	CC	7	G		2	F								
1+800	2+000	P	AG	CC	7	G		2	F								
2+000	2+200	P	AG	CC	7	G		2	F								
2+200	2+400	P	AG	CC	7	G		2	F								
2+400	2+600	P	AG	CC	7	G		2	F								
2+600	2+800	P	AG	CC	7	G		2	F								
2+800	3+000	P	AG	CC	7	G		2	F								
3+000	3+200	P	AG	CC	7	G		2	F								
3+200	3+400	P	AG	CC	7	G		2	F								
3+400	3+600	P	AG	CC	7	G		2	F								
3+600	3+800	P	AG	CC	7	G		2	F								
3+800	4+000	P	AG	CC	7	G		2	F								
4+000	4+200	P	AG	CC	7	G		2	F								
4+200	4+400	P	AG	CC	7	F		2	F								
4+400	4+600	P	AG	CC	7	G		2	F								
4+600	4+800	P	AG	CC	7	G		2	F								
4+800	5+000	P	AG	CC	7	G		2	F								
5+000	5+200	P	AG	CC	7	G		2	F								
5+200	5+400	P	AG	CC	7	G		2	F								
5+400	5+600	P	AG	CC	7	G		2	F								
5+600	5+800	P	AG	CC	7	G		2	F								
5+800	6+000	P	AG	CC	7	G		2	F								


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.														
Surveyed By :			Somesh & sai Chandu				Side : LHS		Carriage way : MCW							
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
6+000	6+200	P	AG	CC	7	G		2	F							
6+200	6+400	P	AG	CC	7	G		2	F							
6+400	6+600	P	AG	CC	7	G		2	F							
6+600	6+800	P	AG	CC	7	G		2	F							
6+800	7+000	P	AG	CC	7	G		2	F							
7+000	7+200	P	AG	CC	7	G		2	F							
7+200	7+400	P	AG	CC	7	G		2	F							
7+400	7+600	P	AG	CC	7	G		2	F							
7+600	7+800	P	AG	CC	7	G		2	F							
7+800	8+000	P	AG	CC	7	G		2	F							
8+000	8+200	P	AG	CC	7	G		2	F							
8+200	8+400	P	AG	CC	7	G		2	F							
8+400	8+600	P	AG	CC	7	G		2	F							
8+600	8+800	P	AG	CC	7	G		2	F							
8+800	9+000	P	AG	CC	7	G		2	F							
9+000	9+200	P	AG	CC	7	G		2	F							
9+200	9+400	P	AG	CC	7	G		2								
9+400	9+600	P	AG	CC	7	G		2								
9+600	9+800	P	AG	CC	7	G		2								
9+800	10+000	P	AG	CC	7	G		2								
10+000	10+200	P	AG	CC	7	G		2	F							
10+200	10+400	P	AG	CC	7	G		2	F							
10+400	10+600	P	AG	CC	7	G		2	F							
10+600	10+800	P	AG	CC	7	G		2	F							
10+800	11+000	P	AG	CC	7	G		2	F							
11+000	11+200	P	AG	CC	7	G		2	F							
11+200	11+400	P	AG	CC	7	G		2	F							
11+400	11+600	P	AG	CC	7	G		2	F							
11+600	11+800	P	AG	CC	7	G		2	F							
11+800	12+000	P	AG	CC	7	G		2	F							


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.															
Surveyed By :			Somesh & sai Chandu				Side : LHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
12+000	12+200	P	AG	CC	7	G		2	F								
12+200	12+400	P	AG	CC	7	G		2	F								
12+400	12+600	P	AG	CC	7	G		2	F								
12+600	12+800	P	AG	CC	7	G		2	F								
12+800	13+000	P	AG	CC	7	G		2	F								
13+000	13+200	P	AG	CC	7	G		2	F								
13+200	13+400	P	AG	CC	7	G		2	F								
13+400	13+600	P	AG	CC	7	G		2	F								
13+600	13+800	P	AG	CC	7	G		2	F								
13+800	14+000	P	AG	CC	7	G		2	F								
14+000	14+200	P	AG	CC	7	G		2	F								
14+200	14+400	P	AG	CC	7	G		2	F								
14+400	14+600	P	AG	CC	7	G		2	F								
14+600	14+800	P	AG	CC	7	G		2	F								
14+800	15+000	P	AG	CC	7	G		2	F								
15+000	15+200	P	AG	CC	7	G		2	F								
15+200	15+400	P	AG	CC	7	G		2	F								
15+400	15+600	P	AG	CC	7	G		2	F								
15+600	15+800	P	AG	CC	7	G		2	F								
15+800	16+000	P	AG	CC	7	G		2	F								
16+000	16+200	P	AG	CC	7	G		2	F								
16+200	16+400	P	AG	CC	7	G		2	F								
16+400	16+600	P	AG	CC	7	G		2	F								
16+600	16+800	P	BU	CC	7	G		2	F								
16+800	17+000	P	BU	CC	7	G		2	F								
17+000	17+200	P	BU	CC	7	G		2	F								
17+200	17+400	P	BU	CC	7	G		2	F								
17+400	17+600	P	BU	CC	7	G		2	F								
17+600	17+800	P	BU	CC	7	G		2	F								
17+800	18+000	P	BU	CC	7	G		2	F								


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																
Surveyed By :			Somesh & sai Chandu				Side : LHS		Carriage way : MCW									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
18+000	18+200	P	BU	CC			Toll Plaza											
18+200	18+400	P	BU	CC			Toll Plaza											
18+400	18+600	P	BU	CC			Toll Plaza											
18+600	18+800	P	BU	CC			Toll Plaza	2	F									
18+800	19+000	P	BU	CC	7	G		2	F									
19+000	19+200	P	BU	CC	7	G		2	F									
19+200	19+400	P	BU	CC	7	G		2	F									
19+400	19+600	P	BU	CC	7	G		2	F									
19+600	19+800	P	BU	CC	7	G		2	F									
19+800	20+000	P	BU	CC	7	G		2	F									
20+000	20+200	P	BU	CC	7	G		2	F									
20+200	20+400	P	BU	CC	7	G		2	F									
20+400	20+600	P	BU	CC	7	G		2	F									
20+600	20+800	P	BU	CC	7	G		2	F									
20+800	21+000	P	BU	CC	7	G		2	F									
21+000	21+200	P	BU	CC	7	G		2	F									
21+200	21+400	P	BU	CC	7	G		2	F									
21+400	21+600	P	BU	CC	7	G		2	F									
21+600	21+800	P	BU	CC	7	G		2	F									
21+800	22+000	P	BU	CC	7	G		2	F									
22+000	22+200	P	BU	CC	7	G		2	F									
22+200	22+400	P	BU	CC	7	G		2	F									
22+400	22+600	P	BU	CC	7	G		2	F									
22+600	22+800	P	BU	CC	7	G		2	F									
22+800	23+000	P	BU	CC	7	G		2	F									
23+000	23+200	P	BU	CC	7	G		2	F									
23+200	23+400	P	BU	CC	7	G		2	F									
23+400	23+600	P	BU	CC	7	G		2	F									
23+600	23+800	P	BU	CC	7	G		2	F									
23+800	24+000	P	BU	CC	7	G		2	F									


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																	
Surveyed By :				Somesh & sai Chandu				Side : LHS		Carriage way : MCW									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
24+000	24+200	P	BU	CC	7	G		2	F										
24+200	24+400	P	BU	CC	7	G		2	F										
24+400	24+600	P	BU	CC	7	G		2	F										
24+600	24+800	P	BU	CC	7	G		2	F										
24+800	25+000	P	BU	CC	7	G		2	F										
25+000	25+200	P	BU	CC	7	G		2	F										
25+200	25+400	P	BU	CC	7	G		2	F										
25+400	25+600	P	BU	CC	7	G		2	F										
25+600	25+800	P	BU	CC	7	G		2	F										
25+800	26+000	P	BU	CC	7	G		2	F										
26+000	26+200	P	BU	CC	7	G		2	F										
26+200	26+400	P	BU	CC	7	G		2	F										
26+400	26+600	P	BU	CC	7	G		2	F										
26+600	26+800	P	BU	CC	7	G		2	F										
26+800	27+000	P	BU	CC	7	G		2	F										
27+000	27+200	P	BU	CC	7	G		2	F										
27+200	27+400	P	BU	CC	7	G		2	F										
27+400	27+600	P	BU	CC	7	G		2	F										
27+600	27+800	P	BU	CC	7	G		2	F										
27+800	28+000	P	BU	CC	7	G		2	F										
28+000	28+200	P	BU	CC	7	G		2	F										
28+200	28+400	P	BU	CC	7	G		2	F										
28+400	28+600	P	BU	CC	7	G		2	F										
28+600	28+800	P	BU	CC	7	G		2	F										
28+800	29+000	P	BU	CC	7	G		2	F										


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																
Surveyed By :			Somesh & Sai Chandu				Side : RHS		Carriage way : MCW									Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads					
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
29+000	28+800	P	Bu	CC	7	G		2	F									
28+800	28+600	P	Bu	CC	7	G		2	F									
28+600	28+400	P	Bu	CC	7	G		2	F									
28+400	28+200	P	Bu	CC	7	G		2	F									
28+200	28+000	P	Bu	CC	7	G		2	F									
28+000	27+800	P	Bu	CC	7	G		2	F									
27+800	27+600	P	Bu	CC	7	G		2	F									
27+600	27+400	P	Bu	CC	7	G		2	F									
27+400	27+200	P	Bu	CC	7	G		2	F									
27+200	27+000	P	Bu	CC	7	G		2	F									
27+000	26+800	P	Bu	CC	7	G		2	F									
26+800	26+600	P	Bu	CC	7	G		2	F									
26+600	26+400	P	Bu	CC	7	G		2	F									
26+400	26+200	P	Bu	CC	7	G		2	F									
26+200	26+000	P	Bu	CC	7	G		2	F									
26+000	25+800	P	Bu	CC	7	G		2	F									
25+800	25+600	P	Bu	CC	7	G		2	F									
25+600	25+400	P	Bu	CC	7	G		2	F									
25+400	25+200	P	Bu	CC	7	G		2	F									
25+200	25+000	P	Bu	CC	7	G		2	F									
25+000	24+800	P	Bu	CC	7	G		2	F									
24+800	24+600	P	Bu	CC	7	G		2	F									
24+600	24+400	P	Bu	CC	7	G		2	F									
24+400	24+200	P	Bu	CC	7	G		2	F									
24+200	24+000	P	Bu	CC	7	G		2	F									
24+000	23+800	P	Bu	CC	7	G		2	F									
23+800	23+600	P	Bu	CC	7	G		2	F									
23+600	23+400	P	Bu	CC	7	G		2	F									
23+400	23+200	P	Bu	CC	7	G		2	F									
23+200	23+000	P	Bu	CC	7	G		2	F									
23+000	22+800	P	Bu	CC	7	G		2	F									


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.														
Surveyed By :			Somesh & Sai Chandu				Side : RHS		Carriage way : MCW							Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
22+800	22+600	P	Bu	CC	7	G		2	F							
22+600	22+400	P	Bu	CC	7	G		2	F							
22+400	22+200	P	Bu	CC	7	G		2	F							
22+200	22+000	P	Bu	CC	7	G		2	F							
22+000	21+800	P	Bu	CC	7	G		2	F							
21+800	21+600	P	Bu	CC	7	G		2	F							
21+600	21+400	P	Bu	CC	7	G		2	F							
21+400	21+200	P	Bu	CC	7	G		2	F							
21+200	21+000	P	Bu	CC	7	G		2	F							
21+000	20+800	P	Bu	CC	7	G		2	F							
20+800	20+600	P	Bu	CC	7	G		2	F							
20+600	20+400	P	Bu	CC	7	G		2	F							
20+400	20+200	P	Bu	CC	7	G		2	F							
20+200	20+000	P	Bu	CC	7	G		2	F							
20+000	19+800	P	Bu	CC	7	G		2	F							
19+800	19+600	P	Bu	CC	7	G		2	F							
19+600	19+400	P	Bu	CC	7	G		2	F							
19+400	19+200	P	Bu	CC	7	G		2	F							
19+200	19+000	P	Bu	CC	7	G		2	F							
19+000	18+800	P	Bu	CC	7	G		2	F							
18+800	18+600	P	Bu	CC			Toll Plaza									
18+600	18+400	P	Bu	CC			Toll Plaza									
18+400	18+200	P	Bu	CC			Toll Plaza									
18+200	18+000	P	Bu	CC			Toll Plaza									
18+000	17+800	P	Bu	CC	7	G		2	F							
17+800	17+600	P	Bu	CC	7	G		2	F							
17+600	17+400	P	Bu	CC	7	G		2	F							
17+400	17+200	P	Bu	CC	7	G		2	F							
17+200	17+000	P	Bu	CC	7	G		2	F							
17+000	16+800	P	Bu	CC	7	G		2	F							
16+800	16+600	P	Bu	CC	7	G		2	F							


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																
Surveyed By :			Somesh & Sai Chandu				Side : RHS		Carriage way : MCW									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
16+600	16+400	P	Bu	CC	7	G		2	F									
16+400	16+200	P	Bu	CC	7	G		2	F									
16+200	16+000	P	Bu	CC	7	G		2	F									
16+000	15+800	P	Bu	CC	7	G		2	F									
15+800	15+600	p	Bu	CC	7	G		2	F									
15+600	15+400	P	Ag	CC	7	G		2	F									
15+400	15+200	P	Ag	CC	7	G		2	F									
15+200	15+000	P	Ag	CC	7	G		2	F									
15+000	14+800	P	Ag	CC	7	G		2	F									
14+800	14+600	P	Ag	CC	7	G		2	F									
14+600	14+400	P	Ag	CC	7	G		2	F									
14+400	14+200	P	Ag	CC	7	G		2	F									
14+200	14+000	P	Ag	CC	7	G		2	F									
14+000	13+800	P	Ag	CC	7	G		2	F									
13+800	13+600	P	Ag	CC	7	G		2	F									
13+600	13+400	P	Ag	CC	7	G		2	F									
13+400	13+200	P	Ag	CC	7	G		2	F									
13+200	13+000	P	Ag	CC	7	G		2	F									
13+000	12+800	P	Ag	CC	7	G		2	F									
12+800	12+600	P	Ag	CC	7	G		2	F									
12+600	12+400	P	Ag	CC	7	G		2	F									
12+400	12+200	P	Ag	CC	7	G		2	F									
12+200	12+000	P	Ag	CC	7	G		2	F									
12+000	11+800	P	Ag	CC	7	G		2	F									
11+800	11+600	P	Ag	CC	7	G		2	F									
11+600	11+400	P	Ag	CC	7	G		2	F									
11+400	11+200	P	Ag	CC	7	G		2	F									
11+200	11+000	P	Ag	CC	7	G		2	F									
11+000	10+800	P	Ag	CC	7	G		2	F									
10+800	10+600	P	Ag	CC	7	G		2	F									
10+600	10+400	P	Ag	CC	7	G		2	F									


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																
Surveyed By :			Somesh & Sai Chandu				Side : RHS		Carriage way : MCW									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
10+400	10+200	P	Ag	CC	7	G		2	F									
10+200	10+000	P	Ag	CC	7	G		2	F									
10+000	9+800	P	Ag	CC	7	G		2	F									
9+800	9+600	P	Ag	CC	7	G		2	F									
9+600	9+400	P	Ag	CC	7	G		2	F									
9+400	9+200	P	Ag	CC	7	G		2	F									
9+200	9+000	P	Ag	CC	7	G		2	F									
9+000	8+800	P	Ag	CC	7	G		2	F									
8+800	8+600	P	Ag	CC	7	G		2	F									
8+600	8+400	P	Ag	CC	7	G		2	F									
8+400	8+200	P	Ag	CC	7	G		2	F									
8+200	8+000	P	Ag	CC	7	G		2	F									
8+000	7+800	P	Ag	CC	7	G		2	F									
7+800	7+600	P	Ag	CC	7	G		2	F									
7+600	7+400	P	Ag	CC	7	G		2	F									
7+400	7+200	P	Ag	CC	7	G		2	F									
7+200	7+000	P	Ag	CC	7	G		2	F									
7+000	6+800	P	Ag	CC	7	G		2	F									
6+800	6+600	P	Ag	CC	7	G		2	F									
6+600	6+400	P	Ag	CC	7	G		2	F									
6+400	6+200	P	Ag	CC	7	G		2	F									
6+200	6+000	P	Ag	CC	7	G		2	F									
6+000	5+800	P	Ag	CC	7	G		2	F									
5+800	5+600	P	Ag	CC	7	G		2	F									
5+600	5+400	P	Ag	CC	7	G		2	F									
5+400	5+200	P	Ag	CC	7	G		2	F									
5+200	5+000	P	Ag	CC	7	G		2	F									
5+000	4+800	P	Ag	CC	7	G		2	F									
4+800	4+600	P	Ag	CC	7	G		2	F									
4+600	4+400	P	Ag	CC	7	G		2	F									
4+400	4+200	P	Ag	CC	7	G		2	F									


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																
Surveyed By :			Somesht & Sai Chandu				Side : RHS		Carriage way : MCW									Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads					
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
4+200	4+000	P	Ag	CC	7	G		2	F									
4+000	3+800	P	Ag	CC	7	G		2	F									
3+800	3+600	P	Ag	CC	7	G		2	F									
3+600	3+400	P	Ag	CC	7	G		2	F									
3+400	3+200	P	Ag	CC	7	G		2	F									
3+200	3+000	P	Ag	CC	7	G		2	F									
3+000	2+800	P	Ag	CC	7	G		2	F									
2+800	2+600	P	Ag	CC	7	G		2	F									
2+600	2+400	P	Ag	CC	7	G		2	F									
2+400	2+200	P	Ag	CC	7	G		2	F									
2+200	2+000	P	Ag	CC	7	G		2	F									
2+000	1+800	P	Ag	CC	7	G		2	F									
1+800	1+600	P	Ag	CC	7	G		2	F									
1+600	1+400	P	Ag	CC	7	G		2	F									
1+400	1+200	P	Ag	CC	7	G		2	F									
1+200	1+000	P	Ag	CC	7	G		2	F									
1+000	+800	P	Ag	CC	7	G		2	F									
+800	+600	P	Ag	CC	7	G		2	F									
+600	+400	P	Ag	CC	7	G		2	F									
+400	+200	P	Ag	CC	7	G		2	F									
+200	+000	P	Ag	CC	7	G		2	F									


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																	
Surveyed By :			Somesht & sai Chandu				Side : LHS		Carriage way : Sr										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
+000	+200	P	Ag	CC	5.5	G		2	F										
+200	+400	P	Ag	CC	5.5	G		2	F										
+400	+600	P	Ag	CC	5.5	G		2	F										
+600	+800	P	Ag	CC	5.5	G		2	F										
+800	1+000	P	Ag	CC	5.5	G		2	F										
1+000	1+200	p	Ag	CC	5.5	G		2	F										
3+200	3+400	P	Ag	CC	5.5	G		2	F										
3+400	3+600	P	Ag	CC	5.5	G		2	F										
3+600	3+800	P	Ag	CC	5.5	G		2	F										
3+800	4+000	P	Ag	CC	5.5	G		2	F										
4+000	4+200	P	Ag	CC	5.5	G		2	F										
4+200	4+400	P	Ag	CC	5.5	G		2	F										
4+400	4+600	P	Ag	CC	5.75	G		2	F										
4+600	4+800	P	Ag	CC	5.75	G		2	F										
4+800	5+000	P	Ag	CC	5.75	G		2	F										
5+000	5+200	P	Ag	CC	5.75	G		2	F										
5+200	5+400	P	Ag	CC	5.75	G		2	F										
5+400	5+600	P	Ag	CC	5.75	G		2	F										
5+600	5+800	P	Ag	CC	5.75	G		2	F										
5+800	6+000	P	Ag	CC	5.75	G		2	F										
6+000	6+200	P	Ag	CC	5.5	G		2	F										
6+200	6+400	P	Ag	CC	5.5	G		2	F										
6+400	6+600	P	Ag	CC	5.5	G		2	F										
9+200	9+400	P	Ag	CC	5.5	G		2	F										
9+400	9+600	P	Ag	CC	5.5	G		2	F										
9+600	9+800	P	Ag	CC	5.5	G		2	F										
9+800	10+000	P	Ag	CC	5.5	G		2	F										
10+000	10+050	P	Ag	CC	5.5	G		2	F										


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																	
Surveyed By :			Somesh & sai Chandu				Side : LHS		Carriage way : Sr										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
13+020	13+200	P	Ag	CC	5.5	G		2	F										
13+200	13+400	P	Ag	CC	5.5	G		2	F										
13+400	13+600	P	Ag	CC	5.5	G		2	F										
13+600	13+800	P	Ag	CC	5.5	G		2	F										
13+800	14+000	P	Ag	CC	5.5	G		2	F										
14+000	14+200	P	Ag	CC	5.5	G		2	F										
14+200	14+400	P	Ag	CC	5.75	G		2	F										
14+400	14+600	P	Ag	CC	5.75	G		2	F										
14+600	14+800	P	Ag	CC	5.75	G		2	F										
14+800	15+000	P	Ag	CC	5.75	G		2	F										
15+000	15+200	P	Ag	CC															
15+200	15+400	P	Ag	CC	5.75	G		2	F										
15+400	15+600	P	Ag	CC	5.5	G		2	F										
15+600	15+800	P	Ag	CC	5.5	G		2	F										
15+800	16+000	P	Ag	CC	5.5	G		2	F										
16+000	16+200	P	Ag	CC	5.5	G		2	F										
16+200	16+400	P	Ag	CC	5.5	G		2	F										
16+400	16+600	P	Ag	CC	5.5	G		2	F										
16+600	16+800	P	Bu	CC	7.5	G		2	F										
16+800	17+000	P	Bu	CC	7.5	G		2	F										
17+000	17+200	P	Bu	CC	7.5	G		2	F										
17+200	17+400	P	Bu	CC	7.5	G		2	F										
17+400	17+600	P	Bu	CC	7.5	G		2	F										
17+600	17+800	P	Bu	CC	7.5	G		2	F										
19+300	19+400	P	Bu	CC	7.5	G		2	F										
19+400	19+600	P	Bu	CC	7.5	G		2	F										
19+600	19+800	P	Bu	CC	7.5	G		2	F										
19+800	20+000	P	Bu	CC				2	F										
20+000	20+200	P	Bu	CC	5.5	G		2	F										
20+200	20+400	P	Bu	CC	5.5	G		2	F										


		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.															
Surveyed By :			Somesht & sai Chandu				Side : LHS		Carriage way : Sr								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
20+400	20+600	P	Bu	CC	5.5	G		2	F								
20+600	20+800	P	Bu	CC	5.5	G		2	F								
20+800	21+000	P	Bu	CC	5.5	G		2	F								
21+000	21+150	P	Bu	CC	5.5	G		2	F								
21+530	21+600	P	Bu	CC	5.5	G		2	F								
21+600	21+800	P	Bu	CC	5.5	G		2	F								
21+800	22+000	P	Bu	CC	5.5	G		2	F								
22+000	22+200	P	Bu	CC	5.5	G		2	F								
22+200	22+400	P	Bu	CC	5.5	G		2	F								
22+400	22+600	P	Bu	CC	5.5	G		2	F								
22+600	22+800	P	Bu	CC	5.5	G		2	F								
23+000	23+200	P	Bu	CC	7.5	G		2	F								
23+200	23+400	P	Bu	CC	7.5	G		2	F								
23+400	23+600	P	Bu	CC	7.5	G		2	F								
23+600	23+800	P	Bu	CC	7.5	G		2	F								
23+800	24+000	P	Bu	CC	7.5	G		2	F								
24+000	24+200	P	Bu	CC	7.5	G		2	F								
24+200	24+400	P	Bu	CC	7.5	G		2	F								
24+400	24+600	P	Bu	CC	7.5	G		2	F								
24+600	24+800	P	Bu	CC	7.5	G		2	F								
24+800	25+000	P	Bu	CC	7.5	G		2	F								
25+000	25+200	P	Bu	CC	5.75	G		2	F								
25+200	25+400	P	Bu	CC	5.75	G		2	F								
25+400	25+600	P	Bu	CC	5.75	G		2	F								
25+600	25+800	P	Bu	CC	5.75	G		2	F								
25+800	26+000	P	Bu	CC	5.75	G		2	F								
26+000	26+200	P	Bu	CC	7	G		2	F								
26+200	26+400	P	Bu	CC	7	G		2	F								

		FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.														
Surveyed By :			Somesh & sai Chandu				Side : LHS		Carriage way : Sr							
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
26+400	26+600	P	Bu	CC	7	G		2	F							
26+600	26+800	P	Bu	CC	7	G		2	F							
26+800	27+000	P	Bu	CC	7	G		2	F							
27+000	27+200	P	Bu	CC	7	G		2	F							
27+200	27+400	P	Bu	CC	7	G		2	F							
27+400	27+600	P	Bu	CC	7	G		2	F							
27+600	27+800	P	Bu	CC	7	G		2	F							
27+800	28+000	P	Bu	CC	7	G		2	F							
28+000	28+200	P	Bu	CC	7	G		2	F							
28+200	28+400	P	Bu	CC	7	G		2	F							
28+400	28+600	P	Bu	CC	7	G		2	F							
28+600	28+800	P	Bu	CC	7	G		2	F							
28+800	29+000	P	Bu	CC	7	G		2	F							

			FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																
Surveyed By :				Somesh & Sai Chandu				Side : RHS		Carriage way : SR									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
29+000	28+800	P	Bu	CC	7	G		2	F										
28+800	28+600	P	Bu	CC	7	G		2	F										
28+600	28+400	P	Bu	CC	7	G		2	F										
28+400	28+200	P	Bu	CC	7	G		2	F										
28+200	28+000	P	Bu	CC	7	G		2	F										
28+000	27+800	P	Bu	CC	7	G		2	F										
27+800	27+600	P	Bu	CC	7	G		2	F										
27+600	27+400	P	Bu	CC	7	G		2	F										
27+400	27+200	P	Bu	CC	7	G		2	F										
27+200	27+000	P	Bu	CC	7	G		2	F										
27+000	26+800	P	Bu	CC	7	G		2	F										
26+800	26+600	P	Bu	CC	7	G		2	F										
26+600	26+400	P	Bu	CC	7	G		2	F										
26+400	26+200	P	Bu	CC	7	G		2	F										
26+200	26+000	P	Bu	CC	7	G		2	F										
26+000	25+800	P	Bu	CC	5.75	G		2	F										
25+800	25+600	P	Bu	CC	5.75	G		2	F										
25+600	25+400	P	Bu	CC	5.75	G		2	F										
25+400	25+200	P	Bu	CC	5.75	G		2	F										
25+200	25+000	P	Bu	CC	5.75	G		2	F										
25+000	24+800	P	Bu	CC	7	G		2	F										
24+800	24+600	P	Bu	CC	7	G		2	F										
24+600	24+400	P	Bu	CC	7	G		2	F										
24+400	24+200	P	Bu	CC	7	G		2	F										
24+200	24+000	P	Bu	CC	7	G		2	F										
24+000	23+800	P	Bu	CC	7	G		2	F										
23+800	23+600	P	Bu	CC	7	G		2	F										
23+600	23+400	P	Bu	CC	7	G		2	F										
23+400	23+200	P	Bu	CC	7	G		2	F										
23+200	23+000	P	Bu	CC	7	G		2	F										

				FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																
Surveyed By :				Somes & Sai Chandu				Side : RHS		Carriage way : SR										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)					
22+800	22+600	P	Bu	CC	5.5	G		2	F											
22+600	22+400	P	Bu	CC	5.5	G		2	F											
22+400	22+200	P	Bu	CC	5.5	G		2	F											
22+200	22+000	P	Bu	CC	5.5	G		2	F											
22+000	21+800	P	Bu	CC	5.5	G		2	F											
21+800	21+600	P	Bu	CC	5	G		2	F											
21+600	21+400	P	Bu	CC	5	G		2	F											
21+400	21+200	P	Bu	CC	5.5	G		2	F											
21+200	21+000	P	Bu	CC	5.5	G		2	F											
21+000	20+800	P	Bu	CC	5.5	G		2	F											
20+800	20+600	P	Bu	CC	5.5	G		2	F											
20+600	20+400	P	Bu	CC	5.5	G		2	F											
20+400	20+200	P	Bu	CC	5.5	G		2	F											
20+200	20+000	P	Bu	CC	5.5	G		2	F											
20+000	19+800	P	Bu	CC	7	G		2	F											
19+800	19+600	P	Bu	CC	7	G		2	F											
19+600	19+400	P	Bu	CC	7	G		2	F											
19+400	19+300	P	Bu	CC	7	G		2	F											
17+700	17+600	P	Bu	CC	7	G		2	F											
17+600	17+400	P	Bu	CC	7	G		2	F											
17+400	17+200	P	Bu	CC	7	G		2	F											
17+200	17+000	P	Bu	CC	7	G		2	F											
17+000	16+800	P	Bu	CC	7	G		2	F											
16+800	16+600	P	Bu	CC	7	G		2	F											
16+600	16+400	P	Bu	CC	7	G		2	F											
16+400	16+200	P	Bu	CC	7	G		2	F											
15+700	15+600	P	Ag	CC	5.5	G		2	F											
15+600	15+400	P	Ag	CC	5.5	G		2	F											

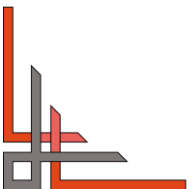
				FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																
Surveyed By :				Somesh & Sai Chandu				Side : RHS		Carriage way : SR										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)					
15+400	15+200	P	Ag	CC	5.5	G		2	F											
15+200	15+000	P	Ag	CC	5.75	G		2	F											
15+000	14+800	P	Ag	CC	5.75	G		2	F											
14+800	14+600	P	Ag	CC	5.75	G		2	F											
14+600	14+400	P	Ag	CC	5.75	G		2	F											
14+400	14+200	P	Ag	CC	5.75	G		2	F											
14+200	14+000	P	Ag	CC	5.75	G		2	F											
14+000	13+800	P	Ag	CC	5.5	G		2	F											
13+800	13+600	P	Ag	CC	5.5	G		2	F											
13+600	13+400	P	Ag	CC	5.5	G		2	F											
13+400	13+200	P	Ag	CC	5.5	G		2	F											
13+200	13+020	P	Ag	CC	5.5	G		2	F											
10+050	10+000	P	Ag	CC	5.5	G		2	F											
10+000	9+800	P	Ag	CC	5.5	G		2	F											
9+800	9+600	P	Ag	CC	5.5	G		2	F											
9+600	9+400	P	Ag	CC	5.5	G		2	F											
9+400	9+200	P	Ag	CC	5.5	G		2	F											
6+600	6+400	P	Ag	CC	5.5	G		2	F											
6+400	6+200	P	Ag	CC	5.5	G		2	F											
6+200	6+000	P	Ag	CC	5.5	G		2	F											
6+000	5+800	P	Ag	CC	5.75	G		2	F											
5+800	5+600	P	Ag	CC	5.75	G		2	F											
5+600	5+400	P	Ag	CC	5.75	G		2	F											
5+400	5+200	P	Ag	CC	5.75	G		2	F											
5+200	5+000	P	Ag	CC	5.75	G		2	F											
5+000	4+800	P	Ag	CC	5.75	G		2	F											
4+800	4+600	P	Ag	CC	5.75															
4+600	4+400	P	Ag	CC	5.75	G		2	F											
4+400	4+200	P	Ag	CC	5.5	G		2	F											

			FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.																
Surveyed By :			Somesht & Sai Chandu				Side : RHS		Carriage way : SR										Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads						
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
4+200	4+000	P	Ag	CC	5.5	G		2	F										
4+000	3+800	P	Ag	CC	5.5	G		2	F										
3+800	3+600	P	Ag	CC	5.5	G		2	F										
3+600	3+400	P	Ag	CC	5.5	G		2	F										
3+400	3+200	P	Ag	CC	5.5	G		2	F										
1+200	1+000	P	Ag	CC	5.5	G		2	F										
1+000	+800	P	Ag	CC	5.5	G		2	F										
+800	+600	P	Ag	CC	5.5	G		2	F										
+600	+400	P	Ag	CC	5.5	G		2	F										
+400	+200	P	Ag	CC	5.5	G		2	F										
+200	+000	P	Ag	CC	5.5	G		2	F										



Annexure-2

Inventory & Condition of Project Facilities



TOLL PLAZA - INVENTORY & CONDITION					
Sno.	Description	TP1		TP2	
		Inventory	Condition	Inventory	Condition
1	Location Chainage (@km)	18+870			
2	Location Name (Village)		Staggered		
3	Canopy	No	Not Applicable	No	Not Applicable
4	Solar Pannels over Canopy	No	Not Applicable	No	Not Applicable
5	Sky walk	Yes	Good	No	Not Applicable
6	Administration Building Constructed?	Yes	Good	No	Not Applicable
7	Medical Aid post Building	Yes	Good	No	Not Applicable
8	Traffic Aid post Building	Yes	Good	No	Not Applicable
9	Total No. Of Toll Lanes	16	Working	No	Not Applicable
9.1	No. of ETC/Hybrid ETC Lanes	16	Working	No	Not Applicable
9.2	No. of Non ETC Lanes	0		No	Not Applicable
9.3	Reversible Lanes (if any)	2	Working	No	Not Applicable
10	No. of Lanes WIM installed ?	16	Working	No	Not Applicable
11	No. of Static Weigh Bridges installed?	2	NA	No	Not Applicable
16	TMS System software Installed?	Yes	Working	No	Not Applicable
17	TMS software installed by / Make	Yes	Working	No	Not Applicable
18	ETC System installed by / Make	Yes	Working	No	Not Applicable
19	Diesel Generator 40 KVA	Yes	Working	No	Not Applicable
20	Diesel Generator 40 KVA	Yes	Working	No	Not Applicable
21	Diesel Generator 60 KVA	Yes	Working	No	Not Applicable
22	Inverter KVA	Yes	Working	No	Not Applicable
23	Fire fighting System	Yes	Working	No	Not Applicable
24	Testing Laboratory	Yes	Working	No	Not Applicable
25	Swachabhart Toilets	Yes	Working	No	Not Applicable
26	Helipad	No	Not Applicable	No	Not Applicable
27	Remarks / Observations				

 <p>21-Nov-2023 15:21:44 11 91895744N 79 02251301E Puducherry - Vilupuram Road Gangarampalayam Tamil Nadu #Toll plaza RH5</p>	 <p>21-Nov-2023 15:25:27 11 91895685N 79 02251301E Puducherry - Vilupuram Road Gangarampalayam Tamil Nadu #Toll plaza RH5</p>	 <p>21-Nov-2023 15:21:41 11 91895744N 79 02251301E Puducherry - Vilupuram Road Gangarampalayam Tamil Nadu #Toll plaza RH5</p>	 <p>21-Nov-2023 15:22:50 11 92075437N 79 51798019E Vilupuram Tamil Nadu #Traffic & Medway</p>
TP1 Toll Plaza @ Km 18+870		TP1 Administrative Building @ Km. 18+870	
 <p>21-Nov-2023 15:28:23 11 91895727N 79 02251309E Puducherry - Vilupuram Road Gangarampalayam Tamil Nadu #TOLL PLAZA LHS</p>	 <p>21-Nov-2023 15:28:23 11 91895727N 79 02251309E Puducherry - Vilupuram Road Gangarampalayam Tamil Nadu #TOLL PLAZA LHS</p>	 <p>21-Nov-2023 15:28:23 11 91895727N 79 02251309E Puducherry - Vilupuram Road Gangarampalayam Tamil Nadu #TOLL PLAZA LHS</p>	 <p>21-Nov-2023 15:28:27 11 91895727N 79 02251309E Puducherry - Vilupuram Road Gangarampalayam Tamil Nadu #TOLL PLAZA LHS</p>
TP1 Toll Plaza @ Km 18+870		TP1 Administrative Building @ Km. 18+870	

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available,

INCIDENT MANAGEMENT SYSTEM - INVETORY & CONDITION							
Sno.	Description		Vehicle 1		Vehicle 2		Remarks
			Inventory	Condition	Inventory	Condition	
1	AMBULANCE						
1.1	Vehicle	Parking Location @ Km.	18+870		18+870		
1.2		Vehicle Reg. No.	TN32 BD 8273	Working	TN32 BD 8245	Working	
1.3		Fitted with GPS ?	Yes	Working	Yes	Working	
1.4	Equipment	First Aid Kit	Yes	Good	Yes	Good	
1.5		Oxygen Cylider	Yes	Good	Yes	Good	
1.6		Strecher	Yes	Good	Yes	Good	
1.7	Manpower	No. Of shifts	3		3		
1.8		Driver	Yes		Yes		
1.9		Paramedical Staff	Yes		Yes		
2	Route Petroling Vehicle						
2.1	Vehicle	Parking Location @ Km.	18+870		18+870		
2.2		Vehicle Reg. No.	MH10 CR 7123	Working	CG09 JE 8269	Working	
2.3		Fitted with GPS ?	Yes	Working	Yes	Working	
2.4	Equipment	Safety Helmets	Yes	Good	Yes	Good	
2.5		Flags & Caution Tap	Yes	Good	Yes	Good	
2.6		Safety Cones	Yes	Good	Yes	Good	
2.7	Manpower	No. Of shifts	3		3		
2.8		Driver	Yes		Yes		
2.9		Helpers	Yes		Yes		
3	Crane / Towing Vehicle						
3.1	Vehicle	Parking Location @ Km.	18+870		18+870		
3.2		Vehicle Reg. No.	PB13 BD 7812	Working	MP39 H 1440	Working	
3.3		Fitted with GPS ?	Yes	Working	Yes	Working	
3.4		Capacity In Mt	Yes	As per CA	Yes	As per CA	
3.5	Equipment	Tool Kit	Yes	Good	Yes	Good	
3.6		Belt/Rope/Chain	Yes	Good	Yes	Good	
3.7		Safety Cones	Yes	Good	Yes	Good	
3.8	Manpower	No. Of shifts	3		3		
3.9		Driver	Yes		Yes		
3.10		Helpers	Yes		Yes		
4	Remarks / Observations						

ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS) - INVENTORY & CONDITION					
Sno.	Description	Inventory	Quantity	Condition	Remarks
1	OUT-DOOR EQUIPMENT				
1.1	Emergency Call Box (ECB)	Yes	28	Working	
1.2	Variable Message system (VMS)	Yes	9	Working	
1.3	Meteorological Data System (MDS)	Yes	1	Working	
1.4	Automatic Traffic counting and classification (ATCC)	Yes	1	Working	
1.5	Vehicle Speed Enforcement System cameras	Yes	9	Working	
1.6	CCTV Surveillance system	Yes	27	Working	
1.7	Video Incident Detection system	Yes	3	Working	
1.8	Visibility Sensors	Yes		Working	
1.9	Mobile Radio Communication System	Yes		Working	
2	IN-DOOR EQUIPMENT				
2.1	Central ATMS Server	Yes		Working	
2.2	Network Management System	Yes		Working	
2.3	Traffic Controller Operator	Yes		Working	
2.4	Video Display	Yes		Working	
2.5	Network Video Recording and Management system	Yes		Working	
2.6	Emergency Call Management Center	Yes		Working	
2.7	Video Incident Detection central System	Yes		Working	
3	Remarks / Observations				

	FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.											
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
1	0+000	0+300	LHS	Med	WBCB	300	Good	No	Available	NA	Available	
2	1+070	1+200	LHS	MCW Edge	WBCB	130	Good	No	Available	NA	Available	
3	1+910	2+60	LHS	MCW Edge	WBCB	650	Good	No	Available	NA	Available	
4	1+760	1+780	LHS	MCW Edge	WBCB	20	Good	No	Available	NA	Available	
5	2+910	3+050	LHS	MCW Edge	WBCB	140	Good	No	Available	NA	Available	
6	3+280	3+320	LHS	MCW Edge	WBCB	40	Good	No	Available	NA	Available	
7	3+280	3+539	LHS	Med	WBCB	259	Good	No	Available	NA	Available	
8	3+554	3+850	LHS	Med	WBCB	296	Good	No	Available	NA	Available	
9	3+810	3+850	LHS	MCW Edge	WBCB	40	Good	No	Available	NA	Available	
10	3+850	4+664	LHS	Med	WBCB	524	Good	No	Available	NA	Available	
11	4+140	4+250	LHS	MCW Edge	WBCB	110	Good	No	Available	NA	Available	
12	4+731	6+176	LHS	Med	WBCB	1445	Good	No	Available	NA	Available	
13	5+270	5+350	LHS	MCW Edge	WBCB	80	Good	No	Available	NA	Available	
14	5+350	5+580	LHS	SR Edge	WBCB	230	Good	No	Available	NA	Available	
15	5+740	5+760	LHS	SR Edge	WBCB	20	Good	No	Available	NA	Available	
16	5+800	5+980	LHS	MCW Edge	WBCB	180	Good	No	Available	NA	Available	
17	5+800	5+850	LHS	SR Edge	WBCB	50	Good	No	Available	NA	Available	
18	5+870	5+950	LHS	SR Edge	WBCB	80	Good	No	Available	NA	Available	
19	6+490	6+540	LHS	MCW Edge	WBCB	50	Good	No	Available	NA	Available	
20	6+530	6+560	LHS	SR Edge	WBCB	30	Good	No	Available	NA	Available	
21	6+188	6+550	LHS	Med	WBCB	362	Good	No	Available	NA	Available	
22	6+780	6+870	LHS	MCW Edge	WBCB	90	Good	No	Available	NA	Available	
23	9+250	9+310	LHS	MCW Edge	WBCB	60	Good	No	Available	NA	Available	
24	9+250	9+548	LHS	Med	WBCB	298	Good	No	Available	NA	Available	
25	9+631	10+050	LHS	Med	WBCB	419	Good	No	Available	NA	Available	
26	9+970	10+050	LHS	MCW Edge	WBCB	80	Good	No	Available	NA	Available	
27	9+260	9+350	LHS	SR Edge	WBCB	90	Good	No	Available	NA	Available	
28	10+270	10+820	LHS	MCW Edge	WBCB	550	Good	No	Available	NA	Available	
29	13+020	13+180	LHS	MCW Edge	WBCB	160	Good	No	Available	NA	Available	
30	13+020	13+395	LHS	Med	WBCB	375	Good	No	Available	NA	Available	
31	13+408	14+415	LHS	Med	WBCB	1007	Good	No	Available	NA	Available	
32	13+640	13+820	LHS	MCW Edge	WBCB	180	Good	No	Available	NA	Available	
33	14+220	14+270	LHS	MCW Edge	WBCB	50	Good	No	Available	NA	Available	
34	14+428	14+761	LHS	Med	WBCB	333	Good	No	Available	NA	Available	
35	14+828	14+761	LHS	Med	WBCB	592	Good	No	Available	NA	Available	
36	15+290	15+420	LHS	MCW Edge	WBCB	130	Good	No	Available	NA	Available	
37	15+420	15+720	LHS	Med	WBCB	300	Good	No	Available	NA	Available	
38	15+720	15+810	LHS	MCW Edge	WBCB	90	Good	No	Available	NA	Available	
39	16+520	16+620	LHS	Med	WBCB	100	Good	No	Available	NA	Available	
40	16+560	16+620	LHS	Med	WBCB	60	Good	No	Available	NA	Available	

	FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.											
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
41	19+650	19+740	LHS	MCW Edge	WBCB	90	Good	No	Available	NA	Available	
42	19+650	20+070	LHS	Med	WBCB	420	Good	No	Available	NA	Available	
43	20+390	20+570	LHS	MCW Edge	WBCB	180	Good	No	Available	NA	Available	
44	20+085	20+570	LHS	Med	WBCB	485	Good	No	Available	NA	Available	
45	21+150	21+390	LHS	MCW Edge	WBCB	240	Good	No	Available	NA	Available	
46	21+150	21+648	LHS	Med	WBCB	498	Good	No	Available	NA	Available	
47	21+663	22+300	LHS	Med	WBCB	637	Good	No	Available	NA	Available	
48	22+080	22+300	LHS	MCW Edge	WBCB	220	Good	No	Available	NA	Available	
49	22+760	22+910	LHS	MCW Edge	WBCB	150	Good	No	Available	NA	Available	
50	22+760	23+272	LHS	Med	WBCB	512	Good	No	Available	NA	Available	
51	23+297	23+820	LHS	Med	WBCB	523	Good	No	Available	NA	Available	
52	23+740	23+820	LHS	MCW Edge	WBCB	80	Good	No	Available	NA	Available	
53	24+920	24+990	LHS	MCW Edge	WBCB	70	Good	No	Available	NA	Available	
54	24+920	25+418	LHS	Med	WBCB	498	Good	No	Available	NA	Available	
55	25+534	26+080	LHS	Med	WBCB	546	Good	No	Available	NA	Available	
56	25+990	26+080	LHS	MCW Edge	WBCB	90	Good	No	Available	NA	Available	
57	27+330	27+664	LHS	Med	WBCB	334	Good	No	Available	NA	Available	
58	27+676	28+100	LHS	Med	WBCB	424	Good	No	Available	NA	Available	
59	0+000	0+300	RHS	Med	WBCB	300	Good	No	Available	NA	Available	
60	1+110	1+190	RHS	SR Edge	WBCB	80	Good	No	Available	NA	Available	
61	1+130	1+200	RHS	MCW Edge	WBCB	70	Good	No	Available	NA	Available	
62	1+240	1+490	RHS	MCW Edge	WBCB	250	Good	No	Available	NA	Available	
63	1+590	1+630	RHS	MCW Edge	WBCB	40	Good	No	Available	NA	Available	
64	1+650	1+690	RHS	MCW Edge	WBCB	40	Good	No	Available	NA	Available	
65	2+120	2+150	RHS	MCW Edge	WBCB	30	Good	No	Available	NA	Available	
66	2+170	2+280	RHS	MCW Edge	WBCB	110	Good	No	Available	NA	Available	
67	2+560	2+650	RHS	MCW Edge	WBCB	90	Good	No	Available	NA	Available	
68	2+730	2+810	RHS	MCW Edge	WBCB	80	Good	No	Available	NA	Available	
69	3+280	3+539	RHS	Med	WBCB	259	Good	No	Available	NA	Available	
70	3+290	3+320	RHS	MCW Edge	WBCB	30	Good	No	Available	NA	Available	
71	3+554	3+850	RHS	Med	WBCB	296	Good	No	Available	NA	Available	
72	3+780	3+850	RHS	MCW Edge	WBCB	70	Good	No	Available	NA	Available	
73	3+850	4+140	RHS	Med	WBCB	290	Good	No	Available	NA	Available	
74	3+980	4+140	RHS	SR Edge	WBCB	160	Good	No	Available	NA	Available	
75	4+140	4+210	RHS	MCW Edge	WBCB	70	Good	No	Available	NA	Available	
76	4+140	4+664	RHS	Med	WBCB	524	Good	No	Available	NA	Available	
77	4+731	6+176	RHS	Med	WBCB	1445	Good	No	Available	NA	Available	
78	5+280	5+350	RHS	MCW Edge	WBCB	70	Good	No	Available	NA	Available	
79	5+800	5+990	RHS	MCW Edge	WBCB	190	Good	No	Available	NA	Available	
80	6+188	6+550	RHS	Med	WBCB	362	Good	No	Available	NA	Available	

	FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.											
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
81	6+470	6+540	RHS	MCW Edge	WBCB	70	Good	No	Available	NA	Available	
82	9+250	9+548	RHS	MCW Edge	WBCB	298	Good	No	Available	NA	Available	
83	9+260	9+360	RHS	SR Edge	WBCB	100	Good	No	Available	NA	Available	
84	9+631	10+050	RHS	Med	WBCB	419	Good	No	Available	NA	Available	
85	9+970	10+050	RHS	MCW Edge	WBCB	80	Good	No	Available	NA	Available	
86	10+290	11+000	RHS	MCW Edge	WBCB	710	Good	No	Available	NA	Available	
87	10+850	10+990	RHS	MCW Edge	WBCB	140	Good	No	Available	NA	Available	
88	11+720	11+830	RHS	MCW Edge	WBCB	110	Good	No	Available	NA	Available	
89	13+020	13+395	RHS	Med	WBCB	375	Good	No	Available	NA	Available	
90	13+170	13+180	RHS	MCW Edge	WBCB	10	Good	No	Available	NA	Available	
91	13+408	14+761	RHS	Med	WBCB	1353	Good	No	Available	NA	Available	
92	13+630	13+820	RHS	MCW Edge	WBCB	190	Good	No	Available	NA	Available	
93	14+220	14+270	RHS	MCW Edge	WBCB	50	Good	No	Available	NA	Available	
94	14+828	15+720	RHS	Med	WBCB	892	Good	No	Available	NA	Available	
95	15+290	15+420	RHS	MCW Edge	WBCB	130	Good	No	Available	NA	Available	
96	15+720	15+850	RHS	MCW Edge	WBCB	130	Good	No	Available	NA	Available	
97	16+520	16+620	RHS	Med	WBCB	100	Good	No	Available	NA	Available	
98	16+570	16+620	RHS	MCW Edge	WBCB	50	Good	No	Available	NA	Available	
99	19+650	19+740	RHS	MCW Edge	WBCB	90	Good	No	Available	NA	Available	
100	19+650	20+070	RHS	Med	WBCB	420	Good	No	Available	MN	Available	
101	20+085	20+570	RHS	Med	WBCB	485	Good	No	Available	NA	Available	
102	20+420	20+570	RHS	MCW Edge	WBCB	150	Good	No	Available	NA	Available	
103	21+150	21+250	RHS	MCW Edge	WBCB	100	Good	No	Available	NA	Available	
104	21+150	21+648	RHS	Med	WBCB	498	Good	No	Available	NA	Available	
105	21+663	22+300	RHS	Med	WBCB	637	Good	No	Available	NA	Available	
106	22+000	22+300	RHS	MCW Edge	WBCB	300	Good	No	Available	NA	Available	
107	22+760	22+920	RHS	MCW Edge	WBCB	160	Good	No	Available	NA	Available	
108	22+760	23+272	RHS	Med	WBCB	512	Good	No	Available	NA	Available	
109	23+297	23+272	RHS	Med	WBCB	523	Good	No	Available	NA	Available	
110	24+920	25+000	RHS	MCW Edge	WBCB	80	Good	No	Available	NA	Available	
111	24+920	25+418	RHS	Med	WBCB	498	Good	No	Available	NA	Available	
112	26+676	23+820	RHS	MCW Edge	WBCB	150	Good	No	Available	NA	Available	
113	25+534	26+080	RHS	Med	WBCB	546	Good	No	Available	NA	Available	
114	25+980	26+080	RHS	MCW Edge	WBCB	100	Good	No	Available	NA	Available	
115	27+330	27+664	RHS	Med	WBCB	334	Good	No	Available	NA	Available	
116	27+676	28+100	RHS	Med	WBCB	424	Good	No	Available	NA	Available	
117	16+620	17+700	LHS	MCW Edge	PGR	1080	Good	No	NA	NA	NA	
118	19+300	19+650	LHS	MCW Edge	PGR	350	Good	No	NA	NA	NA	
119	20+570	21+150	LHS	MCW Edge	PGR	580	Good	No	NA	NA	NA	
120	22+300	22+760	LHS	MCW Edge	PGR	460	Good	No	NA	NA	NA	

FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332) FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
121	23+820	24+920	LHS	MCW Edge	PGR	1100	Good	No	NA	NA	NA	
122	26+080	27+330	LHS	MCW Edge	PGR	1250	Good	No	NA	NA	NA	
123	28+100	29+000	LHS	MCW Edge	PGR	900	Good	No	NA	NA	NA	
124	16+620	17+700	RHS	MCW Edge	PGR	1080	Good	No	NA	NA	NA	
125	19+300	19+650	RHS	MCW Edge	PGR	350	Good	No	NA	NA	NA	
126	20+570	21+150	RHS	MCW Edge	PGR	580	Good	No	NA	NA	NA	
127	22+300	22+760	RHS	MCW Edge	PGR	460	Good	No	NA	NA	NA	
128	23+820	24+920	RHS	MCW Edge	PGR	1100	Good	No	NA	NA	NA	
129	26+080	27+330	RHS	MCW Edge	PGR	1250	Good	No	NA	NA	NA	
130	28+100	29+000	RHS	MCW Edge	PGR	900	Good	No	NA	NA	NA	

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 1+700 LHS	@ Km. 2+150 RHS	@ Km. 2+930 LHS	@ Km. 2+950 RHS
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Prov	Prov	Prov	Prov
2.2	Pavement type of Bus bay	Rigid	Rigid	Rigid	Rigid
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	No	No	No	No
2.5	Drainage condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2.6	Layout dimensions as per GFC?	Yes	Yes	Yes	Yes
2.7	Remarks / Observations on Busbay				
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	Yes	Yes	Yes	Yes
3.3	Sign Board	No	No	No	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities				

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 4+000 LHS	@ Km. 4+000 RHS	@ Km. 5+430 LHS	@ Km. 5+530 RHS
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2.6	Layout dimensions as per GFC?	Yes	Yes	Yes	Yes
2.7	Remarks / Observations on Busbay				
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	NA	NA	NA	No
3.3	Sign Board	No	No	No	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities				

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 6+030 LHS	@ Km. 6+340 RHS	@ Km. 8+830 LHS	@ Km. 8+950 RHS
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2.6	Layout dimensions as per GFC?	Yes	Yes	Yes	Yes
2.7	Remarks / Observations on Busbay				
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	No	No	No	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities				

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 9+700 LHS	@ Km. 9+790 RHS	@ Km. 10+700 LHS	@ Km. 10+900 RHS
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Not Prov	Not Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2.6	Layout dimensions as per GFC?	Yes	Yes	Yes	Yes
2.7	Remarks / Observations on Busbay				
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	No	No	No	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities				

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 11+850 LHS	@ Km. 11+850 RHS	@ Km. 13+360 LHS	@ Km. 13+500 RHS
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Fair	Fair
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Prov	Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	Rigid	Rigid	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	No	No	NA	NA
2.5	Drainage condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2.6	Layout dimensions as per GFC?	Yes	Yes	Yes	Yes
2.7	Remarks / Observations on Busbay				
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	Yes	Yes	No	No
3.3	Sign Board	No	No	No	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities				

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 14+200 RHS	@ Km. 14+600 LHS	@ Km. 16+810 LHS	@ Km. 16+810 RHS
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Not Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2.6	Layout dimensions as per GFC?	Yes	Yes	Yes	Yes
2.7	Remarks / Observations on Busbay				
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	No	No	No	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities				

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 18+040 LHS	@ Km. 18+050 RHS	@ Km. 20+152 LHS	@ Km. 20+350 RHS
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Prov	Prov	Prov	Prov
2.2	Pavement type of Bus bay	Rigid	Rigid	Rigid	Rigid
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	No	No	NA	NA
2.5	Drainage condition	Not Applicable	Not Applicable	Fair	Fair
2.6	Layout dimensions as per GFC?	Yes	Yes	Yes	Yes
2.7	Remarks / Observations on Busbay				
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	Yes	Yes	No	No
3.3	Sign Board	No	No	No	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities				

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 21+720 LHS	@ Km. 21+790 RHS	@ Km. 23+150 LHS	@ Km. 23+350 RHS
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Prov	Prov	Prov	Prov
2.2	Pavement type of Bus bay	Rigid	Rigid	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	No	No	NA	NA
2.5	Drainage condition	Good	Good	Good	Good
2.6	Layout dimensions as per GFC?	Yes	Yes	Yes	Yes
2.7	Remarks / Observations on Busbay				
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	No	No	No	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities				

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 24+80 LHS	@ Km. 24+800 RHS	@ Km. 27+100 RHS	@ Km. 27+250 LHS
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	Good	Good	Good	Good
2.6	Layout dimensions as per GFC?	Yes / No / NA	Yes / No / NA	Yes / No / NA	Yes / No / NA
2.7	Remarks / Observations on Busbay				
3	FACILITIES				
3.1	Drinking Water Facility	Yes	Yes	Yes	Yes
3.2	Lighting	Yes	Yes	Yes	Yes
3.3	Sign Board	Yes	Yes	Yes	Yes
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities				Under Construction

HIGHWAY LIGHTING - INVENTORY & CONDITION DATA

S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition	Remarks
1	0+300	0+334	LHS	SR Edge	SA	34	2	LED	250	Good	
2	0+300	0+387	LHS	MCW Edge	SA	29	4	LED	250	Good	
3	0+300	0+387	RHS	MCW Edge	SA	29	4	LED	250	Good	
4	0+506	0+762	LHS	MCW Edge	DA	32	9	LED	250	Good	
5	0+506	0+762	RHS	MCW Edge	DA	32	9	LED	250	Good	
6	0+506	0+570	LHS	SR Edge	SA	32	4	LED	150	Good	
7	0+506	0+570	RHS	SR Edge	SA	32	4	LED	150	Good	
8	0+794	0+922	LHS	MCW Edge	SA	32	5	LED	250	Good	
9	0+794	0+922	RHS	MCW Edge	SA	32	5	LED	250	Good	
10	0+954	1+200	LHS	MCW Edge	DA	32	8	LED	250	Good	
11	0+954	1+200	RHS	MCW Edge	DA	32	8	LED	250	Good	
12	3+230	3+270		Med	DA	40	2	LED	250	Good	
13	3+280	3+406	LHS	SR Edge	SA	42	4	LED	150	Good	
14	3+280	3+406	RHS	SR Edge	SA	42	4	LED	150	Good	
15	3+280	3+450	LHS	MCW Edge	DA	42	5	LED	250	Good	
16	3+280	3+450	RHS	MCW Edge	DA	42	5	LED	250	Good	
17	3+495	3+620	LHS	MCW Edge	SA	42	4	LED	250	Good	
18	3+495	3+620	RHS	MCW Edge	SA	42	4	LED	250	Good	

HIGHWAY LIGHTING - INVENTORY & CONDITION DATA

S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition	Remarks
19	3+660	4+550	LHS	MCW Edge	DA	42	20	LED	250	Good	
20	3+660	4+505	RHS	MCW Edge	DA	42	19	LED	250	Good	
21	4+580	4+660	LHS	SR Edge	SA	40	3	LED	150	Good	
22	4+550	4+850	LHS	MCW Edge	SA	38	8	LED	250	Good	
23	4+550	4+850	RHS	MCW Edge	SA	38	8	LED	250	Good	
24	4+850	6+550	LHS	MCW Edge	DA	40	39	LED	250	Good	
25	4+850	6+550	RHS	MCW Edge	DA	40	39	LED	250	Good	
26	5+980	6+550	LHS	SR Edge	SA	42	5	LED	150	Good	
27	5+980	6+550	RHS	SR Edge	SA	42	5	LED	150	Good	
28	9+200	9+410	LHS	SR Edge	SA	42	6	LED	150	Good	
29	9+200	9+410	LHS	SR Edge	SA	42	6	LED	150	Good	
30	9+250	9+710	LHS	MCW Edge	DA	42	12	LED	250	Good	
31	9+250	9+710	RHS	MCW Edge	DA	42	12	LED	250	Good	
32	9+950	10+100	LHS	MCW Edge	DA	42	2	LED	250	Good	
33	9+950	10+100	RHS	MCW Edge	DA	42	2	LED	250	Good	
34	13+020	13+565	LHS	MCW Edge	DA	40	14	LED	250	Good	
35	13+020	13+520	RHS	MCW Edge	DA	40	13	LED	250	Good	
36	13+170	13+640	RHS	SR Edge	SA	42	5	LED	150	Good	

HIGHWAY LIGHTING - INVENTORY & CONDITION DATA

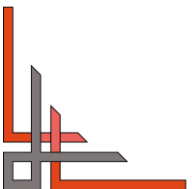
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition	Remarks
37	13+565	13+735	RHS	MCW Edge	SA	42	5	LED	250	Good	
38	13+735	14+760	LHS	MCW Edge	DA	40	20	LED	250	Good	
39	13+735	14+760	RHS	MCW Edge	DA	40	20	LED	250	Good	
40	14+270	14+760	LHS	MCW Edge	SA	40	6	LED	250	Good	
41	14+270	14+760	RHS	MCW Edge	SA	40	6	LED	250	Good	
42	14+830	15+270	LHS	MCW Edge	DA	40	12	LED	250	Good	
43	14+830	15+270	RHS	MCW Edge	DA	40	12	LED	250	Good	
44	15+420	15+630	LHS	MCW Edge	DA	40	6	LED	250	Good	
45	15+420	15+590	RHS	MCW Edge	DA	40	5	LED	250	Good	
46	15+810	16+020	LHS	SR Edge	SA	42	6	LED	150	Good	
47	15+810	15+895	LHS	MCW Edge	DA	42	3	LED	250	Good	
48	15+810	15+895	RHS	MCW Edge	DA	42	3	LED	250	Good	
49	16+570	17+700	LHS	MCW Edge	DA	40	27	LED	250	Good	
50	16+570	17+700	RHS	MCW Edge	DA	40	27	LED	250	Good	
51	17+740	17+780		Med	DA	40	2	LED	250	Good	
52	19+250	19+300		Med	DA	50	2	LED	250	Good	
53	19+340	21+250	LHS	MCW Edge	DA	40	47	LED	250	Good	
54	19+340	21+250	RHS	MCW Edge	DA	40	47	LED	250	Good	

HIGHWAY LIGHTING - INVENTORY & CONDITION DATA											
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition	Remarks
55	21+290	21+330	LHS	MCW Edge	SA	40	2	LED	250	Good	
56	21+290	21+330	RHS	MCW Edge	SA	40	2	LED	250	Good	
57	21+370	25+840	LHS	MCW Edge	DA	42	106	LED	250	Good	
58	21+370	25+840	RHS	MCW Edge	DA	42	106	LED	250	Good	
59	25+980	27+130	LHS	MCW Edge	DA	40	27	LED	250	Good	
60	25+980	27+130	RHS	MCW Edge	DA	40	27	LED	250	Good	
61	27+330	29+000	LHS	MCW Edge	DA	40	41	LED	250	Good	
62	27+330	29+000	RHS	MCW Edge	DA	40	41	LED	250	Good	



Annexure-3

Inventory & Condition of Structures



**FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332)
FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA
PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF
TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.**

PIPE CULVERT

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	0+376	2X1.2	Completed	Good	COS
2	167+075	2X1.2	Completed	Good	COS
3	166+651	2X1.2	Completed	Good	COS

BOX culvert

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	0+535	1X3	Completed	Good	
2	1+400	1X3.5	Completed	Good	
3	0+860	1X2	Completed	Good	
4	1+159	1X2	Completed	Good	
5	1+744	1X2	Completed	Good	
6	1+796	1X2	Completed	Good	
7	1+850	1X2	Completed	Good	
8	2+020	1X2	Completed	Good	
9	2+522	1X2	Completed	Good	
10	3+180	1X2	Completed	Good	
11	3+638	1X3	Completed	Good	
12	4+324	1X2	Completed	Good	
13	4+999	1X2	Completed	Good	
14	5+065	1X2	Completed	Good	
15	5+340	1X2	Completed	Good	
16	5+600	1X2	Completed	Good	
17	5+990	1X2	Completed	Good	
18	6+253	1X4	Completed	Good	
19	6+547	1X2	Completed	Good	
20	6+742	1X2	Completed	Good	
21	7+017	1X2	Completed	Good	
22	7+342	1X2	Completed	Good	
23	8+150	1X2	Completed	Good	
24	8+422	1x3	Completed	Good	
25	8+577	1x3	Completed	Good	
26	8+835	1x11	Completed	Good	
27	8+932	1x3	Completed	Good	
28	9+147	1x3	Completed	Good	
29	9+334	1x5	Completed	Good	
30	9+755	1x5	Completed	Good	
31	9+920	1x2	Completed	Good	
32	10+247	1x2	Completed	Good	
33	10+790	1x2	Completed	Good	
34	10+844	1x2	Completed	Good	
35	11+139	1x3	Completed	Good	
36	11+533	1x2	Completed	Good	
37	11+795	1X5	Completed	Good	
38	12+938	1X2	Completed	Good	
39	13+244	1X2	Completed	Good	

**FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332)
FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA
PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF
TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.**

40	13+382	1X2	Completed	Good	
41	13+630	1X2	Completed	Good	
42	13+821	1X2	Completed	Good	
43	14+397	1X2	Completed	Good	
44	14+532	1X2	Completed	Good	
45	14+960	1X2	Completed	Good	
46	15+137	1X2	Completed	Good	
47	15+306	1X2	Completed	Good	
48	15+493	1X2	Completed	Good	
49	15+900	1X2	Completed	Good	
50	16+640	1X2	Completed	Good	
51	17+015	1X2	Completed	Good	
52	17+299	1X2	Completed	Good	
53	17+730	1X3	Completed	Good	
54	17+950	1X2	Completed	Good	
55	19+309	1X5	Completed	Good	
56	19+414	1x3	Completed	Good	
57	19+664	1x2	Completed	Good	
58	20+190	1x2	Completed	Good	
59	20+277	1x2	Completed	Good	
60	20+684	1x1.7	Completed	Good	
61	22+725	1x3	Completed	Good	
62	24+000	1x2	Completed	Good	
63	26+900	1x2	Completed	Good	
64	27+990	1x2	Completed	Good	
65	28+195	1x1.9	Completed	Good	
66	10+950	1x2	Completed	Good	
67	11+700	1x2	Completed	Good	
68	12+051	1x2	Completed	Good	
69	12+488	1x2	Completed	Good	
70	14+900	1x2	Completed	Good	
71	166+871	1X3	Completed	Good	

MNB

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	0+070	2x3	Completed	Good	
2	4+519	3x8	Completed	Good	
3	0+404	2x3	Completed	Good	COS
4	166+340	1x11	Completed	Good	COS

ROB

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	0+471	1x15+1x37.240+ 1x15	Completed	Good	
2	4+697	1x15+1x37.240+ 1x15	Completed	Good	

**FOUR-LANING OF VILUPPURAM - PUDUCHERRY SECTION OF NH 45A (NEW NH 332)
FROM KM 0.000 TO KM 29.000 (DESIGN CHAINAGE) UNDER BHARATMALA
PARIYOJANA PHASE I (RESIDUAL NHDP IV WORKS) ON HAM IN THE STATE OF
TAMILNADU AND UNION TERRITORY OF PUDUCHERRY.**

3	14+794	1x15+1x37.240+ 1x15	Completed	Good	
4	25+476	36.700+64.050+ 15.00	Completed	Good	

FLYOVER

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	166+896	2x18.200+2x 32.750	Completed	Good	
2	0+442	2x25.525	Completed	Good	
3	9+596	31.760x32.800x 18.075	Completed	Good	
4	16+154	1x28	Completed	Good	
5	23+284	1x28	Completed	Good	

VUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	3+546	1x12	Completed	Good	
2	6+181	1x12	Completed	Good	
3	13+401	1x12	Completed	Good	
4	14+421	1x12	Completed	Good	
5	20+077	1x15	Completed	Good	
6	21+655	1x15	Completed	Good	
7	27+670	1x12	Completed	Good	

LVUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	167+244	1x12	Completed	Good	COS

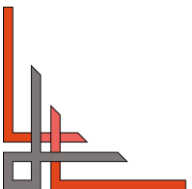
PUP


S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	25+837	1X7	Completed	Good	COS




Annexure-4

Operation & Maintenance cost Estimate




	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: ABSTRACT COST
---	---	------------------------------------

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2024-2025	-	1.78	5.95	7.72	
2025-2026	-	1.85	6.25	8.10	
2026-2027	4.00	2.60	6.58	13.17	
2027-2028	1.00	2.67	6.84	10.50	
2028-2029	1.15	2.65	7.10	10.91	
2029-2030	1.06	2.84	7.39	11.29	
2030-2031	10.58	4.80	7.81	23.19	
2031-2032	1.91	2.76	8.12	12.79	
2032-2033	1.15	3.07	8.20	12.42	
2033-2034	1.31	3.02	8.42	12.75	
2034-2035	4.92	3.19	8.65	16.76	
2035-2036	1.22	3.26	8.88	13.36	
2036-2037	1.24	3.20	9.12	13.56	
2037-2038	12.27	3.40	9.37	25.04	
2038-2039	2.36	3.31	4.81	10.48	Concession End Date 25.11.2038
2039-2040	-	-	4.95	4.95	
Total Expenditure in	44.16	44.41	118.43	207.00	

	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: MMR
---	---	----------------------

FY	6. MMR (Rs in Cr)			Total Expenditure till the end of Concession Period
	MMR Highway	MMR Structure	MMR Toll Plaza	
2024-2025	-	-	-	-
2025-2026	-	-	-	-
2026-2027	4.00	-	-	4.00
2027-2028	1.00	-	-	1.00
2028-2029	1.15	-	-	1.15
2029-2030	1.06	-	-	1.06
2030-2031	10.58	-	-	10.58
2031-2032	0.59	-	1.32	1.91
2032-2033	1.15	-	-	1.15
2033-2034	1.31	-	-	1.31
2034-2035	-	4.29	0.63	4.92
2035-2036	1.22	-	-	1.22
2036-2037	1.24	-	-	1.24
2037-2038	12.27	-	-	12.27
2038-2039	0.01	-	2.36	2.36
-				
Total Expenditure in Cr. Rs	35.56	4.29	4.31	44.16


	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.												MMR-Highway
FY	Description	CODE	Unit	% of Treatement	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalat ion (%)	Year	Amount in INR after Escalation
2027	Filling of Earthen Shoulder	MCW-SF	Cum	25%	58,000.00	0.630		9,129.11	485	44,27,619	4.0%	3	49,58,933
2027	Replacement of Joint Sealent	MCW-JS	Rm	18%	226410			40,416.61	85	34,35,412	4.0%	3	38,47,661
2027	Diamond Grinding	MCW-GRIN	Sqm	25%	509436			1,27,359.00	100	1,27,35,900	4.0%	3	1,42,64,208
2027	Replacement of Joint Sealent	TP-JS	Rm	100%	22648			22,648.48	85	19,25,120	4.0%	3	21,56,135
2027	Diamond Grinding	TP-GRIN	Sqm	100%	37525			37,525.05	100	37,52,505	4.0%	3	42,02,806
2027	Replacement of Joint Sealent	SR-JS	Rm	25%	106855			26,713.75	85	22,70,669	4.0%	3	25,43,149
2027	Diamond Grinding	SR-GRIN	Sqm	25%	286002			71,500.50	100	71,50,050	4.0%	3	80,08,056
TOTAL AMOUNT										3,56,97,275			3,99,80,948
2028	Replacement of Joint Sealent	MCW-JS	Rm	46%	226410			1,04,793.51	85	89,07,448	3.0%	4	99,76,342
TOTAL AMOUNT										89,07,448			99,76,342
2029	Replacement of Joint Sealent	SR-JS	Rm	25%	106855			26,713.75	85	22,70,669	3.0%	5	26,11,269
2029	Diamond Grinding	SR-GRIN	Sqm	27%	286002			77,714.99	100	77,71,499	3.0%	5	89,37,224
TOTAL AMOUNT										1,00,42,168			1,15,48,493
2030	Replacement of Joint Sealent	SR-JS	Rm	13%	106855			14,093.04	85	11,97,909	3.0%	6	14,13,532
2030	Diamond Grinding	SR-GRIN	Sqm	27%	286002			77,714.99	100	77,71,499	3.0%	6	91,70,369
TOTAL AMOUNT										89,69,408			1,05,83,901
2031	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	5%	509436		0.3	7,641.54	1828	1,39,67,971	3.0%	7	1,69,01,245
2031	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	5%	509436		0.3	7,641.54	6093	4,65,59,903	3.0%	7	5,63,37,483
2031	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	5%	37525		0.3	562.88	1828	10,28,881	3.0%	7	12,44,946
2031	Replacement of Panels @ 2% area	TP-CC PAN	Cum	5%	37525		0.3	562.88	6093	34,29,602	3.0%	7	41,49,818
2031	Dismantling of CC Panels @ 2% area	SR-CC DIS	Cum	4%	286002		0.26	2,831.15	1828	51,75,061	3.0%	7	62,61,824
2031	Replacement of Panels @ 2% area	SR-CC PAN	Cum	4%	286002		0.26	2,831.15	6093	1,72,50,203	3.0%	7	2,08,72,746
TOTAL AMOUNT										8,74,11,621			10,57,68,061
2032	Road Marking - MCW	RM MCW	Sqm	50%	64129.0067	0.15		4,809.68	609	29,29,092	3.0%	8	36,32,075
2032	Road Marking - SR	RM SR	Sqm	56%	55827.3333	0.10		3,003.29	609	18,29,005	3.0%	8	22,67,966
TOTAL AMOUNT										47,58,098			59,00,041
2033	Kerb Painting	KERBP	Sqm	59%	98028	0.34		19,545.81	121	23,65,043	2.0%	9	27,90,751
2033	Road Marking - MCW	RM MCW	Sqm	50%	64129.0067	0.15		4,809.68	609	29,29,092	2.0%	9	34,56,329
2033	Road Marking - SR	RM SR	Sqm	44%	55827.3333	0.10		2,365.78	609	14,40,760	2.0%	9	17,00,097
2033	Studs	STUD	Nos	100%	11793			11,793.00	252	29,71,836	2.0%	9	35,06,766
TOTAL AMOUNT										97,06,732			1,14,53,944
2034	Filling of Earthen Shoulder	MCW-SF	Cum	62%	58,000.00	0.6295939		22,560.51	485	1,09,41,849	2.0%	10	1,31,30,219
TOTAL AMOUNT										1,09,41,849			1,31,30,219



PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.

MMR-Highway


FY	Description	CODE	Unit	% of Treatement	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalat ion (%)	Year	Amount in INR after Escalation
2036	Replacement of Joint Sealent	MCW-JS	Rm	15%	226410			33,961.50	85	28,86,728	2.0%	12	35,79,542
2036	Diamond Grinding	MCW-GRIN	Sqm	14%	509436			69,162.32	100	69,16,232	2.0%	12	85,76,128
TOTAL AMOUNT										98,02,959			1,21,55,670
2037	Replacement of Joint Sealent	MCW-JS	Rm	15%	226410			33,961.50	85	28,86,728	2.0%	13	36,37,277
2037	Diamond Grinding	MCW-GRIN	Sqm	14%	509436			69,162.32	100	69,16,232	2.0%	13	87,14,452
TOTAL AMOUNT										98,02,959			1,23,51,729
2038	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	5%	509436		0.3	7,641.54	1828	1,39,67,971	2.0%	14	1,78,79,003
2038	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	5%	509436		0.3	7,641.54	6093	4,65,59,903	2.0%	14	5,95,96,676
2038	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	5%	37525		0.3	562.88	1828	10,28,881	2.0%	14	13,16,967
2038	Replacement of Panels @ 2% area	TP-CC PAN	Cum	5%	37525		0.3	562.88	6093	34,29,602	2.0%	14	43,89,891
2038	Dismantling of CC Panels @ 2% area	SR-CC DIS	Cum	5%	286002		0.26	3,897.84	1828	71,24,859	2.0%	14	91,19,820
2038	Replacement of Panels @ 2% area	SR-CC PAN	Cum	5%	286002		0.26	3,897.84	6093	2,37,49,532	2.0%	14	3,03,99,400
TOTAL AMOUNT										9,58,60,748			12,27,01,757

	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: ABSTRACT OF MMR STRUCTURES
--	---	---

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
---------	-------------	----------	-----------------------	----------------------	-------------------	--------------------------	---------------------------------------	------------------	---------


2. Structure

2.01	2035	29-12-2034	2931560	35178717	11	2.0%	42918034	4.29	GST 0% considered
------	------	------------	---------	----------	----	------	----------	------	-------------------

	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ABSTRACT OF MMR STRUCTURE
--	---	--


MMR Structure-Base Cost

Sr. No.	Item	Unit	Quantity	% of Extant to be Treated	Rate (Rs)	Amount (Rs)
1	Strip Seal Joint	Rmt	701	50.00%	11,389.00	39,88,997.25
2	Filler type expansion joint	Rmt	0	2.50%	4,500.00	-
3	Crash Barrier on Structures	Rmt	42695	7.50%	3,562.00	1,14,05,878.04
4	Painting of Crash Barrier	Sqm	49649	50.00%	80.00	19,85,979.01
5	Wearing Coat over Deck Slab	Sqm	21733	100.00%	681.25	1,48,05,582.82
6	Repalcement old Damaged Drainage Spoutes	Nos	332	12.00%	3,562.00	1,41,910.08
7	Lifting of Spans for rapair/replacement of bearings	Nos	142	12.00%	75,000.00	12,78,000.00
8	Replacement of Elastomeric Bearings	Cu. Cm	2492100	12.00%	1.00	2,99,052.00
9	Replacement of POT PTFE Bearings	Nos	56	12.00%	1,15,077.00	7,73,317.44
10	Repair of RE Wall	Ls				5,00,000.00
Total Structure MMR Cost						3,51,78,717


	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: ABSTRACT OF MMR TOLL PLAZA
--	---	---

3. Toll Plaza

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
3.01	2028	31-12-2027	0	0	4	3.0%	0	0.00	GST 0% considered
3.02	2032	30-12-2031	889169	10670032	8	3.0%	13230840	1.32	GST 0% considered
3.04	2035	29-12-2034	428515	5142184	11	2.0%	6273465	0.63	GST 0% considered
3.03	2039	28-12-2038	1510417	18125000	15	2.0%	23562500	2.36	GST 0% considered


	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE:Routine Maintenance
--	---	-------------------------------------

FY	1. RM Costs (Rs in Cr) with Inflation				Total Expenditure till the end of Concession Period
	Highway Routine Maintenance Cost	Structure Routine Maintenance Cost	Route Maintenance Manpower Cost	Route Maintenance Vehicle & Equipment Cost	
Escalation	0.0%	0.0%	0.0%	0.0%	
Base Cost 2023-2024	0.48	0.22	0.51	0.51	1.71
2024-2025	0.49	0.23	0.53	0.53	1.78
2025-2026	0.51	0.24	0.55	0.55	1.85
2026-2027	0.72	0.33	0.78	0.77	2.60
2027-2028	0.74	0.34	0.80	0.79	2.67
2028-2029	0.74	0.34	0.79	0.79	2.65
2029-2030	0.79	0.36	0.85	0.84	2.84
2030-2031	1.33	0.62	1.44	1.42	4.80
2031-2032	0.77	0.35	0.83	0.82	2.76
2032-2033	0.85	0.39	0.92	0.91	3.07
2033-2034	0.84	0.39	0.90	0.89	3.02
2034-2035	0.88	0.41	0.95	0.94	3.19
2035-2036	0.90	0.42	0.98	0.97	3.26
2036-2037	0.89	0.41	0.96	0.95	3.20
2037-2038	0.94	0.44	1.02	1.01	3.40
2038-2039	0.92	0.42	0.99	0.98	3.31
-					
Total Expenditure in Cr. Rs	12.31	5.70	13.27	13.14	44.41

	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE- BASE COST
---	---	---


Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1	HIGHWAY								
1.1	FLEXIBLE PAVEMENT, MEDIAN & SHOULDERS								
1.1.6	Filling in median island with approved materials	Cum	220	1%	223	4,085.93	49,031.21		
1.1.7	Shoulder Maintenance	Sqm	2199	2%	67	12,276.12	1,47,313.49		
1.2.3	RCC drain Repair/Restoring	Rm	514	2%	500	21,436.67	2,57,240.00		
1.2.4	Earthen drain Repair/Restoring	Rm	1462	5%	100	12,184.88	1,46,218.60		
1.2.5	Repair/Restoring of Drain Slabs	Rm	643	3%	600	32,155.00	3,85,860.00		
1.2.6	Repair/Repstoration of Turfing on embankment slopes and at all other Project Facilities	Sqm	412	2%	46	1,566.58	18,798.96		
1.2.7	Rain Cuts Maintenance: Restoration of rain cuts soil, moorum, gravel or a combination of these	Sqm	825	2%	46	3,160.64	37,927.73		
1.2.8	Providing and laying Stone pitching on slopes of road embankment	Cum	165	1%	1221	16,778.90	2,01,346.76		
1.2.10	Repair of Chutes in High Embankment	Rm	550	1%	100	4,580.64	54,967.72		
1.3	PROJECT FACILITIES								
1.3.1	Gantry Sign Boards								
1.3.1.1	Overhead/ Gantry Sign boards	Nos	1	5%	10000	625.00	7,500.00		
1.3.1.2	Cantilever Gantry Sign boards	Nos	0	5%	10000	250.00	3,000.00		
1.3.2	Other Sign Boards	Nos	36	5%	4739	14,157.76	1,69,893.15		
1.3.2.16	Painting to Sign Board pole	Nos	158	20%	75	985.88	11,830.50		
1.3.3	Cats Eyes/Raised pavement marker (NMC Nails Less)	Nos	354	3%	252	7,429.59	89,155.08		
1.3.4	Distance Measurement Stones								
1.3.4.1	Painting								
1.3.4.1.1	Hectometer stones	Nos	46	20%	30	115.96	1,391.54		
1.3.4.1.2	5 Kilometer Stone	Nos	2	20%	409	81.73	980.74		
1.3.4.1.3	Kilometer stone	Nos	9	20%	183	140.00	1,680.06		
1.3.4.1.4	Boundary stone	Nos	58	5%	143	689.09	8,269.04		
1.3.4.2	Fixing/Replacing/Restoring								
1.3.4.2.1	Hectometer stones	Nos	58	25%	599	2,895.17	34,742.00		
1.3.4.2.2	5 Kilometer Stone	Nos	1	10%	3471	347.10	4,165.20		
1.3.4.2.3	Kilometer stone	Nos	5	10%	2033	779.32	9,351.80		
1.3.4.2.4	Boundary stone	Nos	12	1%	625	604.17	7,250.00		
1.3.5	Kerb								
1.3.5.1	Cement Concrete Kerb casting with-out channel section (I-Kerb)	Rm	441	0%	398	14,630.64	1,75,567.65		
1.3.5.3	Painting of Kerb with-out channel section (I-Kerb)	Sqm	1666	5%	121	16,803.59	2,01,643.02		
1.3.6	Pavement Markings								
1.3.6.1	Lane / Centre Line / Edge Line	Sqm	1038	5%	609	52,700.49	6,32,405.90		
1.3.7	Barriers								

	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamil Nadu and Union Territory of Puducherry.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE- BASE COST
---	--	---


Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1.3.7.1	Repair/Replace MBCB/W-beam Crash barrier	Rm	85	0%	2422	17,107.90	2,05,294.78		
1.3.7.5	Painting of Pedestrian Guard Rail (PGR)	Rm	1166	10%	75	7,285.00	87,420.00		
1.3.7.6	Repair/Replace Fencing	Rm	221	1%	388	7,140.98	85,691.74		
1.3.8	Plantation					-	-		
1.3.8.1	Maintenance of Median Plantation	Km	0	1%	288463	3,252.88	39,034.61		
1.3.8.2	Avenue Plantation	Nos	25	1%	1184	2,437.07	29,244.80		
1.3.9	Miscellaneous								
1.3.9.2	Providing/Repair of Rumble Strips	Rm	6	3%	378	181.91	2,182.95		
1.3.9.4	Solar Blinker	Nos	3	20%	25000	6,250.00	75,000.00		
1.3.9.5	Delinaters	Nos	13	20%	1029	1,114.75	13,377.00		
1.3.10	Bus Shelter								
1.3.10.1	Bus Shelter Damaged	Nos	0	1%	100000	3,000.00	36,000.00		
1.3.10.2	Bus Shelter Roof Damaged	Sqm	45	5%	250	937.50	11,250.00		
1.3.10.3	Bus Shelter Painting	Nos	3	8%	10000	2,250.00	27,000.00		
1.3.10.4	Bus Shelter Paver Blocks	Sqm	20	1%	250	408.33	4,900.00		
1.4	RIGID PAVEMENT								
1.4.1	Longitudinal Cracks more than 1.5m	Lm	358	0.5%	80	2,386.73	28,640.80		
1.4.2	Longitudinal Cracks less than 1.5m	Lm	716	1.0%	100	5,966.83	71,602.00		
1.4.3	Transverse Cracks less than 1.5m	Lm	716	1.0%	80	4,773.47	57,281.60		
1.4.4	Transverse Cracks more than 1.5m	Lm	358	0.5%	100	2,983.42	35,801.00		
1.4.5	Longitudinal Crack full Depth	Cum	21	0.0%	6093	10,582.65	1,26,991.85		
1.4.6	Pothole	Sqm	80	0.0%	1706	11,308.74	1,35,704.90		
1.4.7	Corner Cracks	Cum	21	0.0%	6093	10,582.65	1,26,991.85		
1.4.8	Joint Spalling	Lm	358	0.5%	489	14,596.37	1,75,156.39		
1.4.9	Diagonal Crackings	Lm	358	0.5%	100	2,983.42	35,801.00		
1.4.10	Removal of Sealent & Replacement with Appoxy Sealent	Lm	890	0.3%	85	6,302.63	75,631.61		
1.4.11	Replacement of Panels	Nos	15	0.0%	26870	33,229.95	3,98,759.45		
1.4.12	Texturing/Raveling of panel	Sqm	2082	0.3%	100	17,353.40	2,08,240.76	47,50,529	0 Service Charge Considered
2	STRUCTURES								
2.01	Providing and laying of wearing course with 25 mm thick mastic asphalt laid over 40 mm thick bituminous concrete including correction of existing profile with bituminous concrete as per drawings and Technical Specifications clause 2700 (item rate includes cost of BC and profile correction course)	Sqm	54	0.25%	750	3,395.78	40,749.31		
2.02	Structure Repair Works	LS					5,00,000.00		
2.03	Expansion Joint Repair	Rm	18	2.50%	12000	17,512.50	2,10,150.00		

	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamil Nadu and Union Territory of Puducherry.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE- BASE COST
---	--	---


Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2.04	Providing Reinforced cement concrete crash barrier at the edges of the bridge structures constructed with M-40 grade concrete with HYSD-Fe 500 TMT reinforcement concrete per Rmt conforming to IRC:21 and fixing with dowel bars 16 mm dia to old concrete using epoxy grout as per drawing and Technical Specifications and as directed by the Engineer.	Rmt	111	0.25%	3334	30,790.80	3,69,489.62		
2.05	Painting of Concrete Crash Barrier	Sqm	537	20.0%	121	5,415.94	64,991.30		Considering 25% repainting per year & 1.25Sqm per Rm
2.06	Providing and fixing 50mm NB MS pipe rail on crash barrier with MS base plate and vertical stiffener fixed with anchor bolts complete including providing three or more coats of epoxy paint of approved colour, make and quality over a coat of epoxy primer complete as per drawings and Technical Specifications Sections 1900 & 2703.	Rmt	107	0.25%	150	1,334.21	16,010.50		
2.07	Removal of earth, debris and vegetation from waterway of culverts and bridges by manual means through unskilled labor, and disposal of removed material within all lead as directed by Engineer. (Before and after Monsoon)	LS	48	70%	5000	20,125.00	2,41,500.00		
2.08	Providing Boulder apron on U/S and D/S sides, 1000 mm thick, including relaying / removing existing damaged boulders as per Technical Specification Sections 2500 and direction of Engineers.	Nos	30	2%	3436	8,533.95	1,02,407.44		
2.09	Providing and laying Stone pitching on slopes upto 0.5m height over H.F.L and for bed where specified, using hard variety stone of 200 mm nominal size, the joints being filled with spalls and pointed with 1:4 cement mortar as per technical specification	Nos	23.6	2.50%	1221	2,406.23	28,874.74		

	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE- BASE COST
---	---	---

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damag ed % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2.10	Providing and laying Plain/Reinforced Cement Concrete in Rigid Apron excluding reinforcement complete as per Drawing and Technical Specifications.Ref. to Technical specification 1500,1700 & 2100 .	Cum	117	2%	5025	48,912.61	5,86,951.33		
2.12	Providing gratings to the existing drainage spouts as per technical specification Clause 2705 & Additional Technical Specification	Nos	33	10.0%	500	1,383.33	16,600.00		
2.13	Repair/Replacement of Drainage Spoutes	Nos	17	5.00%	1254	1,734.70	20,816.40	21,98,541	0 Service Charge Considered

	PROJECT: Four Laning of Viluppuram to Puducherry section of NH-45A (New NH-332) (from Km 0.000 to Km 29.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: ROUTINE MAINTENANCE
---	---	--------------------------------------

4. Route Maintenance Vehicle & Equipment Cost

Sr. No.	Description	Unit	Nos	Shift	Blank	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
4.02	Water tanker 20 KL	Nos	1	1		1	61340	61,340	7,36,080		
4.03	Pickup /Campher	Nos	1	1		1	55840	55,840	6,70,080		
4.04	Staff Bus (20+ seater)	Nos	1	1		1	91144	91,144	10,93,728		
4.06	Water tanker 5 KL	Nos	1	1		1	51595	51,595	6,19,142		
4.07	Grass Cutter	Nos	2	1		2	9438	18,876	2,26,514		
4.08	Man Basket for Elec.	Days/Month	7	1		7	8000	56,000	6,72,000		
4.09	JCB	Days/Month	7	1		7	8000	56,000	6,72,000		
4.11	Bikes for Supervisor	Nos	1	1		1	4813	4,813	57,761		
4.12	PPE/Uniform for staff	Nos	4	1		4	525	2,100	25,200		Considering Rs. 350/- per pair & 2 pairs per each (75% of the Staff)
4.13	Safety items, Sign boards	Nos	1	1		1	10000	10,000	1,20,000		
4.14	Tools & tackles	Nos	1	1		1	15000	15,000	1,80,000		
4.18	Others	Nos	0	1		0		-	-	50,72,505	Service Charge @ 0%
								422709		29299	Rs. Per Month per Km

5. Route Patrolling Drivers & Operators Cost

Sr. No.	Position	Unit	Nos	Shift	Reliver	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
5.03	Control Room Executive	Nos	1	3	0	3	24020	72,060	8,64,720		
5.04	RPO	Nos	1	3	0	3	24020	72,060	8,64,720		
5.06	RP Helper	Nos	1	3	0	3	18867	56,601	6,79,217		
5.09	Paramedics	Nos	2	3	0	6	24020	1,44,120	17,29,440		
5.11	Crane Helper	Nos	2	3	0	6	18867	1,13,203	13,58,434		
5.13	Others	Nos	0	1	0	0	0	-	-	54,96,531	Service Charge @ 0%
						21		458044			

Anantam Highways Trust

Four laning of NH-363 from Repallewada (Design Km. 42+000/Existing Km. 288+510) to Telangana/Maharashtra Border (Design Km. 94+602/Existing Km. 342+000) (Design length 52+602) in the State of Telangana under NH(O) on HAM Mode

(FINAL REPORT)



FEBRUARY, 2025



**RUKY Projects Private Limited
Hyderabad**

www.rukyprojects.com | contact@rukypjrojects.com | 040 4855 7777



BLANK PAGE



Four laning of NH-363 from Repallewada (Design Km. 42+000/Existing Km. 288+510) to
Telangana/Maharashtra Border (Design Km. 94+602/Existing Km. 342+000) (Design
length 52+602) in the State of Telangana under NH(O) on HAM Mode

REVISION RECORD

This document has been issued and amended as follows:

Document No.	Issue	Date	Description
RU-337/AHT/TDD/RHPL	R0	15-02-2025	Final report



DISCLAIMER AND CONSENT FOR USE

This report has been prepared for the benefit of Anantam Highways Trust for and in connection with initial offer of units representing an undivided beneficial interest in the Trust. In Preparing this report, RUKY Projects Pvt Ltd has relied, in whole or in part, on data and information provided by Anantam Highways Trust and M/s. Repallewada Highways Private Limited which RUKY Project Pvt Ltd has assumed to be accurate, complete, reliable and correct.

This report may be reproduced and included in the preliminary placement memorandum, placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust and may be made available for inspection in the manner specified therein. In connection with the report, the following details in relation to the Technical Consultant may be included in preliminary placement memorandum and the placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust

Technical Consultant:

RUKY PROJECTS PRIVATE LIMITED
Flat No. 1403A, 14th Floor,
Manjeera Trinity Corporate,
JNTU-Hitech City Road, Kukatpally,
Hyderabad – 500072
www.rukyprojects.com
contact@rukypjrojects.com
+91-040-4855 7777

Table of Contents

CHAPTER 1. EXECUTIVE SUMMARY	1
1.1 Project Description	1
1.2 Present status of the Project	2
1.3 Condition of Project Corridor	2
1.3.1. Pavement Condition	2
1.3.2. Condition of Structures	2
1.3.3. Condition of Project Facilities	2
1.3.4 O&M Cost Estimate	2
CHAPTER 2. INTRODUCTION	4
2.1 Project Background	4
2.2 Project Geography	5
2.3 Project Overview	6
2.3.1. Project pictorial over view	6
2.4 Key features and timelines of the project are presented in the table below	6
2.5 Chainage Equation	7
CHAPTER 3. SCOPE OF CONSULTANCY SERVICES	8
3.1 Scope of Consultancy Services	8
CHAPTER 4. SALIENT FEATURES OF THE PROJECT	9
4.1 Salient Features of the Project	9
4.2 Typical Cross Section (TCS) Schedule	9
4.3 Bypass/Realignment	12
4.4 Service Roads/Slip Roads	13
4.5 Drainage	14
4.6 Summary of the Carriageway and Pavement Details	14
4.7 Summary of Structures	15
4.8 Project Facilities	15
CHAPTER 5. REVIEW OF AGREEMENTS	17
5.1 Review of Concession Agreement	17
5.1.1. Concession (Article 3)	17
5.1.2. Completion Certificate (Article 14)	17
5.1.3. Change of scope (Article 16)	17
5.1.4. O&M Obligations of the Concessionaire (Clause 17.1)	20
5.1.5. Maintenance Requirements (Clause 17.2)	20
5.1.6. Maintenance Manual (Clause 17.3)	21
5.1.7. Maintenance Programme (Clause 17.4)	21
5.1.8. Damages for Breach of Maintenance Obligations (Clause 17.8)	21
5.1.9. Monthly status reports (Clause 19.1)	21
5.1.10. IE O&M Inspection reports (Clause 19.2)	22
5.1.11. Tests During O&M Period (Clause 19.3)	22
5.1.12. Appointment of Independent Engineer (Article 23)	22
5.2 Review of Correspondence	23
5.3 Non-performance of the O&M Operations:	23

CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS	24
6.1 Maintenance Manual (Clause 17.3).....	24
6.2 Review of Reports	24
6.2.1. Concessionaire's Monthly status Reports.....	24
6.2.2. IE O&M Inspection reports	24
6.3 Insurance.....	25
6.4 Supplementary Agreement dated 18-08-2023.....	25
6.4.1. Terms and Conditions	25
6.4.2. Obligations of the Concessionaire & Authority	26
CHAPTER 7. SITE APPRAISAL	27
7.1 General.....	27
7.2 Highways.....	27
7.2.1. Road Inventory.....	27
7.2.2. Type of Terrain.....	27
7.2.3. Land use	27
7.2.4. Villages/Towns Along the Project	27
7.2.5. Main Carriageway –Reconnaissance /Work Status	27
7.2.6. At Grade Junction Details	29
7.2.7. Roadside Drainage	30
7.2.8. GFC Vs Site Comparison.....	30
7.3 Pavement Condition	30
7.4 Project Facilities.....	31
7.4.1. Toll Plaza	31
7.4.2. Road Furniture	32
7.4.3. Pavement marking	34
7.4.4. Hectometer/Km. stones.....	35
7.4.5. Highway Lighting.....	35
7.4.6. Rest Areas	36
7.4.7. Truck Lay Bye	36
7.4.8. Bus Bay and Bus shelters	37
7.4.9. Traffic Aid Post.....	37
7.4.10. Medical Aid Post	37
7.4.11. Vehicle Rescue Posts.....	37
7.4.12. Operation and Maintenance (O&M) centre	38
7.4.13. Communication System	38
7.4.14. Advance Traffic Management System (ATMS)	38
7.4.15. Noise Barrier	39
7.4.16. Road Studs	39
7.4.17. Delineators.....	39
7.4.18. Boundary Wall.....	39
7.4.19. Landscaping & Avenue Plantation	39
7.5 Structures.....	40
7.5.1. Status of Construction	42
7.5.2. Culverts	42
7.5.3. RE walls	45
7.6 Review of Pavement design report.....	46
7.6.1. Pavement for main carriageway.....	47

7.6.2. Rigid Pavement for Toll Plaza and Main carriageway.....	48
7.6.3. Pavement for Service road.....	49
7.6.4. Site Investigations.....	49
CHAPTER 8. REVIEW OF O&M AGREEMENT.....	51
CHAPTER 9. SCHEDULE OF ANNUITY PAYMENTS	52
9.1 Hybrid Annuity Model (HAM)	52
9.2 Schedule of Annuity Payments	52
CHAPTER 10. COST ESTIMATES	54
10.1 Maintenance of Project Cost	54
10.2 O&M Expense forecasts.....	55
CHAPTER 11. CONCLUSION	57
11.1 Pavement Condition	57
11.2 Condition of Structures.....	57
11.3 Toll Plaza	57
11.4 Road Safety	57

LIST OF TABLES

Table 1-1: Key Dates	1
Table 1-2: Key Features	1
Table 1-3: Summary of Cost Estimate.....	2
Table 2-1: Project Data	6
Table 2-2: Design chainage corresponding to Existing chainage	7
Table 4-1: Salient Features of the Project	9
Table 4-2: Summary of TCS as per CA.....	10
Table 4-3: Details of Bypass & Realignment	13
Table 4-4: Details of Realignment	13
Table 4-5: Service Road locations as per Schedule B of CA	13
Table 4-6: Slip Road locations as per Schedule B of CA	14
Table 4-7: Provision for Drains as per CA	14
Table 4-8: Summary of the Carriageway and Pavement Details	14
Table 5-1: Reptiles crossing and Utilities.....	18
Table 5-2: Construction of New Box culverts	18
Table 5-3: Construction of widening of existing culverts	19
Table 5-4: Provision For Pedestrian under Pass	19
Table 5-5: New AUP and AOP at the Following Locations Shall be additionally Constructed at Forest Locations.....	19
Table 5-6: RS Wall at AUP 44+250	19
Table 5-7: Modified Provisions Incompliance to NHAI Policy Circular 17.5.82 dated 24 May 2021	20
Table 5-8: Mission Bhagiratha Pipe Line Estimation	20
Table 6-1: Details of Insurance Policies	25
Table 7-1: List of junctions/cross roads	29
Table 7-2: List and Status of Equipment at Toll Plaza and Control Room.....	31
Table 7-3: Traffic Signs.....	32
Table 7-4: Summary of Structures	40
Table 7-5: Detailed Inventory and Condition of Structures as on date.	41
Table 7-6: Summary of inventory of Culverts	42
Table 7-7: Inventory summary of RE walls	46
Table 7-8: Correspondence related to pavement design submission and approvals.....	46
Table 7-9: Summary of AADT	47

Table 7-10: Adopted traffic growth rates	47
Table 7-11: Summary of Vehicle Damage Factor.....	47
Table 7-12: Estimated Design Traffic (Million Standard Axles-MSA)	48
Table 7-13: Designed pavement crust summary as per pavement design report.....	48
Table 7-14: Pavement Composition for Toll Plaza	49
Table 7-15: pavement Composition for service road	49
Table 7-16: Pavement Design Thickness Vs Executed Crust Thickness	49
Table 9-1: Schedule of Payment Milestones	52
Table 9-2: Details of Annuity payments are as below	52
Table 10-1: Summary of Cost Estimate.....	55

LIST OF FIGURES

Figure 2.1: Project Location Map.....	5
Figure 2.2: Pictorial view of the Project Highway	6
Figure 7.1: The Photographs showing the Main Carriageway of the Project road	28
Figure 7.2: Photographs showing the Condition Service road.....	28
Figure 7.3: Photographs Showing the Junctions Condition	30
Figure 7.4: Photographs showing the Toll Plazas in the project road	32
Figure 7.5: Photographs showing the sign boards along the project road	33
Figure 7.6: Photographs showing the Condition of Overhead sign and Cantilever sign boards.....	33
Figure 7.7: Photographs showing the Condition of pedestrian guard rails	34
Figure 7.8: Photographs showing the pavement marking Condition	34
Figure 7.9: Photographs showing the LED blinkers in the project road	35
Figure 7.10: Photographs showing the Condition of MBCB	35
Figure 7.11: Photographs Showing the Condition of Street Lighting	36
Figure 7.12: Photographs Showing the Condition of the truck lay bye	36
Figure 7.13: Photographs showing status of Bus bay with shelters	37
Figure 7.14: Photographs of the Traffic & Medical Aid posts along the Ambulances & Crane	38
Figure 7.15: Photographs showing the SOS along the Project Road	38
Figure 7.16: Photograph showing the VMS boards in the project road	39
Figure 7.17: Photographs showing the Boundary wall status	39
Figure 7.18: Photographs showing the status of Median and avenue Plantation.....	40
Figure 7.19: Bar Chart showing Design thickness vs Executed thickness	50
Figure 7.20: Representative Laboratory photos	50

LIST OF ANNEXURES

Annexure-1: Pavement Condition.....	58
Annexure-2: Inventory of Project facilities.....	75
Annexure-3: Inventory and Condition of Culverts.....	94
Annexure-4: Operation & Maintenance cost estimate.....	100

ABREVIATIONS

Abbreviation	Meaning	Abbreviation	Meaning
3A/3D/3G	Stages of Land Acquisition	EPC	Engineering Procurement Construction
AADT	Annual Average Daily Traffic	ESAL	Equivalent Standard Axle Load
AASHTO	American Association of State Highway and Transportation Officials	ESMF	Environment and Social Management Framework
ADT	Average Daily Traffic	Exc	Excavation
ATMS	Advance Traffic Management System	FOB	Foot Over Bridge
BBD	Benkelman Beam Deflection	FWD	Falling weight Deflectometer
BC	Bituminous Concrete	GDP	Gross Domestic Product
BI	Bump Integrator- Roughness (mm/Km.)	GFC	Good For Construction
BM	Bituminous Macadam	GNP	Gross National Product
BOQ	Bill of Quantities	GOI	Government of India
BOT	Built Operate and Transfer	GSB	Granular Sub Base
BPC	Bid Project cost	HAM	Hybrid Annuity Mode
C&G	Clearing and Grubbing	HFL	High Flood Level
C/s	Cross-section	HPC	Hume Pipe culvert
CA	Concession Agreement	HS	Hard Shoulder
CapEx	Capital Expenditure	Ht	Height
CBR	California Bearing Ratio	HTMS	Highway Traffic Management System
Ch	Chainage	IE	Independent Engineer
cm	Centimetre	IRC	Indian Roads Congress
COD	Commercial Operation date	IRI	International Roughness Index
Concessionaire	M/s Repallewada Highways Private Limited (RHPL)	IS	Indian Standard
Cos	Change of Scope	Kg	Kilogram
Cr.	Crores	Km.	Kilometre
cum	Cubic Meter	LHS	Left Hand Side
CV	Commercial Vehicles	Ltr	Litre
CVPD	Commercial Vehicles per Day	m (or) Mts	Metre/Meter
DBM	Dense Bituminous Macadam	M/s	Messers
DFBOT	Design, Finance, Build, Operate and Transfer	MCW	Main Carriageway
DFO	District Forest Officer	MDD	Maximum Dry Density
Dia (or)*	Diameter	MDR	Major District Road
DLC	Dry Lean Concrete	Misc	Miscellaneous
DLP	Defect liability Period	MJB	Major Bridge
DPR	Detailed Project Report	mm	Millimetre
DTM	Digital Terrain Model	MM	Major Maintenance
EIA	Environment Impact Assessment	MNB	Minor Bridge
EIRR	Economic Internal Rate of Return	MORTH	Ministry of Road Transport & Highways
Emb	Embankment	MOU	Memoranda Of Understanding
EOT	Extension Of Time	MSA	Million Standard Axles

Abbreviation	Meaning
MT (or) T	Metric Tonne
NCR	Non-Conformance Report
NDT	Non-Destructive Test
NH	National Highway
NHAI	National Highway Authority of India
NHDP	National Highways Development Project
No. (or) Nos.	Numbers
NPV	Net Present value
NSDP	Net State Domestic Product
O&M	Operation and Maintenance
O-D	Origin and Destination
OpEx	Operative Expenditure
PCU	Passenger Car Unit
PIA	Project Influence Area
PIU	Project Implementation Unit
PM	Periodic Maintenance
PQC	Pavement Quality Concrete
PSC	Pre-stressed Concrete
RCC	Reinforced Cement Concrete
RE	Reinforced Earth

Abbreviation	Meaning
RHS	Right Hand Side
RHPL	Repallewada Highways Private Limited
RoB	Road over Bridge
ROW	Right Of Way
RUB	Road Under bridge
RUKY	RUKY Projects Private Limited
SDBC	Semi Dense Bituminous Concrete
SF	Seasonal Factor
SH	State Highway
SPV	Special Purpose Vehicle
Sqm	Square Meter
SR	Service Road
TCS	Typical Cross Section
TDD	Technical Due Diligence
TOR	Terms of Reference
VDF	Vehicle Damage Factor
VOC	Vehicle Operating Costs
VOP	Vehicular Overpass
VUP	Vehicular Underpass
WMM	Wet Mix Macadam

CHAPTER 1. EXECUTIVE SUMMARY

1.1 Project Description

Project pertains to Four laning of NH-363 from Repallewada (Design Km. 42.000/Existing Km. 288.510) to Telangana/Maharashtra Border (Design Km. 94.602/Existing Km. 342.000) (Design length 52.602) in the State of Telangana under NH(O) on HAM to be executed as BOT (Toll) project on DBFOT Pattern. Key Dates and Key features are given in tables below.

Table 1-1: Key Dates

Particulars	Dates / Period
Appointed date	01-Mar-2021
Scheduled Construction End Date	28-Feb-2023
Concession period	730 Days +15 Years after COD
Schedule Concession End Date	01-03-2038
Revised Date of Completion	As per agreement 18-08-2023
Commercial Operation Date	20-10-2023 for Km 47.160
Final Completion certificate	29-03-2024 for Km 52.602

Table 1-2: Key Features

S No	Particulars	As per CA	As per Cos	At site
1	Total Length of Four Lane (Rigid)	52.602Km.		PCOD stretch 47.160 Km
2	Length of service/Slip Roads	25.536 Km.	3.30 Km	28.836 Km including COS PCOD stretch 21.196 Km
3	Bypass	1 No. at Asifabad of length-3.36 Km (From Km. 68+522 to Km. 71+880)		1 No. at Asifabad of length-3.36 Km (From Km. 68+522 to Km. 71+880)
4	Major Bridges	2 Nos.	0	2 Nos.
5	Minor Bridges	23 Nos.	0	23 Nos.
6	VUP	4 Nos	0	4 Nos
7	LVUP	5 Nos	0	5 Nos
8	PUP	0	3 Nos	3 Nos including COS
9	Pipe Culverts	34 Nos	0	34 Nos
10	Box culverts	49 Nos	4 Nos	53 Nos including COS
11	AUP	4 Nos	0	1 Nos including De-Scope
12	AOP	0	1 No	1 Nos including COS
13	HPC Reptile Crossing	0	28 Nos	28 Nos Including COS
14	Toll Plaza	01 No		01 No
15	Rest Area	01 No.		01 No.
16	Truck Lay Bys	02 Nos.		02 Nos.

S No	Particulars	As per CA	As per Cos	At site
17	Bus bay with Bus shelter (BHS)	06 Nos		06 Nos
18	Passenger shelter (BHS)	04 Nos		04 Nos
19	Road side Drainage	23.00Km	3.536 Km	26.536 km including COS

1.2 Present status of the Project

COD is issued by the Independent Engineer on 20-10-2023 and project is in O&M phase.

1.3 Condition of Project Corridor

1.3.1. Pavement Condition

Overall assessment of pavement condition of the project road is in good Condition. Details are provided at **Chapter 7**.

1.3.2. Condition of Structures

Overall condition of the structures is Good.

1.3.3. Condition of Project Facilities

Project has one toll plaza, same is operational and in good condition. All signboards along the project road are in good reflective condition. Bus Bays are in good condition.

1.3.4 O&M Cost Estimate

The summary of year wise O&M and any immediate cost estimate are given below.

Table 1-3: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2023-2024	-	1.07	2.89	3.96
2024-2025	-	2.67	4.07	6.75
2025-2026	1.11	3.07	4.32	8.50
2026-2027	1.78	3.63	4.57	9.99
2027-2028	0.47	3.75	4.78	9.01

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2028-2029	0.57	3.83	5.00	9.39
2029-2030	27.60	5.29	5.22	38.11
2030-2031	39.83	5.90	6.29	52.01
2031-2032	0.98	4.03	6.00	11.01
2032-2033	0.63	4.26	5.89	10.78
2033-2034	1.72	4.38	6.07	12.18
2034-2035	2.17	4.48	6.26	12.91
2035-2036	0.58	4.53	6.45	11.56
2036-2037	32.24	4.66	6.66	43.55
2037-2038	46.37	4.65	6.86	57.88
2038-2039	1.07	2.63	1.77	5.47
Total Expenditure in Cr. Rs	157.12	62.84	83.10	303.06

CHAPTER 2. INTRODUCTION

2.1 Project Background

The Ministry of Shipping, Road Transport & Highways, Government of India through the National Highways Authority of India, has been contemplating enhancing the traffic capacity and safety of goods and passenger traffic on selected, heavily trafficked corridors in India. They have identified one such stretch of road in Telangana State i.e the Four laning of the Repallewada to Telangana/Maharashtra Border section of NH-363 (between the existing Km 288+510 to Km 342+000) in Telangana /Maharashtra Border through Public Private Partnership(PPP) on the Hybrid Annuity Mode.

The project section of NH-363, spanning a total length of 52.602Km, connects the districts of Mancherial and Asifabad at Rapallewada and ends at the Border of Telangana and Maharashtra on Hyderabad-Karimnagar-Chanda road in the state of Telangana and terminates at Wankidi.

After evaluation of the bids received from prospective bidders, the Authority had selected M/s Dilip Buildcon Limited and issued LOA vide letter NHAI/Tech/AP/NH-363/Rep-TS/MH Border/17-18/139 Dated 14-09-2020. Further the selected bidder formed an SPV in the name and style as M/s Repallewada Highways Private Limited as per Companies Act 2013 and Concession Agreement (CA) was executed between the Authority and the Concessionaire on 05-11-2020.

Subsequently, the Concessionaire appointed Dilip Buildcon Limited as EPC contractor for construction of afore said work. NH-363 connects Mandamarri, Bellampalli, Tandur, Rebbana, Asifabad and terminating at Wankidi in the state of Telangana/Maharashtra. Project Location map is given at Figure 2.1.

Anantam Highways Trust appointed M/s RUKY Projects Private Limited, Hyderabad as consultant for detailed Technical Due Diligence services of the above Road Projects to know how the present condition of Carriageway and structures, estimate costs of Operation and Maintenance during balance Concession period, additional road safety requirements if any and to review the annuity payments received and future schedule of annuity payments, etc. The scope of Consultancy services is narrated under Chapter-3 of this report.

The data and observations provided in this report are based on the status of the project observed by the consultant.



Figure 2.1: Project Location Map

This report is prepared based on documents made available, information shared by the Concessionaire and observations made by the consultants during site visit.

2.2 Project Geography

Climate:

The Climate condition of the district is generally hot and dry and temperatures ranges between from March to May, with an average daily high temperature above 40°C. During July to January, with an average daily high temperature below 32°C.

Terrain

The Project road passes through plain terrain. The land use is mainly agricultural with inter spread barren and built-up areas.

Villages and Towns

The project road is passing through Mandamarri, Bellampalli, Thandur, Rebbena, Asifabad and Wankidi Mandal centers.

2.3 Project Overview

2.3.1. *Project pictorial over view*



Figure 2.2: Pictorial view of the Project Highway

2.4 Key features and timelines of the project are presented in the table below.

Table 2-1: Project Data

S. No.	Particulars	Details
1	Name of the project	Four laning of NH-363 from Repallewada (Design Km. 42.000/Existing Km. 288.510) to Telangana/Maharashtra Border (Design Km. 94.602/Existing Km. 342.000) (Design length 52.602) in the State of Telangana under NH(O) on HAM Mode.
2	Road Type	National Highway
3	Name of the Authority	National Highways Authority of India (NHAI)
4	Name of the Bidder	M/s. Dilip Buildcon Limited
5	Name of the Concessionaire/SPV	M/s. Repallewada Highways Private Limited
6	EPC contractor	M/s. Dilip Buildcon Limited
7	Independent Engineer	M/s Satra Services and Solutions Pvt Ltd JV with Feedback Infra Pvt Ltd
8	Project Length as per Schedule B of CA	52.60 Km.

S. No.	Particulars	Details
9	Project Lane Configuration	Four Lane
10	Manual specifications and standards	Manual of Specifications and Standards for 4-Laning of IRC-SP-84-2019
11	Total Project Cost	Rs.1140.50 Cr.
12	Nature of contract	Hybrid Annuity Mode(HAM)
13	Letter of Award	14-09-2020
14	Date of CA	05-11-2020
15	Appointed date	01-03-2021
16	Construction Period	24 months (730 days) from Appointed date
17	Concession Period	730 days + 15 years after COD
18	Scheduled Construction End Date	28-02-2023 (As per Settlement agreement-Date of completion-31/12/2023)
19	Schedule Concession End Date	20-10-2038
20	Commercial Operation Date	20-10-2023
21	Final Completion Certificate	29-03-2024 for Km 52.602

2.5 Chainage Equation

To avoid confusion while reviewing drawings and report, it is necessary to understand the chainage equation between existing and new design chainages. As given in Appendix A-I of CA, the Project design chainage corresponding to existing chainages are shown in the table below. decrease in length of new alignment compared to existing alignment is due to length of bypass and re alignment in proposed alignment. Unless otherwise specifically mentioned all chainages referred in this document are design chainages.

Table 2-2: Design chainage corresponding to Existing chainage

Existing Chainage as per Schedule A	Design Chainage as per Schedule B	Remarks
Km.288+510	Km.42+000	Starting Point
Km.342+000	Km.94+602	Ending Point
Km 53.500	Km.52.602	Total

CHAPTER 3. SCOPE OF CONSULTANCY SERVICES

3.1 Scope of Consultancy Services

The consultant shall carry out the Technical Due Diligence services for the afore mentioned asset and the scope of work for the same is as follows:

- Review of various contractual documents
- Carryout detailed assessment of pavement condition and propose maintenance plan along with BOQ.
- Carrying out inventory & condition survey of all elements of road like embankment slope, plantation, road furniture of the project.
- Carrying out inventory & condition survey of all structures (Major Bridges, Minor Bridges, ROB, RE Wall, Flyovers, VUPs, PUPs, Culverts etc.), suggest any rehabilitation & maintenance requirements along with BOQ.
- Carryout road safety audit on Project highway and provide suggestions for improvement.
- Assess and Provide BOQ and cost estimate for routine & periodic maintenance including O&M.
- Review of validity of insurance and statutory compliances related to Project.
- Review of correspondence exchanged between parties on contract related issues and claims etc. Submission of detailed report on technical due diligence of the project

CHAPTER 4. SALIENT FEATURES OF THE PROJECT

4.1 Salient Features of the Project

The salient features of the Project as per Schedule B and C of Concession Agreement (CA) are listed in the following Table.

Table 4-1: Salient Features of the Project

S No	Particulars	As per CA	As per Cos	At site
1	Total Length of Four Lane (Rigid)	52.602Km.		PCOD stretch 47.160 Km
2	Length of service/Slip Roads	25.536 Km.	3.30 Km	28.836 Km including COS PCOD stretch 21.196 Km
3	Bypass	1 No. at Asifabad of length-3.36 Km (From Km. 68+522 to Km. 71+880)		1 No. at Asifabad of length-3.36 Km (From Km. 68+522 to Km. 71+880)
4	Major Bridges	2 Nos.	0	2 Nos.
5	Minor Bridges	23 Nos.	0	23 Nos.
6	VUP	4 Nos	0	4 Nos
7	LVUP	5 Nos	0	5 Nos
8	PUP	0	3 Nos	3 Nos including COS
9	Pipe Culverts	34 Nos	0	34 Nos
10	Box culverts	49 Nos	4 Nos	53 Nos including COS
11	AUP	4 Nos	0	1 Nos including De-Scope
12	AOP	0	1 No	1 Nos including COS
13	HPC Reptile Crossing	0	28 Nos	28 Nos Including COS
14	Toll Plaza	01 No		01 No
15	Rest Area	01 No.		01 No.
16	Truck Lay Bys	02 Nos.		02 Nos.
17	Bus bay with Bus shelter(BHS)	06 Nos		06 Nos
18	Passenger shelter (BHS)	04 Nos		04 Nos
19	Road side Drainage	23.00Km	3.536 Km	26.536 km including COS

4.2 Typical Cross Section (TCS) Schedule

As per provisions of Schedule B of CA, there are 15 types of Typical Cross Sections (TCS) for the development of the Project Highway.

Based on the site conditions 15 Nos of TCS are developed in GFC drawings. and TCS summary as per CA is given below

Table 4-2: Summary of TCS as per CA

S. No	From (Km)	To (Km)	Length (Km)	TCS Type
1	42+000	42+938	0.938	Fig. 2.4 A
2	42+938	42+946	0.008	Fig.7.3 A
3	42+946	43+785	0.839	Fig. 2.4 A
4	43+785	43+905	0.120	Fig.2.4 D
5	43+905	43+965	0.060	Fig.7.8 C
6	43+965	44+085	0.120	Fig.2.4 D
7	44+085	47+300	3.215	Fig. 2.4 A
8	47+300	47+638	0.338	Fig. 2.6 B
9	47+638	47+668	0.030	Fig. 7.8 B
10	47+668	48+120	0.452	Fig. 2.6 B
11	48+120	48+522	0.402	Fig. 2.4 AA
12	48+522	48+673	0.151	Fig. 2.4 B
13	48+673	48+724	0.051	Fig.7.3A
14	48+724	48+882	0.158	Fig. 2.4 B
15	48+882	49+580	0.698	Fig. 2.4 A
16	49+580	50+320	0.740	Fig. 2.6 A
17	50+320	50+617	0.297	Fig. 2.6 C
18	50+617	50+629	0.012	Fig. 7.8 A
19	50+629	51+250	0.621	Fig. 2.6 C
20	51+250	51+781	0.531	Fig. 2.4 A
21	51+781	51+789	0.008	Fig.7.3A
22	51+789	53+507	1.718	Fig. 2.4 A
23	53+507	53+519	0.012	Fig.7.3 A
24	53+519	54+122	0.603	Fig. 2.4 A
25	54+122	54+518	0.396	Fig. 2.4 AA
26	54+518	54+530	0.012	Fig.7.3 A
27	54+530	55+180	0.650	Fig. 2.4 AA
28	55+180	55+897	0.717	Fig. 2.6 B
29	55+897	55+927	0.030	Fig. 7.8 B
30	55+927	56+390	0.463	Fig. 2.6 B
31	56+390	56+802	0.412	Fig. 2.4 A
32	56+802	57+125	0.323	Fig. 2.4 AA
33	57+125	57+163	0.038	Fig.7.3 A
34	57+163	57+732	0.569	Fig. 2.4 AA
35	57+732	58+391	0.659	Fig. 2.4 A
36	58+391	58+401	0.010	Fig.7.3 A
37	58+401	59+500	1.099	Fig. 2.4 A
38	59+500	59+658	0.158	Fig. 2.6 C
39	59+658	59+670	0.012	Fig. 7.2 BB
40	59+670	59+926	0.256	Fig. 2.6 C

S. No	From (Km)	To (Km)	Length (Km)	TCS Type
41	59+926	59+938	0.012	Fig. 7.8 A
42	59+938	60+900	0.962	Fig. 2.6 C
43	60+900	61+242	0.342	Fig. 2.4 A
44	61+242	61+658	0.416	Fig. 2.4 AA
45	61+658	61+690	0.032	Fig.7.3 A
46	61+690	62+102	0.412	Fig. 2.4 AA
47	62+102	62+350	0.248	Fig. 2.4 A
48	62+350	62+826	0.476	Fig. 2.6 C
49	62+826	62+838	0.012	Fig. 7.8 A
50	62+838	63+330	0.492	Fig. 2.6 C
51	63+330	63+903	0.573	Fig. 2.4 A
52	63+903	63+915	0.012	Fig.7.3 A
53	63+915	67+852	3.937	Fig. 2.4 A
54	67+852	68+191	0.339	Fig. 2.4 AA
55	68+191	68+383	0.192	Fig.7.3 A
56	68+383	68+522	0.139	Fig. 2.4 AA
57	68+522	68+900	0.378	Fig. 2.5 A
58	68+900	69+230	0.330	Fig. 2.5 B
59	69+230	69+260	0.030	Fig. 7.8 B
60	69+260	69+392	0.132	Fig. 2.5 B
61	69+392	69+400	0.008	Fig. 7.2 BA
62	69+400	69+502	0.102	Fig. 2.5 B
63	69+502	69+514	0.012	Fig.7.2 BA
64	69+514	69+940	0.426	Fig. 2.5 B
65	69+940	70+830	0.890	Fig. 2.5 A
66	70+830	70+994	0.164	Fig. 2.5 B
67	70+994	71+010	0.016	Fig.7.2 BA
68	71+010	71+967	0.957	Fig. 2.5 B
69	71+967	71+997	0.030	Fig. 7.8 B
70	71+997	72+640	0.643	Fig. 2.5 B
71	72+640	72+973	0.333	Fig. 2.4 A
72	72+973	72+987	0.014	Fig.7.3 A
73	72+987	74+632	1.645	Fig. 2.4 A
74	74+632	74+927	0.295	Fig. 2.4 AA
75	74+927	75+073	0.146	Fig.7.3 A
76	75+073	75+352	0.279	Fig. 2.4 AA
n	75+352	76+580	1.228	Fig. 2.4 A
78	76+580	77+326	0.746	Fig. 2.6 C
79	77+326	77+338	0.012	Fig. 7.8 A
80	77+338	77+580	0.242	Fig. 2.6 C
81	77+580	77+744	0.164	Fig. 2.4 AA
82	77+744	77+774	0.030	Fig.7.3 A

S. No	From (Km)	To (Km)	Length (Km)	TCS Type
83	77+774	78+252	0.478	Fig. 2.4 AA
84	78+252	81+255	3.003	Fig. 2.4 A
85	81+255	81+269	0.014	Fig.7.3 A
86	81+269	81+686	0.417	Fig. 2.4 A
87	81+686	81+692	0.006	Fig.7.3 A
88	81+692	82+875	1.183	Fig. 2.4 A
89	82+875	82+892	0.017	Fig.7.3 A
90	82+892	83+080	0.188	Fig. 2.4 A
91	83+080	83+462	0.382	Fig. 2.6 C
92	83+462	83+474	0.012	Fig. 7.8 A
93	83+474	84+040	0.566	Fig. 2.6 C
94	84+040	84+193	0.153	Fig. 2.4 AA
95	84+193	84+253	0.060	Fig.7.3 A
96	84+253	84+632	0.379	Fig. 2.4 AA
97	84+632	86+166	1.534	Fig. 2.4 A
98	86+166	86+183	0.017	Fig.7.3 A
99	86+183	87+430	1.247	Fig. 2.4 A
100	87+430	88+040	0.610	Fig. 2.6 A
101	88+040	88+302	0.262	Fig. 2.4 A
102	88+302	88+310	0.008	Fig.7.3 A
103	88+310	90+501	2.191	Fig. 2.4 A
104	90+501	90+511	0.010	Fig.7.3 A
105	90+511	91+222	0.711	Fig. 2.4 A
106	91+222	92+034	0.812	Fig. 2.4 AA
107	92+034	92+768	0.734	Fig. 2.4 A
108	92+768	93+015	0.247	Fig. 2.4 AA
109	93+015	93+025	0.010	Fig.7.3 A
110	93+025	93+462	0.437	Fig. 2.4 AA
111	93+462	93+786	0.324	Fig. 2.4 A
112	93+786	93+906	0.120	Fig. 2.4 O
113	93+906	93+936	0.030	Fig.7.8 C
114	93+936	94+122	0.186	Fig. 2.4 D
115	94+122	94+152	0.030	Fig.7.8 C
116	94+152	94+309	0.157	Fig. 2.4 O
117	94+309	94+339	0.030	Fig.7.8 C
118	94+339	94+459	0.120	Fig. 2.4 D
119	94+459	94+602	0.143	Fig. 2.4 A
		Total	52.602 km	

4.3 Bypass/Realignment

As per provisions of Schedule B of the Concession Agreement the details of realignment and Bypass are given in the table below.

Table 4-3: Details of Bypass & Realignment

A. Details of Bypass

S. No.	Name of Bypass	Existing Chainage		Design Chainage		Length (Km.)
		From	To	From	To	
1	Asifabad	315+358	319+185	68.552	71.882	3.360

Table 4-4: Details of Realignments

S. No.	Existing Chainage		Design Chainage		Length (Km.)
	From	To	From	To	
1	294+690	295+100	48.120	48.522	0.402
2	300+710	301+500	54.122	54.872	0.750
3	303+500	304+470	56.802	57.732	0.930
4	307+970	308+920	61.242	62.102	0.860
5	314+660	315+360	67.852	68.522	0.670
6	322+030	322+800	74.632	75.352	0.720
7	325+030	325+740	77.580	78.252	0.672
8	331+510	332+110	84.040	84.632	0.592
9	338+640	339+500	91.222	92.034	0.812
10	340+300	341+090	92.768	93.462	0.694
			Total		7.102

4.4 Service Roads/Slip Roads

Following are the stretches where Service roads are provided on both sides of MCW along the project Road as per Schedule B of CA.

Table 4-5: Service Road locations as per Schedule B of CA

S. No	Design Chainage (Km)		Length (km)		Width (m)	Side	Remarks
	From		LHS	RHS			
1	49+580	50+320	0+740	0.740	7.5	Both Sides	
2	68+522	68+900	0+378	0.378	7.0	Both Sides	
3	69+940	70+830	0+890	0.890	7.0	Both Sides	
4	87+430	88+040	0+610	0.610	7.5	Both Sides	Check Post at Km. 87.700
	Sub Total on each side		2+618	2+618			
	Total		5.236				

Table 4-6: Slip Road locations as per Schedule B of CA

S. No	Chainage		Length (Km)		Width (m)	Side	Remarks
	From	To	LHS	RHS			
1	47+300	48+120	0+820	0.820	7.5	Both sides	
2	50+320	51+250	0+930	0.930	7.5	Both sides	
3	55+180	56+390	1+210	1.210	7.5	Both sides	
4	59+500	60+900	1+400	1.400	7.5	Both sides	
5	62+350	63+330	0+980	0.980	7.5	Both sides	
6	68+900	69+940	1+040	1.040	7.5	Both sides	
7	70+830	72+640	1+810	1.810	7.5	Both sides	
8	76+580	77+580	1+000	1.000	7.5	Both sides	
9	83+080	84+040	0+960	0.960	7.5	Both sides	
	Sub Total on each side		10+150	10+150			
	Total		20.300				

4.5 Drainage

As per provisions of Schedule B of the CA, drains are to be provided at specified locations of the Project Highway. The details are given in the following table based on the Typical Sections provided in Schedule B of the CA.

Table 4-7: Provision for Drains as per CA

S. No.	Design Chainage (Km)		Length (Km)		Width (m)	Side
	From	To	LHS	RHS		
1	47+3	48+12	0+82	0.82	1.5	Both sides
2	49+58	50+32	0+74	0.74	1.5	Both sides
3	50+32	51+25	0+93	0.93	1.5	Both sides
4	55+18	56+39	1+21	1.21	1.5	Both sides
5	59+5	60+9	1+4	1.4	1.5	Both sides
6	62+35	63+33	0+98	0.98	1.5	Both sides
7	68+9	69+94	1+04	1.04	1.5	Both sides
8	70+83	72+64	1+81	1.81	1.5	Both sides
9	76+58	77+58	1+000	1.00	1.5	Both sides
10	83+08	84+04	0+96	0.96	1.5	Both sides
11	87+43	88+04	0+61	0.61	1.5	Both sides
	Sub Total on each side		11+50	11+50		
	Total		23.00			

4.6 Summary of the Carriageway and Pavement Details

Table 4-8: Summary of the Carriageway and Pavement Details

S No.	Description	Carriageway Width (m)	Length (Km)	Pavement Type
1	Main Carriageway	2 x 9.00	52.602	Flexible
2	Service Road	7.00/7.50	25.536	Flexible

4.7 Summary of Structures

Summary of Structures as per provisions of schedule B of the CA is given in **Table 4.1**.

4.8 Project Facilities

As per Schedule C of CA, the following facilities shall be provided in the Project highway

- One Toll Plaza at Km 80+175
- Roadside furniture shall be provided as per Relevant Clauses of Manual of Specifications and in consultation with the Independent Engineer.
- Traffic signs and Pavement marking shall include road side signs, Overhead signs, curve mounted signs and road marking along the project highway. The locations for these provisions shall be finalized in consultation with Independent Engineer and with standards and specifications as provided by the Client
 - i. Traffic Safety Devices shall be provided wherever
 - ii. Boundary Stones for entire Project road
 - iii. Hectometer / Kilometer Stones for entire Project road
 - iv. Traffic Blinker Signal (LED) for Project road
- Pedestrian facilities, which include 150 m length of guard rail at each bus Shelter, Pedestrian walk way, lightings, Ramps and Pedestrian crossing facilities at Service roads.
- Landscaping and tree plantations include
 - (i) Median plantation where width is 4.5m and more
 - (ii) Landscaping at Service area, Inter changes and Toll Plaza
 - (iii) Avenue plantation
- No Rest areas as per CA
- No Truck Lay Bys as per CA
- Bus Shelters and Bus Bays at 2 x 12 locations on Both Sides
- Highway Patrol, Ambulances and Cranes Confirming to Specifications mentioned in Schedule-D of CA
- Advanced Traffic Management Systems (ATMS) confirming to Schedule-D of CA

The Concessionaire is required to design, install, Operate and Maintain Highway Traffic Management system (HTMS) / Advanced Traffic Management System (ATMS) as part of the Project facilities. Advanced Traffic Management System shall be Provided as Specified the manual.

Briefly, the ATMS components to be deployed shall inter alia include;

- (a) Video Surveillance System (CCTV PTZ Drome/Fixed Camera)
- (b) Video Incident Detection System
- (c) Vehicle Actuated Radar Speed Displays
- (d) Emergency Roadside Telephones
- (e) Fixed / Portable Variable Message Sign
- (f) Meteorological System

- (g) Portable Weigh in Motion
- (h) Automatic Traffic Counter Cum Classifier
- (i) The ATMS Control Centre including the equipment (Hardware, Software and Local Networking)
- (j) Communications System utilizing Optic Fiber, GSM/GPRS and Wi-Fi Communications linked to ATMS Control Centre

Power supplies for field equipment: working on Main power supported with back-up to facilitate 24 X 7 operations and for the ATMS Control Centre working on Main power supported by UPS and Diesel Generator set of adequate capacities to facilitate 24 X 7 operations.

- Street Lighting shall be provided in accordance standards and Specifications and as directed by Client
- Boundary and Hectometer stones shall be provided for the entire project Highway.

Review of Project facilities is done in detail under **Chapter-7.**

CHAPTER 5. REVIEW OF AGREEMENTS

5.1 Review of Concession Agreement

Commercial operations are commenced in the Project with effect from 20-10-2023 (PCOD Date). Currently the Project is under operation phase.

5.1.1. Concession (Article 3)

Subject to and in accordance with the provisions of this Agreement, the Applicable Laws and the Applicable Permits, the Authority hereby grants to the Concessionaire the concession set forth herein including the exclusive right, license and authority to construct, operate and maintain the Project (the "Concession") for a period of 15 (Thirty) years commencing from the COD.

In accordance with the provisions of the Concession Agreement Appointed date was declared as 01-03-2021. As per the above Clause, schedule Concession Period end date is 20-10-2038.

5.1.2. Completion Certificate (Article 14)

Upon completion of Punch list items within the specified date, the Independent Engineer shall issue Completion Certificate to the Concessionaire as per Clause 14.4.2 of CA.

Upon review of the documents it is observed that Completion Certificate was issued by IE on 29-03-2024 vide letter number 0104091/IE/01/14.2/03 on 05-06-2024.

5.1.3. Change of scope (Article 16)

The Project highway shall be developed by adopting the following cross sections:

Main Carriageway –TCS)

Design Chainage		Length	TCS to be adopted	Remarks
From (Km)	To(Km)			
43+540	43+810	270	2.4D1	From Km.43+540 to Km.43+810 change from TCS-2,4A to TCS 2.4 D1
43+810	44+150	340	2.4D1a	From Km.43+810 to 44+150 change from TCS-2.4A to TCS 2.4 D1-a
44+150	44+350	200	7.8c	7.8C-TCS of AUP, Refer Drg 20049-AU-PS-GA-0451-06(R1) also same TCS in CA
44+350	44+430	80	2.4D1-a	From Km.43+350 to 45+430 change from TCS-2,4A to TCS-2.4 D1-a
44+430	44+700	270	2.4D1-b	From Km.43+430 to Km.44+700 change from TCS-2, 4A to TCS-2,4 D1-b
44+700	45+450	750	2.4 D1	From Km.44+700 to Km.45+450 change from TCS-2 4A to TCS-2.4 D1
93+500	93+786	286	2.4D2	From K.93+500 to Km.93+786 change from TCS-2 4A to TCS-2.4 D2
93+786	94+400	614	2.4D2	93+786 to 94+400 change from TCS2.4D to TCS 2.4 D2
94+400	94+550	150	2.4D2	94+400 to 94+459 change from TCS2 4D to TCS 2.4 d2, 94+459 to 94+550 change from TCS2, 4A to TCS2.4 D2 – (AOP Location)
94+550	94+602	52	2.4D2	94+550 to 94+602 change from TCS-2 4A to TCS 2.4D2
Service Road- TCS				
84+500	85+500	1.000	2.6D	Change from TCS-2, 4A to TCS-2.6D
		0.650	2.6D	Change from TCS-2, 4A to TCS-2.6D
92+200	92+850			TCS 2.6D

Table 5-1:Reptiles crossing and Utilities

Scope of Work

Details	Remarks
Reptile Crossings	Pipe Culverts (1 x 0.09) For repeat Crossing
Noise Barrier	GAD of Noise Barrier

Table 5-2:Construction of New Box culverts

Chainage	Proposed Type	Provision	Detailed of Proposed Structure			Remarks
			No. Of Vents	Size of Vent(m)		
				B	H	
93+910	RCC BC	New	1	2.00	3.00	Changed From fig-7.8C to 2.4 D2
94+125	RCC BC	New	1	2.00	5.00	Changed From fig-7.8C to 2.4 D2
94+307	RCC BC	New	1	2.00	5.00	Changed From fig-7.8C to 2.4 D2
70+895	RCC BC	New	1	2.00	1.5	Changed From fig-7.8C to 2.4 D2

Table 5-3: Construction of widening of existing culverts

Chainage	Proposed Type	Provision	Detailed of Proposed Structure			Remarks
			No. Of Vents	Size of Vent(m)		
				B	H	
84+853	RCC BC	Service road-Widening	1	2.00	1.50	Changed From TCS-2.4A to TCS -2.6D
85+445	RCC BC	Service road-Widening	1	2.00	1.50	Changed From TCS-2.4A to TCS -2.6D
92+744	RCC BC	Service road-Widening	1	2.00	1.50	Changed From TCS-2.4A to TCS -2.6D
85+105	HPC	Service road-Widening	1	1.2Dia		Changed From TCS-2.4A to TCS -2.6D

Table 5-4: Provision For Pedestrian under Pass

Design Chainages (km)	Total Width (m)	Clear Span/Opening(m)	Vertical Clearance	Remarks
50+455	2 x 10.75	1 x 7	2.62	2.6C (Same as per CA)
50+835	2 x 10.75	1 x 12	4.22	2.6C (Same as per CA)
83+870	2 x 10.75	1 x 7	2.73	2.6C (Same as per CA)

Table 5-5: New AUP and AOP at the Following Locations Shall be additionally Constructed at Forest Locations

S.no	Design Chainage km	Forest	Total Proposed Width	Total Proposed Length(m)	Typical Cross Section
1	44+250	Animal Under Pass	2 x 17(Including Median - 3mts)	6 x 33.3(200)	Fig-7,BC(Same as per CA Ref Dwg:20049-AU-PS-GA-0451-06)
2	94+475	Wild Life (Animal Over Pass)	2 x 19	10 x 15(150)	TCS-2,4D2, Ref Dwg:20049-AO-PS-GA-0952-06

Table 5-6: RS Wall at AUP 44+250

Details	From	To	Remarks
RS WALL @ AUP 44+250	43+810	44+145.892	W1 LHS SIDE
	43+810	44+145.892	W2 LHS SIDE
	44+353.775	44+660	W5 RHS SIDE
	44+353.775	44+400	W4 RHS SIDE

Table 5-7: Modified Provisions Incompliance to NHA Policy Circular 17.5.82 dated 24 May 2021

Description	As per IRC -SP-84-2019	NHA Circular dated 24th may 2021
Number of Lanes	16	8
Length of Toll plaza in(m)	694.5(325.5 x 2+43.5)	224.5
Canopy Size	Full Width 92.87m x 16.47m	No Canopy
Tunnel (3 x 3m)	Full Width 102.55m	No Tunnel
Toll Booths	12 Single & 3 Double	2 Single
ATMS, Systems, Road Marking, Sign Boards and other Miscellaneous items	For 16 Lanes	For 8 Lanes
Foot Over Bridge	-----	For 8 Lanes

Table 5-8: Mission Bhagiratha Pipe Line Estimation

Details	Part A (MB Scope)	Part B (NHA Scope)	Remarks
Length of Pipeline of different Dia	8520Mts	990Mts	ALL the line are falling in existing Row of NHA except 990Mts

5.1.4. **O&M Obligations of the Concessionaire (Clause 17.1)**

- Permitting safe, smooth and uninterrupted flow of traffic on the Project Road.
- Minimizing the disruption to traffic in the event of accidents or other incidents affecting safety. Providing Rapid and effective response and liaison with emergency services of the State.
- Carrying Periodic preventive maintenance of the Project Highway.
- Undertaking routine maintenance including prompt repairs of pot holes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices
- Undertaking major maintenance such as resurfacing of pavements, repairs and refurbishments of tolling system and other equipment
- Preventing any unauthorized use of the Project Road.
- Preventing encroachments on the Project Highway.
- Protection of environment and provision of equipment and materials
- Complying with safety Requirements in accordance with the provisions of the CA.
- O&M of all communications, control and Administrative systems for efficient operation of Project Highway
- Complying with Safety requirements in accordance with Article 18

Upon review of the documents no adversity of the correspondence was noticed.

5.1.5. **Maintenance Requirements (Clause 17.2)**

The Contractor shall procure that at all times during the Operations period; the project Road conforms to the maintenance requirements set forth in Schedule K of CA (The “**Maintenance Requirements**”).

Upon review of the documents it is observed that the Concessionaire is fulfilling the Maintenance Requirements set forth in Schedule K of the CA. No adverse correspondence was noticed in this regard.

5.1.6. Maintenance Manual (Clause 17.3)

No later than 180 (ninety) days from the Appointed date, the Concessionaire shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual (the “**Maintenance Manual**”) for the regular and preventive maintenance of the Project in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years and the provisions of this Clause shall apply, mutatis mutandis, to such revision.

Upon review of the documents shared with the consultant, it is observed that maintenance manual was submitted by the Concessionaire.

5.1.7. Maintenance Programme (Clause 17.4)

On or before COD and no later than 45 days prior to the beginning of each accounting year during the Operation Period as the case may be the Concessionaire shall provide to the Authority and Independent Engineer its proposed annual Program of preventive, urgent and the schedule maintenance.

During the site visit the Consultant had interaction with the site team and it was reported that the Concessionaire had submitted the Maintenance programme.

5.1.8. Damages for Breach of Maintenance Obligations (Clause 17.8)

- In the event that the Concessionaire fails to repair or rectify any defect or deficiency set forth in the Maintenance Requirements within the period specified therein, it shall be deemed to be in breach of the Agreement and the Authority shall be entitled to recover Damages, to be calculated and paid for each day of delay until the breach is cured, at the higher of the following.
- 0.5% (Zero point Five percent) of the Average daily fee and
- 0.1% (zero point one per cent) of the cost of such repair or rectification as estimated by the Independent Engineer.

Upon review of the documents it is observed that the Concessionaire is fulfilling the Maintenance Requirements set forth in Schedule K of the CA. No adverse correspondence was noticed in this regard.

5.1.9. Monthly status reports (Clause 19.1)

During the Operation Period, the Contractor shall, no later than 7 (seven) days after the close of each month, furnish to the Concessionaire, the Authority and the Independent Engineer a monthly report stating in reasonable detail the condition of the Project including its compliance or otherwise with the Maintenance Requirements, Maintenance Manual, Maintenance Program and Safety Requirements, and shall promptly give such other relevant information as may be required by the

Concessionaire, Independent Engineer or the Authority. In particular, such report shall separately identify and state in reasonable detail the defects and deficiencies that require rectification.

Upon review of the documents it is observed that the Monthly Status Reports are being submitted regularly by the Concessionaire as per the above Clause. Monthly Status Reports have been reviewed up to January, 2025.

5.1.10. IE O&M Inspection reports (Clause 19.2)

As per Clause 19.2 of CA the Independent Engineer shall inspect the Project Highway at least once in a month and make a report of such inspection (the "O&M Inspection Report") stating in reasonable detail, the defects or deficiencies, if any with particular reference to the Maintenance requirements, Maintenance manual, Maintenance Programme and Safety requirements. It shall send the Report to the Authority and Concessionaire within 7 days of such inspection. Upon receipt of such inspection report, the Concessionaire shall rectify or remedy the defects if any, stated in the report.

Upon review of the documents, it is observed that the Monthly Inspection Reports are being submitted regularly by the IE as per the above Clause Monthly Inspection Reports have been reviewed up to January, 2025.

5.1.11. Tests During O&M Period (Clause 19.3)

For determining the project Highway conforms to the Maintenance Requirements, the Independent Engineer shall require the Concessionaire to carry out or cause to be carried out, tests specified by it in accordance with good industry practice. The Concessionaire carry out all such tests and furnish results of such tests forthwith to the Independent Engineer. One half of the costs of such tests to the extent certified by the IE as reasonable shall be reimbursed by the Authority.

Upon review of the documents it is observed that no additional tests have been instructed by the IE as per the above Clause.

5.1.12. Appointment of Independent Engineer (Article 23)

The Authority shall appoint a consulting Engineer firm substantially in accordance with the selection criteria set forth in Schedule M, to be the Independent Engineer.

The appointment shall be made no later than 60 days from the date of this Agreement and shall be for a period of Construction period plus 6 months. On expiry or termination of the aforesaid appointment, the Authority shall appoint Independent Engineer for a further term of 3 years in accordance with the provisions of Schedule M of the CA.

One half of the remuneration cost and expenses incurred by the IE shall be reimbursed by the Concessionaire to the Authority pursuant to Clause 21.3 of the CA.

Upon review of the documents, M/s. Satra Services and Solutions Pvt Ltd in Joint Venture with Feedback Infra Pvt Ltd.

5.2 Review of Correspondence

The Concessionaire provided letters exchanged between Concessionaire, Employer and Independent Engineer. After review of the correspondence provided, the major issues dealt with are as follows:

Observation	Comments
Status of work	Project is in O & M period
Monthly Progress reports	Regularly submitted by IE/ Concessionaire
Issuance of Completion certificate	Issued
Settlement Agreement	Settlement Agreement executed for EOT
Non Confirmation Report	No pending NCR
Safety issues and accident report	Regularly submitted in MPR

5.3 Non-performance of the O&M Operations:

Upon review of the monthly progress Reports, IE inspection and site visit along with the Concessionaire no defects were identified during the joint inspection. Documents and Monthly Status Reports submitted by the Concessionaire it is observed that no adverse correspondence was noticed. The IE is inspecting the Project every month along with the Concessionaire. Any defects identified during the joint inspection are being attended/rectified by the Concessionaire within the timelines mentioned in Schedule K of the CA.

Upon review of the documents, no adverse correspondence was noticed in this regard.

CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS

6.1 Maintenance Manual (Clause 17.3)

No later than 90 (ninety) days prior to the Scheduled Completion Date, the Contractor shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual (the “**Maintenance Manual**”) for the regular and preventive maintenance of the Project in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years and the provisions of this Clause shall apply, mutatis mutandis, to such revision.

Maintenance manual has been submitted by the Concessionaire as per the provisions of the above clause.

6.2 Review of Reports

6.2.1. Concessionaire’s Monthly status Reports

During the Operation Period, the Concessionaire shall, no later than 7 (seven) days after the close of each month, furnish to the Authority and the Independent Engineer a monthly report stating in reasonable detail the condition of the Project including its compliance or otherwise with the Maintenance Requirements, Maintenance Manual, Maintenance Program and Safety Requirements, and shall promptly give such other relevant information as may be required by the Independent Engineer or the Authority. In particular, such report shall separately identify and state in reasonable detail the defects and deficiencies that require rectification.

Upon reviewing the documents, it is observed that the Concessionaire started submitting Monthly Status Reports as per the above clause. COD was issued on 29-03-2024. There are no adverse findings in these reports.

6.2.2. IE O&M Inspection reports

As per Clause 19.2 of CA the Independent Engineer shall inspect the Project Highway at least once in a month and make a report of such inspection (the “O&M Inspection Report”) stating in reasonable detail, the defects or deficiencies, if any with particular reference to the Maintenance Requirements, Maintenance Manual, Maintenance Programme and Safety Requirements, it shall send the Report to the Authority and Concessionaire within 7 days of such inspection. Upon receipt of such inspection report, the Concessionaire shall rectify or remedy the defects if any, stated in the report.

Upon review of the documents, it is observed that the Monthly Inspection Reports are being submitted regularly by the IE as per the above Clause and upon pursuing same, it is observed that there are no adverse comments from IE.

6.3 Insurance

As per Clause 32.1, Concessionaire shall effect and maintain at its own cost, during the construction period and operation period. The details of insurance policies are given in below.

Table 6-1: Details of Insurance Policies

S.No.	Description of Insurance	Policy No	Name of the Insurance Company
1	Industrial All Risk Policy	D166414188	Go Digit General Insurance Ltd

6.4 Supplementary Agreement dated 18-08-2023

The Appointed Date of the project was declared as 01.03.2021 and scheduled completion date as per the Concession Agreement was 28.02.2023. Encumbrance free land for the project was available 93.06% on the appointed date. The project could not be completed within the stipulated time due to the following reasons which beyond control of the both parties.

- Force Majeure events such as Outbreak of 2nd wave of COVID-19 impact.
- Mission Bhageeratha and RWS Pipe lines and delay in approval of COS work due to delayed handing over of land after AD+146 days

The Concessionaire sought EOT up to 31-05-2023. Parties unanimously agreed to conciliate the issue of EOT and referred to Sole Conciliator for finalizing the terms of Extension of Time by signing of a settlement agreement. Thus, Supplementary Agreement was executed between both the parties with the following terms and conditions.

6.4.1. Terms and Conditions

- Authority shall grant EOT up to 31.05.2023 on account of Force Majeure for completion of 49.02 km on main carriageway and 10.598 km service road (BHS) land for which was handed over up to Appointed Date (AD) + 146 days i.e. up to 25.07.2021. RoW of 3.590 km on main carriageway and 3.17 km service road (BHS) was made available after AD +146 days i.e. up to 28.02.2023.
- Concessionaire agrees to complete 47.16 km on main carriageway in the following stretches and 10.598 km service road by 31.05.2023.
- The concessionaire agreed to complete the following stretches of main carriageway totaling 2.43 Km and service road totaling 3.820 km by 31.10.2023, except for the stretches from Km. 43.540 to Km. 45.450 and Km. 93.500 to Km. 94.602 which were handed over belatedly
- The stretch from Km. 43.540 to Km. 45.450 and Km.93.500 to km 94.602 on main carriageway involves COS works of animal underpass and animal overpass as demanded by the Wild Life Department, for which the Concessionaire requested completion time till 31.12.2023 to which Authority agreed.

6.4.2. Obligations of the Concessionaire & Authority

- The stretch from Km. 43.540 to Km. 45.450 and Km.93.500 to km 94.602 on main carriageway involves COS works of animal underpass and animal overpass as demanded by the Wild Life Department, for which the Concessionaire requested completion time till 31.12.2023 to which Authority agreed.
- If there is any delay for completion of the stretches on main carriageway and service road as stated above, NHA has the right to impose damages as per the Articles 15.2 & 12.3 of the Concession Agreement
- The Concessionaire agreed not to claim any prolongation cost such as idling of plant and machinery, overheads, loss in profit or any other cost. The concessionaire also agreed not to claim bonus for the project.
- Each party hereby confirms that it does not have any residual, pending or any other claims, disputes or differences against each other in respect of the Concession Agreement and all claims, demands, disputes etc.

CHAPTER 7. SITE APPRAISAL

7.1 General

The Consultant team visited the site from 2.01.2025 to 4.01.2025 and collected Road inventory besides examining the condition of pavement, structures and physical progress of site work.

7.2 Highways

7.2.1. Road Inventory

The objective of road inventory is to collect and compare information on all physical and visible features of the road with the GFC drawings, to assess progress of construction and to have visual quality inspection. All the details were recorded by actual measurements made at site, according to IRC-SP-19 format duly modified as per the project requirements. The Road Inventory was recorded under the following sub-heads: -

- Type of Terrain - (Plain/ Rolling/ Hilly)
- Land use - (Built-up/Agri. /Forest/ Industrial/ Barren)
- Name of Village/Town
- Carriageway and Shoulder - Type/ Width/ Condition
- Embankment Height
- Submergence / water logging Area – location if any
- Details of Crossroads - Location/Road Name. /Carriageway Width
- Roadside Drainage (Non Existing, Partially Functional, Functional)

7.2.2. Type of Terrain

The project road passes through Plain terrain all along its length.

7.2.3. Land use

The project road passes through mostly agriculture lands and built-up sections all along its length.

7.2.4. Villages/Towns Along the Project

The villages/towns along the project are Golleti, Nakkalaguda, Rampur, Gondi, Indhani Bari, Neemagaon and Sonapur.

7.2.5. Main Carriageway –Reconnaissance /Work Status

The punch lists A and B are completed and Final Completion Certificate is issued on 29-03-2024



Figure 7.1: The Photographs showing the Main Carriageway of the Project road

- The Punch Lists A & B are completed and financial completion certificate is issued .



Figure 7.2: Photographs showing the Condition Service road

7.2.6. At Grade Junction Details

The development of Junctions along the project road are completed with all provision of sign boards and marking (at most of the locations). The List of junctions/cross roads based on site inventory is given below.

Table 7-1: List of junctions/cross roads

S.No	Chainage	Type of Junction		Side	Remarks
1	47+653	T	Major	LHS	Completed
2	50+621	T	Major	RHS	D-Link
3	55+911	T	Major	RHS	Completed
4	68+570	Y	Major	LHS	Completed
5	69+244	X	Major	LHS & RHS	Completed
6	71+987	T	Major	LHS	Completed
7	77+294	T	Major	LHS	Completed
8	83+425	T	Major	RHS	D-Link
9	42+940	T	Minor	LHS	Completed
10	45+454	T	Minor	RHS	Completed
11	49+454	T	Minor	LHS	Completed
12	50+050	T	Minor	RHS	Completed
13	51+870	Y	Minor	LHS	Completed
14	52+320	T	Minor	LHS	Completed
15	53+350	T	Minor	RHS	Completed
16	56+960	T	Minor	LHS	Completed
17	58+077	X	Minor	LHS & RHS	Completed
18	59+951	X	Minor	LHS & RHS	Completed
19	63+590	T	Minor	LHS	Completed
20	64+105	Y	Minor	RHS	Completed
21	65+067	T	Minor	LHS	Completed
22	68+100	T	Minor	RHS	Completed
23	71+270	T	Minor	RHS	Completed
24	73+515	T	Minor	RHS	Completed
25	73+950	Y	Minor	LHS	Completed
26	75+530	T	Minor	RHS	Completed
27	76+330	Y	Minor	LHS	Completed
28	78+860	T	Minor	RHS	Completed
29	79+710	Y	Minor	RHS	Completed
30	83+905	T	Minor	LHS	D-link
31	84+650	T	Minor	RHS	D-link
32	84+793	T	Minor	LHS	D-link
33	87+560	T	Minor	RHS	Completed
34	88+520	T	Minor	LHS	Completed
35	90+203	T	Minor	RHS	Completed

Few photographs of the Junctions observed at site are shown below:



Figure 7.3: Photographs Showing the Junctions Condition

During the site visit by consultant, it is observed the condition of all major and minor junctions is good.

7.2.7. Roadside Drainage

The total length of the RCC drain is about 26.536 Km including COS (which is about 3.536 Km). The construction of drain has been completed. The drain is in good condition.

7.2.8. GFC Vs Site Comparison

A sample measurement checks were conducted at site based on schedules provided and completed work sections. In general, all elements of works executed are matching with GFC drawings/schedules.

7.3 Pavement Condition

The survey on general pavement conditions was primarily a visual exercise undertaken by means of slow drive-over survey, and supplemented with measurements wherever necessary. Visual assessment was carried out from a vehicle, with speed not exceeding 20 kmph and stopping at suitable intervals and wherever necessary. The overall condition of the pavement (Visually) is found to be Good in condition. The details condition of the pavement is enclosed herewith as Annexure-1.

7.4 Project Facilities

7.4.1. Toll Plaza

Concession Agreement under Schedule C provides construction of one Toll Plaza on the project road at Km.80+175, with 7+1 toll lanes on each direction respectively. Facilities to be provided as per CA at Toll Plaza location are listed below:

- 1 Foot Over Bridge above the toll lanes
- 2 All toll lanes to be equipped with ETC equipment
- 3 One Toilet facility for road users near Toll Plaza
- 4 Weigh in motion (WIM) provided in all lanes
- 5 One Static Weigh bridge on each direction
- 6 Administrative building
- 7 Operation and maintenance centre
- 8 ATMS Control centre

List of equipment to be provided at Toll Plaza and control room and its status is given below.

Table 7-2: List and Status of Equipment at Toll Plaza and Control Room

S.No.	Materials Description	Status
A	FOB on toll lanes	Completed
B	Toll Plaza Building	Completed
C	Land Scalping & Plantation	Completed
D	Lane Items	Completed
E	Booth Items	Completed
H	Server Room Items	Completed
K	ATMS Control Room Items	Completed
J	Ups Room Items	Completed
E	Lighting Arrangement	Completed
H	Sign Boards	Completed
L	Power Back Up Generators	Completed

Details of Toll Plaza are shown at **Annexure-2**.



Figure 7.4: Photographs showing the Toll Plazas in the project road

7.4.2. Road Furniture

7.4.2.1. Traffic Signs:

All the requisite traffic sign boards are installed along the project highways and are in good condition.

Table 7-3: Traffic Signs

S.No	Description	Total
1	Regulatory boards	184
2	Informative boards	145
3	Warning boards	1148
	Total	1477



Figure 7.5: Photographs showing the sign boards along the project road

7.4.2.2. Overhead Signs

As per the provision of CA, minimum 12 Nos. of gantry overhead and cantilever signs (excluding Toll Plaza location) are to be erected in the project. It was observed that all the overhead sign boards were erected at site except one VMS sign board and one Overhead gantry board. The reflective condition of the boards is good.

- 16 Nos. cantilever type.
- 4 Nos. overhead sign
- 6 Nos. VMS



Figure 7.6: Photographs showing the Condition of Overhead sign and Cantilever sign boards

7.4.2.3. Pedestrian facilities

- Pedestrian guard rail at each Bus bay
- Pedestrian guard rail at Truck Lay bye
- Built-up area
- Pedestrian crossing facilities on service road

Pedestrian guard rails has been provided and the rails are in good condition.



Figure 7.7: Photographs showing the Condition of pedestrian guard rails

7.4.3. Pavement marking

Road marking is done along the project stretch and is found adequate and in good condition.



Figure 7.8: Photographs showing the pavement marking Condition

7.4.3.1. LED Blinkers

As per the provision of CA, LED blinker has to be fixed near pedestrian crossings, public gatherings, cross roads and median openings. Accordingly, 36 blinkers were installed along the project stretch and are in working condition.



Figure 7.9: Photographs showing the LED blinkers in the project road

7.4.3.2. Metallic Crash Barrier

The Metallic Crash Barrier provided along the project stretch and is in good condition. Details of MBCB are shown at **Annexure-2**.



Figure 7.10: Photographs showing the Condition of MBCB

7.4.4. Hectometer/Km. stones

As per the provision of CA, Hectometre and Kilometre stones shall be provided for entire project length.

7.4.5. Highway Lighting

Solar Highway Lighting shall be provided at Toll Plaza, Truck lay bye, Bus shelters, MNBs, MJBs, Grade separators, Built-up sections and Junctions. A total of 934 Nos. of poles has been provided throughout the stretch including service roads in which Double arm poles are 803 and Single arm poles are 131. Details of lighting are shown at **Annexure-2**.



Figure 7.11: Photographs Showing the Condition of Street Lighting

7.4.6. Rest Areas

As per Schedule C, Rest area is proposed at one location and later it was De-scoped. The scope regarding the rest area is construction of Approach road and boundary wall.

7.4.7. Truck Lay Bye

As per the Provision of Schedule-C of CA, 2nos Truck Lay Bys shall be provided in the project area. The Truck lay-by condition is good. Details of Truck lay bays are shown at **Annexure-2**.



Figure 7.12: Photographs Showing the Condition of the truck lay bye

7.4.8. Bus Bay and Bus shelters

As per the Provision of Schedule-C of CA, 6 No's of Bus bays and 4 No's of bus shelters for passenger shall be provided in the project area. The condition of Bus bays and shelters is good. Details of bus bays are shown at **Annexure-2**.



Figure 7.13: Photographs showing status of Bus bay with shelters

7.4.9. Traffic Aid Post

Traffic Aid post shall be constructed at Toll Plaza as per schedule C, Traffic aid post building is completed at toll plaza and two patrolling vehicles are arranged to carry out the obligations for entire project road.

7.4.10. Medical Aid Post

Medical Aid post shall be constructed at Toll Plaza as per schedule C. Medical aid post building is completed at Toll Plaza and two ambulance vehicles are arranged to cover entire project length.

7.4.11. Vehicle Rescue Posts

Vehicle rescue post shall be constructed at Toll Plaza as per schedule C, vehicle rescue post building is completed at Toll Plaza and one crane is arranged at Toll Plaza to tow away the breakdown vehicles. Details of incident management system are shown at **Annexure-2**.



Figure 7.14: Photographs of the Traffic & Medical Aid posts along the Ambulances & Crane

7.4.12. Operation and Maintenance (O&M) centre

O&M centre shall be constructed as per schedule C. O&M building is completed at the Toll Plaza.

7.4.13. Communication System

The communication system shall be provided as per schedule C; accordingly, ECB are installed.



Figure 7.15: Photographs showing the SOS along the Project Road

7.4.14. Advance Traffic Management System (ATMS)

ATMS are provided for convenience of users at Project Highway in accordance with IRC: SP:87-2013 and VMS (Variable message sign) boards are also installed accordingly along the project road. ATMS Control Unit is provided at Toll Plaza. Details of ATMS are shown at **Annexure-2**.



Figure 7.16: Photograph showing the VMS boards in the project road

7.4.15. **Noise Barrier**

Noise Barrier for a length of 476 m has to be provided along the project.

7.4.16. **Road Studs**

As per the provision of CA, 28604 road studs shall be provided along the project stretch. Fixing of Road studs is completed and are in good condition.

7.4.17. **Delineators**

As per the provision of CA, Delineators shall be provided for entire project length as per IRC 79-1981. Fixing of delineator is completed and found in order as per requirements. A total of 197 Nos. of Delineators are provided.

7.4.18. **Boundary Wall**

As per the provision of scope, the boundary wall provided for the entire project.



Figure 7.17: Photographs showing the Boundary wall status

7.4.19. **Landscaping & Avenue Plantation**

As per the Provision of Schedule-C of CA, minimum Nos of trees to be planted and median plantation shall be done for entire project length and landscaping is proposed in the median, Toll Plaza area and islands of intersections and grade separators.

Avenue plantation & Landscaping in the median and islands is observed along the project road and the plantation works are completed.



Figure 7.18: Photographs showing the status of Median and avenue Plantation

7.5 Structures

Detailed inventory and condition of structures on the project road were carried out during the site visit as per the guide lines provided in IRC: SP: 52-1999 & IRC: SP: 35-1990. The summary of structures on the project road is given below:

Table 7-4: Summary of Structures

S. No.	Type of Structure	As per schedule B	COS	Total	De Scope	Revised Scope	As per site
1	Major bridges	2	0	2	-	2	2
2	Minor Bridges	23	0	23	-	23	23
3	VUP	4	0	4	-	4	4
4	LVUP	5	0	5	-	5	5
5	PUP	0	3	3	-	3	3
6	Pipe culverts	34	0	34	-	34	34
7	Box Culverts	49	4	53	-	53	53
8	AUP	4	0	4	3	1	1
9	AOP	0	1	1	-	1	1
10	HPC- Reptile Crossing	0	28	28	-	28	28

Structure Inventory & Condition survey details are given in the Table. 7.6.

For detailed inventory and condition survey of all Major bridges, Minor bridges, VUPs, PUPs, LVUPs, AUP & AOP are given in **Annexure-3**.

Table 7-5: Detailed Inventory and Condition of Structures as on date.

S. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	42+942 MNB	2 x 4.00	8	Completed	Good
2	44+250 AUP	6 x 33.3	199.8	In- Progress (COS)	Good
3	47+653 VUP	1 x30.0	30	Completed	Good
4	48+696 MNB	15+30+15	60	Completed	Good
5	50+455 PUP	1 x 7	7	In- Progress	Good
6	50+621 LVUP	1 x 12	12	Completed	Good
7	50+835 PUP	1 x 12	12	In- Progress (COS)	Good
8	51+784 MNB	2 x 4	8	Completed	Good
9	53+515 MNB	1 x 11.8	11.8	Completed	Good
10	54+523 MNB	4 x 3.8	15.2	Completed	Good
11	55+912 VUP	1 x 30	30	Completed	Good
12	57+135 MNB	2 x 19	38	Completed	Good
13	58+396 MNB	2 x 4.8	9.6	Completed	Good
14	59+663 MNB	2 x 6.3	12.6	Completed	Good
15	59+951 LVUP	1 x 12	12	Completed	Good
16	61+664 MNB	4 x 8.0	32	Completed	Good
17	62+832 LVUP	1 x 12	12	Completed	Good
18	63+911 MNB	2 x 6.2	12.4	Completed	Good
19	68+287 MJB	2 x 32 + 2 x 29 + 2 x 35	192	Completed	Good
20	69+244 VUP	1 x 30	30	Completed	Good
21	69+386 MNB	2 x 4	8	Completed	Good
22	69+495 MNB	4 x 3	12	Completed	Good
23	71+001 MNB	3 x 4.2	12.6	Completed	Good
24	71+982 VUP	1 x 30	30	Completed	Good
25	72+978 MNB	1 x 14	14	Completed	Good
26	74+982 MJB	5 x 29.2	146	Completed	Good
27	77+294 LVUP	1 x 12	12	Completed	Good
28	77+757 MNB	3 x 10	30	Completed	Good
29	81+256 MNB	2 x 6.9	13.8	Completed	Good
30	81+683 MNB	1 x 6.7	6.7	Completed	Good
31	82+877 MNB	2 x 8.2	16.4	Completed	Good
32	83+425 LVUP	1 x 12	12	In- Progress	Good
33	83+870 PUP	1x 7	7	In- Progress (COS)	Good
34	84+210 MNB	2 x 30	60	Completed	Good
35	86+167 MNB	2 x8.7	17.4	Completed	Good
36	88+297 MNB	2 x4.5	9	Completed	Good
37	90+499 MNB	1 x9.6	9.6	Completed	Good
38	93+011 MNB	1 x 9.54	9.54	Completed	Good

S. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
39	94+475 AOP	2 x 19 – 150m Length	150	Completed	Good

7.5.1. Status of Construction

Construction of Major bridges , Minor bridges , LVUP , VUP , AUP , AOP and PUP are completed and condition was good.

7.5.2. Culverts

7.5.2.1. Inventory

There are 53 Nos. Box and 64 Nos. Pipe Culverts in the project stretch. Detailed inventory and condition survey of Culverts is given in **Annexure-3**. Summary of inventory of Culverts is provided in table given below.

Table 7-6: Summary of inventory of Culverts

S. No	Chainage	Type	Span Arrangement	Construction Status	Remarks
1	43+282	RCC Box	1 x 2 x 1.5	Completed	
2	43+540	HPC	1 x 0.9	Completed	COS
3	43+640	HPC	1 x 0.9	Completed	COS
4	43+740	HPC	1 x 0.9	Completed	COS
5	43+826	HPC	1 x 1.2	Completed	
6	43+840	HPC	1 x 0.9	Completed	COS
7	43+940	HPC	1 x 0.9	Completed	COS
8	44+040	HPC	1 x 0.9	Completed	COS
9	44+140	HPC	1 x 0.9	Completed	COS
10	44+400	HPC	1 x 0.9	Completed	COS
11	44+500	HPC	1 x 0.9	Completed	COS
12	44+600	HPC	1 x 0.9	Completed	COS
13	44+700	HPC	1 x 0.9	Completed	COS
14	44+800	HPC	1 x 0.9	Completed	COS
15	44+900	HPC	1 x 0.9	Completed	COS
16	45+000	HPC	1 x 0.9	Completed	COS
17	45+100	HPC	1 x 0.9	Completed	COS
18	45+200	HPC	1 x 0.9	Completed	COS
19	45+300	HPC	1 x 0.9	Completed	COS
20	45+400	HPC	1 x 0.9	Completed	

S. No	Chainage	Type	Span Arrangement	Construction Status	Remarks
21	45+617	HPC	1 x 0.9	Completed	
22	46+279	HPC	3 x 1.2	Completed	
23	47+098	RCC Box	1 x 2 x 1.5	Completed	
24	47+626	RCC Box	1 x 4 x 2	Completed	
25	47+996	RCC Box	1 x 2 x 1.5	Completed	
26	49+361	HPC	2 x 1.2	Completed	
27	50+039	HPC	1 x 0.9	Completed	
28	50+322	HPC	2 x 1.2	Completed	
29	51+400	HPC	1 x 1.2	Completed	
30	52+629	HPC	1 x 1.0	Completed	
31	53+830	RCC Box	1 x 2	Completed	
32	54+001	HPC	1 x 0.9	Completed	
33	54+952	RCC Box	1 x 2 x 1.5	Completed	
34	55+044	RCC Box	1 x 2 x 1.5	Completed	
35	55+268	RCC Box	1 x 2 x 1.5	Completed	
36	55+558	RCC Box	1 x 5 x 5	Completed	
37	56+334	HPC	3 x 1.0	Completed	
38	57+644	RCC Box	1 x 2 x 1.5	Completed	
39	58+026	HPC	2 x 1.0	Completed	
40	58+164	HPC	1 x 1.0	Completed	
41	58+877	HPC	1 x 1.0	Completed	
42	59+131	HPC	2 x 1.0	Completed	
43	60+299	HPC	2 x 1.0	Completed	
44	60+849	RCC Box	1 x 5.2 x 1.5	Completed	
45	61+058	HPC	2 x 0.9	Completed	
46	61+151	HPC	1 x 0.9	Completed	
47	61+400	HPC	1 x 1.2	Completed	
48	62+209	RCC Box	1 x 2 x 1.5	Completed	
49	62+258	RCC Box	1 x 2 x 1.5	Completed	
50	62+865	HPC	1 x 1.2	Completed	
51	63+247	RCC Box	1 x 2 x 1.5	Completed	
52	63+454	RCC Box	1 x 2 x 1.5	Completed	
53	65+328	RCC Box	1 x 2 x 1.5	Completed	
54	65+397	HPC	2 x 0.9	Completed	
55	65+985	HPC	3 x 1.0	Completed	

S. No	Chainage	Type	Span Arrangement	Construction Status	Remarks
56	66+185	RCC Box	1 x 2 x 1.5	Completed	
57	66+557	RCC Box	1 x 2 x 2	Completed	
58	66+981	RCC Box	1 x 2 x 1.5	Completed	
59	67+564	RCC Box	1 x 5.5 x 1.5	Completed	
60	67+853	HPC	2 x 1.2	Completed	
61	68+030	HPC	1 x 1.2	Completed	
62	68+622	RCC Box	1 x 2 x 1.5	Completed	
63	68+830	RCC Box	1 x 2 x 1.5	Completed	
64	69+080	RCC Box	1 x 2 x 1.5	Completed	
65	70+235	RCC Box	1 x 3 x 3	Completed	
66	70+463	RCC Box	1 x 3.76 x 2.5	Completed	
67	70+895	RCC Box	1 x 2.5 x 2.5	Completed	COS
68	71+085	RCC Box	1 x 2 x 1.5	Completed	
69	71+425	RCC Box	1 x 5.9 x 4.0	Completed	
70	72+019	HPC	1 x 0.9	Completed	
71	72+442	RCC Box	1 x 2 x 1.5	Completed	
72	73+680	RCC Box	1 x 2 x 1.5	Completed	
73	74+293	RCC Box	1 x 2 x 1.5	Completed	
74	74+459	HPC	1 x 1.2	Completed	
75	75+759	HPC	1 x 1.2	Completed	
76	76+247	HPC	1 x 0.9	Completed	
77	76+730	RCC Box	1 x 2 x 2	Completed	
78	77+183	HPC	1 x 1.2	Completed	
79	78+322	HPC	1 x 1.2	Completed	
80	78+533	RCC Box	1 x 2 x 1.5	Completed	
81	79+408	HPC	2 x 0.9	Completed	
82	80+387	HPC	2 x 1.0	Completed	
83	80+533	HPC	2 x 0.9	Completed	
84	80+705	HPC	2 x 1.0	Completed	
85	80+914	HPC	1 x 1.0	Completed	
86	82+833	RCC Box	1 x 2 x 1.5	Completed	
87	83+458	RCC Box	1 x 2 x 1.5	Completed	
88	83+926	RCC Box	1 x 2 x 1.5	Completed	
89	84+853	RCC Box	1 x 2 x 1.5	Completed	COS
90	85+105	HPC	1 x 1.2	Completed	COS

S. No	Chainage	Type	Span Arrangement	Construction Status	Remarks
91	85+445	RCC Box	1 x 2 x 1.5	Completed	COS
92	86+561	HPC	2 x 1.0	Completed	
93	87+587	RCC Box	1 x 3.5 x 2	Completed	
94	87+731	RCC Box	1 x 2 x 1.5	Completed	
95	88+103	RCC Box	1 x 2 x 1.5	Completed	
96	88+652	RCC Box	1 x 4 x 3	Completed	
97	89+316	RCC Box	1 x 2.5 x 2.5	Completed	
98	89+544	RCC Box	1 x 2 x 2.5	Completed	
99	89+894	RCC Box	1 x 2 x 2.5	Completed	
100	91+660	RCC Box	1 x 2 x 1.5	Completed	
101	92+038	RCC Box	1 x 2 x 1.5	Completed	
102	92+104	RCC Box	1 x 2 x 1.5	Completed	
103	92+744	RCC Box	1 x 2 x 1.5	Completed	COS
104	93+191	RCC Box	1 x 2 x 5	Completed	
105	93+500	HPC	1 x 0.9	Completed	COS
106	93+600	HPC	1 x 0.9	Completed	COS
107	93+700	HPC	1 x 0.9	Completed	COS
108	93+800	HPC	1 x 0.9	Completed	COS
109	93+900	HPC	1 x 0.9	Completed	COS
110	93+910	RCC Box	1 x 2 x 5	Completed	COS
111	94+000	HPC	1 x 0.9	Completed	COS
112	94+100	HPC	1 x 0.9	Completed	COS
113	94+125	RCC Box	1 x 2 x 5	Completed	COS
114	94+200	HPC	1 x 0.9	Completed	COS
115	94+300	HPC	1 x 0.9	Completed	COS
116	94+307	RCC Box	1 x 2 x 2.5	Completed	COS
117	94+600	HPC	1 x 0.9	Completed	COS

7.5.2.2. Status of Construction

Majority of the culverts were constructed and condition of Culverts is good.

Structure wise condition of Culverts are given in detail in **Annexure-3**. In general, all new Culverts constructed are in good condition.

7.5.3. RE walls

7.5.3.1. Inventory

As per schedule provisions of CA, RE Wall is constructed at all locations. In addition to CA. Inventory of RE walls in the project stretch with detailed locations is below.

Table 7-7: Inventory summary of RE walls

S. No	Structure	Length (m)	Construction Status
1	LVUP @ 50+621	1592	Completed
2	LVUP @ 83+425	1732	Completed
3	AUP @ 44+250	1106	Completed
4	LVUP @ 59+951	1712	Completed
5	VUP @ 69+244	1282	Completed
6	VUP @ 71+987	2068	Completed
7	LVUP @ 62+830	1462	Completed
8	LVUP @ 77+294	1322	Completed
9	VUP @ 47+653	868	Completed
10	VUP @ 55+911	1744	Completed

7.5.3.2. Status of Construction

All the requisite RE walls are constructed.

7.5.3.3. Condition

In general, in all locations of RE wall is in good condition.

7.6 Review of Pavement design report

The Concessionaire under the provisions of Article 10 submitted Pavement Design vide various letters given as under. Independent Engineer reviewed the submitted designs for its compliance under project specifications and standards and accorded their approval/consent. Reference correspondence related to submissions and approvals are given in the table below.

Table 7-8: Correspondence related to pavement design submission and approvals

S No.	Document Description	Report Reference
1	Pavement Design Report (Part I) For Main Carriageway	20049/RD/PS/PD/0001
2	Pavement Design Report (Part II) For Service Road	20049/RD/PS/PD/0002
3	Pavement Design Report (Part III) For Toll Plaza	20049/RD/PS/PD/0001

The above pavement designs submitted and approved by the Independent Engineer were reviewed by the Consultant and is discussed in the following paragraphs.

7.6.1. *Pavement for main carriageway***Traffic intensity in terms of commercial vehicles per day**

The entire project road considered as single homogeneous section and Classified traffic count survey data has been considered from feasibility report which was carried out in the year 2021 for seven consecutive days and analysed for Average Daily Traffic (ADT) and Average Annual Daily Traffic (AADT). The summary of the AADT is given below.

Table 7-9: Summary of AADT

Project	Location	LCV	Bus	2 AT	3AT	MAV	Total CVPD	Traffic Survey Period
NH 363 Repallewada to Telangana/Maharashtra Border.	Ch. KM Ext. 314+000	248	221	56	265	1126	1916	2021
	Ch. KM Ext. 329+000	189	64	30	127	995	1405	2021

Traffic growth rate

The annual growth rate as presented in pavement design report is given below

Table 7-10: Adopted traffic growth rates

Vehicle type	2021 -2025	2026-2030	2031-2035	Beyond 2035
BUS	6.15	5.80	5.40	5.00
LCV	5.00	5.00	5.00	5.00
2 Axle Truck	5.00	5.00	5.00	5.00
3 Axle Truck	5.00	5.00	5.00	5.00
Multi Axle Truck	5.00	5.00	5.00	5.00

Vehicle Damage Factor (VDF)

Axle load surveys were conducted by design consultant along the project road and VDF were estimated by analysing the axle load data. Summary of VDF as per pavement design report for each category of vehicles is given below.

Table 7-11: Summary of Vehicle Damage Factor

S.No	Location	Direction	Vehicle Type				
			LCV	2 Axle	3 Axle	MAV	Bus
1	Ext. Km 314+000	Repallewada - Te/Mh Border	1.00	2.00	7.03	13.98	0.63
		Te/Mh Border - Repallewada	1.06	2.10	10.76	14.33	0.65
2	Ext. Km 329+000	Repallewada - Te/Mh Border	1.10	1.96	10.24	13.49	0.65
		Te/Mh Border - Repallewada	1.17	2.05	3.62	10.51	0.64

Design Life

The concessionaire has been adopted design life of 15 years.

The design traffic calculations were reviewed as per corresponding lane distribution factor and design life of 15 years. The summary of MSA values based on above data is given below

Table 7-12: Estimated Design Traffic (Million Standard Axles-MSA)

Location	Direction	Design MSA		
		As per Schedule	As per Traffic Survey	Adopted Design Traffic
Ext. Km 314+000	Repallewada - Te/Mh Border	75	65.87	75
	Te/Mh Border - Repallewada		44.28	
Ext. Km 329+000	Repallewada - Te/Mh Border		53.75	
	Te/Mh Border - Repallewada		53.63	

As per traffic Survey, maximum design traffic for 15 years is coming out 65.87 MSA. However as per clause :5 of schedule B, "Notwithstanding anything to the contrary contained in this agreement or the IRC SP 84 2019, the concessionaire shall design the pavement of main carriageway as flexible for design traffic of 75 MSA".

Sub grade CBR

The concessionaire has been adopted 11% CBR for Sub grade.

The pavement was designed by the design consultant based on homogeneous sections (HS) traffic and sub grade CBR as per pavement design report. The design traffic homogeneous sections wise summarized in the table below.

Table 7-13: Designed pavement crust summary as per pavement design report

Section	Design Traffic	Effective CBR %	BC	DBM	WMM	GSB
Entire Project main carriageway	75 MSA	11%	40mm	105mm	250mm	200mm

As per IRC:37-2018 the pavement crust proposed is satisfying the design traffic with 11% CBR. Hence flexible pavement design for MCW is in order based on traffic and as per schedule B requirement.

7.6.2. Rigid Pavement for Toll Plaza and Main carriageway

The rigid pavement shall be designed as per IRC 58-2015 with 11% CBR, as per pavement design report, the design calculations are found in order, however the adopted rigid pavement crust for Toll Plaza and Main carriage way is given below

Table 7-14: Pavement Composition for Toll Plaza

Description	Rigid pavement
Designed CBR	11 %
Pavement Quality Concrete (PQC) - mm	275
A de-bonding interlayer of polythene sheet having minimum thickness of 125 micron is provided between DLC and PQC, as per Cl:5.7.5 of IRC:58-2015.	
Dry Lean Concrete (DLC) - mm	150
Drainage Layer (GSB) - (mm)	150
Diameter of Dowel Bar (mm)	36
Length of Dowel Bar (mm)	500
Spacing of Dowel Bars (mm)	300
Diameter of Tie Bar (mm)	12 (Deformed)
Length of Tie Bar (mm)	640
Spacing of Tie Bars (mm)	650

7.6.3. **Pavement for Service road**

The project highway is having Service Roads at various locations of the project stretch. Service roads were designed for repetition of 10 million standard axles. The adopted pavement crust for Service road / Slip road along the Project corridor is as given below:

Table 7-15: pavement Composition for service road

Section	Design Traffic	Design CBR	BC	DBM	Base (WMM)	Sub Base (GSB)
Entire Section	10 MSA	10%	40 mm	50 mm	250 mm	200 mm

As per IRC:37-2018 the pavement crust proposed is satisfying the design traffic with 10% CBR. Hence flexible pavement design for service road is in order.

7.6.4. **Site Investigations**

Table 7-16: Pavement Design Thickness Vs Executed Crust Thickness

S. No	Test Location	Side	As per Design Report				As per site test pits	
			BC (mm)	DBM (mm)	WMM (mm)	GSB (mm)	BC+DBM	WMM+GSB
1	42+400	RHS	40	105	250	200	150	442
2	51+580	LHS	40	105	250	200	147	450
3	52+700	RHS	40	105	250	200	148	453
4	61+100	LHS	40	105	250	200	145	450
5	63+600	RHS	40	105	250	200	148	453
6	66+250	LHS	40	105	250	200	146	451
7	78+400	RHS	40	105	250	200	148	450
8	81+500	LHS	40	105	250	200	148	451
9	92+100	RHS	40	105	250	200	147	453
10	93+450	LHS	40	105	250	200	147	451

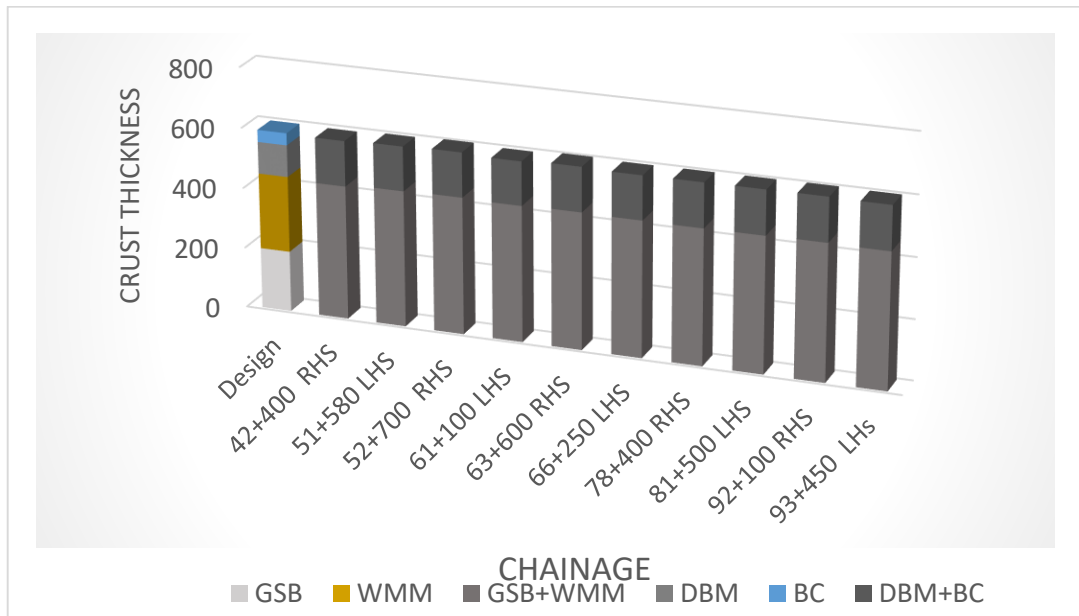


Figure 7.19: Bar Chart showing Design thickness vs Executed thickness

During site visit, core cutting test/ Trial pit test was conducted at some of the locations along the project stretch to compare the executed crust thickness with the design crust thickness and found that the crust thicknesses are in compliance with the design thickness. The representative photographs and test locations were given below.



Figure 7.20: Representative Laboratory photos

CHAPTER 8. REVIEW OF O&M AGREEMENT

The Operation and Maintenance agreement was signed between M/s M/s Repallewada Highways Private Limited (RHPL) and Dilip Buildcon Limited .

We have reviewed the provisions under various clauses of this O&M Agreement and our specific comments are indicated below:

Sr No	Clause No	Description in brief
1	Senior Lenders	Means financial institutions, banks, funds or trusts who provide or refinance the debt component of the cost of the Project
2	Contract Period	Contract period for this agreement shall be equivalent to a period commencing from the date of the COD achieved by the Concessionaire in accordance with the Concession Agreement and expiring on the earlier of a) completion of the Operations Period; b) early termination of the Concession Agreement or c) Stake sale of the Concessionaire
3	Scope of Work	O&M Contractor's scope under this Agreement shall be completely and fully in line with the scope of works defined in relevant schedules of the Concession Agreement including and not limited to any remedial/rectification works Scope of work shall confirm to the provisions, specifications and standards design and drawings and other parameters stipulated in the Concession Agreement
4	Contract Price	In consideration of its obligations under this Agreement, during the Contract Period, the O&M Contractor shall be paid an aggregate lump sum fixed contract price for each financial year. It is clarified that the O&M Contractor shall not be entitled to any adjustment of the Contract Price as a result or in consequence of: i. Any escalation of price and / or inflation; and/ or ii. Any quantities of non – consumables, consumables, spares or equipment required for the execution of the Works
5	Payment Terms	O&M Contractor would raise bill half-yearly within 7 days of Annuity Payment Dates. Any shortfall in Annuity payments and/or O&M payments by authority would result in similar reduction in payment under the RA Bill, provided that it is demonstrated that such shortfall in release of the Annuity Payment and O&M Payment by the Authority to the Concessionaire has been solely due to default of the O&M Contractor under this agreement. Any defects found in O&M by Authority/ IE would be rectified by the O&M Contractor at its sole expense without recourse to the Concessionaire.
6	Assignment	Assignment by the Concessionaire: The Concessionaire may, subject to the provisions of the Concession Agreement, assign or transfer or enter into an agreement to assign or transfer this Agreement or the rights and benefits hereunder, in favour of or for the benefit of the Senior Lenders.
7	Termination	Concessionaire has rights to terminate the O&M agreement on account of O&M event of default and vice-versa

CHAPTER 9. SCHEDULE OF ANNUITY PAYMENTS

9.1 Hybrid Annuity Model (HAM)

Hybrid annuity model is the PPP model in which Authority makes payment of 40% of the Bid Project cost during construction period based on progress milestones set forth in Concession Agreement. Payment of the balance 60% of the Bid Project Cost is made in form of bi-annual annuities with interest during the operational phase of concession.

Table 9-1: Schedule of Payment Milestones

S. No	Payment Milestone Number	Criteria for releasing the Payment
1	I	On Achievement of 5% of Physical Progress
2	II	On Achievement of 10% of Physical Progress
3	III	On Achievement of 20% of Physical Progress
4	IV	On Achievement of 30% of Physical Progress
5	V	On Achievement of 40% of Physical Progress
6	VI	On Achievement of 50% of Physical Progress
7	VII	On Achievement of 60% of Physical Progress
8	VIII	On Achievement of 70% of Physical Progress
9	IX	On Achievement of 80% of Physical Progress
10	X	On Achievement of 90% of Physical Progress

During the Operation Period following payment components are payable.

Annuity Payment as per the Annuity Payment Schedule provided in 23.6.3 of the Concession Agreement. Interest to be paid on the balance of completion cost at an interest rate equal to the applicable Bank Rate Plus 3%. O&M Payment as a lump sum amount as per Clause 23.7.1 of the Concession Agreement.

9.2 Schedule of Annuity Payments

Table 9-2: Details of Annuity payments are as below

S No	Annuity	Percentage of BCC	Annuity Due Date
1	1	2.10 %	17-04-2024
2	2	2.17%	17-10-2024
3	3	2.24 %	17-04-2025
4	4	2.31%	17-10-2025
5	5	2.38 %	17-04-2026
6	6	2.45 %	17-10-2026
7	7	2.52 %	17-04-2027
8	8	2.60 %	17-04-2027
9	9	2.68 %	17-10-2028
10	10	2.76 %	17-04-2028
11	11	2.84 %	17-04-2029
12	12	2.93 %	17-10-2029
13	13	3.02 %	17-04-2030
14	14	3.11%	17-10-2030

S No	Annuity	Percentage of BCC	Annuity Due Date
15	15	3.20 %	17-04-2031
16	16	3.30 %	17-10-2031
17	17	3.40 %	17-04-2032
18	18	3.50 %	17-10-2032
19	19	3.61 %	17-04-2033
20	20	3.72 %	17-10-2033
21	21	3.83 %	17-04-2034
22	22	3.94 %	17-10-2034
23	23	4.06 %	17-04-2035
24	24	4.18 %	17-10-2035
25	25	4.25 %	17-04-2036
26	26	4.25 %	17-10-2036
27	27	4.44 %	17-04-2037
28	28	4.71 %	17-10-2037
29	29	4.75 %	17-04-2038
30	30	4.75 %	17-10-2038

CHAPTER 10. COST ESTIMATES

10.1 Maintenance of Project Cost

The maintenance methodology and yearly maintenance program will guide the Maintenance team to undertake the routine & periodic maintenance works of the Project Facilities. This program is the basic indicator of the intended works to be carried out by the Maintenance Team over a period of one year

- Road maintenance can be carried out in four ways as listed below.
 - i. Preventive Maintenance
 - ii. Routine Maintenance
 - iii. Periodic Maintenance
 - iv. Special repairs

- Preventive Maintenance:

Preventive maintenance is an organized, systematic process of applying a series of preventive treatments over the life of the pavement to minimize life cycle costs.

The strategy of applying periodic treatments at appropriate times in a pavement's life is economical than applying treatment at the end of pavement's life. Preventive maintenance is designed to retard pavement deterioration. Regular preventive maintenance will be carried out to ensure adherence to the Design Requirements and specifications throughout the Concession period.

The flexible pavement is in good condition and hence does not require any immediate or preventive interventions.

- Routine Maintenance:
Routine maintenance, which involves repairing of cracks, replacement of safety girders along the highway, clearance of debris following accidents, ensuring functionality of signposts, maintenance of a security set-up, and such other activities
- Periodic Maintenance

In contrast to preventive maintenance treatments, periodic maintenance treatments are ideally applied on pavements to improve surface integrity and waterproofing, or to improve skid resistance, without increasing the strength of the pavement significantly

Schedule of Periodic Maintenance	
Description	Scheduled Year
1 st Periodic Maintenance	FY 2031
2 nd Periodic Maintenance	FY 2038

- Special Repairs

The group of activities performed to restore the roadway following damage due to natural calamities such as heavy floods, sand storms, hurricanes, cyclones, earthquakes or landslides which shall be unpredictable. The affected Project Road shall be rectified, and the system shall be restored to function as per program prepared in consultation with Independent Engineer.

Typical activities include:

- Culvert and bridge repairs;
- Retaining wall repairs and construction;
- Construction of Diversions;
- Roadway repairs; and
- Flood damage restoration works, etc.

10.2 O&M Expense forecasts

The O&M costs were estimated based on various parameters of CA, and design reports. The cost summary is given below, and detailed cost estimations are given in ANNEXURE -4.

Proposed Plan for Future Operation & Maintenance Costs (in Crores)

Table 10-1: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2023-2024	-	1.07	2.89	3.96
2024-2025	-	2.67	4.07	6.75
2025-2026	1.11	3.07	4.32	8.50
2026-2027	1.78	3.63	4.57	9.99
2027-2028	0.47	3.75	4.78	9.01
2028-2029	0.57	3.83	5.00	9.39
2029-2030	27.60	5.29	5.22	38.11
2030-2031	39.83	5.90	6.29	52.01
2031-2032	0.98	4.03	6.00	11.01
2032-2033	0.63	4.26	5.89	10.78

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2033-2034	1.72	4.38	6.07	12.18
2034-2035	2.17	4.48	6.26	12.91
2035-2036	0.58	4.53	6.45	11.56
2036-2037	32.24	4.66	6.66	43.55
2037-2038	46.37	4.65	6.86	57.88
2038-2039	1.07	2.63	1.77	5.47
Total Expenditure in Cr. Rs	157.12	62.84	83.10	303.06

CHAPTER 11. CONCLUSION

Based on detailed site inspection, review of various documents and reports as described in the preceding chapters technical overview of the Project is provided below.

11.1 Pavement Condition

The Pavement condition for the overall project is good. RCC drains are constructed in Built up locations and earthen drains in rural locations which facilitates effective drainage system along the project road. Shoulder condition is good.

11.2 Condition of Structures

Condition of Bridges is good. No structural defects were noticed. The general condition of Culverts is good.

11.3 Toll Plaza

Toll Plaza is operational with ETC Toll collection system and connected by network system monitored in administrative building. Bus bays and truck Lay byes are in good condition. Medical Aid posts found functional. Avenue plantation and landscaping at Toll Plaza is provided and being maintained well. Highway lighting is provided at toll plaza, bus bay and truck lay bye locations and the same is found functional.

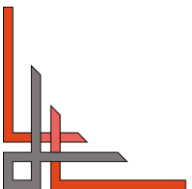
11.4 Road Safety

Pavement marking is in good condition and number of sign boards are provided as per IRC SP 84-2019. The condition of sign boards & other road appurtenances like metal beam crash barriers is good

RUKY



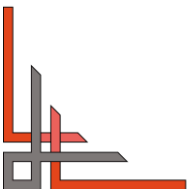
ANNEXURES





Annexure-1

Inventory & Condition of Pavement Condition



**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : LHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/ BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
42+000	42+200	P	AG	BT	9	G	-	2	G			1					
42+200	42+400	P	AG/BU	BT	9	G	-	2	G			1					
42+400	42+600	P	AG/BU	BT	9	G	-	2	G			1					
42+600	42+800	P	AG	BT	9	G	-	2	G			1					
42+800	43+000	P	AG	BT	9	G	-	2	G			1	42+940	BT	Single Lane		
43+000	43+200	P	AG	BT	9	G	-	2	G			1					
43+200	43+400	P	AG	BT	9	G	-	2	G			1					
43+400	43+600	P	AG	CC	9	G	-	2	G			1					
43+600	43+800	P	AG	CC	9	G		2	G			1					
43+800	44+000	P	AG	CC	9	G		2	G			1					
44+000	44+200	P	AG	CC	9	G		2	G			1					
44+200	44+400	P	AG	CC	9	G		2	G			1					
44+400	44+600	P	AG	CC	9	G	-	2	G			1					
44+600	44+800	P	AG	CC	9	G	-	2	G			1					
44+800	45+000	P	AG	CC	9	G	-	2	G			1					
45+000	45+200	P	AG	CC	9	G	-	2	G			1					
45+200	45+400	P	AG	CC	9	G	-	2	G			1					
45+400	45+600	P	AG	BT	9	G	-	2	G			1.5					
45+600	45+800	P	AG	BT	9	G	-	2	G			1.5					
45+800	46+000	P	AG	BT	9	G	-	2	G			1.5					
46+000	46+200	P	AG	BT	9	G	-	2	G			1.5					
46+200	46+400	P	AG	BT	9	G	-	2	G			1.5					
46+400	46+600	P	AG	BT	9	G		2	G			1.5					
46+600	46+800	P	AG	BT	9	G	-	2	G								
46+800	47+000	P	AG	BT	9	G	-	2	G								
47+000	47+200	P	AG	BT	13	G	-	-	-							VUP	
47+200	47+400	P	AG	BT	13	G	-	-	-			2				VUP	
47+400	47+600	P	AG	BT	13	G	-	-	-			4				VUP	
47+600	47+800	P	AG	BT	13	G	-	-	-			6	47+653	BT	Two Lane	VUP	
47+800	48+000	P	AG	BT	13	G	-	-	-			4				VUP	
48+000	48+200	P	AG	BT	9	G	-	2	G			4					
48+200	48+400	P	AG	BT	9	G	-	2	G			3					
48+400	48+600	P	AG	BT	9	G	-	2	G								
48+600	48+800	P	AG	BT	9	G	-	2	G			3					

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : LHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/ BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
48+800	49+000	P	AG	BT	9	G	-	2	G								
49+000	49+200	P	AG	BT	9	G	-	2	G								
49+200	49+400	P	AG	BT	9	G	-	2	G								
49+400	49+600	P	AG	BT	9	G	-	2	G				49+454	BT	Single Lane		
49+600	49+800	P	BU	BT	9	G	-	2	G								
49+800	50+000	P	BU	BT	9	G	-	2	G								
50+000	50+200	P	BU	BT	9	G		2	G								
50+200	50+400	P	BU	BT	9	G		2	G								
50+400	50+600	P	BU	BT	9	G		2	G								
50+600	50+800	P	BU	BT	9	G		2	G								
50+800	51+000	P	BU	BT	9	G		2	G								
51+000	51+200	P	BU	BT	9	G		2	G								
51+200	51+400	P	BU	BT	9	G	-	2	G								
51+400	51+600	P	AG	BT	9	G	-	2	G								
51+600	51+800	P	AG	BT	9	G		2	G								
51+800	52+000	P	AG	BT	9	G	-	2	G				51+870	BT	Single Lane		
52+000	52+200	P	AG	BT	9	G	-	2	G								
52+200	52+400	P	AG	BT	9	G	-	2	G			1.5	52+320	BT	Single Lane		
52+400	52+600	P	AG	BT	9	G	-	2	G			1					
52+600	52+800	P	AG	BT	9	G	-	2	G			1					
52+800	53+000	P	AG	BT	9	G	-	2	G			1					
53+000	53+200	P	AG	BT	9	G	-	2	G								
53+200	53+400	P	AG	BT	9	G	-	2	G			1.5					
53+400	53+600	P	AG	BT	9	G	-	2	G			1.5					
53+600	53+800	P	AG	BT	9	G	-	2	G			1					
53+800	54+000	P	AG	BT	9	G	-	2	G								
54+000	54+200	P	AG	BT	9	G	-	2	G			1					
54+200	54+400	P	AG	BT	9	G	-	2	G			1					
54+400	54+600	P	AG	BT	9	G	-	2	G			1					
54+600	54+800	P	AG	BT	9	G	-	2	G			1					
54+800	55+000	P	AG	BT	9	G	-	2	G								
55+000	55+200	P	AG	BT	9	G	-	2	G								
55+200	55+400	P	AG	BT	13	G	-	-	-							VUP	
55+400	55+600	P	AG	BT	13	G	-	-	-			2				VUP	

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : LHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
55+600	55+800	P	AG	BT	13	G	-	-	-			4				VUP	
55+800	56+000	P	AG	BT	13	G	-	-	-			6				VUP	
56+000	56+200	P	AG	BT	13	G		-	-			4				VUP	
56+200	56+400	P	AG	BT	13	G	-	-	-			2				VUP	
56+400	56+600	P	AG	BT	9	G	-	2	G			1					
56+600	56+800	P	AG	BT	9	G	-	2	G			1					
56+800	57+000	P	AG	BT	9	G	-	2	G				56+960	BT	Single Lane		
57+000	57+200	P	AG	BT	9	G	-	2	G								
57+200	57+400	P	AG	BT	9	G	-	2	G			1					
57+400	57+600	P	AG	BT	9	G	-	2	G			1					
57+600	57+800	P	AG	BT	9	G	-	2	G								
57+800	58+000	P	AG	BT	9	G	-	2	G								
58+000	58+200	P	AG	BT	9	G	-	2	G				58+077	BT	Single Lane		
58+200	58+400	P	AG	BT	9	G	-	2	G								
58+400	58+600	P	AG	BT	9	G	-	2	G			1					
58+600	58+800	P	AG	BT	9	G	-	2	G			1					
58+800	59+000	P	AG	BT	9	G	-	2	G								
59+000	59+200	P	AG	BT	9	G		2	G								
59+200	59+400	P	AG	BT	9	G	-	2	G								
59+400	59+600	P	AG	BT	9	G	-	2	G								
59+600	59+800	P	BU	BT	9	G	-	-	-			3				LVUP	
59+800	60+000	P	BU	BT	9	G	-	-	-			4	59+951	BT	Single Lane	LVUP	
60+000	60+200	P	AG	BT	9	G	-	-	-			6					
60+200	60+400	P	AG	BT	9	G	-	-	-			4					
60+400	60+600	P	AG	BT	9	G	-	-	-			3					
60+600	60+800	P	AG	BT	9	G	-	-	-			1.5					
60+800	61+000	P	AG	BT	9	G	-	2	G			1.5					
61+000	61+200	P	AG	BT	9	G	-	2	G			1					
61+200	61+400	P	AG	BT	9	G	-	2	G			1					
61+400	61+600	P	AG	BT	9	G	-	2	G								
61+600	61+800	P	AG	BT	9	G	-	2	G								
61+800	62+000	P	AG	BT	9	G	-	2	G								
62+000	62+200	P	AG	BT	9	G	-	2	G								
62+200	62+400	P	AG	BT	9	G	-	-	-								

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinith				Side : LHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/ BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
62+400	62+600	P	AG	BT	9	G	-	-	-			2				LVUP	
62+600	62+800	P	BU	BT	9	G	-	-	-			3					
62+800	63+000	P	BU	BT	9	G	-	2	G			5					
63+000	63+200	P	BU	BT	9	G	-	2	G			4					
63+200	63+400	P	AG	BT	9	G	-	2	G			2					
63+400	63+600	P	AG	BT	9	G	-	2	G			1	63+590	BT	Single Lane		
63+600	63+800	P	AG	BT	9	G	-	2	G			1					
63+800	64+000	P	AG	BT	9	G	-	2	G			1					
64+000	64+200	P	AG	BT	9	G	-	2	G			1					
64+200	64+400	P	AG	BT	9	G	-	2	G			1					
64+400	64+600	P	AG	BT	9	G	-	2	G			1					
64+600	64+800	P	AG	BT	9	G	-	2	G			1					
64+800	65+000	P	AG	BT	9	G	-	2	G			1					
65+000	65+200	P	AG	BT	9	G	-	2	G			1	65+067	BT	Single Lane		
65+200	65+400	P	AG	BT	9	G	-	2	G			1.5					
65+400	65+600	P	AG	BT	9	G	-	2	G			1.5					
65+600	65+800	P	AG	BT	9	G	-	2	G			1.5					
65+800	66+000	P	AG	BT	9	G	-	2	G			1					
66+000	66+200	P	AG	BT	9	G	-	2	G			1					
66+200	66+400	P	AG	BT	9	G	-	2	G			1					
66+400	66+600	P	AG	BT	9	G	-	2	G			1.5					
66+600	66+800	P	AG	BT	9	G	-	2	G			1.5					
66+800	67+000	P	AG	BT	9	G	-	2	G			1					
67+000	67+200	P	AG	BT	9	G	-	2	G			1					
67+200	67+400	P	AG	BT	9	G	-	2	G								
67+400	67+600	P	AG	BT	9	G	-	2	G								
67+600	67+800	P	AG	BT	9	G	-	2	G								
67+800	68+000	P	AG	BT	9	G	-	2	G								
68+000	68+200	P	AG	BT	9	G	-	2	G								
68+200	68+400	P	AG	BT	9	G	-	2	G								
68+400	68+600	P	AG	BT	9	G	-	-	-				68+570	BT	Two Lane		
68+600	68+800	P	AG/BU	BT	9	G	-	-	-							VUP	
68+800	69+000	P	AG/BU	BT	13	G	-	-	-			2				VUP	
69+000	69+200	P	AG	BT	13	G	-	-	-			4				VUP	

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : LHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
69+200	69+400	P	AG	BT	13	G	-	-	-			6	69+244	BT	Two Lane	VUP	
69+400	69+600	P	AG	BT	13	G		-	-			4				VUP	
69+600	69+800	P	AG/BU	BT	13	G	-	-	-			2				VUP	
69+800	70+000	P	AG/BU	BT	13	G	-	-	-							VUP	
70+000	70+200	P	AG/BU	BT	9	G	-	-	-								
70+200	70+400	P	AG/BU	BT	9	G	-	-	-								
70+400	70+600	P	AG/BU	BT	9	G	-	-	-								
70+600	70+800	P	AG/BU	BT	9	G	-	-	-								
70+800	71+000	P	AG/BU	BT	13	G	-	-	-							VUP	
71+000	71+200	P	AG/BU	BT	13	G	-	-	-							VUP	
71+200	71+400	P	AG/BU	BT	13	G	-	-	-			2	71+270	BT	Single Lane	VUP	
71+400	71+600	P	AG	BT	13	G	-	-	-			4				VUP	
71+600	71+800	P	AG	BT	13	G	-	-	-			6				VUP	
71+800	72+000	P	AG	BT	13	G	-	-	-			4	71+987	BT	Two Lane	VUP	
72+000	72+200	P	AG	BT	13	G	-	-	-			2				VUP	
72+200	72+400	P	AG	BT	13	G	-	-	-			1				VUP	
72+400	72+600	P	AG	BT	13	G	-	-	-			1				VUP	
72+600	72+800	P	AG	BT	9	G	-	2	G			1					
72+800	73+000	P	AG	BT	9	G	-	2	G								
73+000	73+200	P	AG	BT	9	G	-	2	G								
73+200	73+400	P	AG	BT	9	G	-	2	G			1					
73+400	73+600	P	AG	BT	9	G	-	2	G			1					
73+600	73+800	P	AG	BT	9	G	-	2	G			1					
73+800	74+000	P	AG	BT	9	G	-	2	G			1.5	73+950	BT	Single Lane		
74+000	74+200	P	AG	BT	9	G	-	2	G			1.5					
74+200	74+400	P	AG	BT	9	G	-	2	G								
74+400	74+600	P	AG	BT	9	G	-	2	G								
74+600	74+800	P	AG	BT	9	G	-	2	G								
74+800	75+000	P	AG	BT	9	G	-	2	G								
75+000	75+200	P	AG	BT	9	G	-	2	G								
75+200	75+400	P	AG	BT	9	G	-	2	G			1					
75+400	75+600	P	AG	BT	9	G	-	2	G			1					
75+600	75+800	P	AG	BT	9	G	-	2	G			1					
75+800	76+000	P	AG	BT	9	G	-	2	G								

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : LHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/ BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
76+000	76+200	P	AG	BT	9	G	-	2	G			1					
76+200	76+400	P	AG	BT	9	G	-	2	G				76+330	BT	Single Lane		
76+400	76+600	P	AG	BT	9	G	-	2	G			1					
76+600	76+800	P	BU	BT	9	G	-	-	-			2					
76+800	77+000	P	BU	BT	9	G	-	-	-			4					
77+000	77+200	P	BU	BT	9	G	-	-	-			4					
77+200	77+400	P	BU	BT	9	G	-	-	-			5	77+294	CC	Single Lane		
77+400	77+600	P	AG	BT	9	G	-	-	-			3				LVUP	
77+600	77+800	P	AG	BT	9	G	-	2	G								
77+800	78+000	P	AG	BT	9	G	-	2	G								
78+000	78+200	P	AG	BT	9	G	-	2	G			1					
78+200	78+400	P	AG	BT	9	G	-	2	G			1					
78+400	78+600	P	AG	BT	9	G	-	2	G			1					
78+600	78+800	P	AG	BT	9	G	-	2	G			1					
78+800	79+000	P	AG	BT	9	G	-	2	G			1					
79+000	79+200	P	AG	BT	9	G	-	2	G			1					
79+200	79+400	P	AG	BT	9	G	-	2	G								
79+400	79+600	P	AG	BT	9	G	-	2	G								
79+600	79+800	P	AG	BT	9	G	-	2	G								
79+800	80+000	P	AG	BT	9	G	-	2	G								
80+000	80+200	P	AG	CC	9	G	-	2	G							TOLL PLAZA	
80+200	80+400	P	AG	CC	9	G	-	2	G							TOLL PLAZA	
80+400	80+600	P	AG	BT	9	G	-	2	G			1					
80+600	80+800	P	AG	BT	9	G	-	2	G			1					
80+800	81+000	P	AG	BT	9	G	-	2	G			1					
81+000	81+200	P	AG	BT	9	G	-	2	G			1					
81+200	81+400	P	AG	BT	9	G		2	G			1					
81+400	81+600	P	AG	BT	9	G	-	2	G			1					
81+600	81+800	P	AG	BT	9	G	-	2	G			1					
81+800	82+000	P	AG	BT	9	G	-	2	G			1					
82+000	82+200	P	AG	BT	9	G	-	2	G			1					
82+200	82+400	P	AG	BT	9	G	-	2	G			1					
82+400	82+600	P	AG	BT	9	G	-	2	G								
82+600	82+800	P	AG	BT	9	G	-	2	G								

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : LHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
82+800	83+000	P	AG	BT	9	G	-	2	G								
83+000	83+200	P	AG	BT	9	G		2	G								
83+200	83+400	P	AG	BT	9	G		2	G								
83+400	83+600	P	AG	BT	9	G		2	G								
83+600	83+800	P	AG	BT	9	G		2	G								
83+800	84+000	P	AG	BT	9	G		2	G				84+793	BT	Single Lane		
84+000	84+200	P	AG	BT	9	G	-	2	G								
84+200	84+400	P	AG	BT	9	G	-	2	G								
84+400	84+600	P	AG/BU	BT	9	G	-	2	G								
84+600	84+800	P	AG/BU	BT	9	G	-	-	-				84+793	BT	Single Lane	D Link	
84+800	85+000	P	AG/BU	BT	9	G	-	-	-								
85+000	85+200	P	AG/BU	BT	9	G	-	-	-								
85+200	85+400	P	AG/BU	BT	9	G	-	-	-								
85+400	85+600	P	AG	BT	9	G	-	2	G								
85+600	85+800	P	AG	BT	9	G	-	2	G			1					
85+800	86+000	P	AG	BT	9	G	-	2	G			1					
86+000	86+200	P	AG	BT	9	G	-	2	G			1					
86+200	86+400	P	AG	BT	9	G		2	G			1					
86+400	86+600	P	AG	BT	9	G	-	2	G			1					
86+600	86+800	P	AG	BT	9	G	-	2	G			1					
86+800	87+000	P	AG	BT	9	G	-	2	G								
87+000	87+200	P	AG	BT	9	G	-	2	G								
87+200	87+400	P	AG	BT	9	G	-	2	G								
87+400	87+600	P	AG/BU	BT	9	G	-	-	-								
87+600	87+800	P	AG/BU	BT	9	G	-	-	-								
87+800	88+000	P	AG/BU	BT	9	G	-	-	-								
88+000	88+200	P	AG	BT	9	G	-	2	G								
88+200	88+400	P	AG	BT	9	G		2	G								
88+400	88+600	P	AG	BT	9	G	-	2	G				88+520	BT	Single Lane		
88+600	88+800	P	AG	BT	9	G	-	2	G			1					
88+800	89+000	P	AG	BT	9	G	-	2	G			1					
89+000	89+200	P	AG	BT	9	G	-	2	G			1.5					
89+200	89+400	P	AG	BT	9	G	-	2	G								
89+400	89+600	P	AG	BT	9	G	-	2	G								

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : LHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/ BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
89+600	89+800	P	AG	BT	9	G	-	2	G								
89+800	90+000	P	AG	BT	9	G	-	2	G								
90+000	90+200	P	AG	BT	9	G	-	2	G								
90+200	90+400	P	AG	BT	9	G	-	2	G								
90+400	90+600	P	AG	BT	9	G	-	2	G								
90+600	90+800	P	AG	BT	9	G	-	2	G								
90+800	91+000	P	AG	BT	9	G	-	2	G								
91+000	91+200	P	AG	BT	9	G	-	2	G								
91+200	91+400	P	AG	BT	9	G	-	2	G								
91+400	91+600	P	AG	BT	9	G	-	2	G			1					
91+600	91+800	P	AG	BT	9	G	-	2	G			1					
91+800	92+000	P	AG	BT	9	G	-	2	G			1					
92+000	92+200	P	AG	BT	9	G	Patch work	2	G								
92+200	92+400	P	BU	BT	9	G	-	2	G								
92+400	92+600	P	BU	BT	9	G	-	2	G								
92+600	92+800	P	BU	BT	9	G	-	2	G								
92+800	93+000	P	AG	BT	9	G	-	2	G								
93+000	93+200	P	AG	BT	9	G	-	2	G								
93+200	93+400	P	AG	BT	9	G	-	2	G								
93+400	93+600	P	AG	CC	9	G	-	2	G								
93+600	93+800	P	AG	CC	9	G		2	G								
93+800	94+000	P	AG	CC	9	G		2	G								
94+000	94+200	P	AG	CC	9	G		2	G								
94+200	94+400	P	AG	CC	9	G		2	G								
94+400	94+600	P	AG	CC	9	G		2	G								

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : RHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/ BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
42+000	42+200	P	AG	BT	9	G	-	2	G			1					
42+200	42+400	P	AG/BU	BT	9	G	-	2	G			1					
42+400	42+600	P	AG/BU	BT	9	G	-	2	G			1					
42+600	42+800	P	AG	BT	9	G	-	2	G			1					
42+800	43+000	P	AG	BT	9	G	-	2	G			1					
43+000	43+200	P	AG	BT	9	G	-	2	G			1					
43+200	43+400	P	AG	BT	9	G	-	2	G			1					
43+400	43+600	P	AG	CC	9	G	-	2	G			1					
43+600	43+800	P	AG	CC	9	G		2	G			1					
43+800	44+000	P	AG	CC	9	G		2	G			1					
44+000	44+200	P	AG	CC	9	G		2	G			1					
44+200	44+400	P	AG	CC	9	G		2	G			1					
44+400	44+600	P	AG	CC	9	G	-	2	G			1					
44+600	44+800	P	AG	CC	9	G	-	2	G			1					
44+800	45+000	P	AG	CC	9	G	-	2	G			1					
45+000	45+200	P	AG	CC	9	G	-	2	G			1					
45+200	45+400	P	AG	CC	9	G	-	2	G			1					
45+400	45+600	P	AG	BT	9	G	-	2	G			1.5	45+454	BT	Single Lane		
45+600	45+800	P	AG	BT	9	G	-	2	G			1.5					
45+800	46+000	P	AG	BT	9	G	-	2	G			1.5					
46+000	46+200	P	AG	BT	9	G	-	2	G			1.5					
46+200	46+400	P	AG	BT	9	G	-	2	G			1.5					
46+400	46+600	P	AG	BT	9	G		2	G			1.5					
46+600	46+800	P	AG	BT	9	G	-	2	G								
46+800	47+000	P	AG	BT	9	G	-	2	G								
47+000	47+200	P	AG	BT	13	G	-	-	-							VUP	
47+200	47+400	P	AG	BT	13	G	-	-	-			2				VUP	
47+400	47+600	P	AG	BT	13	G	-	-	-			4				VUP	
47+600	47+800	P	AG	BT	13	G	-	-	-			6				VUP	
47+800	48+000	P	AG	BT	13	G	-	-	-			4				VUP	
48+000	48+200	P	AG	BT	9	G	-	2	G			4					
48+200	48+400	P	AG	BT	9	G	-	2	G			3					
48+400	48+600	P	AG	BT	9	G	-	2	G								
48+600	48+800	P	AG	BT	9	G	-	2	G			3					

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : RHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
48+800	49+000	P	AG	BT	9	G	-	2	G			2					
49+000	49+200	P	AG	BT	9	G	-	2	G			1.5					
49+200	49+400	P	AG	BT	9	G	-	2	G			1.5					
49+400	49+600	P	AG	BT	9	G	-	2	G			1.5					
49+600	49+800	P	BU	BT	9	G	-	2	G								
49+800	50+000	P	BU	BT	9	G	-	2	G								
50+000	50+200	P	BU	BT	9	G		2	G				50+050	BT	Single Lane		
50+200	50+400	P	BU	BT	9	G		2	G								
50+400	50+600	P	BU	BT	9	G		2	G								
50+600	50+800	P	BU	BT	9	G		2	G				50+621	BT	Single Lane		
50+800	51+000	P	BU	BT	9	G		2	G								
51+000	51+200	P	BU	BT	9	G		2	G								
51+200	51+400	P	BU	BT	9	G	-	2	G								
51+400	51+600	P	AG	BT	9	G	-	2	G								
51+600	51+800	P	AG	BT	9	G		2	G								
51+800	52+000	P	AG	BT	9	G	-	2	G								
52+000	52+200	P	AG	BT	9	G	-	2	G								
52+200	52+400	P	AG	BT	9	G	-	2	G			1.5					
52+400	52+600	P	AG	BT	9	G	-	2	G			1					
52+600	52+800	P	AG	BT	9	G	-	2	G			1					
52+800	53+000	P	AG	BT	9	G	-	2	G			1					
53+000	53+200	P	AG	BT	9	G	-	2	G								
53+200	53+400	P	AG	BT	9	G	-	2	G			1.5	53+350	BT	Single Lane		
53+400	53+600	P	AG	BT	9	G	-	2	G			1.5					
53+600	53+800	P	AG	BT	9	G	-	2	G			1					
53+800	54+000	P	AG	BT	9	G	-	2	G								
54+000	54+200	P	AG	BT	9	G	-	2	G			1					
54+200	54+400	P	AG	BT	9	G	-	2	G			1					
54+400	54+600	P	AG	BT	9	G	-	2	G			1					
54+600	54+800	P	AG	BT	9	G	-	2	G			1					
54+800	55+000	P	AG	BT	9	G	-	2	G								
55+000	55+200	P	AG	BT	9	G	-	2	G								
55+200	55+400	P	AG	BT	13	G	-	-	-							VUP	
55+400	55+600	P	AG	BT	13	G	-	-	-			2				VUP	

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : RHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/ BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
55+600	55+800	P	AG	BT	13	G	-	-	-			4				VUP	
55+800	56+000	P	AG	BT	13	G	-	-	-			6	55+911	BT	Two Lane	VUP	
56+000	56+200	P	AG	BT	13	G		-	-			4				VUP	
56+200	56+400	P	AG	BT	13	G	-	-	-			2				VUP	
56+400	56+600	P	AG	BT	9	G	-	2	G			1					
56+600	56+800	P	AG	BT	9	G	-	2	G			1					
56+800	57+000	P	AG	BT	9	G	-	2	G								
57+000	57+200	P	AG	BT	9	G	-	2	G								
57+200	57+400	P	AG	BT	9	G	-	2	G			1					
57+400	57+600	P	AG	BT	9	G	-	2	G			1					
57+600	57+800	P	AG	BT	9	G	-	2	G								
57+800	58+000	P	AG	BT	9	G	-	2	G								
58+000	58+200	P	AG	BT	9	G	-	2	G				58+077	BT	Single Lane		
58+200	58+400	P	AG	BT	9	G	-	2	G								
58+400	58+600	P	AG	BT	9	G	-	2	G			1					
58+600	58+800	P	AG	BT	9	G	-	2	G			1					
58+800	59+000	P	AG	BT	9	G	-	2	G								
59+000	59+200	P	AG	BT	9	G		2	G								
59+200	59+400	P	AG	BT	9	G	-	2	G								
59+400	59+600	P	AG	BT	9	G	-	2	G								
59+600	59+800	P	BU	BT	9	G	-	-	-			3				LVUP	
59+800	60+000	P	BU	BT	9	G	-	-	-			4	59+951	BT	Single Lane	LVUP	
60+000	60+200	P	AG	BT	9	G	-	-	-			6					
60+200	60+400	P	AG	BT	9	G	-	-	-			4					
60+400	60+600	P	AG	BT	9	G	-	-	-			3					
60+600	60+800	P	AG	BT	9	G	-	-	-			1.5					
60+800	61+000	P	AG	BT	9	G	-	2	G			1.5					
61+000	61+200	P	AG	BT	9	G	-	2	G			1					
61+200	61+400	P	AG	BT	9	G	-	2	G			1					
61+400	61+600	P	AG	BT	9	G	-	2	G								
61+600	61+800	P	AG	BT	9	G	-	2	G								
61+800	62+000	P	AG	BT	9	G	-	2	G								
62+000	62+200	P	AG	BT	9	G	-	2	G								
62+200	62+400	P	AG	BT	9	G	-	-	-								

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : RHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/ BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
62+400	62+600	P	AG	BT	9	G	-	-	-			2				LVUP	
62+600	62+800	P	BU	BT	9	G	-	-	-			3					
62+800	63+000	P	BU	BT	9	G	-	2	G			5					
63+000	63+200	P	BU	BT	9	G	-	2	G			4					
63+200	63+400	P	AG	BT	9	G	-	2	G			2					
63+400	63+600	P	AG	BT	9	G	-	2	G			1					
63+600	63+800	P	AG	BT	9	G	-	2	G			1					
63+800	64+000	P	AG	BT	9	G	-	2	G			1					
64+000	64+200	P	AG	BT	9	G	-	2	G			1	64+105	BT	Single Lane		
64+200	64+400	P	AG	BT	9	G	-	2	G			1					
64+400	64+600	P	AG	BT	9	G	-	2	G			1					
64+600	64+800	P	AG	BT	9	G	-	2	G			1					
64+800	65+000	P	AG	BT	9	G	-	2	G			1					
65+000	65+200	P	AG	BT	9	G	-	2	G			1					
65+200	65+400	P	AG	BT	9	G	-	2	G			1.5					
65+400	65+600	P	AG	BT	9	G	-	2	G			1.5					
65+600	65+800	P	AG	BT	9	G	-	2	G			1.5					
65+800	66+000	P	AG	BT	9	G	-	2	G			1					
66+000	66+200	P	AG	BT	9	G	-	2	G			1					
66+200	66+400	P	AG	BT	9	G	-	2	G			1					
66+400	66+600	P	AG	BT	9	G	-	2	G			1.5					
66+600	66+800	P	AG	BT	9	G	-	2	G			1.5					
66+800	67+000	P	AG	BT	9	G	-	2	G			1					
67+000	67+200	P	AG	BT	9	G	-	2	G			1					
67+200	67+400	P	AG	BT	9	G	-	2	G								
67+400	67+600	P	AG	BT	9	G	-	2	G								
67+600	67+800	P	AG	BT	9	G	-	2	G								
67+800	68+000	P	AG	BT	9	G	-	2	G								
68+000	68+200	P	AG	BT	9	G	-	2	G				68+100	BT	Single Lane		
68+200	68+400	P	AG	BT	9	G	-	2	G								
68+400	68+600	P	AG	BT	9	G	-	-	-								
68+600	68+800	P	AG/BU	BT	9	G	-	-	-							VUP	
68+800	69+000	P	AG/BU	BT	13	G	-	-	-			2				VUP	
69+000	69+200	P	AG	BT	13	G	-	-	-			4				VUP	

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : RHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
69+200	69+400	P	AG	BT	13	G	-	-	-			6	69+244	BT	Two Lane	VUP	
69+400	69+600	P	AG	BT	13	G		-	-			4				VUP	
69+600	69+800	P	AG/BU	BT	13	G	-	-	-			2				VUP	
69+800	70+000	P	AG/BU	BT	13	G	-	-	-							VUP	
70+000	70+200	P	AG/BU	BT	9	G	-	-	-								
70+200	70+400	P	AG/BU	BT	9	G	-	-	-								
70+400	70+600	P	AG/BU	BT	9	G	-	-	-								
70+600	70+800	P	AG/BU	BT	9	G	-	-	-								
70+800	71+000	P	AG/BU	BT	13	G	-	-	-							VUP	
71+000	71+200	P	AG/BU	BT	13	G	-	-	-							VUP	
71+200	71+400	P	AG/BU	BT	13	G	-	-	-			2	71+270	BT	Single Lane	VUP	
71+400	71+600	P	AG	BT	13	G	-	-	-			4				VUP	
71+600	71+800	P	AG	BT	13	G	-	-	-			6				VUP	
71+800	72+000	P	AG	BT	13	G	-	-	-			4				VUP	
72+000	72+200	P	AG	BT	13	G	-	-	-			2				VUP	
72+200	72+400	P	AG	BT	13	G	-	-	-			1				VUP	
72+400	72+600	P	AG	BT	13	G	-	-	-			1				VUP	
72+600	72+800	P	AG	BT	9	G	-	2	G			1					
72+800	73+000	P	AG	BT	9	G	-	2	G								
73+000	73+200	P	AG	BT	9	G	-	2	G								
73+200	73+400	P	AG	BT	9	G	-	2	G			1					
73+400	73+600	P	AG	BT	9	G	-	2	G			1	73+515	BT	Single Lane		
73+600	73+800	P	AG	BT	9	G	-	2	G			1					
73+800	74+000	P	AG	BT	9	G	-	2	G			1.5					
74+000	74+200	P	AG	BT	9	G	-	2	G			1.5					
74+200	74+400	P	AG	BT	9	G	-	2	G								
74+400	74+600	P	AG	BT	9	G	-	2	G								
74+600	74+800	P	AG	BT	9	G	-	2	G								
74+800	75+000	P	AG	BT	9	G	-	2	G								
75+000	75+200	P	AG	BT	9	G	-	2	G								
75+200	75+400	P	AG	BT	9	G	-	2	G			1	75+530	BT	Single Lane		
75+400	75+600	P	AG	BT	9	G	-	2	G			1					
75+600	75+800	P	AG	BT	9	G	-	2	G			1					
75+800	76+000	P	AG	BT	9	G	-	2	G								

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : RHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/ BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
76+000	76+200	P	AG	BT	9	G	-	2	G			1					
76+200	76+400	P	AG	BT	9	G	-	2	G								
76+400	76+600	P	AG	BT	9	G	-	2	G			1					
76+600	76+800	P	BU	BT	9	G	-	-	-			2					
76+800	77+000	P	BU	BT	9	G	-	-	-			4					
77+000	77+200	P	BU	BT	9	G	-	-	-			4					
77+200	77+400	P	BU	BT	9	G	-	-	-			5					
77+400	77+600	P	AG	BT	9	G	-	-	-			3				LVUP	
77+600	77+800	P	AG	BT	9	G	-	2	G								
77+800	78+000	P	AG	BT	9	G	-	2	G								
78+000	78+200	P	AG	BT	9	G	-	2	G			1					
78+200	78+400	P	AG	BT	9	G	-	2	G			1					
78+400	78+600	P	AG	BT	9	G	-	2	G			1					
78+600	78+800	P	AG	BT	9	G	-	2	G			1					
78+800	79+000	P	AG	BT	9	G	-	2	G			1	78+860	BT	Single Lane		
79+000	79+200	P	AG	BT	9	G	-	2	G			1					
79+200	79+400	P	AG	BT	9	G	-	2	G								
79+400	79+600	P	AG	BT	9	G	-	2	G								
79+600	79+800	P	AG	BT	9	G	-	2	G				79+710	BT	Single Lane		
79+800	80+000	P	AG	BT	9	G	-	2	G								
80+000	80+200	P	AG	CC	9	G	-	2	G							TOLL PLAZA	
80+200	80+400	P	AG	CC	9	G	-	2	G							TOLL PLAZA	
80+400	80+600	P	AG	BT	9	G	-	2	G			1					
80+600	80+800	P	AG	BT	9	G	-	2	G			1					
80+800	81+000	P	AG	BT	9	G	-	2	G			1					
81+000	81+200	P	AG	BT	9	G	-	2	G			1					
81+200	81+400	P	AG	BT	9	G		2	G			1					
81+400	81+600	P	AG	BT	9	G	-	2	G			1					
81+600	81+800	P	AG	BT	9	G	-	2	G			1					
81+800	82+000	P	AG	BT	9	G	-	2	G			1					
82+000	82+200	P	AG	BT	9	G	-	2	G			1					
82+200	82+400	P	AG	BT	9	G	-	2	G			1					
82+400	82+600	P	AG	BT	9	G	-	2	G								
82+600	82+800	P	AG	BT	9	G	-	2	G								

**Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of
Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT**

Surveyed By :			Sreenivasulu & Gopinth				Side : RHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/ BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
82+800	83+000	P	AG	BT	9	G	-	2	G								
83+000	83+200	P	AG	BT	9	G		2	G								
83+200	83+400	P	AG	BT	9	G		2	G								
83+400	83+600	P	AG	BT	9	G		2	G				83+425	BT	Two Lane		
83+600	83+800	P	AG	BT	9	G		2	G								
83+800	84+000	P	AG	BT	9	G		2	G								
84+000	84+200	P	AG	BT	9	G	-	2	G								
84+200	84+400	P	AG	BT	9	G	-	2	G								
84+400	84+600	P	AG/BU	BT	9	G	-	2	G				84+650	BT	Single Lane	D Link	
84+600	84+800	P	AG/BU	BT	9	G	-	-	-								
84+800	85+000	P	AG/BU	BT	9	G	-	-	-								
85+000	85+200	P	AG/BU	BT	9	G	-	-	-								
85+200	85+400	P	AG/BU	BT	9	G	-	-	-								
85+400	85+600	P	AG	BT	9	G	-	2	G								
85+600	85+800	P	AG	BT	9	G	-	2	G			1					
85+800	86+000	P	AG	BT	9	G	-	2	G			1					
86+000	86+200	P	AG	BT	9	G	-	2	G			1					
86+200	86+400	P	AG	BT	9	G		2	G			1					
86+400	86+600	P	AG	BT	9	G	-	2	G			1					
86+600	86+800	P	AG	BT	9	G	-	2	G			1					
86+800	87+000	P	AG	BT	9	G	-	2	G								
87+000	87+200	P	AG	BT	9	G	-	2	G								
87+200	87+400	P	AG	BT	9	G	-	2	G								
87+400	87+600	P	AG/BU	BT	9	G	-	-	-				87+560	BT	Single Lane		
87+600	87+800	P	AG/BU	BT	9	G	-	-	-								
87+800	88+000	P	AG/BU	BT	9	G	-	-	-								
88+000	88+200	P	AG	BT	9	G	-	2	G								
88+200	88+400	P	AG	BT	9	G		2	G								
88+400	88+600	P	AG	BT	9	G	-	2	G								
88+600	88+800	P	AG	BT	9	G	-	2	G			1					
88+800	89+000	P	AG	BT	9	G	-	2	G			1					
89+000	89+200	P	AG	BT	9	G	-	2	G			1.5					
89+200	89+400	P	AG	BT	9	G	-	2	G								
89+400	89+600	P	AG	BT	9	G	-	2	G								

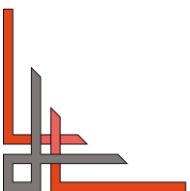
Four laning of Repallewada (Design KM 42.000/ Existing KM 288.510) to Telangana/Maharashtra Border (Design KM 94.602/ Existing KM 342.000) in the state of Telangana Under NH(O) on HAM Mode
ROAD INVENTORY AND CONDITION SURVEY FORMAT

Surveyed By :			Sreenivasulu & Gopinth				Side : RHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/ BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
89+600	89+800	P	AG	BT	9	G	-	2	G								
89+800	90+000	P	AG	BT	9	G	-	2	G								
90+000	90+200	P	AG	BT	9	G	-	2	G								
90+200	90+400	P	AG	BT	9	G	-	2	G				90+203	BT	Single Lane		
90+400	90+600	P	AG	BT	9	G	-	2	G								
90+600	90+800	P	AG	BT	9	G	-	2	G								
90+800	91+000	P	AG	BT	9	G	-	2	G								
91+000	91+200	P	AG	BT	9	G	-	2	G								
91+200	91+400	P	AG	BT	9	G	-	2	G								
91+400	91+600	P	AG	BT	9	G	-	2	G			1					
91+600	91+800	P	AG	BT	9	G	-	2	G			1					
91+800	92+000	P	AG	BT	9	G	-	2	G			1					
92+000	92+200	P	AG	BT	9	G	-	2	G								
92+200	92+400	P	BU	BT	9	G	-	2	G								
92+400	92+600	P	BU	BT	9	G	-	2	G								
92+600	92+800	P	BU	BT	9	G	-	2	G								
92+800	93+000	P	AG	BT	9	G	-	2	G								
93+000	93+200	P	AG	BT	9	G	-	2	G								
93+200	93+400	P	AG	BT	9	G	-	2	G								
93+400	93+600	P	AG	CC	9	G	-	2	G								
93+600	93+800	P	AG	CC	9	G		2	G								
93+800	94+000	P	AG	CC	9	G		2	G								
94+000	94+200	P	AG	CC	9	G		2	G								
94+200	94+400	P	AG	CC	9	G		2	G								
94+400	94+600	P	AG	CC	9	G		2	G								



Annexure-2

Inventory & Condition of Project Facilities



TOLL PLAZA - INVENTORY & CONDITION					
Sno.	Description	TP1			
		Inventory	Condition	Inventory	Condition
1	Location Chainage (@km)	80+175			
2	Location Name (Village)	Sarendi			
3	Canopy	No	Not Applicable		
4	Solar Pannels over Canopy	NA	Not Applicable		
5	Tunnel / Sky walk	Yes	Good		
6	Administration Building Constructed?	Yes	Good		
7	Medical Aid post Building	Yes	Good		
8	Traffic Aid post Building	Yes	Good		
9	Total No. Of Toll Lanes	Yes	Working		
9.1	No. of ETC/Hybrid ETC Lanes	8	Working		
9.2	No. of Non ETC Lanes	-			
9.3	Reversible Lanes (if any)	2	Working		
10	No. of Lanes WIM installed ?	8	Working		
11	No. of Static Weigh Bridges installed?	2	Working		
16	TMS System software Installed?	Yes	Working		
17	TMS software installed by / Make	Yes	Working		
18	ETC System installed by / Make	Yes	Working		
19	Diesel GeneratorP2.5 KVA	Yes	Working		
20	Inverter KVA, UPS 20-1	Yes	Working		
21	Fire fighting System	Yes	Working		
22	Testing Laboratory	Yes	Working		
23	Swachabhart Toilets	Yes	Not Applicable		
24	Helipad	No	Not Applicable		
25	Remarks / Observations				

 <p>Nov 18, 2023 16:14:28 NH-363 Repallewada toll plaza 80+175</p>	 <p>Nov 18, 2023 16:17:01 NH-363 Repallewada toll plaza 80+175</p>
TP1 Toll Plaza @ Km 80+175	TP1 Administrative Building @ Km. 80+175
 <p>Nov 18, 2023 16:17:28 NH-363 Repallewada toll plaza 80+175</p>	 <p>Nov 18, 2023 16:15:20 NH-363 Repallewada toll plaza 80+175</p>
ATMS, Operation and Maintenance@ Km 80+175	Medical and Traffic Aid post @ Km. 80+175

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available,

TRUCK LAYBAY - INVENTORY & CONDITION DATA

Sno.	Description	Location / Chainage			
		@ Km. 42+695	@ Km. 85+782	@ Km.	@ Km.
1	FACILITIES	LHS	RHS		
1.1	Building Type	RCC	RCC		
1.2	Condition of Building	Good	Good		
1.3	Flooring condition	Good			
1.4	Toilets condition	Good	Good		
1.5	Water Facility for Toilets		Good		
1.6	Toilets Cleanliness	NA			
1.7	Drinking Water Facility	Not Applicable	Not Applicable		
1.8	Electrical connection				
1.9	Over all condition of Rest Area	Good	Good		
2	TRUCK LAYBAY				
2.1	Truck Laybay/Parking	Prov	Prov		
2.2	Parking Pavement type	Flexi	Flexi		
2.3	Island type	Ghost	Kerbed		
2.4	Road Marking	Yes	Yes		
2.4	Sign Boards as per Mannual?	Yes	Yes		
2.5	Highway Lighting Facility	Prov	Prov		
2.6	Lighting as per mannual?	Yes	Yes		
2.7	Layout dimensions as per GFC?	Yes	Yes		
2.8	Remarks / Observations on Laybay	Good Condition	Good Condition		




TRUCK LAYBAY @ 42+695



TRUCK LAYBAY @ 85+782

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry


INCIDENT MANAGEMENT SYSTEM - INVENTORY & CONDITION

Sno.	Description		Vehicle 1		Vehicle 2		Remarks
			Inventory	Condition	Inventory	Condition	
1	AMBULANCE						
1.1	Vehicle	Parking Location @ Km.	80+175		80+175		
1.2		Vehicle Reg. No.	TS20T9034	Working	TS20T9035	Working	
1.3		Fitted with GPS ?	Yes	Working	Yes	Working	
1.4	Equipment	First Aid Kit	Yes	Good	Yes	Good	
1.5		Oxygen Cylinder	Yes	Good	Yes	Good	
1.6		Strecher	Yes	Good	Yes	Good	
1.7	Manpower	No. Of shifts	3		3		
1.8		Driver	Yes		Yes		
1.9		Paramedical Staff	Yes		Yes		
2	Route Petroling Vehicle						
2.1	Vehicle	Parking Location @ Km.	80+175		80+175		
2.2		Vehicle Reg. No.	CG09JG7584	Working	JH09AJ5609	Working	
2.3		Fitted with GPS ?	Yes	Working	Yes	Working	
2.4	Equipment	Safety Helmets	Yes	Good	Yes	Good	
2.5		Flags & Caution Tap	Yes	Good	Yes	Good	
2.6		Safety Cones	No	Good	Yes	Good	
2.7	Manpower	No. Of shifts	3		3		
2.8		Driver	Yes		Yes		
2.9		Helpers	Yes		Yes		
3	Crane / Towing Vehicle						
3.1	Vehicle	Parking Location @ Km.					
3.2		Vehicle Reg. No.	PB17BD4472		PB13BD7943		
3.3		Fitted with GPS ?	Yes	Working	Yes	Working	
3.4		Capacity In Mt	Yes	As per CA			
3.5	Equipment	Tool Kit	Yes	Good	Yes	Good	
3.6		Belt/Rope/Chain	Yes	Good	Yes	Good	
3.7		Safety Cones	Yes	Good	Yes	Good	
3.8	Manpower	No. Of shifts	3		3		
3.9		Driver	Yes		Yes		
3.10		Helpers	Yes		Yes		
4	Remarks / Observations		Crane Capacity 20 MT				
<div><p>Nov 18, 2023 16:21:09 NH-363 Repallewada toll plaza 80+175</p></div>							

HIGHWAY LIGHTING - INVENTORY & CONDITION DATA											
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition	Remarks
1	76+600	77+600		MCW Edge	DA	30m	59	LED		Good	
	76+600	77+600		Med	DA		4			Good	
2	70+800	72+600		MCW Edge	DA		132			Good	SA-4
	70+800	72+600		Med	DA		4			Good	
3	68+800	70+000		MCW Edge	DA		64			Good	SA-4
	68+800	70+000		Med	DA		4			Good	
4	62+350	63+400		MCW Edge	DA		56			Good	
	62+350	63+400		Med	DA		4			Good	
5	59+400	61+000		MCW Edge	DA		80			Good	
	59+400	61+000		Med	DA		4			Good	
6	55+100	56+400		MCW Edge	DA		94			Good	SA-12
	55+100	56+400		Med	DA		4			Good	
7	50+040	51+250		MCW Edge	DA		47			Good	
8	47+000	47+900		MCW Edge	DA		61			Good	SA-11


BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km.42+254	@ Km. 62+880	@ Km. 62+860	@ Km. 92+582
1	PASSANGER SHELTER	LHS	RHS	LHS	LHS
1.1	Shelter Type	RCC	RCC	RCC	NA
1.2	Condition of Shelter	Good	Good	Good	NA
1.3	Passenger seating	Prov	Prov	Prov	NA
1.4	Condition of Passenger seating	Good	Good	Good	NA
1.5	Flooring condition	Good	Good	Good	NA
1.6	Ramp for disabled persons	Prov			NA
1.7	Guard Rails	Prov	Prov	Prov	NA
1.8	Guard Rails condition	Good	Good	Good	NA
1.9	Cleanliness	Good	Good	Good	NA
1.10	Over all condition of Bus shelter	Good	Fair	Fair	NA
2	BUSBAY				
2.1	Bus bay	Prov	NA	NA	Prov
2.2	Pavement type of Bus bay	Flexi	NA	NA	Flexi
2.3	Island type	Ghost	NA	NA	NA
2.4	Road Marking	Yes	NA	NA	Yes
2.5	Drainage condition	Not Applicable	NA	NA	Not Applicable
2.6	Layout dimensions as per GFC?	Yes	NA	NA	Yes
2.7	Remarks / Observations on Busbay	Good	NA	NA	Fair
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	NA
3.2	Lighting	No	No	No	NA
3.3	Sign Board	Yes	Yes	Yes	NA
3.4	Landscaping and plantaion near Bus Bay	No	No	No	NA
3.5	Others.....				NA
3.6	Remarks / Observations on facilities	Bus Bay	Bus shelter	Bus shelter	No Bus Shelter

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km.92+482	@ Km. 84+480	@ Km. 84+020	@ Km. 42+254
1	PASSANGER SHELTER	RHS	LHS	RHS	RHS
1.1	Shelter Type	NA	RCC	RCC	RCC
1.2	Condition of Shelter	NA	Good	Good	Good
1.3	Passenger seating	NA	Prov	Prov	Prov
1.4	Condition of Passenger seating	NA	Good	Good	Good
1.5	Flooring condition	NA	Good	Good	Good
1.6	Ramp for disabled persons	NA	Prov	Prov	Prov
1.7	Guard Rails	NA	Prov	Prov	Prov
1.8	Guard Rails condition	NA	Good	Good	Good
1.9	Cleanliness	NA	Good	Good	Good
1.10	Over all condition of Bus shelter	NA	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Prov			Prov
2.2	Pavement type of Bus bay	Flexi			Flexi
2.3	Island type	NA			Ghost
2.4	Road Marking	No			Yes
2.5	Drainage condition	Not Applicable			Not Applicable
2.6	Layout dimensions as per GFC?	Yes			Yes
2.7	Remarks / Observations on Busbay	Fair			Good
3	FACILITIES				
3.1	Drinking Water Facility	NA		No	No
3.2	Lighting	NA		No	Yes
3.3	Sign Board	NA		No	Yes
3.4	Landscaping and plantaion near Bus Bay	NA		No	No
3.5	Others.....	NA			
3.6	Remarks / Observations on facilities		Good Condition		



Nov 18, 2023 17:49:11
Wankidi (Kalan)
Telangana
NH-363 Repallewada RHS 84+020 BB

BUS BAY @ 84+020 RHS



Nov 19, 2023 09:55:06
NH-363 Repallewada LHS BB 42+254 RHS

BUS BAY @ 42+254 RHS

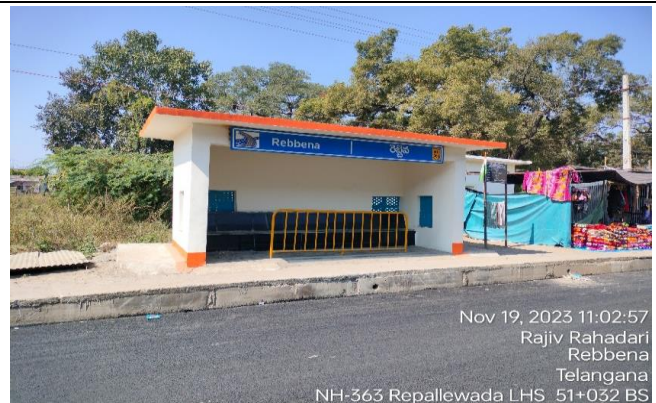
Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA

Sno.	Description	Location / Chainage			
		@ Km.50+882/50+090	@ Km. 51+032	@ Km.	@ Km.
1	PASSANGER SHELTER	RHS	LHS		
1.1	Shelter Type	RCC	RCC		
1.2	Condition of Shelter	Good	Good		
1.3	Passenger seating	Prov	Prov		
1.4	Condition of Passenger seating	Good	Good		
1.5	Flooring condition	Good	Good		
1.6	Ramp for disabled persons	Prov	Prov		
1.7	Guard Rails	Prov	Prov		
1.8	Guard Rails condition	Good	Good		
1.9	Cleanliness	Good	Good		
1.10	Over all condition of Bus shelter	Good	Good		
2	BUSBAY				
2.1	Bus bay	NA	NA		
2.2	Pavement type of Bus bay	NA	NA		
2.3	Island type	NA	NA		
2.4	Road Marking	NA	NA		
2.5	Drainage condition	NA	NA		
2.6	Layout dimensions as per GFC?	NA	NA		
2.7	Remarks / Observations on Busbay	NA	NA		
3	FACILITIES				
3.1	Drinking Water Facility	Yes	Yes		
3.2	Lighting	Yes	Yes		
3.3	Sign Board	Yes	Yes		
3.4	Landscaping and plantaion near Bus Bay	Yes	Yes		
3.5	Others.....				
3.6	Remarks / Observations on facilities	Goo condition			



BUS BAY @ 50+882,50+090 RHS



BUS BAY @ 51+032 LHS

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry

ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS) - INVENTORY & CONDITION

Sno.	Description	Inventory	Quantity	Condition	Remarks
1	OUT-DOOR EQUIPMENT				
1.1	Emergency Call Box (ECB)	Yes	54	Working	
1.2	Variable Message system (VMS)	Yes	6	Working	
1.3	Meteorological Data System (MDS)	Yes	1	Working	
1.4	Automatic Traffic counting and classification (ATCC)	Yes	2	Working	
1.5	Vehicle Speed Enforcement System cameras	Yes	4	Working	
1.6	CCTV Surveillance system	Yes	52	Working	
1.7	Video Incident Detection system	Yes		Working	
1.8	Visibility Sensors	Yes	One		
1.9	Mobile Radio Communication System	Yes	10-01-1900	Working	
2	IN-DOOR EQUIPMENT				
2.1	Central ATMS Server	Yes		Working	
2.2	Network Management System	Yes		Working	
2.3	Traffic Controller Operator	Yes			
2.4	Video Display	Yes		Working	
2.5	Network Video Recording and Management system	Yes		Working	
2.6	Emergency Call Management Center	Yes		Working	
2.7	Video Incident Detection central System	Yes		Working	
3	Remarks / Observations				



Control Room @ 80+175



Control Room @ 80+175

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available,

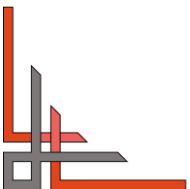
Signature

CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
1	42+927	42+939	LHS	MCW Edge	WBCB	23.5	Good		Partially Available	Available	Available	
2	43+150	43+250	LHS	Med	WBCB	50+50	Good		Available	Available	Available	
3	46+580	46+610	LHS	MCW Edge	WBCB	30	Good		Available	NA	Available	
4	47+075	47+360	LHS	MCW Edge	WBCB	285	Good		Available	Available	Available	
5	47+860	47+895	LHS	MCW Edge	WBCB	35	Good		Available	NA	NA	
6	47+89	48+080	LHS	MCW Edge	WBCB	185	Good		Available	NA	Available	
7	48+150	48+370	LHS	MCW Edge	WBCB	220	Good		Available	NA	Available	
8	48+650	48+670	LHS	MCW Edge	WBCB	20	Good		Available	Available	Available	
9	48+722	48+780	LHS	MCW Edge	WBCB	58	Good		Available	Available	Available	
10	49+270	49+330	LHS	Med	WBCB	60 m	Good		Available	Available	Available	
11	51+768	51+780	LHS	MCW Edge	WBCB	20	Good		NA	Available	Available	
12	53+110	53+170	LHS	MCW Edge	WBCB	60	Good		Available	NA	Available	
13	53+390	53+430	LHS	MCW Edge	WBCB	40	Good		Available	NA	Available	
14	53+498	53+510	LHS	MCW Edge	WBCB	12	Good		NA	NA	NA	



Annexure-3

Inventory & Condition of Structures



**Four laning of Repallewda (Design Km42.000/Existing Km 288.510) to
Telangana/Maharashtra Border (Design Km94.602/Existing Km 342.000) in the state of
Telangana under NH (363) on HAM Mode.**

PIPE CULVERT

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	43+540	1 x 0.9	Completed	Good	
2	43+640	1 x 0.9	Completed	Good	
3	43+740	1 x 0.9	Completed	Good	
4	43+827	1 x 1.2	Completed	Good	
5	43+840	1 x 0.9	Completed	Good	
6	43+940	1 x 0.9	Completed	Good	
7	44+040	1 x 0.9	Completed	Good	
8	44+140	1 x 0.9	Completed	Good	
9	44+400	1 x 0.9	Completed	Good	
10	44+500	1 x 0.9	Completed	Good	
11	44+600	1 x 0.9	Completed	Good	
12	44+700	1 x 0.9	Completed	Good	
13	44+800	1 x 0.9	Completed	Good	
14	44+900	1 x 0.9	Completed	Good	
15	45+000	1 x 0.9	Completed	Good	
16	45+100	1 x 0.9	Completed	Good	
17	45+200	1 x 0.9	Completed	Good	
18	45+300	1 x 0.9	Completed	Good	
19	45+400	1 x 0.9	Completed	Good	
20	45+616	1 x 0.9	Completed	Good	
21	46+278	3 x 1.2	Completed	Good	
22	49+361	2 x 1.2	Completed	Good	
23	50+039	1 x 0.9	Completed	Good	
24	50+322	2 x 1.2	Completed	Good	
25	51+400	1 x 1.2	Completed	Good	
26	52+629	1 x 1.0	Completed	Good	
27	54+001	1 x 0.9	Completed	Good	
28	56+334	3 x 1.0	Completed	Good	
29	58+026	2 x 1.0	Completed	Good	
30	58+164	1 x 1.0	Completed	Good	
31	58+877	1 x 1.0	Completed	Good	
32	59+131	2 x 1.0	Completed	Good	
33	60+299	2 x 1.0	Completed	Good	
34	61+058	2 x 0.9	Completed	Good	
35	61+151	1 x 0.9	Completed	Good	
36	61+400	1 x 1.2	Completed	Good	
37	62+865	1 x 1.2	Completed	Good	
38	65+397	2 x 0.9	Completed	Good	
39	65+985	3 x 1.0	Completed	Good	
40	67+853	2 x 1.2	Completed	Good	
41	68+030	1 x 1.2	Completed	Good	
42	72+019	1 x 0.9	Completed	Good	

**Four laning of Repallewda (Design Km42.000/Existing Km 288.510) to
Telangana/Maharashtra Border (Design Km94.602/Existing Km 342.000) in the state of
Telangana under NH (363) on HAM Mode.**

43	74+459	1 x 1.2	Completed	Good	
44	75+759	1 x 1.2	Completed	Good	
45	76+247	1 x 0.9	Completed	Good	
46	77+183	1 x 1.2	Completed	Good	
47	78+322	1 x 1.2	Completed	Good	
48	79+408	2 x 0.9	Completed	Good	
49	80+387	2 x 1.0	Completed	Good	
50	80+533	2 x 0.9	Completed	Good	
51	80+705	2 x 1.0	Completed	Good	
52	80+914	1 x 1.0	Completed	Good	
53	85+105	1 x 1.2	Completed	Good	
54	86+561	2 x 1.0	Completed	Good	
55	93+500	1 x 0.9	Completed	Good	
56	93+600	1 x 0.9	Completed	Good	
57	93+700	1 x 0.9	Completed	Good	
58	93+800	1 x 0.9	Completed	Good	
59	93+900	1 x 0.9	Completed	Good	
60	94+000	1 x 0.9	Completed	Good	
61	94+100	1 x 0.9	Completed	Good	
62	94+200	1 x 0.9	Completed	Good	
63	94+300	1 x 0.9	Completed	Good	
64	94+600	1 x 0.9	Completed	Good	

BOX culvert

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	43+282	1 x 2 x 1.5	Completed	Good	
2	47+098	1 x 2 x 1.5	Completed	Good	
3	47+626	1 x 4 x 2	Completed	Good	
4	47+996	1 x 2 x 1.5	Completed	Good	
5	53+830	1 x 2	Completed	Good	
6	54+952	1 x 2 x 1.5	Completed	Good	
7	55+044	1 x 2 x 1.5	Completed	Good	
8	55+268	1 x 2 x 1.5	Completed	Good	
9	55+558	1 x 5 x 5	Completed	Good	
10	57+644	1 x 2 x 1.5	Completed	Good	
11	60+849	1 x 5.2 x 1.5	Completed	Good	
12	62+209	1 x 2 x 1.5	Completed	Good	
13	62+258	1 x 2 x 1.5	Completed	Good	
14	63+247	1 x 2 x 1.5	Completed	Good	
15	63+454	1 x 2 x 1.5	Completed	Good	
16	65+328	1 x 2 x 1.5	Completed	Good	
17	66+185	1 x 2 x 1.5	Completed	Good	
18	66+557	1 x 2 x 2	Completed	Good	
19	66+981	1 x 2 x 1.5	Completed	Good	

**Four laning of Repallewda (Design Km42.000/Existing Km 288.510) to
Telangana/Maharashtra Border (Design Km94.602/Existing Km 342.000) in the state of
Telangana under NH (363) on HAM Mode.**

20	67+564	1 x 5.5 x 1.5	Completed	Good	
21	68+622	1 x 2 x 1.5	Completed	Good	
22	68+830	1 x 2 x 1.5	Completed	Good	
23	69+080	1 x 2 x 1.5	Completed	Good	
24	70+235	1 x 3 x 3	Completed	Good	
25	70+463	1 x 3.76 x 2.5	Completed	Good	
26	70+895	1 x 2.5 x 2.5	Completed	Good	
27	71+085	1 x 5.9 x 4.0	Completed	Good	
28	71+425	1 x 0.9	Completed	Good	
29	72+442	1 x 2 x 1.5	Completed	Good	
30	73+680	1 x 2 x 1.5	Completed	Good	
31	74+293	1 x 2 x 1.5	Completed	Good	
32	76+730	1 x 2 x 2	Completed	Good	
33	78+533	1 x 2 x 1.5	Completed	Good	
34	82+833	1 x 2 x 1.5	Completed	Good	
35	83+458	1 x 2 x 1.5	Completed	Good	
36	83+926	1 x 2 x 1.5	Completed	Good	
37	84+853	1 x 2 x 1.5	Completed	Good	
38	85+445	1 x 2 x 1.5	Completed	Good	
39	87+587	1 x 3.5 x 2	Completed	Good	
40	87+731	1 x 2 x 1.5	Completed	Good	
41	88+103	1 x 2 x 1.5	Completed	Good	
42	88+652	1 x 4 x 3	Completed	Good	
43	89+316	1 x 2.5 x 2.5	Completed	Good	
44	89+544	1 x 2 x 2.5	Completed	Good	
45	89+894	1 x 2 x 2.5	Completed	Good	
46	91+660	1 x 2 x 1.5	Completed	Good	
47	92+038	1 x 2 x 1.5	Completed	Good	
48	92+104	1 x 2 x 1.5	Completed	Good	
49	92+744	1 x 2 x 1.5	Completed	Good	
50	93+191	1 x 2 x 5	Completed	Good	
51	93+910	1 x 2 x 5	Completed	Good	
52	94+125	1 x 2 x 5	Completed	Good	
53	94+307	1 x 2 x 2.5	Completed	Good	

MJB

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	68+287	2 x 32 + 2 x 29 + 2 x 35	Completed	Good	
2	74+982	5 x 29.2	Completed	Good	

MNB

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	42+942	2 x 4	Completed	Good	

**Four laning of Repallewda (Design Km42.000/Existing Km 288.510) to
Telangana/Maharashtra Border (Design Km94.602/Existing Km 342.000) in the state of
Telangana under NH (363) on HAM Mode.**

2	48+696	15 + 30 + 15	Completed	Good	
3	51+784	2 x 4	Completed	Good	
4	53+515	1 x 11.8	Completed	Good	
5	54+523	4 x 3.8	Completed	Good	
6	57+135	2 x 19	Completed	Good	
7	58+396	2 x 4.8	Completed	Good	
8	59+663	2 x 6.3	Completed	Good	
9	61+664	4 x 8	Completed	Good	
10	63+911	2 x 6.2	Completed	Good	
11	69+386	2 x 4	Completed	Good	
12	69+495	4 x 3	Completed	Good	
13	71+001	3 x 4.2	Completed	Good	
14	72+978	1 x 14	Completed	Good	
15	77+757	3 x 10	Completed	Good	
16	81+256	2 x 6.9	Completed	Good	
17	81+683	1 x 6.7	Completed	Good	
18	82+877	2 x 8.2	Completed	Good	
19	84+210	2 x 30	Completed	Good	
20	86+167	2 x 8.7	Completed	Good	
21	88+297	2 x 4.5	Completed	Good	
22	90+499	1 x 9.6	Completed	Good	
23	93+011	1 x 9.54	Completed	Good	

VUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	47+653	1 x 30	Completed	Good	
2	55+912	1 x 30	Completed	Good	
3	69+244	1 x 30	Completed	Good	
4	71+982	1 x 30	Completed	Good	

LVUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	50+621	1X12	Completed	Good	
2	59+951	1X12	Completed	Good	
3	62+832	1X12	Completed	Good	
4	77+294	1X12	Completed	Good	
5	83+425	1X12	Completed	Good	

PUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	50+455	1 x 7	Completed	Good	
2	50+835	1 x 12	Completed	Good	
3	83+870	1 x 7	Completed	Good	

**Four laning of Repallewda (Design Km42.000/Existing Km 288.510) to
Telangana/Maharashtra Border (Design Km94.602/Existing Km 342.000) in the state of
Telangana under NH (363) on HAM Mode.**

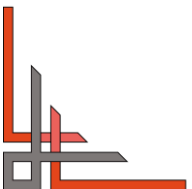
AOP.AUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	44+250	6 x 33.3	Completed	Good	AUP
2	94+475	2 x 19 - 150m length	Completed	Good	AOP



Annexure-4

Operation & Maintenance cost Estimate






PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.

**ANNEXURE:
ABSTRACT COST**

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2023-2024	-	1.07	2.89	3.96	
2024-2025	-	2.67	4.07	6.75	
2025-2026	1.11	3.07	4.32	8.50	
2026-2027	1.78	3.63	4.57	9.99	
2027-2028	0.47	3.75	4.78	9.01	
2028-2029	0.57	3.83	5.00	9.39	
2029-2030	27.60	5.29	5.22	38.11	
2030-2031	39.83	5.90	6.29	52.01	
2031-2032	0.98	4.03	6.00	11.01	
2032-2033	0.63	4.26	5.89	10.78	
2033-2034	1.72	4.38	6.07	12.18	
2034-2035	2.17	4.48	6.26	12.91	
2035-2036	0.58	4.53	6.45	11.56	
2036-2037	32.24	4.66	6.66	43.55	
2037-2038	46.37	4.65	6.86	57.88	
2038-2039	1.07	2.63	1.77	5.47	
Total Expenditure in Cr. Rs	157.12	62.84	83.10	303.06	

	PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.			ANNEXURE: MMR
FY	6. MMR (Rs in Cr)			Total Expenditure till the end of Concession Period
	MMR Highway	MMR Structure	MMR Toll Plaza	
Escalation	0.0%	0.0%	0.0%	
2023-2024	-	-	-	-
2023-2024	-	-	-	-
2024-2025	-	-	-	-
2025-2026	1.11	-	-	1.11
2026-2027	1.78	-	-	1.78
2027-2028	0.47	-	-	0.47
2028-2029	0.08	-	0.49	0.57
2029-2030	26.43	-	1.16	27.60
2030-2031	39.83	-	-	39.83
2031-2032	0.32	-	0.66	0.98
2032-2033	0.63	-	-	0.63
2033-2034	0.48	1.24	-	1.72
2034-2035	2.17	-	-	2.17
2035-2036	0.58	-	-	0.58
2036-2037	32.24	-	-	32.24
2037-2038	41.41	-	4.96	46.37
2038-2039	1.07	-	-	1.07
Total Expenditure in Cr. Rs	148.60	1.24	7.27	157.12



PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.

MMR-Highway

FY	Description	CODE	Unit	% of Treatment	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalation (%)	Year	Amount in INR after Escalation
2026	Filling of Earthen Shoulder	MCW-SF	Cum	13%	105204	1.5		21,275.30	485	1,03,18,519	4.0%	2	1,11,44,000
TOTAL AMOUNT										1,03,18,519			1,11,44,000
2027	Filling of Earthen Shoulder	MCW-SF	Cum	21%	105204	1.5		32,853.46	485	1,59,33,929	4.0%	3	1,78,46,000
TOTAL AMOUNT										1,59,33,929			1,78,46,000
2028	Milling	MCW-Mill	Sqm	1%	105204	9.282		8,380.00	80	6,70,400	3.0%	4	7,50,848
2028	TC for BC	MCW-TC BC	Sqm	1%	105204			1,052.04	13	13,677	3.0%	4	15,318
2028	BC Overlay	MCW-BC	Cum	1%	105204	9.282	0.04	390.60	9015	35,21,281	3.0%	4	39,43,835
TOTAL AMOUNT										42,05,357			47,10,000
2029	TC for BC	MCW-TC BC	Sqm	12%	105204			12,265.17	13	1,59,447	3.0%	5	1,83,364
2029	BC Overlay	MCW-BC	Cum	0%	105204	9.282	0.04	58.59	9015	5,28,192	3.0%	5	6,07,421
TOTAL AMOUNT										6,87,639			7,90,785
2030	TC for BC	MCW-TC BC	Sqm	50%	105204	9.282		4,88,248.72	13	63,47,233	3.0%	6	74,89,735
2030	BC Overlay	MCW-BC	Cum	50%	105204	9.282	0.05	24,145.29	9015	21,76,71,725	3.0%	6	25,68,52,635
TOTAL AMOUNT										22,40,18,958			26,43,42,371
2031	TC for BC	MCW-TC BC	Sqm	50%	105204	9.282		4,88,248.72	13	63,47,233	3.0%	7	76,80,152
2031	BC Overlay	MCW-BC	Cum	50%	105204	9.282	0.05	23,131.98	9015	20,85,36,687	3.0%	7	25,23,29,391
2031	TC for BC	SR-TC	Sqm	100%	28750	7.5		2,15,625.00	13	28,03,125	3.0%	7	33,91,781
2031	BC Overlay	SR-BC	Cum	100%	28750	7.50	0.05	10,134.30	9015	9,13,61,520	3.0%	7	11,05,47,440
2031	Road Marking - MCW	RM MCW	Sqm	100%	245476	0.15		36,821.40	400	1,47,28,560	3.0%	7	1,78,21,558
2031	Studs	STUD	Nos	100%	24548			24,548.00	220	54,00,560	3.0%	7	65,34,678
TOTAL AMOUNT										32,91,77,686			39,83,05,000
2032	Road Marking - SR	RM SR	Sqm	100%	67083.33333	0.10		6,460.85	400	25,84,339	3.0%	8	32,04,580
TOTAL AMOUNT										25,84,339			32,04,580
2033	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	22%	6870		0.3	454.73	2700	12,27,771	2.0%	9	14,48,769
2033	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	22%	6870		0.3	454.73	9000	40,92,568	2.0%	9	48,29,231
TOTAL AMOUNT										53,20,339			62,78,000
2034	Filling of Earthen Shoulder	MCW-SF	Cum	5%	105204	1.5		8,254.32	485	40,03,345	2.0%	10	48,04,014
TOTAL AMOUNT										40,03,345			48,04,014
2035	Filling of Earthen Shoulder	MCW-SF	Cum	23%	105204	1.5		36,673.99	485	1,77,86,885	2.0%	11	2,17,00,000
TOTAL AMOUNT										1,77,86,885			2,17,00,000
2036	Replacement of Joint Sealant	TP-JS	Rm	100%	3350			3,350.40	85	2,84,784	2.0%	12	3,53,132
2036	Diamond Grinding	TP-GRIN	Sqm	100%	6870			6,870.10	100	6,87,010	2.0%	12	8,51,892
2036	Microsurfacing	SR-MS	Sqm	76%	28750			21,831.00	170	37,11,271	2.0%	12	46,01,975



PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.


MMR-Highway

FY	Description	CODE	Unit	% of Treatment	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalation (%)	Year	Amount in INR after Escalation
TOTAL AMOUNT										46,83,065			58,07,000
2037	TC for BC	MCW-TC BC	Sqm	56%	105204	9.2819421		5,48,477.65	13	71,30,210	2.0%	13	89,84,064
2037	BC Overlay	MCW-BC	Cum	56%	105204	9.28	0.05	27,588.07	9015	24,87,08,679	2.0%	13	31,33,72,936
TOTAL AMOUNT										25,58,38,889			32,23,57,000
2038	TC for BC	MCW-TC BC	Sqm	44%	105204	9.2819421		4,29,658.87	13	55,85,565	2.0%	14	71,49,524
2038	BC Overlay	MCW-BC	Cum	44%	105204	9.28	0.05	21,611.56	9015	19,48,29,981	2.0%	14	24,93,82,375
2038	TC for BC	SR-TC	Sqm	100%	28750	7.5		2,15,625.00	13	28,03,125	2.0%	14	35,88,000
2038	BC Overlay	SR-BC	Cum	100%	28750	7.5	0.05	10,910.21	9015	9,83,56,448	2.0%	14	12,58,96,253
2038	Road Marking - MCW	RM MCW	Sqm	85%	245476	0.15		31,225.40	400	1,24,90,160	2.0%	14	1,59,87,405
2038	Road Marking - SR	RM SR	Sqm	100%	67083.33333	0.15		10,062.50	400	40,25,000	2.0%	14	51,52,000
2038	Studs	STUD	Nos	100%	24548			24,548.00	220	54,00,560	2.0%	14	69,12,717
TOTAL AMOUNT										32,34,90,839			41,40,68,274
2039	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	25%	6870		0.3	512.95	2700	13,84,958	2.0%	15	18,00,446
2039	Replacement of Panels @ 2% area	TP-CC PAN	Cum	25%	6870		0.3	512.95	9000	46,16,527	2.0%	15	60,01,485
2039	Road Marking - MCW	RM MCW	Sqm	15%	245476	0.15		5,523.21	400	22,09,284	2.0%	15	28,72,069
TOTAL AMOUNT										82,10,769			1,06,74,000

	PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.	ANNEXURE: ABSTRACT OF MMR STRUCTURES
---	--	---


2. Structure

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
2.01	2034	29-10-2033	863263	10359155	10	2.0%	12430986	1.24	GST 0% considered

	PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.	ANNEXURE: ABSTRACT OF MMR STRUCTURE
---	--	--

Structure MMR-Base

Sr. No.	Item	Unit	Quantity	% of Extant to be Treated	Rate (Rs)	Amount (Rs)
1	Strip Seal Joint	Rmt	1302	10.00%	1,350	1,75,770
3	Crash Barrier on Structures	Rmt	5140	10.00%	3,562	18,31,010
4	Painting of Crash Barrier	Sqm	5757	25.00%	80	1,15,145
5	Wearing Coat over Deck Slab	Sqm	47044	50.00%	325	76,44,618
6	Repalcement old Damaged Drainage Spoutes	Nos	520	5.00%	3,562	92,612
10	Repair of RE Wall	Ls				5,00,000
Total Structure MMR Cost						1,03,59,155

	PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.	ANNEXURE: ABSTRACT OF MMR TOLL PLAZA
--	--	---

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
---------	-------------	----------	-----------------------	----------------------	-------------------	--------------------------	---------------------------------------	------------------	---------

3. Toll Plaza


3.01	2029	30-10-2028	355668	4268013	5	3.0%	4908215	0.49	GST 0% considered
3.01	2030	30-10-2029	821592	9859110	6	3.0%	11633749	1.16	GST 0% considered
3.01	2032	30-10-2031	444585	5335016	8	3.0%	6615420	0.66	GST 0% considered
3.01	2038	28-10-2037	3228107	38737286	14	2.0%	49583726	4.96	GST 0% considered



PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.


**ANNEXURE:Routine
Maintenance**

FY	1. RM Costs (Rs in Cr) with Inflation				Total Expenditure till the end of Concession Period
	Highway Routine Maintenance Cost	Structure Routine Maintenance Cost	Route Maintenance Manpower Cost	Route Maintenance Vehicle & Equipment Cost	
Base Cost	0.54	0.28	0.71	0.62	2.14
2023-2024	0.27	0.14	0.36	0.31	1.07
2024-2025	0.68	0.34	0.89	0.77	2.67
2025-2026	0.78	0.39	1.02	0.88	3.07
2026-2027	0.92	0.47	1.20	1.04	3.63
2027-2028	0.95	0.48	1.24	1.08	3.75
2028-2029	0.97	0.49	1.27	1.10	3.83
2029-2030	1.34	0.68	1.75	1.52	5.29
2030-2031	1.49	0.76	1.95	1.70	5.90
2031-2032	1.02	0.52	1.34	1.16	4.03
2032-2033	1.08	0.55	1.41	1.23	4.26
2033-2034	1.11	0.56	1.45	1.26	4.38
2034-2035	1.13	0.58	1.49	1.29	4.48
2035-2036	1.14	0.58	1.50	1.30	4.53
2036-2037	1.18	0.60	1.54	1.34	4.66
2037-2038	1.18	0.60	1.54	1.34	4.65
2038-2039	0.67	0.34	0.87	0.76	2.63
Total Expenditure in Cr. Rs	15.89	8.07	20.82	18.07	62.84

	PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE BASE COST
---	--	--


Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1	HIGHWAY								
1.1	FLEXIBLE PAVEMENT, MEDIAN & SHOULDERS								
1.1.1	Sealing of Cracks								
1.1.1.3	Filling discrete cracks with slow curing bitumen emulsion as per Technical Specification Clause 3004.3.3	Rm	2555	3%	4	851.50	10,218.01		
1.1.2	Treatment of Bleeding Surface								
1.1.2.1	Providing treatment to bleeding bituminous surface at scattered locations - Main carriageway	Sqm	22991	3%	2	3,544.37	42,532.47		
1.1.3	Treatment of Rutting Surface								
1.1.3.1	Providing localised repair to rutted portion and edge breaking of bituminous surface - Main carriageway	Cum	55	0%	9015	41,452.28	4,97,427.36		
1.1.4	Pothole Repair								
1.1.4.1	Providing treatment and repair to pot-holes and patch work - MCW	Sqm	920	0%	384	29,427.87	3,53,134.43		
1.1.4.2	Providing treatment and repair to pot-holes and patch work - Service/Slip Road	Sqm	302	0%	384	9,660.00	1,15,920.00		
1.1.5	Proving and laying bituminous concrete (Asphaltic Concrete)	0.00	0	0%					
1.1.7	Shoulder Maintenance	Sqm	4598	2%	85	32,569.91	3,90,838.88		
1.2.3	RCC drain Repair/Restoring	Rm	133	1%	500	5,529.17	66,350.00		
1.2.4	Earthen drain Repair/Restoring	Rm	762	1%	100	6,350.00	76,200.00		
1.2.5	Repair/Restoring of Drain Slabs	Rm	531	2%	600	26,540.00	3,18,480.00		
1.2.6	Repair/Repstoration of Turfing on embankment slopes and at all other Project Facilities	Sqm	2555	3%	46	9,707.11	1,16,485.31		
1.2.7	Rain Cuts Maintenance: Restoration of rain cuts soil, moorum, gravel or a combination of these	Sqm	5109	1%	46	19,584.52	2,35,014.23		
1.2.8	Providing and laying Stone pitching on slopes of road embankment	Cum	153	0%	1221	15,595.24	1,87,142.85		
1.2.10	Repair of Chutes in High Embankment	Rm	1022	1%	100	8,515.01	1,02,180.10		
1.3	PROJECT FACILITIES								
1.3.1.1	Overhead/ Gantry Sign boards	Nos	0	5%	10000	166.67	2,000.00		
1.3.1.2	Cantilever Gantry Sign boards	Nos	1	5%	10000	666.67	8,000.00		
1.3.2	Other Sign Boards	Nos	42	3%	4739	16,645.74	1,99,748.85		
1.3.2.16	Painting to Sign Board pole	Nos	309	20%	75	1,931.88	23,182.50		
1.3.3	Cats Eyes/Raised pavement marker (NMC Nails Less)	Nos	736	3%	220	13,501.40	1,62,016.80		
1.3.4	Distance Measurement Stones								
1.3.4.1	Painting								
1.3.4.1.1	Hectometer stones	Nos	106	25%	30	263.66	3,163.95		
1.3.4.1.2	5 Kilometer Stone	Nos	6	25%	350	160.42	1,925.00		
1.3.4.1.3	Kilometer stone	Nos	21	25%	183	319.58	3,834.92		
1.3.4.1.4	Boundary stone	Nos	53	5%	143	626.12	7,513.42		
1.3.4.2	Fixing/Replacing/Restoring								
1.3.4.2.1	Hectometer stones	Nos	84	20%	599	4,212.97	50,555.60		
1.3.4.2.2	5 Kilometer Stone	Nos	2	10%	3471	636.35	7,636.20		

	PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE BASE COST
---	--	--


Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1.3.4.2.3	Kilometer stone	Nos	8	10%	2033	1,423.10	17,077.20		
1.3.4.2.4	Boundary stone	Nos	11	1%	625	548.96	6,587.50		
1.3.5	Kerb								
1.3.5.1	Cement Concrete Kerb casting with-out channel section (I-Kerb)	Rm	327	0%	398	10,856.29	1,30,275.45		
1.3.5.3	Painting of Kerb with-out channel section (I-Kerb)	Sqm	2226	5%	121	22,443.60	2,69,323.22		
1.3.6	Pavement Markings								
1.3.6.1	Lane / Centre Line / Edge Line	Sqm	2233	5%	400	74,418.89	8,93,026.67		
1.3.7	Barriers								
1.3.7.1	Repair/Replace MBCB/W-beam Crash barrier	Rm	168	1%	2422	33,853.51	4,06,242.06		
1.3.7.4	Repair/Replace PGR (Pedestrian Guard Rail)	Rm	63	1%	2400	12,638.00	1,51,656.00		
1.3.7.5	Painting of Pedestrian Guard Rail (PGR)	Rm	632	10%	75	3,949.38	47,392.50		
1.3.7.6	Repair/Replace Fencing	Rm	133	3%	388	4,303.57	51,642.80		
1.3.8	Plantation								
1.3.8.1	Maintenance of Median Plantation	Km	0	1%	288463	11,675.55	1,40,106.62		
1.3.8.2	Avenue Plantation	Nos	155	2%	1184	15,294.32	1,83,531.84		
1.3.9	Miscellaneous								
1.3.9.2	Providing/Repair of Rumble Strips	Rm	5	3%	378	165.38	1,984.50		
1.3.9.4	Solar Blinker	Nos	7	20%	4500	2,700.00	32,400.00		
1.3.9.5	Delinaters	Nos	32	20%	1029	2,761.15	33,133.80		
1.3.10	Bus Shelter								
1.3.10.1	Bus Shelter Damaged	Nos	0	1%	100000	833.33	10,000.00		
1.3.10.2	Bus Shelter Roof Damaged	Sqm	63	25%	250	1,302.08	15,625.00		
1.3.10.3	Bus Shelter Painting	Nos	1	8%	10000	625.00	7,500.00		
1.3.10.4	Bus Shelter Paver Blocks	Sqm	15	1%	250	306.25	3,675.00		
1.4	RIGID PAVEMENT								
1.4.10	Removal of Sealent & Replacement with Appoxy Sealent	Lm	67	2%	85	474.64	5,695.68		
1.4.11	Replacement of Panels	Nos	0	0.1%	39690	1,445.38	17,344.53		
1.4.12	Texturing/Raveling of panel	Sqm	137	2%	100	1,145.02	13,740.20	54,19,461	0 Service Charge Considered
2	STRUCTURES								
2.01	Providing and laying of wearing course with 25 mm thick mastic asphalt laid over 40 mm thick bituminous concrete including correction of existing profile with bituminous concrete as per drawings and Technical Specifications clause 2700 (item rate includes cost of BC and profile correction course)	Sqm	47044	0.25%	750	7,350.59	88,207.13		
2.02	Structure Repair Works	LS							
2.03	Expansion Joint Repair	Rm	1302	1.50%	12000	19,530.00	2,34,360.00		

	PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE BASE COST
---	--	--

Routine Maintenance Cost


Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2.04	Providing Reinforced cement concrete crash barrier at the edges of the bridge structures constructed with M-40 grade concrete with HYSD-Fe 500 TMT reinforcement concrete per Rmt conforming to IRC:21 and fixing with dowel bars 16 mm dia to old concrete using epoxy grout as per drawing and Technical Specifications and as directed by the Engineer.	Rmt	5140	0.25%	6500	6,960.96	83,531.50		
2.05	Painting of Concrete Crash Barrier	Sqm	3213	25%	121	8,098.81	97,185.69		Considering 50% repainting per year & 1.25Sqm per Rm
2.06	Providing and fixing 50mm NB MS pipe rail on crash barrier with MS base plate and vertical stiffener fixed with anchor bolts complete including providing three or more coats of epoxy paint of approved colour, make and quality over a coat of epoxy primer complete as per drawings and Technical Specifications Sections 1900 & 2703.	Rmt	5140	0.25%	150	160.64	1,927.65		
2.07	Removal of earth, debris and vegetation from waterway of culverts and bridges by manual means through unskilled labor, and disposal of removed material within all lead as directed by Engineer. (Before and after Monsoon)	LS	117	70%	5000	34,125.00	4,09,500.00		
2.08	Providing Boulder apron on U/S and D/S sides, 1000 mm thick, including relaying / removing existing damaged boulders as per Technical Specification Sections 2500 and direction of Engineers.	Cum	1893	20%	1500	47,319.01	5,67,828.15		
2.09	Providing and laying Stone pitching on slopes upto 0.5m height over H.F.L and for bed where specified, using hard variety stone of 200 mm nominal size, the joints being filled with spalls and pointed with 1:4 cement mortar as per technical specification	Cum	2792	20.0%	1221	56,826.41	6,81,916.94		
	Providing Filter Media below Stone Pitching on Slopes	Cum	1385	20.0%	1312	30,280.03	3,63,360.39		
2.10	Providing and laying Plain/Reinforced Cement Concrete in Rigid Apron excluding reinforcement complete as per Drawing and Technical Specifications.Ref. to Technical specification 1500,1700 & 2100 .	Cum	579	5%	4369	10,538.82	1,26,465.78		
2.12	Providing gratings to the existing drainage spouts as per technical specification Clause 2705 & Additional Technical Specification	Nos	520	25%	500	5,416.67	65,000.00		
2.13	Repair/Replacement of Drainage Spoutes	Nos	520	5%	1254	2,717.00	32,604.00	27,51,887	0 Service Charge Considered

	PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.	ANNEXURE: ROUTINE MAINTENANCE
---	--	--

1. SPV Staff Cost

3. Route Maintenance Manpower Cost

Sr. No.	Position	Unit	Nos	Shift	Blank	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
3.03	Maintenance Engineer	Nos	1	1		1	50000	50000	600000		
3.04	Maintenance Supervisor	Nos	2	1		2	35000	70000	840000		
3.06	System Engineer (TMS)	Nos	1	1		1	40000	40000	480000		
3.07	System Engineer (HTMS)	Nos	1	1		1	35000	35000	420000		
3.08	Labour for RRM (Male)	Nos	10	1		10	15261	152614	1831372		
3.09	Labour for RRM (Female)	Nos	8	1		8	15261	122091	1465098		
3.10	Labour for Misc. works	Nos	2	1		2	15261	30523	366274		
3.11	Grass cutting operator	Nos	6	1		6	15261	91569	1098823		
3.13	Others	Nos	0	1		0	18778	0	0	71,01,568	Service Charge @ 0%
						31		591797			

	PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the State of Telangana under NH (O) on HAM Mode.	ANNEXURE: ROUTINE MAINTENANCE
---	--	--

4. Route Maintenance Vehicle & Equipment Cost

Sr. No.	Description	Unit	Nos	Shift	Blank	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
4.02	Water tanker 20 KL	Nos	1	1		1	104938	104938	944438		
4.03	Pickup /Campher	Nos	2	1		2	56970	113940	1367280		
4.06	Water tanker 5 KL	Nos	2	1		2	52477	104953	944579		
4.07	Grass Cutter	Nos	6	1		6	9791	58744	704926		
4.08	Man Basket for Elec.	Days/Month	3	1		3	26667	80000	960000		
4.09	JCB	Days/Month	3	1		3	26667	80000	960000		
4.11	Bikes for Supervisor	Nos	2	1		2	5056	10113	121354		
4.12	PPE/Uniform for staff	Nos	5	1		5	525	2625	31500		Considering Rs. 350/- per pair & 2 pairs per each (75% of the Staff)
4.13	Safety items, Sign boards	Nos	1	1		1	6000	6000	72000		
4.14	Tools & tackles	Nos	1	1		1	5000	5000	60000		
4.15	Office space	Nos	0	1		0	5000	0	0		
4.16	Sweeping Machine Truck Mounted	Nos	0	1		0	105000	0	0		
4.17	Others	Nos	0	1		0		0	0		
4.18	Others	Nos	0	1		0		0	0	61,66,077	Service Charge @ 0%
								566312		21019	Rs. Per Month per Km



**PROJECT: Four Laning of Repallewada (Design Km 42.000/Existing Km 288.510) to
Telangana/Maharashtra Border (Design Km 94.602/Existing Km 342.000) in the
State of Telangana under NH (O) on HAM Mode.**

**ANNEXURE:
Operations Cost**

Year	Operation Cost in Cr. Rs				Total Expenditure till the end of Concession Period
	SPV Cost	Manpower	Operating Expenses (IMV)	Electricity	
2023-2024	0.77	1.37	0.50	0.24	2.89
2024-2025	1.07	1.97	0.70	0.34	4.07
2025-2026	1.11	2.12	0.73	0.35	4.32
2026-2027	1.16	2.29	0.76	0.36	4.57
2027-2028	1.19	2.43	0.78	0.37	4.78
2028-2029	1.23	2.58	0.80	0.39	5.00
2029-2030	1.27	2.73	0.83	0.40	5.22
2030-2031	1.30	2.90	1.67	0.41	6.29
2031-2032	1.34	3.07	1.16	0.42	6.00
2032-2033	1.37	3.19	0.90	0.43	5.89
2033-2034	1.40	3.32	0.91	0.44	6.07
2034-2035	1.43	3.45	0.93	0.45	6.26
2035-2036	1.45	3.59	0.95	0.46	6.45
2036-2037	1.48	3.74	0.97	0.46	6.66
2037-2038	1.51	3.89	0.99	0.47	6.86
2038-2039	0.39	1.01	0.25	0.12	1.77
2039-2040					

Anantam Highways Trust

Four laning of Puducherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29+000 to Km.67+000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry

(FINAL REPORT)



FEBRUARY, 2025



**RUKY Projects Private Limited
Hyderabad**

www.rukyprojects.com | contact@rukypjrojects.com | 040 4855 7777



BLANK PAGE



**Four laning of Puducherry-Poondiyanakuppam Section of NH-45A(New NH-32)
from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyोजना
Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and
Union Territory of Puducherry**

REVISION RECORD

This document has been issued and amended as follows:

Document No.	Issue	Date	Description
RU- 337 /AHT/TDD/DPHPL	R0	18-02-2025	Final Report



DISCLAIMER AND CONSENT FOR USE

This report has been prepared for the benefit of Anantam Highways Trust for and in connection with initial offer of units representing an undivided beneficial interest in the Trust. In Preparing this report, RUKY Projects Pvt Ltd has relied, in whole or in part, on data and information provided by Anantam Highways Trust and M/s DBL Poondiyankuppam Highways Private Limited which RUKY Project Pvt Ltd has assumed to be accurate, complete, reliable and correct.

This report may be reproduced and included in the preliminary placement memorandum, placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust and may be made available for inspection in the manner specified therein. In connection with the report, the following details in relation to the Technical Consultant may be included in preliminary placement memorandum and the placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust

Technical Consultant:

RUKY PROJECTS PRIVATE LIMITED

Flat No. 1403A, 14th Floor,

Manjeera Trinity Corporate,

JNTU-Hitech City Road, Kukatpally,

Hyderabad – 500072

www.rukyprojects.com

contact@rukypjrojects.com

+91-040-4855 7777

TABLE OF CONTENTS

CHAPTER 1. EXECUTIVE SUMMARY	7
1.1 Project Description	7
1.2 Extension of time (EoT) as per IE MPR January 2025	8
1.3 Present status of the Project	8
1.4 Condition of Project Corridor.....	8
1.4.1. Pavement Condition	9
1.4.2. Condition of Structures.....	9
1.4.3. Condition of Project Facilities	9
1.5 Review of Agreements.....	9
1.6 Critical issues.....	9
1.6.1. LA issues.....	9
1.7 O&M Cost Estimate.....	9
CHAPTER 2. INTRODUCTION	11
2.1 Project Background.....	11
2.2 Key Plan	12
2.3 Project Geography	12
2.4 Project Overview.....	13
2.5 Chainage Equation	13
CHAPTER 3. SCOPE OF CONSULTANCY SERVICES	15
3.1 Scope of Consultancy Services.....	15
CHAPTER 4. SALIENT FEATURES OF THE PROJECT	16
4.1 Salient Features of the Project	16
4.2 Typical Cross Section (TCS) Schedule.....	16
4.3 Bypass	18
4.4 Service Roads/Slip Roads.....	18
4.5 Drainage.....	20
4.6 Summary of the Carriageway and Pavement Details	20
4.7 Summary of Structures	20
4.8 Project Facilities.....	20
CHAPTER 5. REVIEW OF AGREEMENTS	22
5.1 Review of Concession Agreement	22
5.1.1. Concession (Article 3)	22
5.1.2. Conditions precedent (Article 4).....	22
5.1.3. Major Obligations of the Concessionaire (Article 5).....	23
5.1.4. Performance Security (Article 9).....	23
5.1.5. Procurement of Site(Article 10)	23
5.1.6. Shifting of Utilities(Article 11).....	24
5.1.7. Tests (Clause 13.3)	24
5.1.8. Provisional Completion Certificate (Article 14)	24
5.1.9. Change of scope (Article 16)	25
5.1.10. O&M Obligations of the Concessionaire (Clause 17.1).....	26
5.1.11. Maintenance Requirements (Clause 17.2)	26
5.1.12. Appointment of Independent Engineer(Article 21).....	26

5.1.13. Financial Close (Article 22).....	27
5.1.14. Payment of Bid Project Cost (Article 23)	27
5.1.15. Payments during Construction:	27
5.1.16. Payments during Operation & Maintenance Period:	27
5.1.17. Force Majeure (Article 28)	28
5.2 Appointed Date (Article 42)	29
5.3 Review of Milestones (Schedule G)	29
5.4 Review of EPC Agreement	29
5.4.1. Scope of works.....	29
5.4.2. Terms and Conditions	29
5.5 Settlement Agreement dated 10-11-2023.....	30
CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS	32
6.1 Review of Reports	32
6.1.1. Monthly status reports	32
6.1.2. Inspection Reports.....	32
6.1.3. Review of Pavement design report.....	32
6.1.4. Rigid pavement for main carriageway	33
6.1.5. Rigid Pavement for Service Road/Slip Road	33
6.1.6. Site Investigations	34
6.2 Review of Documents	36
6.2.1. Insurance.....	36
6.3 Maintenance Manual (Clause 17.3).....	36
CHAPTER 7. REVIEW OF CRITICAL ISSUES.....	37
7.1 Land Acquisition:.....	37
7.2 Claims and Penalties	37
7.3 Royalties and Seignorages	37
CHAPTER 8. SITE APPRAISAL	38
8.1 General.....	38
8.2 Highways.....	38
8.2.1. Road Inventory.....	38
8.2.2. Type of terrain	38
8.2.3. Land use	38
8.2.4. Villages/Towns along the Project	38
8.2.5. Main Carriageway	39
8.2.6. Service/Slip road	40
8.2.7. Cross road details.....	41
8.2.8. Road Side Drainage	42
8.2.9. Kerb.....	43
8.2.10. GFC Vs Site Comparison.....	43
8.2.11. Pavement Condition	43
8.3 Structures.....	44
8.3.1. Culverts	47
CHAPTER 9. CHAPTER PROJECT FACILITIES.....	48
9.1 Toll Plaza	48
9.2 Traffic signs	48
9.3 Overhead Signs	48

9.4	Landscaping & Tree Plantation	49
9.5	Pavement marking	49
9.6	Metal beam Crash Barrier	50
9.7	Hectometer/Km. stones	50
9.8	Highway Lighting	50
9.9	Truck Lay Bay	50
9.10	Bus Bay and Bus shelters	50
9.11	Traffic Aid Post	52
9.12	Medical Aid Post	52
9.13	Vehicle Rescue Posts	52
9.14	Operation and Maintenance (O&M) Centre	52
9.15	Telecom System	52
9.16	Advance Traffic Management System (ATMS)	52
9.17	Road Studs	52
CHAPTER 10.	PROJECT STATUS	53
10.1	Review of Physical Progress	53
10.2	List of Balance Works (Highways)	53
10.3	Epilogue	55
CHAPTER 11.	OPERATION AND MAINTENANCE COST ESTIMATES	56
11.1	CapEx Cost	56
11.2	O&M Cost	56
11.2.1.	OpEx (Tentative amounts)	56
CHAPTER 12.	CONCLUSION	60

LIST OF TABLES

Table 1-1:	Key Dates	7
Table 1-2:	Key Features	7
Table 1-3:	Status of achievement of Project Milestones	8
Table 1-4:	Summary of O&M cost Estimate check	9
Table 2-1:	Project Data	13
Table 2-2:	Design chainage corresponding Existing chainage	14
Table 4-1:	Salient Features of the Project	16
Table 4-2:	Cross section Schedules	16
Table 4-3:	Details of Bypass	18
Table 4-4:	Service Road locations	19
Table 4-5:	Slip Road Locations	19
Table 5-1:	Conditions Precedent to be fulfilled by the Concessionaire	22
Table 5-2:	Details of Utilities shifting	24
Table 5-3:	Original Schedule of Annuity Payments dates	27
Table 6-1:	Designed pavement crust summary as per pavement design report	33
Table 6-2:	Pavement Composition for Toll plaza	33
Table 6-3:	Pavement Design Thickness Vs Executed Crust Thickness for MCW	34
Table 6-4:	Pavement Design Thickness Vs Executed Crust Thickness for Service Road	34
Table 6-5:	Details of Insurance policies	36
Table 7-1:	List of Pending NCR's as per IE MPR-January 2025	37
Table 8-1:	Land use details along the project road	38
Table 8-2:	Status of Main carriageway(upto PQC)	39

Table 8-3: Status of Service/Slip roads.....	40
Table 8-4: List of Minor junctions/cross road	41
Table 8-5: Inventory and status of drain.....	42
Table 8-6: Summary of Structures	45
Table 8-7: Detailed Inventory and Condition of Structures as on date	45
Table 9-1: Status of traffic sign boards.....	48
Table 9-2: Status of traffic sign boards.....	48
Table 9-3: Summary of Metal beam Crash barrier	50
Table 9-4: Details of Bus bays and shelters	51
Table 10-1: Details Highways Completed and balance works	53
Table 10-2: Details of the structures constructed and balance works.....	54
Table 11-1: Summary of Estimated Periodic/Major maintenance (MMR) expenses	56
Table 11-2: Summary of Estimated Operation expenses.....	58

LIST OF FIGURES

Figure 2.1: Project Location Map.....	12
Figure 2.2: Key Plan	12
Figure 6.1: Bar Chart showing Design thickness vs Executed thickness for MCW	35
Figure 6.2: Bar Chart showing Design thickness vs Executed thickness for SR	35
Figure 6.3: Representative photos of core cutting samples.....	36
Figure 8.1: Status of Main Carriageway	40
Figure 8.2: Status of Service Road	41
Figure 8.3: Status of Junctions	42
Figure 8.4: Photographs showing the condition of Pavement	44
Figure 8.5: Photographs showing the Condition of Major Structures.....	47
Figure 8.6: Photographs showing the Condition of Culverts.....	47
Figure 9.1: Status of Overhead gantry.....	49
Figure 9.2: Photographs showing status of Median Plantation	49
Figure 9.3: Photographs of W Beam Crash Barrier.....	50

LIST OF ANNEXURES

Annexure-1: Summary of Change of Scope.....	62
Annexure-2: Inventory and condition of Pavement.....	64
Annexure-3: Inventory and Condition of Structures.....	83
Annexure-4: Inventory and Condition of Culverts.....	119
Annexure-5: Inventory of Metal Beam Crash Barrier.....	140
Annexure-6: Inventory of Highway Lighting.....	144
Annexure-7: Inventory of Truck Lay Bays.....	147
Annexure-8: Inventory of Bus Bays.....	149
Annexure-9: Strip chart showing the present status of work.....	154
Annexure 10: summary of cost estimates of balance works.....	162

ABREVIATIONS

Abbreviation	Meaning	Abbreviation	Meaning
3A/3D/3G	Stages of Land Acquisition	EOT	Extension Of Time
AADT	Annual Average Daily Traffic	EPC	Engineering Procurement Construction
AASHTO	American Association of State Highway and Transportation Officials	ESAL	Equivalent Standard Axle Load
ADT	Average Daily Traffic	ESMF	Environment and Social Management Framework
ATMS	Advance Traffic Management System	Exc	Excavation
BBD	Benkelman Beam Deflection	FOB	Foot Over Bridge
BC	Bituminous Concrete	FWD	Falling weight Deflectometer
BI	Bump Integrator- Roughness (mm/Km.)	GDP	Gross Domestic Product
BM	Bituminous Macadam	GFC	Good For Construction
BOQ	Bill of Quantities	GNP	Gross National Product
BOT	Built Operate and Transfer	GOI	Government of India
BPC	Bid Project cost	GSB	Granular Sub Base
C&G	Clearing and Grubbing	HAM	Hybrid Annuity Mode
C/s	Cross-section	HFL	High Flood Level
CA	Concession Agreement	HPC	Hume Pipe culvert
CapEx	Capital Expenditure	HS	Hard Shoulder
CBR	California Bearing Ratio	Ht	Height
Ch	Chainage	HTMS	Highway Traffic Management System
cm	Centimetre	IE	Independent Engineer
COD	Commercial Operation date	IRC	Indian Roads Congress
Concessionaire	M/s DBL Poondiyankuppam Highways Private Limited	IRI	International Roughness Index
Cos	Change of Scope	IS	Indian Standard
Cr.	Crores	Kg	Kilogram
cum	Cubic Meter	Km.	Kilometre
CV	Commercial Vehicles	LHS	Left Hand Side
CVPD	Commercial Vehicles per Day	Ltr	Litre
NMHPL	M/s DBL Poondiyankuppam Highways Private Limited	m (or) Mts	Metre/Meter
DBM	Dense Bituminous Macadam	M/s	Messers
DFBOT	Design, Finance, Build, Operate and Transfer	MCW	Main Carriageway
DFO	District Forest Officer	MDD	Maximum Dry Density
Dia (or)*	Diameter	MDR	Major District Road
DLC	Dry Lean Concrete	Misc	Miscellaneous
DLP	Defect liability Period	MJB	Major Bridge
DPR	Detailed Project Report	mm	Millimetre
DTM	Digital Terrain Model	MM	Major Maintenance
EIA	Environment Impact Assessment	MNB	Minor Bridge
EIRR	Economic Internal Rate of Return	MORTH	Ministry of Road Transport & Highways
Emb	Embankment	MOU	Memoranda Of Understanding
EMP	Environment Management Plan	MSA	Million Standard Axles

Abbreviation	Meaning	Abbreviation	Meaning
MT (or) T	Metric Tonne	RHS	Right Hand Side
NCR	Non-Conformance Report	RoB	Road over Bridge
NDT	Non-Destructive Test	ROW	Right Of Way
NH	National Highway	RUB	Road Under bridge
NHAI	National Highway Authority of India	RUKY	RUKY Projects Private Limited
NHDP	National Highways Development Project	SDBC	Semi Dense Bituminous Concrete
No. (or) Nos.	Numbers	SF	Seasonal Factor
NPV	Net Present value	SH	State Highway
NSDP	Net State Domestic Product	SPV	Special Purpose Vehicle
O&M	Operation and Maintenance	Sqm	Square Meter
O-D	Origin and Destination	SR	Service Road
OpEx	Operative Expenditure	TCS	Typical Cross Section
PCU	Passenger Car Unit	TDD	Technical Due Diligence
PIA	Project Influence Area	TOR	Terms of Reference
PIU	Project Implementation Unit	VDF	Vehicle Damage Factor
PM	Periodic Maintenance	VOC	Vehicle Operating Costs
PQC	Pavement Quality Concrete	VOP	Vehicular Overpass
PSC	Pre-stressed Concrete	VUP	Vehicular Underpass
RCC	Reinforced Cement Concrete	WMM	Wet Mix Macadam
RE	Reinforced Earth		

CHAPTER 1. EXECUTIVE SUMMARY

1.1 Project Description

Four laning of Puducherry-Poondiyankuppam Section of NH-45A (New NH-32) from Km.29+000 to Km.67+000 (Design Chainage) in the state of Tamil Nadu is being executed by M/s Puducherry-Poondiyankuppam Highways Private Limited on Hybrid Annuity Mode under Bharatmala Pariyojna Phase I (Residual NHDP IV works) in accordance with provisions of the Concession Agreement dated 17-05-2021. Key Dates and Key features are given in tables below.

Table 1-1: Key Dates

S No	Description	Date	Remarks
1	LOA date	17-03-2021	
2	Date of Agreement	17-05-2021	
3	Appointed date	15-11-2021	
4	Construction Period	730 Days	From the Appointed Date.
5	Extension of Time (if any)	31-03-2024	
6	Scheduled Construction End Date	14-11-2023	
7	Date of issuance of Provisional Certificate	-	Applied for PCC
8	Concession Period	15 Years	Commencing COD

Table 1-2: Key Features

S. No.	Particulars	As per CA	At Site	Remarks
1	Total Length of Four Lane (Rigid)	38.00 Km.	38.00 Km.	
2	Width of Main Carriage way	24.00 m	24.00 m	
3	Length of service Roads	3.600 Km.	4.69 Km. (0.3Km incl COS)	
4	Length of Slip Roads	23.860 Km.	22.516 Km.	
5	Length of bypass Roads	33.580 Km.	33.580 Km.	Puducherry & Cuddalore combined Bypass
6	Major junctions	0	0	
7	Minor Junctions	19 Nos	19 Nos	
8	Grade separated Junctions	15 Nos	15 Nos	
9	Major Bridge	3 No	3 No	
10	Minor Bridges	12 Nos	13 Nos (incl 01 no COS)	
11	ROB	3 Nos	3 Nos	
12	Slab/ Box Culverts	129 Nos	129 Nos	9 Nos Balance
13	VUP	7 Nos	6 Nos	1 No Balance
14	LVUP	2 Nos	3 Nos (Incl.01 no CoS)	
15	Flyover	6 Nos	6 Nos	
16	Bus shelters/Bus bays	36 Nos	36 Nos	
17	Truck Lay-byes	2 Nos	2 Nos	
18	Median Opening	4 Nos	5 Nos (Incl 1 no COS)	

1.2 Extension of time (EoT) as per IE MPR January 2025

The original scheduled date of completion was 14-11-2023. The Concessionaire proposed to complete the entire project, including COS works, by 31-03-2024, with a grace period of 3 months. However, as per the settlement agreement between the Authority and the Concessionaire made on 01-11-2023, the Authority granted an extension of time (EOT) up to 31-03-2024 for the completion of the entire project, including COS works, with a grace period of 3 months, without levying any damages. Subsequently Concessionaire have applied for EoT till December 31, 2024 with a grace period of 3 months, which is under consideration with NHAI.

1.3 Present status of the Project

The Project is under Construction phase. Status of achievement of Project Milestones is presented in the following table.

Table 1-3: Status of achievement of Project Milestones

Project Milestone	Duration from Appointed Date	Planned		Revised scheduled completion date	Actual		Delay (No of days)	Status
		Physical Progress	Scheduled date		Physical progress(%)	Achieved date		
I	214 days	20%	17-06-2022		20.15	13-07-2022	26 days	Achieved
II	334 days	35%	15-10-2022		35.02	27-11-2022	43 days	Achieved
III	584 days	75%	22-06-2023		75.06%	10-2-2024	233 days	IE issued letter for non-achievement of Milestone-III vide Lr No.1099 dated 27-6-2023
IV	730 days	100%	14-11-2023	31.03.2024 with a grace period of 3 months vide settlement Agreement dated 10-11-2023	98.62%			Concessionaire have applied for EoT till December 31, 2024 with a grace period of 3 months, which is under consideration with NHAI

1.4 Condition of Project Corridor

As of Jan, 2025, the total physical progress achieved is 98.62%, vide the settlement agreement dated 31-12-2024.

1.4.1. Pavement Condition

Overall assessment of pavement condition of the project road is good. Details are provided in **Chapter 8**.

1.4.2. Condition of Structures

Based on the visual condition, condition of the structures constructed was found to be good. No adversity was noticed. Details are provided in **Chapter 8**.

1.4.3. Condition of Project Facilities

During the site visit it is noticed that the Project facilities enumerated under Schedule C of the Project are being constructed/ provided. Details are provided in **Chapter 8**.

1.5 Review of Agreements

Following Agreements have been reviewed and comments were provided in **Chapter 5**.

- Concession Agreement
- EPC Agreement
- Settlement Agreement

1.6 Critical issues

No Critical Issues as per IE MPR January 2025

1.6.1. LA issues

As per IE MPR of May 2024, there is no pending land acquisition.

1.7 O&M Cost Estimate

The summary of year wise O&M and any immediate cost estimate are given below.

Table 1-4: Summary of O&M cost Estimate check

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2025-2026	-	2.16	3.80	5.96	
2026-2027	1.10	2.28	3.98	7.36	
2027-2028	3.69	2.50	4.12	10.31	
2028-2029	1.18	2.64	4.27	8.09	
2029-2030	1.32	2.62	4.42	8.36	
2030-2031	4.31	3.02	4.58	11.91	

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2031-2032	10.51	3.72	4.75	18.98	
2032-2033	1.32	2.70	4.86	8.88	
2033-2034	1.45	2.89	4.98	9.32	
2034-2035	2.44	2.99	5.10	10.53	
2035-2036	4.42	3.13	5.22	12.77	
2036-2037	1.50	3.07	5.35	9.93	
2037-2038	4.89	3.21	5.48	13.58	
2038-2039	12.15	3.39	5.61	21.15	Concession End Date 25.11.2038
2039-2040	1.35	2.29	4.31	7.95	
Total Expenditure in Cr. Rs	51.63	42.64	70.84	165.11	

CHAPTER 2. INTRODUCTION

2.1 Project Background

The Government of India had entrusted to the Authority the development, maintenance and management of NH-45A (New NH-32) of 4 laning from Km.29+000 to 67+000 (approx..38 Km design length) of Puducherry to Poondiyankuppam section in the state of Tamil Nadu on design, built, operate and transfer (DBOT Annuity or Hybrid Annuity) in accordance with the terms and conditions to be set forth in a Concession Agreement dated 17-05-2021.

After evaluation of the bids received from prospective bidders, NHAI (hereafter referred to as “Authority”) had selected M/s Dilip BuildCon Limited and issued LOA vide NHAI/NHDP-IV/11012/NH-45A/HAM/PP/2019/23931 dated 17-03-2021. Further, the selected bidder formed an SPV in the name and style as M/s DBL Poondiyankuppam Highways Private Limited as per Companies Act, 2013 and Concession Agreement (CA) was concluded between NHAI and SPV on 17-05-2021.

Subsequently, the SPV vide Agreement dated 13-10-2021 appointed Dilip BuildCon Limited as EPC contractor for the construction of aforesaid work.

National Highway NH-45A (New NH-32), which starts at Puducherry and ends at Poondiyankuppam in Cuddalore District, it is one of the important highways in Tamilnadu. The project road is traversing through the Villupuram tehsil in Villupuram district, cuddalore tehsil in Cuddalore district, Villianur and Bahour tehsil in Puducherry district of Puducherry UT.

The project road comprises the section of NH-45A starts at Puducherry and passes through important towns like Navamalkapper, Mangalam, Uruvaiyaar, Bahour, Saliamebu, Kuruvintham, Pudukadai, Oalapattu, Padirikuppam, Semmankuppam etc., and terminates at Poondiyankuppam having total design length of 38.00 Kms. The project Location map is given in **Figure 1.1**

Anantam Highways Trust appointed M/s. RUKY Projects Private Limited (hereafter referred to as “RUKY” or “Consultant”). as a consultant for Technical Due Diligence services of the above Road Project to know-how the status of construction, present condition of Carriageway, Structures and project facilities probable costs of Operations and Maintenance during balance Concession period, additional road safety requirements if any and to review the annuity payments received and future schedule of annuity payments. etc. The detailed Scope of Consultancy services are provided in **Chapter-3** of this report.

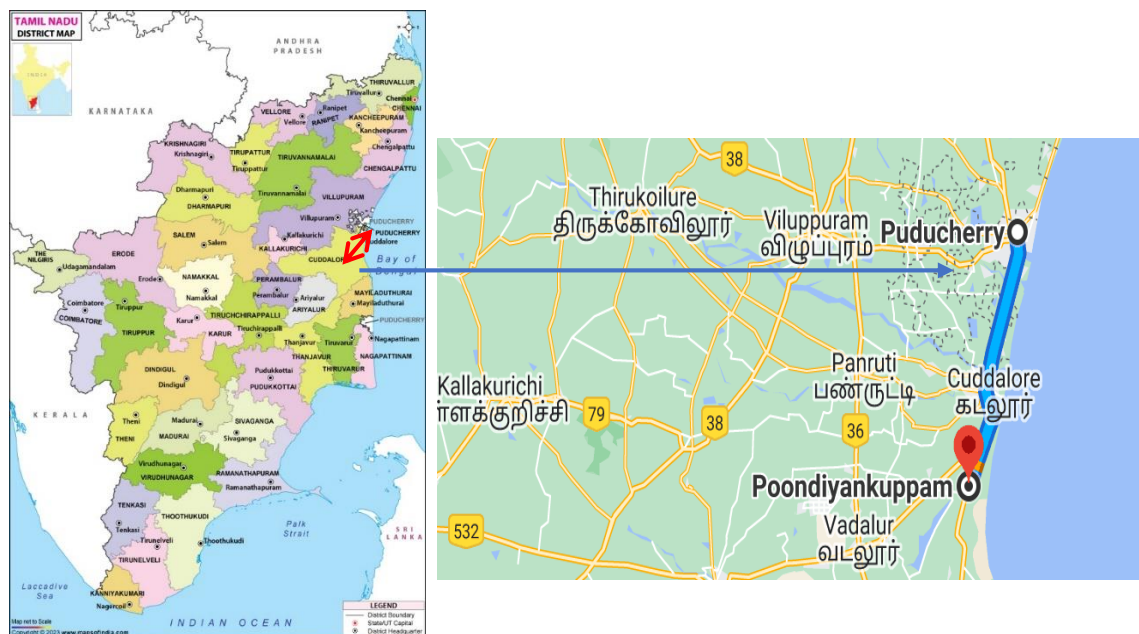


Figure 2.1: Project Location Map

2.2 Key Plan

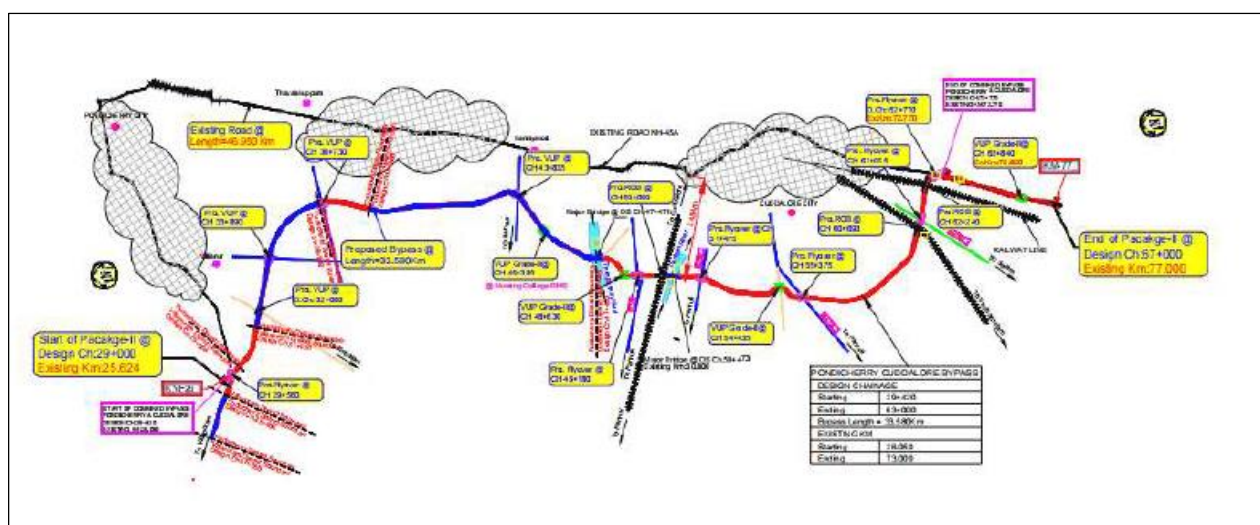


Figure 2.2: Key Plan

2.3 Project Geography

Climate: The Puducherry experiences semi-arid type of climate, with a mean maximum temperature about 34° C in all four regions and the mean minimum temperature is around a 24° C. However, during peak Summer periods of May to June, the maximum temperature goes 38° - 40° C in Puducherry/Karaikal and 45° - 47° C in Yanam.

The *rainy* period of the year lasts for *9.5 months*, from *April 3* to *January 21*, with a sliding 31-day rainfall of at least *13 millimeters*. The month with the most rain in Puducherry is *November*, with an average rainfall of *225 millimeters*.

Terrain: The Pondicherry region is a flat area where the elevation is not above 15 meters from the sea level. There are lagoons and lakes in this area. In the northwest of Pondicherry town low hills are found. Karaikal is a part of fertile Cauvery delta and is a flat are.

Villages & Towns: The project road comprises the section of NH-45A starts at Puducherry and passes through important towns like Navamalkapper, Mangalam, Uruvaiyaar, Bahour, Saliamebu, Kuruvinnatham, Pudukadai, Oalapattu, Padirikuppam, Semmankuppam etc and terminates at Poondiyanakuppam

2.4 Project Overview

Key features and timelines of the project are presented in the table below.

Table 2-1: Project Data

S. No.	Particulars	Details
1	Name of the project	Four-Laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu.
2	Name of the Authority	National Highways Authority of India (NHAI)
3	Name of the Concessionaire/SPV	M/s DBL Poondiyankuppam Highways Private Limited
4	EPC contractor	Dilip Build Con Limited
5	Independent Engineer	M/s. Theme Engineering Services Pvt. Ltd. In Association with Ishita Info Solutions Pvt.Ltd.
6	Project Length as per Schedule B of CA	38.00 Km
7	Bid Project Cost	Rs. 1228.00 Crore
8	Toll collected by	Authority
9	Date of Agreement	17-05-2021
10	Appointed date	15-11-2021
11	Construction Period	730 Days
12	Scheduled Construction End Date	14-11-2023
13	Extension of Time (if any)	Up to 31-03-2024 with 3 months grace period as per Settlement Agreement. EOT
14	Date of issuance of Provisional Certificate	Applied for PCC
15	Concession Period	15 Years

2.5 Chainage Equation

To avoid confusion while reviewing drawings and report it is necessary to understand the chainage equation between existing and New design chainages. As given in Appendix A-I of CA, the project design chainage corresponding to NH-45A existing chainages are shown below the table. Reduction in length of new alignment compared to existing alignment is due to the provision of bypass and re alignment in proposed alignment. Unless otherwise specifically mentioned all chainages referred to in this document are design chainages.

Table 2-2: Design chainage corresponding Existing chainage

Existing Chainage	Design Chainage	Remarks
Km. 25.624	Km. 29.000	Project start
Km. 77.000	Km. 67.000	Project end
51.376Km.	38.000 Km.	Project length

CHAPTER 3. SCOPE OF CONSULTANCY SERVICES

3.1 Scope of Consultancy Services

The consultant shall carry out the Technical Due Diligence services for the afore mentioned asset and the scope of work for the same is as follows:

- Review of various contractual documents
- Carryout detailed assessment of pavement condition and propose maintenance plan along with
- BOQ.
- Carrying out inventory & condition survey of all elements of road like embankment slope,
- plantation, road furniture of the project.
- Carrying out inventory & condition survey of all structures (Major Bridges, Minor Bridges, ROB,
- RE Wall, Flyovers, VUPs, PUPs, Culverts etc.), suggest any rehabilitation & maintenance
- requirements along with BOQ.
- Carryout road safety audit on Project highway and provide suggestions for improvement.
- Assess and Provide BOQ and cost estimate for routine & periodic maintenance including O&M.
- Review of validity of insurance and statutory compliances related to Project.

Review of correspondence exchanged between parties on contract related issues and claims etc. Submission of detailed report on technical due diligence of the RUKY Projects Pvt Ltd

CHAPTER 4. SALIENT FEATURES OF THE PROJECT**4.1 Salient Features of the Project**

The salient features of the Project as per Schedule B and C of Concession Agreement (CA) are listed in the following Table.

Table 4-1: Salient Features of the Project

S. No.	Particulars	As per CA	At Site	Remarks
1	Total Length of Four Lane (Rigid)	38.00 Km.	38.00 Km.	
2	Width of Main Carriage way	24.00 m	24.00 m	
3	Length of service Roads	3.600 Km.	4.69 Km. (0.3Km incl COS)	
4	Length of Slip Roads	23.860 Km.	22.516 Km.	
5	Length of bypass Roads	33.580 Km.	33.580 Km.	Puducherry & Cuddalore combined Bypass
6	Major junctions	0	0	
7	Minor Junctions	19 Nos	20 Nos	
8	Grade separated Junctions	15 Nos	15 Nos	
9	Major Bridge	3 No	3 Nosw	
10	Minor Bridges	12 Nos	13 Nos (incl 01 no COS)	
11	ROB	3 Nos	3 Nos	
12	Slab/ Box Culverts	129 Nos	129 Nos	
13	VUP	7 Nos	7 Nos	
14	LVUP	2 Nos	3 Nos (Incl.01 no CoS)	
15	Flyover	6 Nos	6 Nos	
16	Bus shelters/Bus bays	36 Nos	36 Nos	
17	Truck Lay-byes	2 Nos	2 Nos	
18	Median Opening	4 Nos	5 Nos (Incl 1 no COS)	

4.2 Typical Cross Section (TCS) Schedule

As per provisions of Schedule B of CA, there are 8 types of Typical Cross Sections (TCS) for the development of the Project Highway. The schedule of TCS as shown in Appendix BI of schedule B of CA is summarized and given in the following table.

Table 4-2: Cross section Schedules

S No	Design Chainage		Design Length km	C/s type	Remarks
	From	To			
1	29000	29150	150	2B	Navamalkapper Built-up
2	29150	29547.5	398	4A	
3	29547.5	29572.5	25	Fig 7.8A of 4Laning manual	Flyover at 29+560
4	29572.5	30000	427.5	4A	
5	30000	31600	1600	1	
6	31600	31992.5	392.5	4	

S .No	Design Chainage		Design Length km	C/s type	Remarks
	From	To			
7	31992.5	32007.5	15	Fig 7.8A of 4Laning manual	VUP at 32+000
8	32007.5	32420	412.5	4	
9	32420	33550	1130	1	
10	33550	33882.5	332.5	4	
11	33882.5	3389.5	15	Fig 7.8A of 4Laning manual	VUP at 32+890
12	3389.5	34350	452.5	4	
13	34350	36260	1910	1	
14	36260	36722.5	462.5	4	
15	36722.5	36737.5	15	Fig 7.8A of 4Laning manual	VUP at 32+730
16	36737.5	37200	462.5	4	
17	37200	43390	6190	1	VUP Grade-II at 40+263 Approach of Minor Bridge
18	43390	43820	430	4	
19	43820	43850	30	Fig 7.8A of 4Laning manual	MNB cum VUP at 43+835
20	43850	44280	430	4	
21	44280	45000	720	1	
22	45000	45379	379	4	
23	45379	45391	12	Fig 7.8A of 4Laning manual	VUP Grade-II at 45+385
24	45391	45750	359	4	
25	45750	47341	1591	1	
26	47341	47601	260	Fig 7.4A of 4Laning manual	Major Bridge at 47+471
27	47601	48420	819	1	
28	48420	48624	204	4	
29	48624	48636	12	Fig 7.4A of 4Laning manual	VUP Grade-II at 48+630
30	48636	48860	224	4	
31	48860	49197.5	307.5	4	
32	49197.5	49192.5	25	Fig 7.4A of 4Laning manual	Flyover at 49+180
33	49192.5	49590	397	4	
34	49590	50068.4	478.4	3	
35	50068.4	50129.6	61.2	Fig 7.2A of 4Laning manual	ROB at 50+099
36	50129.6	50650	520	3	
37	50650	51060	410	1	
38	51060	51462.5	402.5	4A	
39	51462.5	51487.5	25	Fig 7.8A of 4Laning manual	Flyover at 51+475
40	51487.5	51860	372.5	4A	
41	51860	54220	2360	1	
42	54220	54429	209	4	

S .No	Design Chainage		Design Length km	C/s type	Remarks
	From	To			
43	54429	54441.0	12	Fig 7.8A of 4Laning manual	VUP Grade-II at 54+435
44	54441	54700	259	4	
45	54700	55362.5	662.5	4	
46	55362.5	55387.5	25	Fig 7.8A of 4Laning manual	Flyover at 54+375
47	55387.5	55930	542.5	4	
48	55930	60340	4410	1	
49	60340	60659.4	319.4	3	
50	60659.4	60726.6	67.2	Fig 7.2A of 4Laning manual	ROB at 60+693
51	60726.6	60850	123.4	3	
52	60850	61002.5	152.5	3	
53	61002.5	61027.5	25	Fig 7.2A of 4Laning manual	Flyover at 61+015
54	61027.5	61430	402.5	3	
55	61430	61800	370	1 D	
56	61800.0	62224.4	424.4	3	ROB in Rural
57	62224.4	62285.6	61.2	Fig 7.2A of 4Laning manual	ROB at 62+255
58	62285.6	62520	234.4	3	
59	62520	62757.5	237.5	4	
60	62757.5	62782.5	25	Fig 7.8A of 4Laning manual	Flyover at 62+770
61	62782.5	63220	437.5	4	
62	63220	65420	2200	1 B	
63	65420	65834	414	4	
64	65834	65846	12	Fig 7.8A of 4Laning manual	VUP Grade-II at 65+840
65	65846	66280	434	4	
66	66280	6700	720	1 B	

4.3 Bypass

As per provisions of Schedule B of the Concession Agreement the details of Bypass are given in the table below.

Table 4-3: Details of Bypass

S. No.	Location	Existing Chainage (Km.)		Design Chainage (Km.)		Length (Km.)
		From	To	From	To	
1	Puducherry and Cuddalore combined Bypass	26.020	73.000	29.420	63.000	33.580
					Total	33.580

4.4 Service Roads/Slip Roads

Following are the stretches where Service roads are provided on both sides of MCW along the project road as per Schedule B of CA.

Table 4-4: Service Road locations

S. No.	Design Chainage (Km.)		Length in Km	Side	Service Road width m	Total length km
	From	To				
1	29+000	29+150	0.150	Both	7.50	0.300
2	29+150	30+040	0.890	Both	7.50	1.780
3	46+850	47+000	0.150	Both	7.50	0.300
4	50+950	51+442.78	0.490	Both	7.50	0.990
5	51+467.78	51+930	0.460	Both	7.50	0.920
		Total	2.145			4.29

Table 4-5: Slip Road Locations

S. No.	Design Chainage (Km.)		Length in Km	Side	Service Road width m	Total length km
	From	To				
1	31560	31983	0.42	Both	5.5	0.85
2	31983	31998	0.02	Both	5.5	0.03
3	31998	32420	0.42	Both	5.5	0.84
4	33460	33872	0.41	Both	5.5	0.82
5	33872	33887	0.02	Both	5.5	0.03
6	33887	34290	0.40	Both	5.5	0.81
7	36270	36714	0.44	Both	5.5	0.89
8	36714	36729	0.02	Both	5.5	0.03
9	36729	37170	0.44	Both	5.5	0.88
10	43290	43808	0.52	Both	5.5	1.04
11	43808	43838	0.03	Both	5.5	0.06
12	43838	44330	0.49	Both	5.5	0.98
13	44930	45360	0.43	Both	5.5	0.86
14	45360	45372	0.01	Both	5.5	0.02
15	45372	45730	0.36	Both	5.5	0.72
16	48270	48611	0.34	Both	5.5	0.68
17	48611	48623	0.01	Both	5.5	0.02
18	48623	49144	0.52	Both	5.5	1.04
19	49144	49169	0.03	Both	5.5	0.05
20	49169	49590	0.42	Both	5.5	0.84
21	49590	50046	0.46	Both	5.75	0.91
22	51443	51468	0.03	Both	5.5	0.05
23	54170	54432	0.26	Both	5.5	0.52
24	54432	54444	0.01	Both	5.5	0.02

S. No.	Design Chainage (Km.)		Length in Km	Side	Service Road width m	Total length km
	From	To				
25	54444	55373	0.93	Both	5.5	1.86
26	55373	55398	0.03	Both	5.5	0.05
27	55398	55890	0.49	Both	5.5	0.98
28	60360	60660	0.30	Both	5.75	0.60
29	60767	61009	0.24	Both	5.75	0.48
30	61009	61069	0.06	Both	5.75	0.12
31	61069	61570	0.50	Both	5.75	1.00
32	61570	61770	0.20	Both	5.75	0.40
33	61770	62254	0.48	Both	5.75	0.97
34	62315	62520	0.20	Both	5.75	0.41
35	62520	62868	0.35	Both	5.5	0.70
36	62868	62893	0.03	Both	5.5	0.05
37	62893	63200	0.31	Both	5.5	0.62
38	65490	65864	0.37	Both	5.5	0.75
39	65864	65876	0.01	Both	5.5	0.02
40	65876	66325	0.45	Both	5.5	0.90
		Total	11.46			22.92

4.5 Drainage

As per IE MPR of JANUARY 2025, the Roadside Drain is completed up to slab for a length of 8.87Km.

4.6 Summary of the Carriageway and Pavement Details

Table 4.7: Summary of the Carriageway and Pavement Details

S No.	Description	Carriageway Width in m	Length (Km.)	Pavement Type
1	Main Carriageway	24.00 m	38.00 Km	Rigid
2	Service Road	7.50 m.	4.92	Rigid
3	Slip Road	5.50 m	22.92	Rigid

4.7 Summary of Structures

Summary of Structures as per provisions of schedule B of the CA is given in Table 8.6

4.8 Project Facilities

As per Schedule C of CA, the following facilities shall be provided in the project highway

- No Toll Plaza in this Project as Per CA.
- Road side furniture shall be provided as per Relevant Clauses of Manual of Specifications and Standards IRC: SP: 84-2014.

- Traffic Signs; Traffic Signs include roadside signs, overhead signs, and Kerb mounted signs along the entire project Highway.
- Overhead signs: 2 Nos Cantilever Signs and 17 Nos of Gantry Overhead signs excluding Toll Plaza.
- Pavement Markings: Pavement markings shall be cover road marking entire Project Highway.
- Crash Barrier: W-Metal Beam Crash Barrier shall be Provided at Built-up locations, High embankment & Bridge approaches and Curve locations where radius is less than 450 m.
- Cat's Eye /Road studs: Road studs shall be Provided at horizontal curve below 700 m.
- Delineators: Shall be provided as per IRC 79 -1981
- Hectometer/Kilometer Stones: Shall be provided for the entire Project as per the manual.
- Boundary Stones: Shall be Provided at the boundary on both sides of ROW as per Clause 9.8 of IRC SP 84 2014.
- Highway Lighting at Toll Plazas, Rest area, truck lay bye, bus bays and shelters as given in the Schedule C
- Pedestrian facilities: Shall be provided in accordance with the manual Specifications and standard as referred in Schedule D
- Rest Area (wayside Amenities) – Nil
- Truck lay byes: 2 Nos (Both sides)
- Bus bays and Passenger Shelters - 36 Nos on LHS/RHS
- Landscaping and tree plantations include
 - i) Median plantation including maintenance shall be as per provision of IRC SP 21
 - ii) Landscaping at Toll Plaza, Underpasses.
 - iii) Avenue plantation as per IRC SP -21 including Tree Guard with MS angle Tron

Covering for the entire Project Highway

Review of Project facilities is done in detail under **Chapter-8**

CHAPTER 5. REVIEW OF AGREEMENTS

5.1 Review of Concession Agreement

5.1.1. Concession (Article 3)

Authority grants Concession to the Concessionaire during the construction period of 730 days from the appointed date and operation period of 15 years commencing from COD.

5.1.2. Conditions precedent (Article 4)

5.1.2.1. Conditions precedent to be fulfilled by the Authority

- Providing adequate Right of Way pursuant to Clause 10.3.1 and 10.3.2 of the CA
- Providing necessary approvals as per the CA. As per Schedule E of the CA all permits are obtained.
- Providing Forest clearance:

After the review of documents, it is observed that Authority has fulfilled its obligations.

As the appointed date is confirmed by the Authority as 15-11-2021, it is deemed that Conditions precedent are fulfilled by both the parties.

5.1.2.2. Conditions precedent to be fulfilled by the Concessionaire

Table 5-1: Conditions Precedent to be fulfilled by the Concessionaire

S. No.	Condition Precedent to be fulfilled by the Concessionaire
1	Submission of Performance Security to the Authority pursuant to Clause 9.1 of the CA
2	Executed and procured execution of the Escrow Agreement
3	Executed and procured execution of the Substitution Agreement
4	Part-I of Schedule-E unconditionally or if subject to the conditions, then all such conditions required to be fulfilled by the date specified therein shall have been satisfied in full and such Applicable Permits Procured all the Applicable Permits specified in are in full force and effect
5	Financing Agreements and delivered to the Authority 3 (three) true copies thereof, duly attested by a Director of the Concessionaire
6	Submission to the Authority 3 (three) true copies of the Financial Package and the Financial Model, duly attested by a Director of the Concessionaire, along with 3 (three) soft copies of the Financial Model in MS Excel version or any substitute thereof, which is acceptable to the Senior Lenders;
7	Delivered to the Authority confirmation of the correctness of the representations and warranties set forth in Sub-clauses (k), (l) and (m) of Clause 7.1 of this Agreement

As the appointed date is confirmed by the Authority as 15-11-2021, it is deemed that Conditions precedent are fulfilled by both the parties.

5.1.3. Major Obligations of the Concessionaire (Article 5)

- The Concessionaire shall at its own cost and expense, procure, finance for undertaking the design, engineering, procurement, construction, operation and maintenance of the project.
- The Concessionaire shall obtain necessary applicable permits in conformity with the applicable laws
- Procure appropriate rights for obtaining materials
- Perform and fulfill its obligations under financing Agreements
- To make reasonable efforts to facilitate the acquisition of land required for the execution
- Transfer the project road upon the completion of the Concession period.

The Concessionaire fulfilled all above obligations; no adverse correspondence was noticed in this regard.

5.1.4. Performance Security (Article 9)

- The Concessionaire shall submit the Performance security to the Authority within 30 days from the date of the Agreement.
- The Performance security shall remain in force and effect for a period of one year from the Appointed Date
- Performance Security shall be released upon the Concessionaire expending on Project Construction an Aggregate sum that is not less than 30% of the Bid Project Cost.

Accordingly, Concessionaire has submitted the Performance Security to the Authority for an amount of Rs.36.84 Cr vide letter no. BR/TATYAT/ADV/BG/2021-22/119 dated 14-06-2021.

5.1.5. Procurement of Site(Article 10)

As per Clause 10.3.1 of the CA, Authority's Representative and Concessionaire shall prepare a memorandum containing an inventory of the site including the vacant and unencumbered land, buildings, road works, trees and any other immovable property on or attached to the site. Such memorandum shall have appended thereto an appendix specifying in reasonable detail those parts of the site to which vacant access and Right of Way has not been granted to the Concessionaire.

Prior to the Appointed date the Authority shall have granted vacant access and Right of Way such that Appendix shall not include land which shall in any manner prevent the Concessionaire from undertaking the construction of the Project to the extent of at least 80% of the Project length.

Accordingly, vide Letter DBL-SO/NHA/K/DBLNMHPL/19-20/126 dated 08-12-2019, a joint memorandum was signed by both Concessionaire and Authority.

As the appointed date is confirmed by the Authority as 15-11-2021, it is deemed that the Authority has handed over required RoW to the Concessionaire to commence the construction activities.

5.1.6. Shifting of Utilities(Article 11)

Under the provisions of Clause 11.2.1 of CA, the Concessionaire shall, in accordance with applicable laws and with the assistance of Authority, undertake shifting of any utility (including electric lines, water pipes and telephone cables), to an appropriate location or alignment, if such utility or obstruction adversely affects the execution of Works or Maintenance of the Project Highway in accordance with this Agreement, as per the scope given in Schedule B and in accordance with applicable standards and specifications of concerned utility owning entity. The cost of shifting of such, utilities indicated in Schedule-B is payable to the Concessionaire as part of Bid Project Cost. Cost of shifting utilities not included in the Schedule-B, if any, shall be treated as Change of Scope.

Based on the review of the schedule it is noted that there is no provision of utility shifting under Schedule B. The Concessioner has taken up the Shifting of Utilities and executed the works under cost reimbursable basis as per Clause 11.2.1 of CA.

As per the Monthly Progress Report submitted by the IE following is the status of shifting of utilities as per IE MPR of January 2024.

Table: 5-2: Details of Utilities shifting

S.No	Description	Unit	Scope	Completed	Balance
Electrical Utility shifting					
1	HT/LT Crossing	Nos	115	111	-
2	EHT line	Nos	9	6 (3 nos descope)	-
PHED Utility shifting					
1	Water pipe line	Km	8.076	8.076	-
2	Water pipe line crossing	Nos	16	16	-
Cutting of Trees					
1	Tree cutting	Nos	304	304	-

5.1.7. Tests (Clause 13.3)

For determining that the project, conforms to the Maintenance Requirements, the Independent Engineer shall require the Concessionaire (Concessionaire shall in turn require the Contractor) to carry out, or cause to be carried out, tests specified by it in accordance with Good Industry Practice. One half of the costs incurred on such tests, and to the extent certified by the Independent Engineer as reasonable, shall be reimbursed by the Authority to the Concessionaire

Based on the review of correspondence and documents made available, no adverse correspondence or comments from IE are noticed in this regard.

5.1.8. Provisional Completion Certificate (Article 14)

A section of the project shall be deemed to be completed to open for traffic only when the completion certificate or provisional certificate for that section is issued in accordance with the Clause 14.3 of the CA. Further to note that as per 14.3.2, the Provisional certificate shall be issued for operating part of the Project, if the concessionaire has completed construction of 100% of the site made available to the Concessionaire up to 146 days from the Appointed date.

Applied for Provisional Completion Certificate.

5.1.9. Change of scope (Article 16)

As per Clause 16.1.1 of CA, the Authority may, notwithstanding anything to the contrary contained in the agreement, require the provision of additional works and services which are not included in the scope of the Project as contemplated by this agreement (the "Change of scope"). Any such change of scope shall be made in accordance with the provisions of this Article and cost shall be expended by the concessionaire and reimbursed to it by the Authority in accordance with clause 16.3.

Based on the review of documents and the Independent Engineer's Monthly Review Report for the month of MPR Dec 2024 list of change of scope proposal and their status is prepared and presented below:

COS No	Proposed COS item	Date of submission	IE recommended date	Status	Cost (Rs. In Cr.)	Remarks
1	Change in type of superstructure from composite girder to bow string girder for ROB at Ch.60+693	2.12.2022	16.01.2023	COS Approval order issued by Authority vide letter no 1273 9th May 2024	23	Approved
	Construction of LVUP at m.62+090					
	Shifting of electrical utilities (HT/LT & EHT)					
2	Shifting of Electrical Utilities for ROB's at Km50+099, Km60+693 and Km62+255	5-4-2023	12.4.2023	COS Approval order issued by IE vide letter no 1240 24th Aug 2023	0.43	Approved
3	Construction of Median Opening at Ch.46+850 with service road from Km.46+850 to Km.47+000	17-5-2023	29-5-2023	COS Approval order issued by Authority vide letter no 1273 9th May 2024	2.71	Approved
	Monthly drone video Recording of the project Highway		29-5-2023	COS Approval order issued by IE vide letter no 1207 12th Aug 2024	0.17	Approved
4	Hotspot estimate in cuddalore	-	8-6-2023	NHAI gave the COS order via 2466 16th Nov 2023 . After IE checked and Revised Estimate sent to the NHAI from IE, But from NHAI COS order not received	0.35Cr	Approved

5	Construction of additional Service Road from 41+040 to 41+260	01-07-2024	06-07-2024	COS Approval order issued by NHAI vide letter no 3150 25th Nov 2024	2.07	Approved
	Widening of BC at 41+250					
	Widening of BC at 41+061					
	Additional Construction of HPC @ 41+050 Inspection road					
	Additional Construction of PUP @ 47+270					

5.1.10. O&M Obligations of the Concessionaire (Clause 17.1)

- Permitting safe, smooth and uninterrupted flow of traffic on the project road
- Minimizing the disruption to traffic in the event of accidents
- Undertaking routine maintenance including prompt repairs of pot holes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices
- Undertaking major maintenance such as resurfacing of pavements, repairs and refurbishments of tolling system and other equipment
- Preventing any unauthorized use of the project road.
- Protection of environment and provision of equipment and materials
- Complying with safety Requirements in accordance with the provisions of the CA.

5.1.11. Maintenance Requirements (Clause 17.2)

The Contractor shall procure that at all times during the Operations period; the project road conforms to the maintenance requirements set forth in Schedule K of CA (The “**Maintenance Requirements**”).

5.1.12. Appointment of Independent Engineer(Article 21)

The Authority shall appoint a consulting Engineer firm substantially in accordance with the selection criteria set forth in Schedule M, to be the Independent Engineer.

The appointment shall be made no later than 60 days from the date of this Agreement and shall be for a period of Construction period plus 6 months. On expiry or termination of the aforesaid appointment, the Authority shall appoint Independent Engineer for a further term of 3 years in accordance with the provisions of Schedule M of the CA.

As per Cl.21.1, IE shall be appointed within 60 days from the date of signing of agreement i.e. on or before 17-07-2021. Accordingly, the Authority appointed, M/s. Theme Engineering Services Pvt. Ltd. In Association with Ishita Info Solutions Pvt.Ltd.as IE. It is reported that IE has been mobilized on 13-1-2022 vide agreement dated 16-1-2022.

One half of the remuneration cost and expenses incurred by the IE shall be reimbursed by the Concessionaire to the Authority pursuant to Clause 21.3 of the CA

5.1.13. Financial Close (Article 22)

According to Clause 22.1 of the CA the Concessionaire shall achieve Financial Closure within 150 days from the date of the Agreement.

As the appointed date is confirmed by the Authority as 15-11-2021, it is deemed that the above Clause is complied by the Concessionaire.

5.1.14. Payment of Bid Project Cost (Article 23)

5.1.15. Payments during Construction:

40% of the Bid Project Cost, adjusted to the Price Index Multiple shall be due and payable to the Concessionaire in 10 equal installments of 4% each during the Construction Period in accordance with the provisions of Clause 23.4 of the CA.

Upon review of the documents it is noticed that the Concessionaire received all 10 installments including the price adjustment.

5.1.16. Payments during Operation & Maintenance Period:

a. Annuity Payments:

The Completion Cost of the Project shall be determined in pursuance of the provisions of Clause 23.6.1 of the CA. 40% of the Bid Project Cost shall be paid in 5 equal instalments adjusted with Price Index Multiple as per Clause 23.4 of the CA. Balance Completion Cost due to be paid to the Concessionaire during O&M period shall be arrived after deducting the amounts paid during the Construction Period (Pursuant to Clause 23.4 of the CA) from the Completion Cost of the Project determined as cited above.

The Completion cost remaining to be paid pursuant to Clause 23.6.1 of the CA shall be paid as per the % of balance completion cost biannually over a period of 15 years commencing from COD. The percentage of amounts payable for each Annuity is specified in 23.6.3 of the Concession Agreement.

1st annuity shall be paid within 15 days of the 180th day of COD and the remaining installments shall be due and payable within 15 days of completion of each of the successive six months ("The Annuity Payment Date). The Schedule of Annuity payments is mentioned below based on original schedule completion date

Table 5-3: Original Schedule of Annuity Payments dates

Annuity No.	% of completion cost remaining to be paid on COD	Original Schedule Payment Date of Annuity Payment
1	2.10%	27-08-2025
2	2.17%	27-02-2026
3	2.24%	27-08-2026
4	2.31%	27-02-2027
5	2.38%	27-08-2027

Annuity No.	% of completion cost remaining to be paid on COD	Original Schedule Payment Date of Annuity Payment
6	2.45%	27-02-2028
7	2.52%	27-08-2028
8	2.60%	27-02-2029
9	2.68%	27-08-2029
10	2.76%	27-02-2030
11	2.84%	27-08-2030
12	2.93%	27-02-2031
13	3.02%	27-08-2031
14	3.11%	27-02-2032
15	3.20%	27-08-2032
16	3.30%	27-02-2033
17	3.40%	27-08-2033
18	3.50%	27-02-2034
19	3.61%	27-08-2034
20	3.72%	27-02-2035
21	3.83%	27-08-2035
22	3.94%	27-02-2036
23	4.06%	27-08-2036
24	4.18%	27-02-2037
25	4.25%	27-08-2037
26	4.25%	27-02-2038
27	4.44%	27-08-2038
28	4.71%	27-02-2039
29	4.75%	27-08-2039
30	4.75%	27-02-2040

b. Interest Payment on balance Completion Cost:

Interest shall be due and payable at an interest rate equal to the applicable bank rate plus 1.25% on the reducing balance Completion Cost which is determined as per Clause 23.6.1 of the CA. Such interest shall be due and payable bi-annually along with each installment of Annuity.

c. O&M Payments:

All O&M expenses shall be borne by the Concessionaire and in lieu thereof a lump sum financial support (Rs.3.00 Cr) in the form of bi-annual payments shall be paid by the Authority in accordance with provisions of the Clause 23.7 of the CA.

5.1.17. Force Majeure (Article 28)

As per Article 28 of the CA Force Measure shall be the occurrence of any Non-Political Event, Indirect Political Event and Political Event as defined in Clauses 28.2, 28.3 and 28.4 respectively which affects the performance of the Party claiming the benefits of the Force Measure and the occurrence of the event is beyond the reasonable control of the aforesaid Party and the Affected Party could not have prevented or overcome by the exercise of due diligence and following Good Industry Practice & has Material Adverse Effect on the Affected Party.

Following force majeure events are occurred during the construction period and the same was notified by the Concessionaire to the Authority.

- *Notification for Occurrence of “Force Majeure Event” upon Stoppage of operation of Quarry and Mining due to ongoing strikes by Stone Quarry, Crusher and Lorry Owners Association in the State of Tamil Nadu, was notified along with supporting backups for further needful vide our letter no. 771 dated 28th June 2023.*
- *Occurrence of unusual rainfall resulting in loss of working days was reported along with supporting backups vide letter no.763 dated 20th June 2023.*

5.2 Appointed Date (Article 42)

Appointed date is the date on which Financial close is achieved and every condition precedent is satisfied in accordance with the provisions of the CA.

Appointed date has been declared as 15-11-2021 vide Authority’s letter no. NHAI/NHDP-IV/11012/NH-45A/HAM/PP/2019/40883 dated 15-11-2021.

5.3 Review of Milestones (Schedule G)

Schedule G of the CA specifies the schedule of the Project Milestones to be achieved by the Concessionaire during the Construction period. The status of the achievement of the Project Milestones is presented at **table 1.3**.

5.4 Review of EPC Agreement

The EPC Agreement was executed on 13th day of October, 2021 between DBL Poondiyankuppam Highways Private Limited (The Concessionaire”) and Dilip BuildCon Limited (The EPC Contractor”). Major terms and conditions of the Agreement are provided below.

5.4.1. Scope of works

EPC Contractor shall execute the works specified in Schedule B and C of the Concession Agreement and in accordance with the Standard and Specifications set forth in Schedule D of the Concession Agreement.

5.4.2. Terms and Conditions

All the terms and conditions of the Concession Agreement with respect to construction of the Project will apply to EPC Contractor. Major clauses of the EPC Agreement are as follows.

EPC Contract Sum: The EPC works for the Project shall be undertaken by the EPC Contractor at a total cost of Rs. 1,008.28 Crores and the Concessionaire agrees to make the said payment in accordance with this Contract. It is clarified that the above price is only towards the construction works of the Project and does not cover costs towards O&M obligations of the Concessionaire post the COD of the Project. The aforesaid EPC price is exclusive of price escalation if any.

The EPC price shall get increased during the construction period by an amount equivalent to the inflation, which shall be payable by the Concessionaire to the EPC Contractor. The amount of inflation payable to

the EPC Contractor shall be equal to the amount compensated by the NHAI to the Concessionaire during the construction period, which shall be paid to the EPC Contractor on a back to back basis.

Insurances- All required insurances during the construction period shall be arranged and borne by the Concessionaire in accordance with the requirements of the Concession Agreement

Time Schedule: - The EPC Contractor shall complete works and achieve COD of the Project within the time period as permitted in the Concession Agreement. The scheduled project completion date shall increase only if the scheduled project completion date for the Project has been extended by NHAI.

Schedule Commercial Operation Date: shall have the meaning as defined in the Concession Agreement

Bonus: -The Concessionaire shall transfer the whole amount of bonus received from NHAI to the EPC Contractor on account of early completion of the Project. The bonus shall become due on Commercial Operation Date (COD) of the Project i.e. either provisional COD or Final COD whichever is earlier.

Payment for Change in Law/Change in Scope: The Concessionaire shall transfer the entire amount received on account of Change in Law/Change in Scope (related to the EPC works) from NHAI or any other person to the EPC Contractor.

Upon review of above stated EPC agreement the following observations are made:

- All the terms and conditions of the concession Agreement with respect to construction of the project will be applicable to EPC Contractor.
- DLP period is not stipulated and not meeting general industry practice.
- The Latent defect liability clause is not incorporated.

5.5 Settlement Agreement dated 10-11-2023

Due to delay in handing over of the balance land beyond the stipulated time line provided in the Article 10 of the CA, the Concessionaire sought EoT. In addition to the above the Concessionaire agreed to complete the works by 31-03-2024. In order to resolve the dispute both the parties referred the issue to the Conciliation. During the conciliation both the parties agreed to the consensus and got arrived to complete the project as per the Agreed Timeline.

Salient points of the Settlement Agreement are as follows.

- Authority agreed to hand over the balance hindered length of around 0.21 km. on MCW & SR as per details in the table at Recital-E on or before 15.11.2023.
- Concessionaire proposed to complete the entire Project Highway including COS works by 31.03.2024 with a grace period of 3 months. Authority granted EOT upto 31.03.2024 for completion of entire project work including COS with a grace period of 3 months without levying any damages.
- However, damages shall be applicable beyond the above mentioned period as per CA if the delay is attributable to the Concessionaire. Freezing of indices/ Price Index Multiple would be done as on 14.11.2023 i.e. PIM applicable as on 14.11.2023 or on actual billing date, whichever is lower for work completed beyond 14.11.2023 (except the work related to ROB at km. 60.7, portion of length affected by EHT Line shifting at km.43.5 to km. 43.8 & km. 51.3 to km. 51.7 for pending COS - 1.1 km and functionally affected length of 0.3 km yet to be handed over as

per details in Recital-E).

- Independent Engineer based on details being submitted by Concessionaire will work out the net cost of COS based on the following principles & submit to the Authority to examine, approve such cost and issue an order (COS order).
 - Net cost of COS considering Revised Scope and Original Scope using Basic Rate from SOR of Tamil Nadu for 2023-24 & using MoRTH Data Book duly applying tender discount of 4.47% as quoted by the Bidder based on Assessed Bid Price.
 - No other cost like escalation, design charges, insurance, etc., shall be considered for determining the cost of COS.
 - The Concessionaire agreed on the above principles for determining the cost of COS. Concessionaire, IE & the Authority to expedite & ensure that COS order is issued by 31.12.2023. However, Concessionaire agreed to proceed with COS works without awaiting "COS Order"
- In case the lands are not handed over as per details in above para 3.1(i) then time for its completion will be decided mutually.
- In reciprocation of above considerations shown by the Authority, the Concessionaire came forward and agreed not to claim any additional cost such as prolongation cost, idling of plant & machinery, overhead cost, loss of profit or any other cost for delays due to the Authority like handing over encumbrance free land, etc. and any other cost of what so ever nature related to the project, except Change-in-Law.
- Each party hereby confirms that it does not have any residual, pending or any other claims, disputes or differences against each other in respect of the Concession Agreement and all claims, demands, disputes etc. of the Concessionaire including that arising out of or in relation to the Concession Agreement against the other party namely Authority stands settled without any further recourse whatsoever as on date.

Check for any other / additional settlement agreement.

CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS

6.1 Review of Reports

6.1.1. Monthly status reports

During the Construction Period, the Contractor shall, no later than 7 (seven) days after the close of each month, furnish to the Concessionaire, the Authority and the Independent Engineer a monthly report on physical and financial progress of the construction works and shall promptly give such other relevant information as may be required by the IE

Upon review of the documents it is noticed that the Concessionaire is submitting the Monthly Status Report regularly. Monthly status Reports from May 2023 to Jan 2025 Following are major items covered under the Monthly Status Reports

- *Construction activities during the month*
- *Pending shifting utilities*
- *Progress Review*
- *Construction Critical issues*
- *Quality control review*

6.1.2. Inspection Reports

Clause 13.2 of CA specifies that during Construction Period, the IE shall inspect the Project at least once in a month and make a report of such inspection stating in reasonable detail, the defects or deficiencies, if any with particular reference to the project completion schedule, the scope of the project etc. It shall send the Report to the Authority and Concessionaire. Upon receipt of such inspection report, the Concessionaire shall rectify or remedy the defects if any, stated in the report.

It is reported that the IE, represented by M/s. Theme Engineering Services Pvt. Ltd. In Association with Ishita Info Solutions Pvt.Ltd. have carried out inspections on the project road from time to time and MPRs from January 2023 to January 2025 are shared with the Consultant for review.

Following are major items covered under the Monthly Inspection Reports

- *Physical Progress*
- *Land Acquisition and clearance*
- *Change of Scope*
- *Quality Control issues*
- *Latest correspondence exchanges between the Authority, IE and the Concessionaire*
- *Weather Report*
- *Unusual occurrences Report*

As the Commercial operations are not yet commenced, therefore, the above clause is not relevant at this stage.

6.1.3. Review of Pavement design report

The Concessionaire under the provisions of Article 10 submitted Pavement Design vide various letters given as under. Independent Engineer reviewed the submitted designs for its compliance under project specifications and standards and accorded their approval/consent.

The above pavement designs submitted and approved by the Independent Engineer were reviewed by the Consultant and is discussed in the following paragraphs.

6.1.4. Rigid pavement for main carriageway

Design traffic (CVPD)

As stated in Clause 1.3.7 of Schedule-B, "The Rigid pavement type for Main Carriageway shall be designed for a minimum design traffic of 12316 CVPD for a minimum design period of 30 years."

Sub grade CBR

The concessionaire has been adopted 8 % CBR for Sub grade.

The pavement was designed by the design consultant based on homogeneous sections (HS) traffic and sub grade CBR as per pavement design report. The design traffic homogeneous sections wise summarized in the table below.

Table 6-1: Designed pavement crust summary as per pavement design report

Description	Rigid pavement
Designed CBR	8%
Pavement Quality Concrete (PQC) - mm	280
A de-bonding interlayer of polythene sheet having minimum thickness of 125 micron is provided between DLC and PQC, as per Cl:5.7.5 of IRC:58-2015.	
Dry Lean Concrete (DLC) – mm	150
Drainage Layer (GSB) - (mm)	150
Diameter of Dowel Bar (mm)	36
Length of Dowel Bar (mm)	500
Spacing of Dowel Bars (mm)	300
Diameter of Tie Bar (mm)	12 (Deformed)
Length of Tie Bar (mm)	640
Spacing of Tie Bars (mm)	560

As per IRC:58-2015 the pavement crust proposed is satisfying the design traffic with 8 % CBR. Hence Rigid pavement design for MCW is in order based on traffic and as per schedule B requirement.

6.1.5. Rigid Pavement for Service Road/Slip Road

The rigid pavement shall be designed as per IRC 58-2015 with 8% CBR, as per pavement design report, the design calculations are found in order, and the adopted rigid pavement crust for toll plaza is given below.

Table 6-2: Pavement Composition for Toll plaza

Description	Rigid pavement
Designed CBR	8 %
Pavement Quality Concrete (PQC) - mm	230
A de-bonding interlayer of polythene sheet having minimum thickness of 125 micron is provided between DLC and PQC, as per Cl:5.7.5 of IRC:58-2015.	
Dry Lean Concrete (DLC) – mm	150

Description	Rigid pavement
Drainage Layer (GSB) - (mm)	150
Diameter of Dowel Bar (mm)	36
Length of Dowel Bar (mm)	500
Spacing of Dowel Bars (mm)	300
Diameter of Tie Bar (mm)	12 (Deformed)
Length of Tie Bar (mm)	640
Spacing of Tie Bars (mm)	560

6.1.6. Site Investigations

During site visit, core cutting test/ Trial pit test was conducted at some of the locations along the project stretch to compare the executed crust thickness with the design crust thickness and found that the crust thicknesses are in compliance with the design thickness. The representative photographs and test locations were given below

Table 6-3: Pavement Design Thickness Vs Executed Crust Thickness for MCW

S. No	Test Location	Side	As per Design Report				As per site test pits			Remarks
			PQC (mm)	DLC (mm)	GSB (mm)	Subgrade (mm)	PQC (mm)	DLC (mm)	GSB (mm)	
1	30+320	LHS	280	150	150	500	284	150	150	
2	46+730	RHS	280	150	150	500	285	150	150	
3	50+890	LHS	280	150	150	500	287	150	150	
4	66+289	RHS	280	150	150	500	280	150	150	

Table 6-4: Pavement Design Thickness Vs Executed Crust Thickness for Service Road

S. No	Test Location	Side	As per Design Report				As per site test pits			Remarks
			PQC (mm)	DLC (mm)	GSB (mm)	Subgrade (mm)	PQC (mm)	DLC (mm)	GSB (mm)	
1	29+685	RHS	230	150	150	500	235	150	150	
2	63+295	LHS	230	150	150	500	250	150	150	

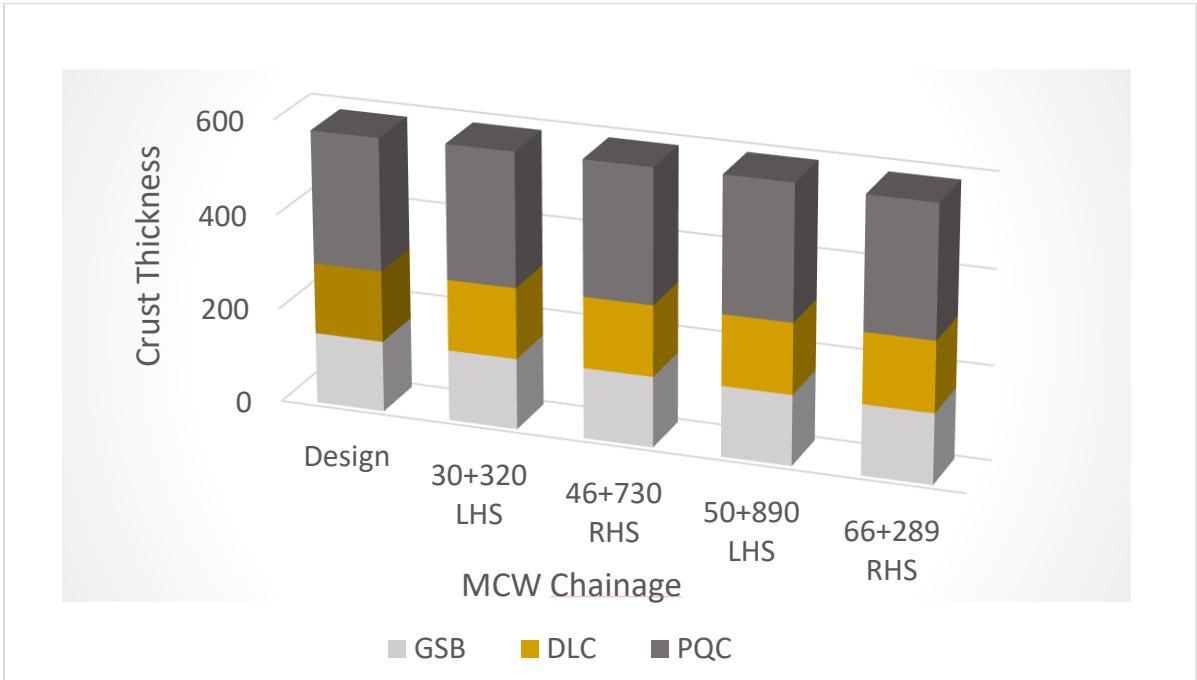


Figure 6.1: Bar Chart showing Design thickness vs Executed thickness for MCW

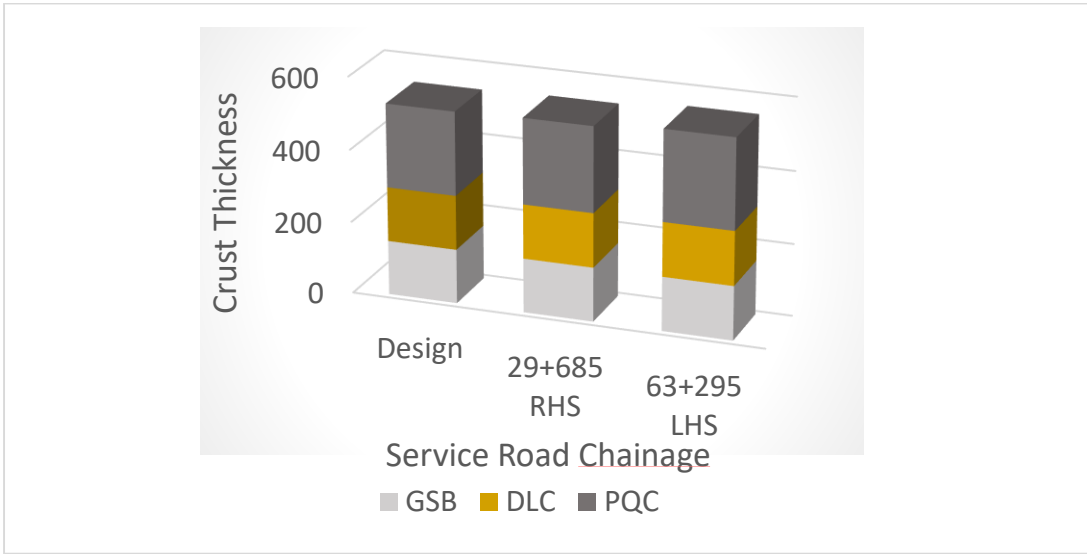


Figure 6.2: Bar Chart showing Design thickness vs Executed thickness for SR



Figure 6.3: Representative photos of core cutting samples

6.2 Review of Documents

6.2.1. Insurance

As per Clause 32.1, Concessionaire shall effect and maintain at its own cost, during the construction period and operation period. The details of insurance policy are given in the following table:

Table 6-5: Details of Insurance policies

S.No.	Name of the Insurance Policy	Policy No	Valid Upto
1	Bajaj Allianz Mediciam Insurance Floater Group Medical Policy	OG-25-2001-8403-00000131	15-6-2024 to 14-6-2025
2	Bajaj Allianz Mediciam Insurance Floater Group Medical Policy	OG-25-2001-8403-00000133	15-6-2024 to 14-6-2025
3	New India Assurance Co Ltd CAR Insurance Policy	45010044240300000016	05-02-2025 to 04-5-2025
4	Employees Compensation Insurance Policy	130422427110011248	01-7-2024 to 30-6-2025

6.3 Maintenance Manual (Clause 17.3)

No later than 90 (ninety) days prior to the Scheduled Completion Date, the Contractor shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual (the “**Maintenance Manual**”) for the regular and preventive maintenance of the Project in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years and the provisions of this Clause shall apply, mutatis mutandis, to such revision.

Maintenance Manual submitted vide letter No. DBL-SO/D&TA/NHAI/21042/2024-25/0669 dated 01-08-2024.

CHAPTER 7. REVIEW OF CRITICAL ISSUES

7.1 Land Acquisition:

As per IE MPR of Jan 2025, 100% land acquisition completed.

Non-Conformance Reports (NCR)

NCR is not pending

Table 7-1: List of Pending NCR's as per IE MPR-January 2025

S.No.	NCR No	Date	Subject	Location	Letter from IE	Remarks
1	NCR is not pending					

7.2 Claims and Penalties

No claims have been submitted by the Concessionaire and there are no claims raised by the Employer against concessionaire. Nevertheless, the Concessionaire submitted an application seeking EoT due to the occurrence of force majeure event.

7.3 Royalties and Seignorages

As the work is not completed and COD is not achieved total quantity of major construction materials (i.e. Minor minerals) consumed in the work cannot be assessed now and reconciliation of Royalty payment vs material used in the work shall be done upon completion of the project.

CHAPTER 8. SITE APPRAISAL

8.1 General

The TDD Consultant team visited the site from 30.01.2025 to 30.01.2025 and collected Road inventory besides examining the condition of pavement, structures and physical progress of site work.

8.2 Highways

8.2.1. Road Inventory

The objective of road inventory is to collect and compare information on all physical and visible features of the road with the GFC drawings, to assess progress of construction and to have visual quality inspection. All the details were recorded by actual measurements made at site, according to IRC-SP-19 format duly modified as per the project requirements The Road Inventory was recorded under the following sub-heads: -

- Type of Terrain - (Plain/ Rolling/Hilly)
- Land use - (Built-up/Agri. /Forest/ Industrial/ Barren)
- Name of Village/Town
- Carriageway and Shoulder - Type/ Width/ Condition
- Embankment Height
- Submergence / water logging Area – location if any
- Details of Crossroads - Location/Road Name. /Carriageway Width
- Road Side Drainage (Non-Existing, Partially Functional, Functional)

8.2.2. Type of terrain

The project road combination of plain and rolling terrain.

8.2.3. Land use

The project road passes through built up and agriculture sections all along its length. The details are given below.

Table 8-1: Land use details along the project road

S.No.	From (Km.)	To (km.)	Length (Km)	Land use
1	29+000	29+420	0.42	Built-up
2	29+420	63+000	33.58	Agriculture
3	63+000	67+000	4	Built-up

8.2.4. Villages/Towns along the Project

The projects road is a green field alignment.

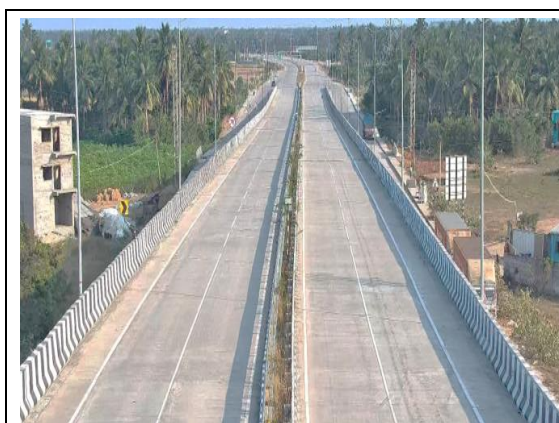
8.2.5. Main Carriageway

The project road is Four-Laning carriageway with paved shoulders.

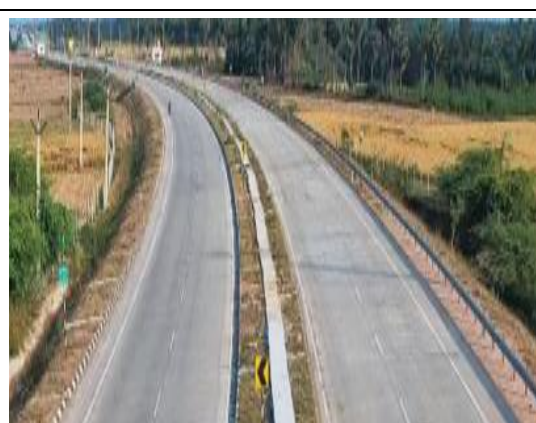
The status of MCW work at the site as per the MPR of Jan 2025 given in the below table.

Table 8-2: Status of Main carriageway(upto PQC)

S.No	Description	Units	Total Scope	Upto date completed/Achieved)	Balance to be achieved	Percentage achieved
1	C&G	Km	73.237	73.237	-	100%
2	Earth work upto sub grade top	Km	73.237	73.237	-	100%
3	GSB	Km	73.237	73.237	-	100%
4	DLC	Km	73.237	73.237	-	100%
5	PQC	Km	73.237	73.237	-	100%



Main Carriageway View at Km. 29+500



Main Carriageway View at Km. 30+500



Main Carriageway View at Km. 31+500



MCW view at Km. 32+500

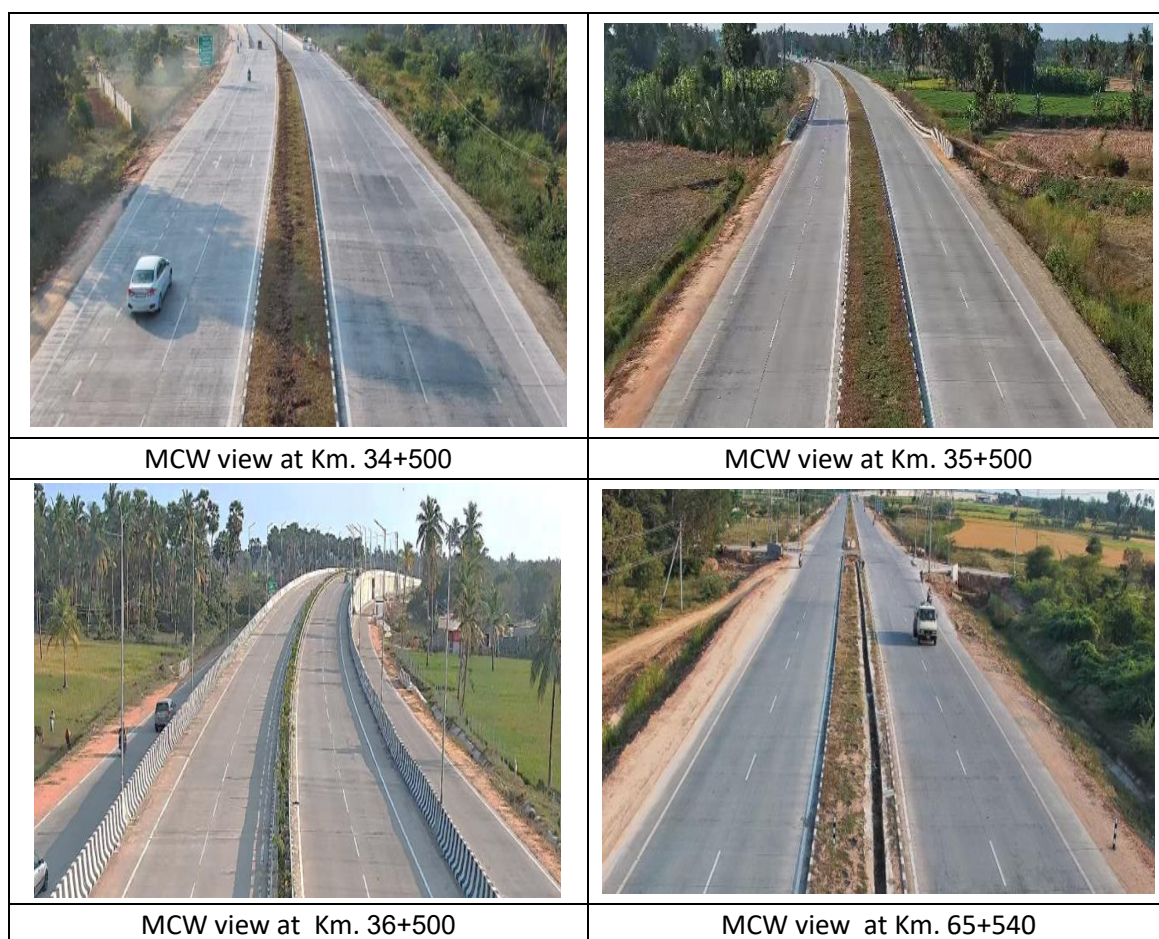


Figure 8.1: Status of Main Carriageway

8.2.6. Service/Slip road

As per provision of Schedule-B of CA, service/ slip road shall be constructed for a length of 27.460 Km along the project road.

Summary of construction status of service/slip Road are details are provided in the given below table.

Table 8-3: Status of Service/Slip roads

S.No	Description	Units	Total Scope	Upto date completed/Achieved)	Balance to be achieved	Percentage achieved
1	Earth work upto sub grade Top	Km	27.4	27.4	-	100%
2	GSB	Km	27.4	27.4	-	100%
3	DLC	Km	27.4	27.4	-	100%
4	PQC	Km	27.4	27.4	-	100%



Figure 8.2: Status of Service Road

8.2.7. Cross road details

As per Provision Schedule-B of CA. There are 34 Junctions along the projects. The Condition and details of junctions are given below.

Table 8-4: List of Minor junctions/cross road

S.no	Chainage	Side	Status
1	29+560	LHS	Completed
2	30+530	LHS	Completed
3	32+000	BHS	Completed
4	32+620	BHS	Completed
5	33+890	BHS	Completed
6	34+920	BHS	Completed
7	36+730	BHS	Completed
8	38+920	BHS	Completed
9	40+263	BHS	Completed
10	41+280	BHS	Completed
11	41+890	BHS	Completed
12	42+640	BHS	Completed
13	43+835	BHS	Completed
14	44+990	BHS	Completed

S.no	Chainage	Side	Status
15	45+385	BHS	Completed
16	47+000	RHS	Completed
17	47+245	RHS	Completed
18	47+800	BHS	Completed
19	48+630	BHS	Completed
20	49+180	BHS	Completed
21	51+475	BHS	Completed
22	52+960	BHS	Completed
23	54+435	BHS	Completed
24	55+375	BHS	Completed
25	58+000	BHS	Completed
26	61+015	BHS	Completed
27	62+060	BHS	Completed
28	62+770	BHS	Completed
29	63+520	LHS	Completed
30	63+660	LHS	Completed
31	64+700	LHS	Completed
32	64+990	BHS	Completed
33	65+840	LHS	Completed
34	66+880	RHS	Completed

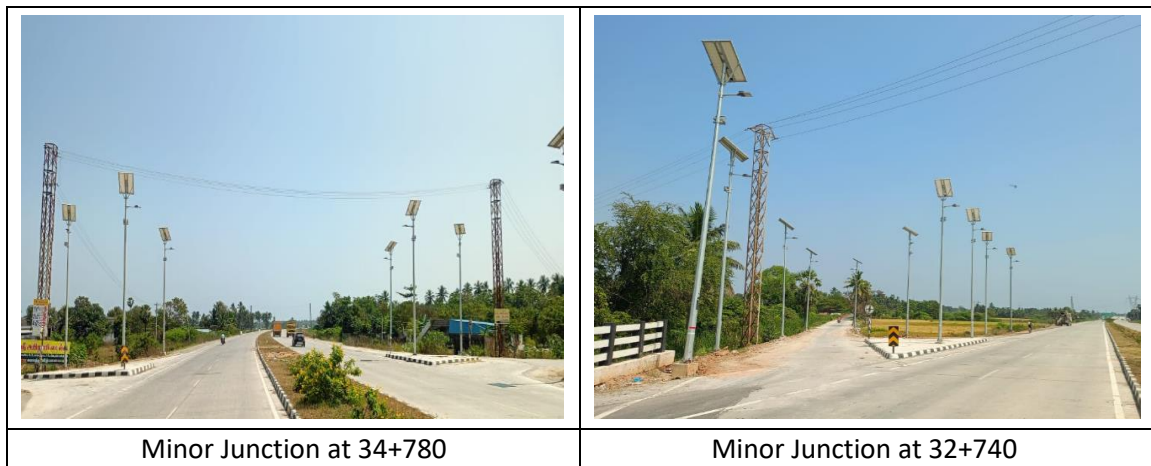


Figure 8.3: Status of Junctions

During the site visit, Consultant observed that all junctions are under Progress.

8.2.8. Road Side Drainage

As per provision of Schedule-G of CA. Lined drain shall be constructed for a length of 8.870 km,

Table 8-5: Inventory and status of drain

S.No.	From (Km.)	To (km.)	Length (Km)	Side
1	29+480	29+530	0.050	LHS
2	29+967	29+990	0.023	RHS
3	49+870	49+915	0.045	RHS

S.No.	From (Km.)	To (km.)	Length (Km)	Side
4	49+965	50+045	0.080	RHS
5	50+950	50+960	0.010	LHS
6	51+060	51+070	0.010	RHS
7	51+300	51+490	0.190	RHS
8	51+420	51+490	0.070	LHS
9	51+590	51+603	0.013	LHS
10	51+632	51+640	0.008	RHS
11	51+631	51+640	0.009	LHS
12	51+780	51+830	0.050	RHS
13	60+390	60+400	0.010	LHS
14	60+485	60+520	0.035	LHS
15	60+560	60+660	0.100	LHS
16	60+560	60+660	0.100	RHS
17	60+770	60+801	0.031	LHS
18	60+770	60+815	0.045	RHS
19	60+870	60+894	0.024	LHS
20	60+935	61+130	0.195	LHS
21	60+958	61+140	0.182	RHS
22	61+182	61+200	0.018	RHS
23	61+358	61+374	0.016	RHS
24	61+370	61+430	0.060	LHS
25	61+491	61+500	0.009	LHS
26	61+516	61+570	0.054	LHS
27	61+530	61+570	0.040	RHS
28	61+770	61+780	0.010	RHS
29	62+050	62+120	0.070	RHS
30	62+070	62+120	0.050	LHS
31	62+160	62+250	0.090	RHS
32	62+210	62+250	0.040	LHS
33	62+320	62+358	0.038	LHS
34	62+320	62+330	0.010	RHS
35	62+510	62+520	0.010	LHS
36	62+510	62+520	0.010	RHS
Total Length (km)			1.805	

8.2.9. Kerb

As per IE MPR of Dec 2024, Laying of Kerb completed for entire project.

8.2.10. GFC Vs Site Comparison

A sample measurement checks were conducted at site based on GFC drawings at ongoing and completed work sections. In general, all elements of works executed are matching with GFC drawings.

8.2.11. Pavement Condition

The survey on general pavement conditions was primarily a visual exercise undertaken by means of slow drive-over survey, and supplemented with measurements wherever necessary. Visual assessment was carried out from a vehicle, with speed not exceeding 20 kmph and stopping at various locations at suitable

intervals and wherever necessary. Overall assessment of pavement condition of the project road is good as per Annexure-2 .



Figure 8.4: Photographs showing the condition of Pavement

8.3 Structures

Detailed inventory and condition of structures on the project road were carried out during the site visit as per the guide lines provided in IRC: SP: 52-1999 & IRC: SP: 35-1990. The summary of structures on the project road is given below:

Table 8-6: Summary of Structures

S. No.	Type of Structure	As per schedule B	COS (+ve)	De Scope	Total	As per site	Remarks
1	Major bridges	3	-	-	3	3	
2	Minor Bridges	13		-	13	13	
3	VUP	7	-	-	7	7	
4	LVUP	2	1	-	3	3	
5	PUP	-	-	-	-	-	
6	Flyover	6	-		6	6	
7	ROB	3	-		3	3	
8	Pipe culverts	0	0	-	0	0	
9	Slab/Box Culverts	129	0	-	129	129	

As per the IE report for the month of January 2025, the status of the structures as follows:

Table 8-7: Detailed Inventory and Condition of Structures as on date

S. No	Chainage	Type	Span arrangement (m)	Condition of Bridge
1	29+565	Flyover	1 x 28.0	Overall condition of structure is Good
2	31+991	VUP	1 x 15.772	Overall condition of structure is Good
3	32+625	MNB	1 x 12.0	Overall condition of structure is Good
4	33+300	MNB	2 x 16.0	Overall condition of structure is Good
5	33+879	VUP	1 x 15.0	Overall condition of structure is Good
6	36+721	VUP	1 x 15.0	Overall condition of structure is Good
7	38+340	MNB	2 x 6.0	Overall condition of structure is Good
8	38+503	MJB	1 x 34.0 + 1 x 16.0 + 1 x 32.0 + 1 x 36.0	Overall condition of structure is Good
9	40+150	MNB	1 x 45.0	Overall condition of structure is Good
10	40+249	LVUP	1 x 15.9	Overall condition of structure is Good
11	40+470	MNB	1 x 21.0	Overall condition of structure is Good
12	41+028	MNB	1 x 30.0	Overall condition of structure is Good

S. No	Chainage	Type	Span arrangement (m)	Condition of Bridge
13	42+951	MNB	1 x 8.0	Overall condition of structure is Good
14	43+131	MNB	1 x 8.0	Overall condition of structure is Good
15	43+823	MNB cum VUP	1 x 35.0 x 5.5 (MCW), 1 x 7 (SR)	Overall condition of structure is Good
16	44+156	MNB	1 x 8.0	Overall condition of structure is Good
17	45+366	LVUP	1 x 19.94	Overall condition of structure is Good
18	47+460	MJB	13 x 20.0	Overall condition of structure is Good
19	48+617	LVUP	1 x 16.971	Overall condition of structure is Good
20	49+157	Flyover	1 x 28.26	Overall condition of structure is Good
21	50+076	ROB	1 x 15.0 + 1 x 31.24 + 1 x 15.0	Overall condition of structure is Good
22	50+450	MJB	7 x 35.0	Overall condition of structure is Good
23	51+455	Flyover	1 x 28.21	Overall condition of structure is Good
24	51+834	MNB (COS)	1 x 6.0	Overall condition of structure is Good
25	54+438	LVUP	1 x 12.066	Overall condition of structure is Good
26	55+386	Flyover	1 x 30.547	Overall condition of structure is Good
27	60+724	ROB	1 x 19.6/28.73 + 1 x 58.04 + 1 x 19.6/28.73	Overall condition of structure is Good
28	61+039	Flyover	1 x 17.115 + 1 x 32.327 + 1 x 17.115	Overall condition of structure is Good
29	62+090	LVUP (COS)	1 x 12.0	Overall condition of structure is Good
30	62+285	ROB	1 x 15 + 1 x 31.24 + 1 x 15	Overall condition of structure is Good
31	62+634	MNB	3 x 5.0	Overall condition of structure is Good
32	62+880	Flyover	1 x 28.0	Overall condition of structure is Good
33	63+697	MNB	1 x 7.0	Overall condition of structure is Good
34	63+993	MNB	3 x 7.0	Overall condition of structure is Good
35	65+870	LVUP	1 x 12.0	Overall condition of structure is Good



Figure 8.5: Photographs showing the Condition of Major Structures

8.3.1. Culverts

8.3.1.1. Inventory

There are 129 Nos. Box Culverts in the project stretch. Detailed inventory and condition survey of Culverts is given in **Annexure-4**.

For detailed inventory and condition survey of Culverts are given in **Annexure-4**.

8.3.1.2. Condition

The general condition of above box culverts and pipe culverts are in good condition.

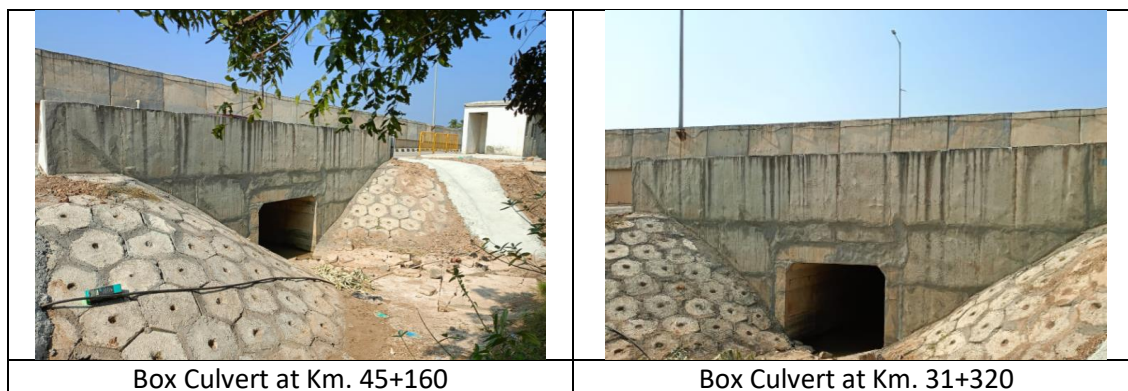


Figure 8.6: Photographs showing the Condition of Culverts

CHAPTER 9. CHAPTER PROJECT FACILITIES**9.1 Toll Plaza**

As per the provision of the CA, there is no provision for Toll Plaza.

9.2 Traffic signs

As per the provision of the CA and GFC signage plan status of traffic signs boards fixed along the project highway is under progress. Details of Signboards are given below.

Table 9-1: Status of traffic sign boards

S. No	Category	Minimum signs to be fixed (Nos)	Remarks
1	Mandatory	1084	Completed
2	Warning		Completed
3	Informatory		Completed

9.3 Overhead Signs

As per the provision of CA, minimum 19 Nos. of gantry overhead signs (excluding toll plaza location) are to be erected in the project. During the site visit erection of overhead Gantry is under progress and condition is good. Location of overhead Gantry sign boards is provided below.

Table 9-2: Status of traffic sign boards

S.no	Chainage	Side	Status	Type of sign board	Condition
1	30+350	RHS	Fixed	Overhead Gantry	Good
2	31+250	LHS	Fixed	Cantilever	Good
3	32+580	RHS	Fixed	Cantilever	Good
4	33+250	LHS	Fixed	Overhead Gantry	Good
5	34+600	RHS	Fixed	Overhead Gantry	Good
6	35+960	LHS	Fixed	Overhead Gantry	Good
7	37+500	RHS	Fixed	Overhead Gantry	Good
8	43+050	LHS	Fixed	Overhead Gantry	Good
9	44+620	RHS	Fixed	Overhead Gantry	Good
10	47+930	LHS	Fixed	Overhead Gantry	Good
11	47+930	RHS	Fixed	Overhead Gantry	Good
12	50+700	LHS	Fixed	Overhead Gantry	Good
13	52+300	RHS	Fixed	Overhead Gantry	Good
14	53+850	LHS	Fixed	Overhead Gantry	Good

S.no	Chainage	Side	Status	Type of sign board	Condition
15	56+200	RHS	Fixed	Overhead Gantry	Good
16	61+580	LHS	Fixed	Overhead Gantry	Good
17	61+760	RHS	Fixed	Overhead Gantry	Good
18	63+450	RHS	Fixed	Overhead Gantry	Good
19	66+850	RHS	Fixed	Overhead Gantry	Good



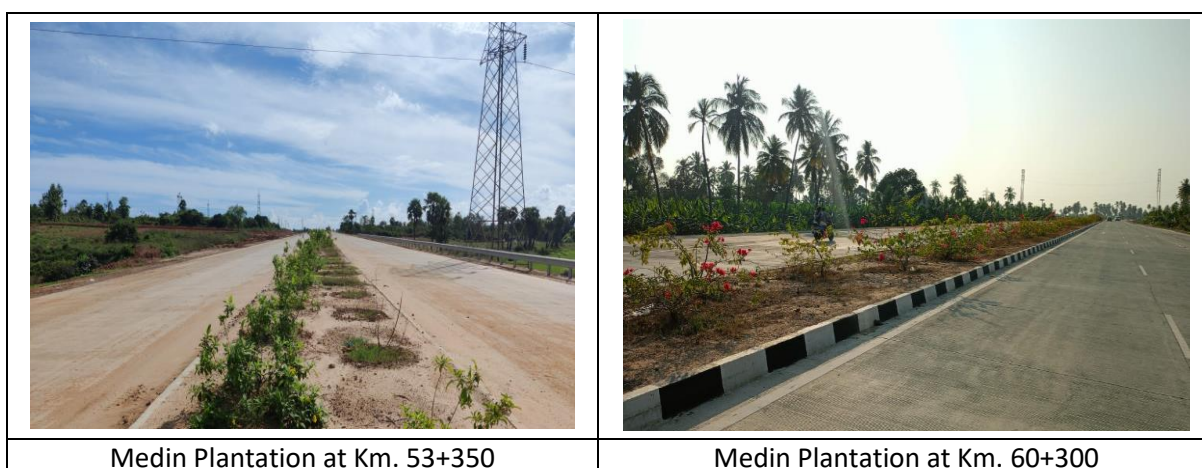
Overhead Gantry at Km. 33+250(LHS)

Overhead Gantry at Km. 54+590 (LHS)

Figure 9.1: Status of Overhead gantry

9.4 Landscaping & Tree Plantation

As per the IE MPR of May, 2024, Avenue and Median Plantation works are completed.



Medin Plantation at Km. 53+350

Medin Plantation at Km. 60+300

Figure 9.2: Photographs showing status of Median Plantation

9.5 Pavement marking

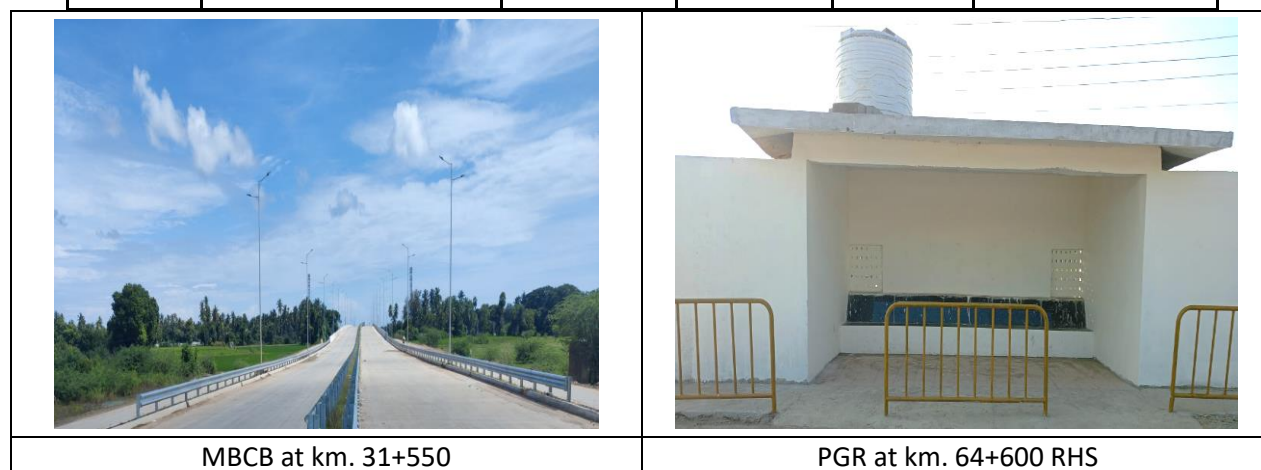
As per the IE MPR of May, 2024, pavement marking is completed

9.6 Metal beam Crash Barrier

During the site visit, it is observed that all Metal crash barrier installed except at some locations. The condition of MBCB is Good. The inventory and condition of MBCB is provided at **Annexure-5**.

Table 9-3: Summary of Metal beam Crash barrier

S.No	Description	Scope	As per site	Executed	Balance
1	Metal Beam Cash Barrier	41.916 Km	35.319 Km	35.319 Km	-
2	Antiglare Screen	150 No's	150 No's	150 No's	-
3	New Jersey Crash Barrier	0.150 km	0.150 km	0.150 km	-
4	Pedestrian Guard Rail	1.194 km	1.123 Km	0.809 Km	0.314 Km



MBCB at km. 31+550

PGR at km. 64+600 RHS

Figure 9.3: Photographs of W Beam Crash Barrier

9.7 Hectometer/Km. stones

The Kilometre stones and Hectometre stones are completed for entire projects.

9.8 Highway Lighting

The highway lighting is completed for the entire project.

9.9 Truck Lay Bay

The Truck Lay Bay 2 Nos are completed.

9.10 Bus Bay and Bus shelters

As per the Provision of Schedules of CA there are 12 no's of Bus bay with shelter & 36 no's of Bus shelters. During site visit 06 no's of Bus bay & 17 no's of Shelters are constructed and condition was good. Details of highway lighting are provided in the following table. The inventory and condition of Bus Bays are provided at **Annexure-8**.

As per IE MPR of May, 2024 the Bus Bays and Bus shelters are completed

Table 9-4: Details of Bus bays and shelters

S.No	Design Chainage	Side	Description	Bus Bay Status	Bus Shelter Status	Condition
1	29+400	RHS	Shelter	Not Applicable	Completed	Good
2	29+500	LHS	Shelter	Not Applicable	Completed	Good
3	31+830	RHS	Shelter	Not Applicable	Completed	Good
4	32+170	LHS	Shelter	Not Applicable	Completed	Good
5	33+720	RHS	Shelter	Not Applicable	Completed	Good
6	34+110	LHS	Shelter	Not Applicable	Completed	Good
7	36+600	RHS	Shelter	Not Applicable	Completed	Good
8	36+850	LHS	Shelter	Not Applicable	Completed	Good
9	39+295	RHS	Bus Bay & Shelter	Completed	Completed	Good
10	39+540	LHS	Bus Bay & Shelter	Completed	Completed	Good
11	41+500	RHS	Bus Bay & Shelter	Completed	Completed	Good
12	41+540	LHS	Bus Bay & Shelter	Completed	Completed	Good
13	42+270	RHS	Bus Bay & Shelter	Completed	Completed	Good
14	42+270	LHS	Bus Bay & Shelter	Completed	Completed	Good
15	43+700	RHS	Shelter	Not Applicable	Completed	Good
16	43+900	LHS	Shelter	Not Applicable	Completed	Good
17	45+070	RHS	Shelter	Not Applicable	Completed	Good
18	45+070	LHS	Shelter	Not Applicable	Completed	Good
19	46+700	RHS	Bus Bay & Shelter	Pending	Completed	Good
20	46+700	LHS	Bus Bay & Shelter	Pending	Completed	Good
21	48+015	RHS	Shelter	Not Applicable	Completed	Good
22	48+040	LHS	Shelter	Not Applicable	Completed	Good
23	49+010	RHS	Shelter	Not Applicable	Completed	Good
24	49+300	LHS	Shelter	Not Applicable	Completed	Good
25	51+350	RHS	Shelter	Not Applicable	Completed	Good
26	51+620	LHS	Shelter	Not Applicable	Completed	Good
27	54+220	RHS	Shelter	Not Applicable	Completed	Good
28	54+600	LHS	Shelter	Not Applicable	Completed	Good

S.No	Design Chainage	Side	Description	Bus Bay Status	Bus Shelter Status	Condition
29	55+250	RHS	Shelter	Not Applicable	Completed	Good
30	55+550	LHS	Shelter	Not Applicable	Completed	Good
31	57+720	RHS	Bus Bay & Shelter	Pending	Completed	Good
32	58+310	LHS	Bus Bay & Shelter	Pending	Completed	Good
33	61+150	RHS	Shelter	Not Applicable	Completed	Good
34	61+150	LHS	Shelter	Not Applicable	Completed	Good
35	64+500	RHS	Bus Bay & Shelter	Pending	Completed	Good
36	64+500	LHS	Bus Bay & Shelter	Pending	Completed	Good

9.11 Traffic Aid Post

There is no provision of Traffic Aid Post as per Schedule C.

9.12 Medical Aid Post

There is no provision of Medical Aid Post as per Schedule C.

9.13 Vehicle Rescue Posts

There is no provision of Vehicle Rescue Post as per Schedule C.

9.14 Operation and Maintenance (O&M) Centre

The O&M building is not provided as per Schedule C.

9.15 Telecom System

The telecom communication system shall be provided as per schedule C, accordingly Installation of ECB (Emergency Call Box or SOS) is provided at 34 locations for road users.

9.16 Advance Traffic Management System (ATMS)

ATMS shall be provided for convenience of users of Project Highway in accordance with IRC: SP:87-2019.

During the site visit it is noticed that ATMS are provided entire project length.

9.17 Road Studs

As per the provision of CA, road studs shall be provided all along the road.

CHAPTER 10. PROJECT STATUS

10.1 Review of Physical Progress

Progress reported by IE and Concessionaire were reviewed and physically verified at the site by the Consultant's representative in the month of January 2024. The status of layer-wise physical progress of highway works is listed in the following table.

Strip Chart showing the present status of Work is enclosed at **Annexure-9**

10.2 List of Balance Works (Highways)

Table 10-1:Details Highways Completed and balance works

S.no	Description	Units	Total Scope	As per site	Completed	Balance	Remarks
1	Embankments	Km	73.237	73.237	73.237		MCW
2	Subgrade	Km	73.237	73.237	73.237		MCW
3	GSB	Km	73.237	73.237	73.237		MCW
4	DLC	Km	73.237	73.237	73.237		MCW
5	PQC	Km	73.237	73.237	73.237		MCW
6	Embankments	Km					SR
7	Subgrade	Km	27.4	27.4	27.4		SR
8	GSB	Km	27.4	27.4	27.4		SR
9	DLC	Km	27.4	27.4	27.4		SR
10	PQC	Km	27.4	27.4	27.4		SR
Project Facilities							
11	MBCB/Concrete Crash Barrier	m	39250	35319	35319	-	
12	PGR	m	880	1123	1123	-	
13	Highway lighting (SA)	No's	890	570	570	-	
14	Highway lighting (DA)	No's	416	588	588	-	
16	Studs	No's	13585	13585	13585	-	
17	Fencing	m	73240	71496	10489	61007	Proposed for Descope
18	Plantation (median)	No's	19350	19350	19350	-	
19	Plantation (Avenue)	No's	4371	4371	1379	2,992	Proposed for Descope
23	Sign Boards	No's	839	1084	1084	-	
24	Drain	Km	8.87	9.25	9.25	-	0.3 Km COS
25	Kerb	Km	73.24	73.24	73.24	-	
26	Road Marking	Km	73.24	73.24	73.24	-	
27	Bus Shelters	Nos	36	36	36	-	
28	Toilet Block at TLB	Nos				-	
29	Solar Blinkers	Nos	16	16	16	-	

S.no	Description	Units	Total Scope	As per site	Completed	Balance	Remarks
30	Antiglare screens	No's	150	150	150	-	
31	Delinators	No's	102	102	102	-	
32	5 km stone	No's	12	16	16	-	
33	Km Stones	No's	42	60	60	-	
34	Hectometer	No's	237	306	306	-	
35	Boundary Pillars	No's	1522	1522	1522	-	
36	Over Head Gantry & Cantilever Gantry	No's	11	19	19	-	
37	Rain Water Harvesting	No's	18	23	23	-	
38	Geo-Green	Sqm	57448	37540	37540	-	
39	Turfing	Sqm	93142	169643.1	169643.1	-	
40	Embankments	No	2	2	2	-	Truck lay Bays
41	Subgrade	No	2	2	2	-	
42	GSB	No	2	2	2	-	
43	DLC	No	2	2	2	-	
44	PQC	No	2	2	2	-	
45	Embankments	Km	6	6	6	-	Bus Bays
46	Subgrade	Km	6	6	6	-	
47	GSB	Km	6	6	6	-	
48	DLC	Km	6	6	6	-	
49	PQC	Km	6	6	6	-	
32	Embankments	Km	34	34	34	-	Junctions
33	Subgrade	Km	34	34	34	-	
34	GSB	Km	34	34	34	-	
35	DLC	Km	34	34	34	-	
36	PQC	Km	34	34	34	-	

Table 10-2: Details of the structures constructed and balance works

Sno	Item	As Per CA	As per Site	Completed	Under Progress	Remarks
1	Major bridge	3	3	3	-	
2	Minor Bridge	12	13	13	-	
3	VUP	7	7	7	-	
4	LVUP	3	3	3	-	
5	Flyover	6	6	6	-	
6	ROB	3	3	3	-	

Sno	Item	As Per CA	As per Site	Completed	Under Progress	Remarks
7	Slab/Box Culverts	129	129	129	-	

10.3 Epilogue

As per Concessionaire MPR, physical progress up to Jan 2025 is 98.62% and balance Progress is 1.38%

CHAPTER 11. OPERATION AND MAINTENANCE COST ESTIMATES

11.1 CapEx Cost

There are no pending balance works. Hence there is no requirement for calculation of CapEx.

11.2 O&M Cost

11.2.1. OpEx (Tentative amounts)

Operational Expenses (OpEx) of the asset consists of several types of cost components for remaining concession period which includes manpower, utility, equipment, insurance and broadly divided into four modules as follows.

- Periodic / Major maintenance (MMR)
- Routine maintenance
- Operational Expenses (Including Electricity and Fuel Charges/ AMC/Other expenses/Insurances /Miscellaneous

Based on general engineering practice followed in the Industry and inputs given by Concessionaire the detailed calculations are made to arrive the year wise operational cost expenses and the same is given in **Annexure -11**. Summary of cost estimate compared with the amounts considered by the Technical consultant and market values towards operation and maintenance is given in the table below.

Table 11-1: Summary of Estimated Periodic/Major maintenance (MMR) expenses

FY	6. MMR (Rs in Cr)			Total Expenditure till the end of Concession Period
	MMR Highway	MMR Structure	MMR Toll Plaza	
2025-2026	-	-	-	-
2026-2027	1.10	-	-	1.10
2027-2028	3.69	-	-	3.69
2028-2029	1.18	-	-	1.18
2029-2030	1.32	-	-	1.32
2030-2031	4.31	-	-	4.31
2031-2032	10.51	-	-	10.51
2032-2033	1.32	-	-	1.32
2033-2034	1.45	-	-	1.45
2034-2035	2.44	-	-	2.44
2035-2036	0.42	4.00	-	4.42
2036-2037	1.50	-	-	1.50
2037-2038	4.89	-	-	4.89
2038-2039	12.15	-	-	12.15
2039-2040	1.35	-	-	1.35
Total Expenditure in Cr. Rs	47.63	4.00	-	51.63

Table 11-2: Summary of Estimated Operation expenses

FY	1. RM Costs (Rs in Cr)				2. Operating Costs								3. Empl oyee Cost	4. Admin Cost	6. MMR (Rs in Cr)			Total Expenditure till the end of Concession Period
	Highw ay Routin e Maint enanc e Cost	Structu re Routin e Mainte nance Cost	Route Mainte nance Manpo wer Cost	Route Mainten ance Vehicle & Equipme nt Cost	Route Patrollin g Drivers & Operato rs Cost	Route Patrollin g Vehicle & Equipme nt Rental Cost	IE Remu nerati on	Surv eys & Inves tigati ons	HW lighting reapir, Electricity & Fuel Charges	Insura nce Premi um Costs	Toll Operati on Costs (Staff & Admin)	Tolling and HTMS AMC/ Spare Parts	SPV Staff Costs	SPV Admin Expenses	MMR Highway	MMR Structur e	MM R Toll Plaz a	
2025-2026	0.75	0.33	0.69	0.40	0.00	0.01	0.41	0.04	1.16	0.55	0.00	0.42	0.54	0.32	0.00	0.00	0.00	5.59
2026-2027	0.79	0.34	0.72	0.42	0.00	0.01	0.43	0.04	1.22	0.58	0.00	0.44	0.57	0.34	1.10	0.00	0.00	7.00
2027-2028	0.87	0.38	0.79	0.46	0.00	0.01	0.47	0.04	1.34	0.63	0.00	0.48	0.63	0.37	3.69	0.00	0.00	10.16
2028-2029	0.92	0.40	0.84	0.48	0.00	0.01	0.50	0.05	1.41	0.67	0.00	0.51	0.66	0.39	1.18	0.00	0.00	8.02
2029-2030	0.91	0.39	0.83	0.48	0.00	0.01	0.49	0.05	1.40	0.66	0.00	0.51	0.66	0.39	1.32	0.00	0.00	8.11
2030-2031	1.05	0.45	0.96	0.55	0.00	0.01	0.57	0.05	1.62	0.76	0.00	0.58	0.76	0.45	4.31	0.00	0.00	12.13
2031-2032	1.30	0.56	1.18	0.68	0.00	0.01	0.70	0.07	1.99	0.94	0.00	0.72	0.94	0.55	10.51	0.00	0.00	20.15
2032-2033	0.94	0.41	0.86	0.50	0.00	0.01	0.51	0.05	1.45	0.68	0.00	0.52	0.68	0.40	1.32	0.00	0.00	8.31
2033-2034	1.01	0.44	0.92	0.53	0.00	0.01	0.54	0.05	1.55	0.73	0.00	0.56	0.73	0.43	1.45	0.00	0.00	8.93
2034-2035	1.04	0.45	0.95	0.55	0.00	0.01	0.56	0.05	1.60	0.76	0.00	0.58	0.75	0.44	2.44	0.00	0.00	10.18

FY	1. RM Costs (Rs in Cr)				2. Operating Costs								3. Employee Cost	4. Admin Cost	6. MMR (Rs in Cr)			Total Expenditure till the end of Concession Period
	Highway Routine Maintenance Cost	Structure Routine Maintenance Cost	Route Maintenance Manpower Cost	Route Maintenance Vehicle & Equipment Cost	Route Patrolling Drivers & Operators Cost	Route Patrolling Vehicle & Equipment Rental Cost	IE Remuneration	Surveys & Investigations	HW lighting reapi, Electricity & Fuel Charges	Insurance Premium Costs	Toll Operation Costs (Staff & Admin)	Tolling and HTMS AMC/ Spare Parts	SPV Staff Costs	SPV Admin Expenses	MMR Highway	MMR Structure	MMR Toll Plaza	
2035-2036	1.09	0.47	0.99	0.57	0.00	0.01	0.59	0.05	1.68	0.79	0.00	0.60	0.79	0.46	0.42	4.00	0.00	12.52
2036-2037	1.07	0.46	0.98	0.56	0.00	0.01	0.58	0.05	1.64	0.78	0.00	0.59	0.77	0.46	1.50	0.00	0.00	9.46
2037-2038	1.12	0.48	1.02	0.59	0.00	0.01	0.60	0.06	1.72	0.81	0.00	0.62	0.81	0.48	4.89	0.00	0.00	13.20
2038-2039	1.18	0.51	1.08	0.62	0.00	0.01	0.64	0.06	1.82	0.86	0.00	0.65	0.85	0.50	12.15	0.00	0.00	20.93
2039-2040	0.80	0.34	0.73	0.42	0.00	0.01	0.43	0.04	1.23	0.58	0.00	0.44	0.58	0.34	1.35	0.00	0.00	7.28
2040-2041																		0.00
Total Expenditure in Cr. Rs	14.84	6.42	13.54	7.81	0.00	0.10	8.01	0.75	22.81	10.79	0.00	8.22	10.73	6.32	47.63	4.00	0.00	161.97

CHAPTER 12. CONCLUSION

Based on detailed site inspection, review of various documents and reports as described in the preceding chapters technical over view of the Project is provided below.

- **Pavement Condition**

The Pavement condition for the overall project is good. RCC drains are constructed in Built up locations and earthen drains in rural locations which facilitates effective drainage system along the project road. Shoulder condition is good.

- **Condition of Structures**

Condition of Bridges is good. No structural defects were noticed. The general condition of Culverts is good.

- **Toll Plaza**

There is no Toll Plaza and other facilities provision as per Schedule C of concession Agreement.

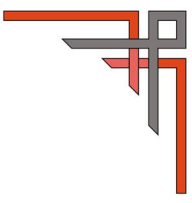
- **ATMS and Highway Lighting**

ATMS provided as per CA provisions and is functional. Highway lighting provided at bus bays, truck lay bye's and other locations as per CA provisions and found functional.

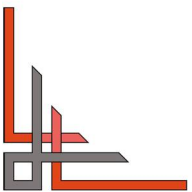
- **Road Safety**

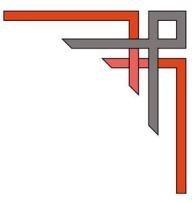
Pavement marking is in good condition and number of sign boards are provided as per IRC SP 73-2007. The condition of sign boards & other road appurtenances like metal beam crash barriers is good.

----End of Report ----



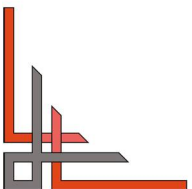
ANNEXURES




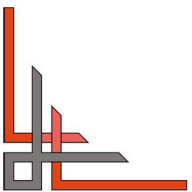
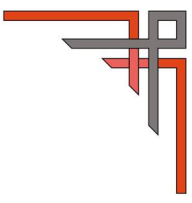


Annexure-1

Summary of Change of Scope





SUMMARY OF CHANGE OF SCOPE					
	Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu				
S.No.	Proposed COS Item	Date of submission	Status	IE Recommended date	Approximate Cost (Excluding tax & other s
1	Change in type of superstructure from composite girder to bow string girder for ROB at Ch. 60+693		Recommended to Authority for issue the Change of Scope Notice.		13.11 Cr.
2	Construction of LVUP at Km. 62+090.	02.12.2022	Recommended to Authority for	16.01.2023	1.28 Cr.
3	Shifting of electrical utilities		issue the Change of Scope Notice.		5.8 Cr.
4	Telecommunication arrangement charges for 50+099 ROB		Recommended to Authority for		0.08 Cr.
5	Electrical TRD Charges for 3 No's of ROB	05.04.2023	issue the Change of Scope Notice.	12.04.2023	0.30 Cr.
6	Change in span of Minor Bridge at km. 40+161 from 37.986m to 45m		Recommended to Authority for issue the Change of Scope Notice.		0.85 Cr.
7	Change in span of Minor Bridge at km. 41+028 from 18.382m to 30m		Recommended to Authority for		0.67 Cr.
8	Construction of Median Opening at Ch. 46+850 with Service Road from km. 46+850 to km.47+000.	17.05.2023	issue the Change of Scope Notice.	29.05.2023	2.40 Cr.
9	Monthly Drone Video Recording of the Project Highway.		Recommended to Authority for issue the Change of Scope Notice.		0.16 Cr.





Annexure-2


Inventory & Pavement Condition


				Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																			
Surveyed By : Somesh & G sai Chandu							Side : LHS		Carriage way : MCW			Date :		22-11-2023					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/B/A)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
29+000	29+200	P	Bu	CC	9.5	G													
29+200	29+400	P	Bu	CC	9.5	G													
29+400	29+600	P	Bu	CC	9.5	G													
29+600	29+800	P	Bu	CC	9.5	G													
29+800	30+000	P	Bu	CC	9.5	G													
30+000	30+200	P	Ag	CC	9	G		2	F										
30+200	30+400	P	Ag	CC	9	G		2	F										
30+400	30+600	P	Ag	CC	9	G		2	F										
30+600	30+800	P	Ag	CC	9	G		2	F										
30+800	31+000	P	Ag	CC	9	G		2	F										
31+000	31+200	P	Ag	CC	9	G		2	F										
31+200	31+400	P	Ag	CC	9	G		2	F										
31+400	31+600	P	Ag	CC	9	G		2	F										
31+600	31+800	P	Ag	CC	9.5	G													
31+800	32+000	P	Ag	CC	9.5	G													
32+000	32+200	P	Ag	CC	9.5	G													
32+200	32+400	P	Ag	CC	9.5	G													
32+400	32+600	P	Ag	CC	9	G		2	F										
32+600	32+800	P	Ag	CC	9	G		2	F										
32+800	33+000	P	Ag	CC	9	G		2	F										
33+000	33+200	P	Ag	CC	9	G		2	F										
33+200	33+400	P	Ag	CC	9	G		2	F										


				Four laning of Puducherry (Km 29.000) to Poondiyanuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu													
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu						Side : LHS		Carriage way : MCW			Date :		22-11-2023				
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/B/A)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
33+400	33+600	P	Ag	CC	9.5	G											
33+600	33+800	P	Ag	CC	9.5	G											
33+800	34+000	P	Ag	CC	9.5	G											
34+000	34+200	p	Ag	CC	9.5	G											
34+200	34+400	P	Ag	CC	9	G		2	F								
34+400	34+600	P	Ag	CC	9	G		2	F								
34+600	34+800	P	Ag	CC	9	G		2	F								
34+800	35+000	P	Ag	CC	9	G		2	F								
35+000	35+200	P	Ag	CC	9	G		2	F								
35+200	35+400	P	Ag	CC	9	G		2	F								
35+400	35+600	P	Ag	CC	9	G		2	F								
35+600	35+800	P	Ag	CC	9	G		2	F								
35+800	36+000	P	Ag	CC	9	G		2	F								
36+000	36+200	P	Ag	CC	9	G		2	F								
36+200	36+400	P	Ag	CC	9.5	G											
36+400	36+600	P	Ag	CC	9.5	G											
36+600	36+800	P	Ag	CC	9.5	G											
36+800	37+000	P	Ag	CC	9.5	G											
37+000	37+200															under construction	
37+200	37+400															under construction	
37+400	37+600															under construction	
37+600	37+800															under construction	


		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu							Side : LHS		Carriage way : MCW			Date : 22-11-2023					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/B A)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
37+800	38+000																under construction
38+000	38+200																under construction
38+200	38+400																under construction
38+400	38+600																under construction
38+600	38+800																under construction
38+800	39+000																under construction
39+000	39+200																under construction
39+200	39+400																under construction
39+400	39+600																under construction
39+600	39+800																under construction
39+800	40+000																under construction
40+000	40+200																under construction
40+200	40+400																under construction
40+400	40+600																under construction
40+600	40+800																under construction
40+800	41+000																under construction
41+000	41+200																under construction
41+200	41+400																under construction
41+400	41+600																under construction
41+600	41+800																under construction
41+800	42+000																under construction
42+000	42+200																under construction


		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu						Side : LHS		Carriage way : MCW			Date :		22-11-2023				
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/B A)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
42+200	42+400															under construction	
42+400	42+600															under construction	
42+600	42+800															under construction	
42+800	43+000															under construction	
43+000	43+200															under construction	
43+200	43+400															under construction	
43+400	43+600															under construction	
43+600	43+800															under construction	
43+800	44+000															under construction	
44+000	44+200															under construction	
44+200	44+400															under construction	
44+400	44+600															under construction	
44+600	44+800															under construction	
44+800	45+000															under construction	
45+000	45+200															under construction	
45+200	45+400															under construction	
45+400	45+600															under construction	
45+600	45+800															under construction	
45+800	46+000															under construction	
46+000	46+200															under construction	
46+200	46+400															under construction	
46+400	46+600															under construction	


		Four laning of Puducherry (Km 29.000) to Poondiyanuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu						Side : LHS		Carriage way : MCW			Date :		22-11-2023				
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/B A)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
46+600	46+800															under construction	
46+800	47+000															under construction	
47+000	47+200															under construction	
47+200	47+400															under construction	
47+400	47+600															under construction	
47+600	47+800															under construction	
47+800	48+000															under construction	
48+000	48+200															under construction	
48+200	48+400															under construction	
48+400	48+600															under construction	
48+600	48+800															under construction	
48+800	49+000															under construction	
49+000	49+200															under construction	
49+200	49+400															under construction	
49+400	49+600															under construction	
49+600	49+800															under construction	
49+800	50+000															under construction	
50+000	50+200															under construction	
50+200	50+400															under construction	
50+400	50+600															under construction	
50+600	50+800															under construction	
50+800	51+000															under construction	


 Four laning of Puducherry (Km 29.000) to Poondiyanuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu																
ROAD INVENTORY AND CONDITION SURVEY FORMAT																
Surveyed By : Somesh & G sai Chandu							Side : LHS	Carriage way : MCW		Date :	22-11-2023					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/B A)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
51+000	51+200															under construction
51+200	51+400															under construction
51+400	51+600															under construction
51+600	51+800															under construction
51+800	52+000															under construction
52+000	52+200															under construction
52+200	52+400															under construction
52+400	52+600															under construction
52+600	52+800															under construction
52+800	53+000															under construction
53+000	53+200															under construction
53+200	53+400															under construction
53+400	53+600															under construction
53+600	53+800															under construction
53+800	54+000															under construction
54+000	54+200															under construction
54+200	54+400															under construction
54+400	54+600															under construction
54+600	54+800															under construction
54+800	55+000															under construction
55+000	55+200															under construction
55+200	55+400															under construction


		Four laning of Puducherry (Km 29.000) to Poondiyanuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu							Side : LHS		Carriage way : MCW			Date : 22-11-2023					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/B)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
55+400	55+600															under construction	
55+600	55+800															under construction	
55+800	56+000															under construction	
56+000	56+200	P	Ag	CC	9	G		2	F								
56+200	56+400	P	Ag	CC	9	G		2	F								
56+400	56+600	P	Ag	CC	9	G		2	F								
56+600	56+800	P	Ag	CC	9	G		2	F								
56+800	57+000	P	Ag	CC	9	G		2	F								
57+000	57+200	P	Ag	CC	9	G		2	F								
57+200	57+400	P	Ag	CC	9	G		2	F								
57+400	57+600	P	Ag	CC	9	G		2	F								
57+600	57+800	P	Ag	CC	9	G		2	F								
57+800	58+000	P	Ag	CC	9	G		2	F								
58+000	58+200	P	Ag	CC	9	G		2	F								
58+200	58+400	P	Ag	CC	9	G		2	F								
58+400	58+600	P	Ag	CC	9	G		2	F								
58+600	58+800	P	Ag	CC	9	G		2	F								
58+800	59+000	P	Ag	CC	9	G		2	F								
59+000	59+200	P	Ag	CC	9	G		2	F								
59+200	59+400	P	Ag	CC	9	G		2	F								
59+400	59+600	P	Ag	CC	9	G		2	F								
59+600	59+800	P	Ag	CC	9	G		2	F								


				Four laning of Puducherry (Km 29.000) to Poondiyanuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																			
Surveyed By : Somesh & G sai Chandu							Side : LHS		Carriage way : MCW			Date :		22-11-2023					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/B)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
59+800	60+000	P	Ag	CC	9	G		2	F										
60+000	60+200	P	Ag	CC	9.5	G													
60+200	60+400	P	Ag	CC	9.5	G													
60+400	60+600	P	Ag	CC	9.5	G													
60+600	60+800	P	Ag	CC	9.5	G													
60+800	61+000	P	Ag	CC	9.5	G													
61+000	61+200																Under Construction		
61+200	61+400																Under Construction		
61+400	61+600																Under Construction		
61+600	61+800																Under Construction		
61+800	62+000																Under Construction		
62+000	62+200																Under Construction		
62+200	62+400																Under Construction		
62+400	62+600																Under Construction		
62+600	62+800																Under Construction		
62+800	63+000																Under Construction		
63+000	63+200																Under Construction		
63+200	63+400																Under Construction		
63+400	63+600																Under Construction		
63+600	63+800																Under Construction		
63+800	64+000																Under Construction		
64+000	64+200																Under Construction		


		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu							Side : LHS		Carriage way : MCW		Date :		22-11-2023				
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/B)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
64+200	64+400															Under Construction	
64+400	64+600															Under Construction	
64+600	64+800															Under Construction	
64+800	65+000															Under Construction	
65+000	65+200															Under Construction	
65+200	65+400															Under Construction	
65+400	65+600															Under Construction	
65+600	65+800															Under Construction	
65+800	66+000															Under Construction	
66+000	66+200															Under Construction	
66+200	66+400															Under Construction	
66+400	66+600															Under Construction	
66+600	66+800															Under Construction	
66+800	67+000															Under Construction	


		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu							Side : RHS		Carriage way : MCW			Date :		22-11-2023			
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
67+000	66+800															Under Construction	
66+800	66+600															Under Construction	
66+600	66+400															Under Construction	
66+400	66+200															Under Construction	
66+200	66+000															Under Construction	
66+000	65+800															Under Construction	
65+800	65+600															Under Construction	
65+600	65+400															Under Construction	
65+400	65+200															Under Construction	
65+200	65+000															Under Construction	
65+000	64+800															Under Construction	
64+800	64+600															Under Construction	
64+600	64+400															Under Construction	
64+400	64+200															Under Construction	
64+200	64+000															Under Construction	
64+000	63+800															Under Construction	
63+800	63+600															Under Construction	
63+600	63+400															Under Construction	
63+400	63+200															Under Construction	
63+200	63+000															Under Construction	
63+000	62+800															Under Construction	
62+800	62+600															Under Construction	


		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu						Side : RHS		Carriage way : MCW			Date :		22-11-2023				
Chainage (Km)		n (P/R/H)	nd Use G/FO/IN /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads		Remarks		
62+600	62+400														Under Construction		
62+400	62+200														Under Construction		
62+200	62+000														Under Construction		
62+000	61+800														Under Construction		
61+800	61+600														Under Construction		
61+600	61+400														Under Construction		
61+400	61+200														Under Construction		
61+200	61+000														Under Construction		
61+000	60+800	P	Ag	CC	9.5	G											
60+800	60+600	P	Ag	CC	9.5	G											
60+600	60+400	P	Ag	CC	9.5	G											
60+400	60+200	P	Ag	CC	9.5	G											
60+200	60+000	P	Ag	CC	9.5	G											
60+000	59+800	P	Ag	CC	9	G		2	F								
59+800	59+600	P	Ag	CC	9	G		2	F								
59+600	59+400	P	Ag	CC	9	G		2	F								
59+400	59+200	P	Ag	CC	9	G		2	F								
59+200	59+000	P	Ag	CC	9	G		2	F								
59+000	58+800	P	Ag	CC	9	G		2	F								
58+800	58+600	P	Ag	CC	9	G		2	F								
58+600	58+400	P	Ag	CC	9	G		2	F								
58+400	58+200	P	Ag	CC	9	G		2	F								
58+200	58+000	P	Ag	CC	9	G		2	F								


		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu							Side : RHS		Carriage way : MCW			Date :		22-11-2023			
Chainage (Km)		P/R/H	Use G/FO/IN /BA	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
58+000	57+800	P	Ag	CC	9	G		2	F								
57+800	57+600	P	Ag	CC	9	G		2	F								
57+600	57+400	P	Ag	CC	9	G		2	F								
57+400	57+200	P	Ag	CC	9	G		2	F								
57+200	57+000	P	Ag	CC	9	G		2	F								
57+000	56+800	P	Ag	CC	9	G		2	F								
56+800	56+600	P	Ag	CC	9	G		2	F								
56+600	56+400	P	Ag	CC	9	G		2	F								
56+400	56+200	P	Ag	CC	9	G		2	F								
56+200	56+000	P	Ag	CC	9	G		2	F								
56+000	55+800															Under Construction	
55+800	55+600															Under Construction	
55+600	55+400															Under Construction	
55+400	55+200															Under Construction	
55+200	55+000															Under Construction	
55+000	54+800															Under Construction	
54+800	54+600															Under Construction	
54+600	54+400															Under Construction	
54+400	54+200															Under Construction	
54+200	54+000															Under Construction	
54+000	53+800															Under Construction	
53+800	53+600															Under Construction	
53+600	53+400															Under Construction	


		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu							Side : RHS		Carriage way : MCW		Date :		22-11-2023				
Chainage (Km)		n (P/R/H)	nd Use G/FO/IN /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads		Remarks		
53+400	53+200															Under Construction	
53+200	53+000															Under Construction	
53+000	52+800															Under Construction	
52+800	52+600															Under Construction	
52+600	52+400															Under Construction	
52+400	52+200															Under Construction	
52+200	52+000															Under Construction	
52+000	51+800															Under Construction	
51+800	51+600															Under Construction	
51+600	51+400															Under Construction	
51+400	51+200															Under Construction	
51+200	51+000															Under Construction	
51+000	50+800															Under Construction	
50+800	50+600															Under Construction	
50+600	50+400															Under Construction	
50+400	50+200															Under Construction	
50+200	50+000															Under Construction	
50+000	49+800															Under Construction	
49+800	49+600															Under Construction	
49+600	49+400															Under Construction	
49+400	49+200															Under Construction	
49+200	49+000															Under Construction	
49+000	48+800															Under Construction	

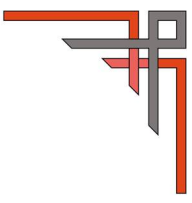
		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu							Side : RHS		Carriage way : MCW		Date :		22-11-2023				
Chainage (Km)		n (P/R/H)	nd Use G/FO/IN /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads		Remarks		
48+800	48+600																
48+600	48+400															Under Construction	
48+400	48+200															Under Construction	
48+200	48+000															Under Construction	
48+000	47+800															Under Construction	
47+800	47+600															Under Construction	
47+600	47+400															Under Construction	
47+400	47+200															Under Construction	
47+200	47+000															Under Construction	
47+000	46+800															Under Construction	
46+800	46+600															Under Construction	
46+600	46+400															Under Construction	
46+400	46+200															Under Construction	
46+200	46+000															Under Construction	
46+000	45+800															Under Construction	
45+800	45+600															Under Construction	
45+600	45+400															Under Construction	
45+400	45+200															Under Construction	
45+200	45+000															Under Construction	
45+000	44+800															Under Construction	
44+800	44+600															Under Construction	
44+600	44+400															Under Construction	
44+400	44+200															Under Construction	

		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu							Side : RHS		Carriage way : MCW		Date :		22-11-2023				
Chainage (Km)		n (P/R/H)	d Use G/FO/IN /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads		Remarks		
44+200	44+000															Under Construction	
44+000	43+800															Under Construction	
43+800	43+600															Under Construction	
43+600	43+400															Under Construction	
43+400	43+200															Under Construction	
43+200	43+000															Under Construction	
43+000	42+800															Under Construction	
42+800	42+600															Under Construction	
42+600	42+400															Under Construction	
42+400	42+200															Under Construction	
42+200	42+000															Under Construction	
42+000	41+800															Under Construction	
41+800	41+600															Under Construction	
41+600	41+400															Under Construction	
41+400	41+200															Under Construction	
41+200	41+000															Under Construction	
41+000	40+800															Under Construction	
40+800	40+600															Under Construction	
40+600	40+400															Under Construction	
40+400	40+200															Under Construction	
40+200	40+000															Under Construction	
40+000	39+800															Under Construction	
39+800	39+600															Under Construction	

		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu															
ROAD INVENTORY AND CONDITION SURVEY FORMAT																	
Surveyed By : Somesh & G sai Chandu							Side : RHS		Carriage way : MCW			Date :		22-11-2023			
Chainage (Km)		n (P/R/H)	nd Use G/FO/IN /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
39+600	39+400															Under Construction	
39+400	39+200															Under Construction	
39+200	39+000															Under Construction	
39+000	38+800															Under Construction	
38+800	38+600															Under Construction	
38+600	38+400															Under Construction	
38+400	38+200															Under Construction	
38+200	38+000															Under Construction	
38+000	37+800															Under Construction	
37+800	37+600															Under Construction	
37+600	37+400															Under Construction	
37+400	37+200															Under Construction	
37+200	37+000															Under Construction	
37+000	36+800	P	Ag	CC	9.5	G											
36+800	36+600	P	Ag	CC	9.5	G											
36+600	36+400	P	Ag	CC	9.5	G											
36+400	36+200	P	Ag	CC	9.5	G											
36+200	36+000	P	Ag	CC	9	G		2	F								
36+000	35+800	P	Ag	CC	9	G		2	F								
35+800	35+600	P	Ag	CC	9	G		2	F								
35+600	35+400	P	Ag	CC	9	G		2	F								
35+400	35+200	P	Ag	CC	9	G		2	F								
35+200	35+000	P	Ag	CC	9	G		2	F								

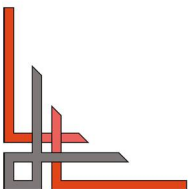
		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu																			
ROAD INVENTORY AND CONDITION SURVEY FORMAT																					
Surveyed By : Somesh & G sai Chandu										Side : RHS		Carriage way : MCW		Date :		22-11-2023					
Chainage (Km)		n (P/R/H)	Land Use (G/FO/IN /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks					
35+000	34+800	P	Ag	CC	9	G		2	F												
34+800	34+600	P	Ag	CC	9	G		2	F												
34+600	34+400	P	Ag	CC	9	G		2	F												
34+400	34+200	P	Ag	CC	9	G		2	F												
34+200	34+000	P	Ag	CC	9.5	G															
34+000	33+800	P	Ag	CC	9.5	G															
33+800	33+600	P	Ag	CC	9.5	G															
33+600	33+400	P	Ag	CC	9.5	G															
33+400	33+200	P	Ag	CC	9	G		2	F												
33+200	33+000	P	Ag	CC	9	G		2	F												
33+000	32+800	P	Ag	CC	9	G		2	F												
32+800	32+600	P	Ag	CC	9	G		2	F												
32+600	32+400	P	Ag	CC	9	G		2	F												
32+400	32+200	P	Ag	CC	9.5	G															
32+200	32+000	P	Ag	CC	9.5	G															
32+000	31+800	P	Ag	CC	9.5	G															
31+800	31+600	P	Ag	CC	9.5	G															
31+600	31+400	P	Ag	CC	9	G		2	F												
31+400	31+200	P	Ag	CC	9	G		2	F												
31+200	31+000	P	Ag	CC	9	G		2	F												
31+000	30+800	P	Ag	CC	9	G		2	F												
30+800	30+600	P	Ag	CC	9	G		2	F												
30+600	30+400	P	Ag	CC	9	G		2	F												








		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu														ANNEXURE-2			
ROAD INVENTORY AND CONDITION SURVEY FORMAT																			
Surveyed By : Somesh & G sai Chandu							Side : RHS		Carriage way : MCW			Date :		22-11-2023					
Chainage (Km)		n (P/R/H)	Land Use (G/FO/IN /BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
30+400	30+200	P	Ag	CC	9	G		2	F										
30+200	30+000	P	Ag	CC	9	G		2	F										
30+000	29+800	P	Bu	CC	9.5	G													
29+800	29+600	P	Bu	CC	9.5	G													
29+600	29+400	P	Bu	CC	9.5	G													
29+400	29+200	P	Bu	CC	9.5	G													
29+200	29+000	P	Bu	CC	9.5	G													








Annexure-3

Inventory and Condition of Structures








		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry							
		TECHNICAL DUE DILIGENCE STUDY							
BRIDGE INVENTORY & CONDITION SURVEY DATA									
Bridge No. :		Structure Type : Flyover		Direction Of Flow : -					
Site Chainage (Km) : 29+565		Road Category/No : NH-45A		Name Of River / Nala :					
INVENTORY DATA									
Sno	Description of Works		SR - LHS	MCW - LHS	MCW - RHS	SR - RHS			
1	Span Arrangement (C/C Of EJ)			1 x 28.0	1 x 28.0				
2	Number of Spans		-	1 Nos	1 Nos	-			
3	Length of Bridge		-	28.00 Mts	28.00 Mts	-			
4	H / L Or Submersible		-	High	High	-			
5	Road Way Width Between Kerbs			9.50 Mts	9.50 Mts				
6	No. of Lanes		-	2 Lane	2 Lane	-			
7	Total Outer Width of Bridge			10.50 Mts	10.50 Mts				
8	Width of Footpath		-	-	-	-			
9	Vertical Clearance (in case of underpass)		-	YES	YES	-			
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	
10	Foundation	Abutment Foundation	-	-	PILE	F	PILE	F	-
		Pier Foundation	-	-	NA	-	NA	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-
		Type Of Piers	-	-	NA	NA	NA	NA	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-
12	Super structure	Type	-	-	PSC Girder	F	PSC Girder	F	-
		Type Of Bearing	-	-	Elastomeric	F	Elastomeric	F	-
		Handrail/Cb/Kerb Type	-	-	CB	F	CB	F	-
		Wearing Coat Type	-	-	Flexible	F	Flexible	F	-
		Expansion Joint Type	-	-	STRIP SEAL	F	STRIP SEAL	F	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-
		Slope Protection	-	-	YES	F	YES	F	-
		Launching Apron	-	-	NA	NA	NA	NA	-
		River Training Works	-	-	NA	NA	NA	NA	-
		Bed Material	-	-	NA	NA	NA	NA	-
		Drainage Spouts	-	-	YES	F	YES	F	-
Downtake Pipes not Provided				General View of Flyover					
									
General View of Girders				General View of RE wall					
18	Remarks / Observations : Downtake Pipes not provided								






Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : VUP		Direction Of Flow : -						
Site Chainage (Km) : 31+991		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 15.772		1 x 15.772			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		15.77 Mts		15.77 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				8.50 Mts		8.50 Mts			
6	No. of Lanes		-		1 Lane		1 Lane		-	
7	Total Outer Width of Bridge				9.50 Mts		9.50 Mts			
8	Width of Footpath		-		-		-		-	
9	Vertical Clearance (in case of underpass)		-		NA		NA		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	NV	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	F	CB	F	-	-
		Wearing Coat Type	-	-	Flexible	F	Flexible	F	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NA	-	NA	-	-	-
General View of RE Wall (2)										
										
18	Remarks / Observations		Downtake Pipes not provided							






Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MNB		Direction Of Flow : -						
Site Chainage (Km) : 32+625		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 12.0		1 x 12.0			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge				12.00 Mts		12.00 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				9.50 Mts		9.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				12.50 Mts		12.50 Mts			
8	Width of Footpath		-		1.50 Mts		1.50 Mts		-	
9	Vertical Clearance (in case of underpass)		-		NO		NO		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foundation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	RETURNS	F	RETURNS	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	F	CB	F	-	-
		Wearing Coat Type	-	-	Flexible	F	Flexible	F	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	NA	NO	NA	-	-
General View of MNB (2)					General View of MNB (3)					
General View of MNB (4)					General View of MNB					
18	Remarks / Observations		1. Hazard Markers nor provided. 2. Drainage spouts not provided.							


Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry				TECHNICAL DUE DILIGENCE STUDY				
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MNB		Direction Of Flow : -						
Site Chainage (Km) : 33+300		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				2 x 16.0		2 x 16.0			
2	Number of Spans		-		2 Nos		2 Nos		-	
3	Length of Bridge		-		32.00 Mts		32.00 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				9.50 Mts		9.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				12.50 Mts		12.50 Mts			
8	Width of Footpath		-		1.50 Mts		1.50 Mts		-	
9	Vertical Clearance (in case of underpass)		-		NO		NO		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	RAFT	-	RAFT	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC wall	F	RCC wall	F	-	-
		Wing / Returns	-	-	RETURNS	F	RETURNS	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	F	CB	F	-	-
		Wearing Coat Type	-	-	Flexible	F	Flexible	F	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	NA	NO	NA	-	-
General View of MNB (2)					General View of MNB (3)					
General View of MNB Crash Barrier					General View of MNB					
18	Remarks / Observations		1. Hazard Markers nor provided. 2. Drainage spouts not provided.							






Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : VUP		Direction Of Flow : -						
Site Chainage (Km) : 33+879		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 15.0		1 x 15.0			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		15.00 Mts		15.00 Mts		-	
4	H / L Or Submersible		-		-		-		-	
5	Road Way Width Between Kerbs				8.50 Mts		8.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				9.50 Mts		9.50 Mts			
8	Width of Footpath		-		-		-		-	
9	Vertical Clearance (in case of underpass)		-		NA		NA		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	F	Flexible	F	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NA	-	NA	-	-	-
General View of RE Wall (2)										
										
18	Remarks / Observations		Downtake Pipes not provided							






Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry							
		TECHNICAL DUE DILIGENCE STUDY							
BRIDGE INVENTORY & CONDITION SURVEY DATA									
Bridge No. :		Structure Type : VUP		Direction Of Flow : -					
Site Chainage (Km) : 36+721		Road Category/No : NH-45A		Name Of River / Nala :					
INVENTORY DATA									
Sno	Description of Works		SR - LHS	MCW - LHS	MCW - RHS	SR - RHS			
1	Span Arrangement (C/C Of EJ)			1 x 15.0	1 x 15.0	-			
2	Number of Spans		-	1 Nos	1 Nos	-			
3	Length of Bridge			15.00 Mts	15.00 Mts	-			
4	H / L Or Submersible		-	High	High	-			
5	Road Way Width Between Kerbs		-	8.50 Mts	8.50 Mts	-			
6	No. of Lanes		-	2 Lane	2 Lane	-			
7	Total Outer Width of Bridge		-	9.50 Mts	9.50 Mts	-			
8	Width of Footpath		-	-	-	-			
9	Vertical Clearance (in case of underpass)		-	NA	NA	-			
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	
10	Foun dation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-
		Pier Foundation	-	-	NA	-	NA	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-
		Type Of Piers	-	-	RCC wall	NA	RCC wall	NA	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-
		Handrail/Cb/Kerb Type	-	-	CB	F	CB	F	-
		Wearing Coat Type	-	-	Flexible	F	Flexible	F	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-
		Slope Protection	-	-	YES	F	YES	F	-
		Launching Apron	-	-	NA	NA	NA	NA	-
		River Training Works	-	-	NA	NA	NA	NA	-
		Bed Material	-	-	NA	NA	NA	NA	-
		Drainage Spouts	-	-	NA	-	NA	-	-
Downtake pipes not provided			General View of RE Wall						
			General View of VUP						
18	Remarks / Observations 1. Hazard Markers nor provided. 2. Drainage spouts not provided.								






Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible


		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry				TECHNICAL DUE DILIGENCE STUDY				
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MNB		Direction Of Flow : -						
Site Chainage (Km) : 38+340		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS	MCW - LHS	MCW - RHS	SR - RHS				
1	Span Arrangement (C/C Of EJ)			2 x 6.0	2 x 6.0					
2	Number of Spans		-	2 Nos	2 Nos	-				
3	Length of Bridge		-	12.00 Mts	12.00 Mts	-				
4	H / L Or Submersible		-	High	High	-				
5	Road Way Width Between Kerbs			9.50 Mts	9.50 Mts					
6	No. of Lanes		-	2 Lane	2 Lane	-				
7	Total Outer Width of Bridge			12.50 Mts	12.50 Mts					
8	Width of Footpath		-	1.50 Mts	1.50 Mts	-				
9	Vertical Clearance (in case of underpass)		-	NO	NO	-				
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition		
10	Foun dation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	RAFT	-	RAFT	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC wall	F	RCC wall	F	-	-
		Wing / Returns	-	-	RETURNS	F	RETURNS	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	NA	NO	NA	-	-
Crash Barrier Pending for MNB				General View of Box Slab (2)						
				General View of Box Slab						
18	Remarks / Observations 1. Hazard Markers nor provided. 2. Drainage spouts not provided.									

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible






	Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry									
	TECHNICAL DUE DILIGENCE STUDY									
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :			Structure Type : MJB			Direction Of Flow : -				
Site Chainage (Km) : 38+503			Road Category/No : NH-45A			Name Of River / Nala :				
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 34.0 + 1 x 16.0 + 1 x 32.0 + 1 x 36.0		1 x 34.0 + 1 x 16.0 + 1 x 32.0 + 1 x 36.0			
2	Number of Spans		-		4 Nos		4 Nos		-	
3	Length of Bridge		-		118.00 Mts		118.00 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				10.50 Mts		10.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				12.50 Mts		12.50 Mts			
8	Width of Footpath		-		1.50 Mts		1.50 Mts		-	
9	Vertical Clearance (in case of underpass)		-		YES		YES		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foundation	Abutment Foundation	-	-	PILE	F	PILE	F	-	-
		Pier Foundation	-	-	PILE	-	PILE	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC Circular	F	RCC Circular	F	-	-
		Wing / Returns	-	-	Retaining wall	F	Retaining wall	F	-	-
12	Super structure	Type	-	-	PSC Girder	F	PSC Girder	F	-	-
		Type Of Bearing	-	-	Elastomeric	F	Elastomeric	F	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	YES	NA	YES	NA	-	-
MJB Under Construction (2)					MJB Under Construction (3)					
MJB Under Construction (4)					MJB Under Construction					
18	Remarks / Observations		Structure Newly Constructed							

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible






		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :			Structure Type : MNB				Direction Of Flow : -			
Site Chainage (Km) : 40+150			Road Category/No : NH-45A				Name Of River / Nala :			
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 45.0		1 x 45.0			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		45.00 Mts		45.00 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				9.50 Mts		9.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				12.50 Mts		12.50 Mts			
8	Width of Footpath		-		1.50 Mts		1.50 Mts		-	
9	Vertical Clearance (in case of underpass)		-		NO		NO		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	PILE	F	PILE	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	Retaining wall	F	Retaining wall	F	-	-
12	Super structure	Type	-	-	PSC Girder	NA	PSC Girder	NA	-	-
		Type Of Bearing	-	-	Elastomeric	F	Elastomeric	F	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	NA	NO	NA	-	-
Crash Barrier Under Construction for the MNB					General view of MNB					
Under Construction MNB (2)					Under Construction MNB					
18	Remarks / Observations		1. Hazard Markers nor provided. 2. Slab is under construction.							
Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible										

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : LVUP				Direction Of Flow : -				
Site Chainage (Km) : 40+249		Road Category/No : NH-45A				Name Of River / Nala :				
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 15.9		1 x 15.9			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		15.90 Mts		15.90 Mts		-	
4	H / L Or Submersible		-		-		-		-	
5	Road Way Width Between Kerbs				10.50 Mts		10.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				11.50 Mts		11.50 Mts			
8	Width of Footpath		-		-		-		-	
9	Vertical Clearance (in case of underpass)		-		NA		NA		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foundation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NA	-	NA	-	-	-
1										
18	Remarks / Observations : Downtake Pipes not provided									






Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MNB		Direction Of Flow : -						
Site Chainage (Km) : 40+470		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 21.0		1 x 21.0			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		21.00 Mts		21.00 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				9.50 Mts		9.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				12.50 Mts		12.50 Mts			
8	Width of Footpath		-		1.50 Mts		1.50 Mts		-	
9	Vertical Clearance (in case of underpass)		-		NO		NO		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	OPEN	F	OPEN	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	Retaining wall	F	Retaining wall	F	-	-
12	Super structure	Type	-	-	RCC Girder	F	RCC Girder	F	-	-
		Type Of Bearing	-	-	Elastomeric	F	Elastomeric	F	-	-
		Handrail/Cb/Kerb Type	-	-	CB	F	CB	F	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	NA	NA	NA	NA	-	-
		Launching Apron	-	-	NA	NV	NA	NV	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	-	NO	-	-	-
General View of MNB (2)					General View of MNB (3)					
General View of MNB (4)					General View of MNB					
18	Remarks / Observations		1. Hazard Markers nor provided. 2. Drainage spouts not provided.							






Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MNB		Direction Of Flow : -						
Site Chainage (Km) : 41+028		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS	MCW - LHS	MCW - RHS	SR - RHS				
1	Span Arrangement (C/C Of EJ)			1 x 30.0	1 x 30.0					
2	Number of Spans		-	1 Nos	1 Nos	-				
3	Length of Bridge		-	30.00 Mts	30.00 Mts					
4	H / L Or Submersible		-	High	High	-				
5	Road Way Width Between Kerbs			9.50 Mts	9.50 Mts					
6	No. of Lanes		-	2 Lane	2 Lane	-				
7	Total Outer Width of Bridge			12.50 Mts	12.50 Mts					
8	Width of Footpath		-	1.50 Mts	1.50 Mts	-				
9	Vertical Clearance (in case of underpass)		-	NO	NO	-				
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition		
10	Foun dation	Abutment Foundation	-	-	OPEN	F	OPEN	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	Retaining wall	F	Retaining wall	F	-	-
12	Super structure	Type	-	-	RCC Girder	F	RCC Girder	F	-	-
		Type Of Bearing	-	-	Elastomeric	F	Elastomeric	F	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NV	NA	NV	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	-	NO	-	-	-
General View of MNB (2)				General View of MNB (3)						
					General View of MNB					
18	Remarks / Observations 1. Hazard Markers nor provided. 2. Drainage spouts not provided.									




Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MNB		Direction Of Flow : -						
Site Chainage (Km) : 42+951		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 8.0		1 x 8.0			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		8.00 Mts		8.00 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				9.50 Mts		9.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				12.50 Mts		12.50 Mts			
8	Width of Footpath		-		1.50 Mts		1.50 Mts		-	
9	Vertical Clearance (in case of underpass)		-		NO		NO		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	RAFT	-	RAFT	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC wall	F	RCC wall	F	-	-
		Wing / Returns	-	-	RETURNS	F	RETURNS	F	-	-
12	Super structure	Type	-	-	RCC Box	NA	RCC Box	NA	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	F	CB	F	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	NA	NO	NA	-	-
General view of MNB (2)					General view of MNB (3)					
General view of MNB (4)					General view of MNB					
18	Remarks / Observations		1. Hazard Markers nor provided. 2. Slab is under construction.							

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MNB		Direction Of Flow : -						
Site Chainage (Km) : 43+131		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 8.0		1 x 8.0			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		8.00 Mts		8.00 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				9.50 Mts		9.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				12.50 Mts		12.50 Mts			
8	Width of Footpath		-		1.50 Mts		1.50 Mts		-	
9	Vertical Clearance (in case of underpass)		-		NO		NO		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foundation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	RAFT	-	RAFT	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC wall	F	RCC wall	F	-	-
		Wing / Returns	-	-	RETURNS	F	RETURNS	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	F	CB	F	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	NA	NO	NA	-	-
General View of MNB (2)					General View of MNB (3)					
General View of MNB (4)					General View of MNB					
18	Remarks / Observations		1. Hazard Markers nor provided. 2. Drainage spouts not provided.							








Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry									
		TECHNICAL DUE DILIGENCE STUDY									
BRIDGE INVENTORY & CONDITION SURVEY DATA											
Bridge No. :			Structure Type : MNB Cum VUP			Direction Of Flow : -					
Site Chainage (Km) : 43+823			Road Category/No : NH-45A			Name Of River / Nala :					
INVENTORY DATA											
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS		
1	Span Arrangement (C/C Of EJ)		1 x 7.0		1 x 35.0 x 5.5 (MCW) , 1 x 7 (SR)		1 x 35.0 x 5.5 (MCW) , 1 x 7 (SR)		1 x 7.0		
2	Number of Spans		-		1 Nos		1 Nos		-		
3	Length of Bridge		7.00 Mts		35.00 Mts		35.00 Mts		7.00 Mts		
4	H / L Or Submersible		High		High		High		High		
5	Road Way Width Between Kerbs		8.00 Mts		9.75 Mts		9.75 Mts		8.00 Mts		
6	No. of Lanes		2.00 Mts		2 Lane		2 Lane		2.00 Mts		
7	Total Outer Width of Bridge		8.00 Mts		10.75 Mts		10.75 Mts		8.00 Mts		
8	Width of Footpath		1.50 Mts		-		-		1.50 Mts		
9	Vertical Clearance (in case of underpass)		NO		NO		NO		NO		
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition	
10	Foun dation	Abutment Foundation	RAFT	-	RAFT	F	RAFT	F	RAFT	-	
		Pier Foundation	NA	-	NA	-	NA	-	NA	-	
11	Sub Structure	Type Of Abutment	RCC wall	F	RCC wall	F	RCC wall	F	RCC wall	F	
		Type Of Piers	NA	NA	NA	NA	NA	NA	NA	NA	
		Wing / Returns	RE Wall	F	RE Wall	F	RE Wall	F	RE Wall	F	
12	Super structure	Type	RCC Box	F	RCC Box	NA	RCC Box	NA	RCC Box	F	
		Type Of Bearing	NA	NA	NA	F	NA	F	NA	NA	
		Handrail/Cb/Kerb Type	CB	NA	CB	NA	CB	NA	CB	NA	
		Wearing Coat Type	Flexible	F	Flexible	NA	Flexible	NA	Flexible	F	
		Expansion Joint Type	NA	NA	NA	NA	NA	NA	NA	NA	
13	Protection Works	Bed	NO	NV	NO	NV	NO	NV	NO	NV	
		Slope Protection	YES	F	YES	F	YES	F	YES	F	
		Launching Apron	NA	NA	NA	NA	NA	NA	NA	NA	
		River Training Works	NA	NA	NA	NA	NA	NA	NA	NA	
		Bed Material	NA	NA	NA	NA	NA	NA	NA	NA	
		Drainage Spouts	NO	-	NO	-	NO	-	NO	-	
Under Construction Underpass (2)						Under Construction Underpass (3)					
Under Construction Underpass (4)						Under Construction Underpass					
18	Remarks / Observations		Downtake Pipes not provided								
Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible											








		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MNB				Direction Of Flow : -				
Site Chainage (Km) : 44+156		Road Category/No : NH-45A				Name Of River / Nala :				
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)		1 x 8.0		1 x 8.0		1 x 8.0		1 x 8.0	
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		8.00 Mts		8.00 Mts		8.00 Mts		8.00 Mts	
4	H / L Or Submersible		High		High		High		High	
5	Road Way Width Between Kerbs		8.00 Mts		9.50 Mts		9.50 Mts		8.00 Mts	
6	No. of Lanes		2.00 Mts		2 Lane		2 Lane		2.00 Mts	
7	Total Outer Width of Bridge		11.00 Mts		10.50 Mts		10.50 Mts		11.00 Mts	
8	Width of Footpath		1.50 Mts		-		-		1.50 Mts	
9	Vertical Clearance (in case of underpass)		NO		NO		NO		NO	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	RAFT	-	RAFT	F	RAFT	F	RAFT	-
		Pier Foundation	RAFT	-	RAFT	-	RAFT	-	RAFT	-
11	Sub Structure	Type Of Abutment	RCC wall	F	RCC wall	F	RCC wall	F	RCC wall	F
		Type Of Piers	RCC wall	F	RCC wall	F	RCC wall	F	RCC wall	F
		Wing / Returns	RETURNS	F	RETURNS	F	RETURNS	F	RETURNS	F
12	Super structure	Type	RCC Box	F	RCC Box	F	RCC Box	F	RCC Box	F
		Type Of Bearing	NA	NA	NA	NA	NA	NA	NA	NA
		Handrail/Cb/Kerb Type	CB	NA	CB	NA	CB	NA	CB	NA
		Wearing Coat Type	Flexible	NA	Flexible	NA	Flexible	NA	Flexible	NA
		Expansion Joint Type	NA	NA	NA	NA	NA	NA	NA	NA
13	Protection Works	Bed	NO	NV	NO	NV	NO	NV	NO	NV
		Slope Protection	YES	F	YES	F	YES	F	YES	F
		Launching Apron	NA	NA	NA	NA	NA	NA	NA	NA
		River Training Works	NA	NA	NA	NA	NA	NA	NA	NA
		Bed Material	NA	NA	NA	NA	NA	NA	NA	NA
		Drainage Spouts	NO	NA	NO	NA	NO	NA	NO	NA
1										
18	Remarks / Observations		1. Hazard Markers nor provided. 2. Drainage spouts not provided.							
Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible										






		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : LVUP				Direction Of Flow : -				
Site Chainage (Km) : 45+366		Road Category/No : NH-45A				Name Of River / Nala :				
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 19.94		1 x 19.94			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		19.40 Mts		19.40 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				8.50 Mts		8.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				9.50 Mts		9.50 Mts			
8	Width of Footpath		-		-		-		-	
9	Vertical Clearance (in case of underpass)		-		NA		NA		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foundation	Abutment Foundation	-	-	NV	F	NV	F	-	-
		Pier Foundation	-	-	NV	-	NV	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC Circular	NA	NA	NA	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NA	-	NA	-	-	-
1										
18	Remarks / Observations : Downtake Pipes not provided									






Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MJB		Direction Of Flow : -						
Site Chainage (Km) : 47+460		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				13 x 20.0		13 x 20.0			
2	Number of Spans		-		13 Nos		13 Nos		-	
3	Length of Bridge		-		260.00 Mts		260.00 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				9.55 Mts		9.55 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				12.50 Mts		12.50 Mts			
8	Width of Footpath		-		1.50 Mts		1.50 Mts		-	
9	Vertical Clearance (in case of underpass)		-		YES		YES		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	PILE	F	PILE	F	-	-
		Pier Foundation	-	-	PILE	-	PILE	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC Circular	F	RCC Circular	F	-	-
		Wing / Returns	-	-	Retaining wall	F	Retaining wall	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	Elastomeric	NA	Elastomeric	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	NO	NA	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NA	NA	NA	NA	-	-
Under Construction MJB (2)					Under Construction MJB (3)					
										
Under Construction MJB (4)					Under Construction MJB					
18	Remarks / Observations		Structure Under Construction							






Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : LVUP		Direction Of Flow : -						
Site Chainage (Km) : 48+617		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS	MCW - LHS	MCW - RHS	SR - RHS				
1	Span Arrangement (C/C Of EJ)			1 x 16.971	1 x 16.971					
2	Number of Spans		-	1 Nos	1 Nos	-				
3	Length of Bridge		-	16.97 Mts	16.97 Mts	-				
4	H / L Or Submersible		-	High	High	-				
5	Road Way Width Between Kerbs			8.50 Mts	8.50 Mts					
6	No. of Lanes		-	2 Lane	2 Lane	-				
7	Total Outer Width of Bridge			9.50 Mts	9.50 Mts					
8	Width of Footpath		-	-	-	-				
9	Vertical Clearance (in case of underpass)		-	NA	NA	-				
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition		
10	Foun dation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	F	Flexible	F	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NA	-	NA	-	-	-
General View of LVUP (2)				General View of LVUP (3)						
					General View of LVUP					
General View of LVUP (4)				General View of LVUP						
18	Remarks / Observations		Downtake Pipes not provided							






		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry				TECHNICAL DUE DILIGENCE STUDY			
BRIDGE INVENTORY & CONDITION SURVEY DATA									
Bridge No. :		Structure Type : Flyover		Direction Of Flow : -					
Site Chainage (Km) : 49+157		Road Category/No : NH-45A		Name Of River / Nala :					
INVENTORY DATA									
Sno	Description of Works		SR - LHS	MCW - LHS	MCW - RHS	SR - RHS			
1	Span Arrangement (C/C Of EJ)			1 x 28.26	1 x 28.26				
2	Number of Spans		-	1 Nos	1 Nos	-			
3	Length of Bridge		-	28.00 Mts	28.00 Mts	-			
4	H / L Or Submersible		-	High	High	-			
5	Road Way Width Between Kerbs			9.50 Mts	9.50 Mts				
6	No. of Lanes		-	2 Lane	2 Lane	-			
7	Total Outer Width of Bridge			10.50 Mts	10.50 Mts				
8	Width of Footpath		-	-	-	-			
9	Vertical Clearance (in case of underpass)		-	YES	YES	-			
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	
10	Foundation	Abutment Foundation	-	-	PILE	F	PILE	F	-
		Pier Foundation	-	-	NA	-	NA	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	NA	-
		Type Of Piers	-	-	NA	NA	NA	NA	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-
12	Super structure	Type	-	-	PSC Girder	NA	PSC Girder	NA	-
		Type Of Bearing	-	-	Elastomeric	NA	Elastomeric	NA	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-
		Slope Protection	-	-	YES	NA	YES	NA	-
		Launching Apron	-	-	NA	NA	NA	NA	-
		River Training Works	-	-	NA	NA	NA	NA	-
		Bed Material	-	-	NA	NA	NA	NA	-
		Drainage Spouts	-	-	YES	NA	YES	NA	-
Under Construction Flyover (2)				Under Construction Flyover (3)					
Under Construction Flyover (4)				Under Construction Flyover					
18	Remarks / Observations 1. Slab And Approaches are Pending.								

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : ROB		Direction Of Flow : -						
Site Chainage (Km) : 50+076		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS	MCW - LHS	MCW - RHS	SR - RHS				
1	Span Arrangement (C/C Of EJ)			1 x 15.0 + 1 x 31.24 + 1 x 15.0	1 x 15.0 + 1 x 31.24 + 1 x 15.0					
2	Number of Spans		-	3 Nos	3 Nos	-				
3	Length of Bridge		-	61.24 Mts	61.24 Mts	-				
4	H / L Or Submersible		-	-	-	-				
5	Road Way Width Between Kerbs			9.50 Mts	9.50 Mts					
6	No. of Lanes		-	2 Lane	2 Lane	-				
7	Total Outer Width of Bridge			12.30 Mts	12.30 Mts					
8	Width of Footpath		-	-	-	-				
9	Vertical Clearance (in case of underpass)		-	NO	NO	-				
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition		
10	Foun dation	Abutment Foundation	-	-	OPEN	F	OPEN	F	-	-
		Pier Foundation	-	-	OPEN	-	OPEN	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC wall	F	RCC wall	F	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	Composite Girder	NA	Composite Girder	NA	-	-
		Type Of Bearing	-	-	POT	NA	POT	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	NA	YES	NA	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	NA	NO	NA	-	-
Under Construction ROB (2)				Under Construction ROB (3)						
Under Construction ROB (4)				Under Construction ROB						
18	Remarks / Observations		Structure Under Construction							

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible


		Four laning of Puducherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MJB		Direction Of Flow : -						
Site Chainage (Km) : 50+450		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				7 x 35.0		7 x 35.0			
2	Number of Spans		-		7 Nos		7 Nos		-	
3	Length of Bridge		-		245.00 Mts		245.00 Mts		-	
4	H / L Or Submersible		-		-		-		-	
5	Road Way Width Between Kerbs				9.55 Mts		9.55 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				12.50 Mts		12.50 Mts			
8	Width of Footpath		-		1.50 Mts		1.50 Mts		-	
9	Vertical Clearance (in case of underpass)		-		YES		YES		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foundation	Abutment Foundation	-	-	PILE	F	PILE	F	-	-
		Pier Foundation	-	-	PILE	-	PILE	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC Circular	F	RCC Circular	F	-	-
		Wing / Returns	-	-	Retaining wall	F	Retaining wall	F	-	-
12	Super structure	Type	-	-	PSC Girder	F	PSC Girder	F	-	-
		Type Of Bearing	-	-	Elastomeric	F	Elastomeric	F	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	G	STRIP SEAL	G	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	YES	NA	YES	NA	-	-
Under Construction MJB (2)					Under Construction MJB (3)					
Under Construction MJB (4)					Under Construction MJB					
18	Remarks / Observations		Structure Newly Constructed							






Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :			Structure Type : Flyover				Direction Of Flow : -			
Site Chainage (Km) : 51+455			Road Category/No : NH-45A				Name Of River / Nala :			
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 28.21		1 x 28.21			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		28.00 Mts		28.00 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				9.50 Mts		9.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				10.50 Mts		10.50 Mts			
8	Width of Footpath		-		-		-		-	
9	Vertical Clearance (in case of underpass)		-		YES		YES		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	PILE	F	PILE	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	NA	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	PSC Girder	NA	PSC Girder	NA	-	-
		Type Of Bearing	-	-	Elastomeric	NA	Elastomeric	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	NA	YES	NA	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	YES	NA	YES	NA	-	-
Flyover Under Construction (2)					Flyover Under Construction					
						General View of RE Wall				
18	Remarks / Observations		1. Structure Partially Constructed. 2. Approaches Partially Constructed.							
Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible										




		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MNB (COS)		Direction Of Flow : -						
Site Chainage (Km) : 51+834		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)		1 x 6.0		1 x 6.0		1 x 6.0		1 x 6.0	
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		6.00 Mts		6.00 Mts		6.00 Mts		6.00 Mts	
4	H / L Or Submersible		High		High		High		High	
5	Road Way Width Between Kerbs		10.25 Mts		9.50 Mts		9.50 Mts		10.25 Mts	
6	No. of Lanes		2.00 Mts		2 Lane		2 Lane		2.00 Mts	
7	Total Outer Width of Bridge		10.25 Mts		10.75 Mts		10.75 Mts		10.25 Mts	
8	Width of Footpath		1.50 Mts		-		-		1.50 Mts	
9	Vertical Clearance (in case of underpass)		NO		NO		NO		NO	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	RAFT	-	RAFT	F	RAFT	F	RAFT	-
		Pier Foundation	RAFT	-	RAFT	-	RAFT	-	RAFT	-
11	Sub Structure	Type Of Abutment	RCC wall	F	RCC wall	F	RCC wall	F	RCC wall	F
		Type Of Piers	RCC wall	F	RCC wall	F	RCC wall	F	RCC wall	F
		Wing / Returns	RETURNS	F	RETURNS	F	RETURNS	F	RETURNS	F
12	Super structure	Type	RCC Box	F	RCC Box	F	RCC Box	F	RCC Box	F
		Type Of Bearing	NA	NA	NA	NA	NA	NA	NA	NA
		Handrail/Cb/Kerb Type	CB	F	CB	F	CB	F	CB	F
		Wearing Coat Type	Flexible	NA	Flexible	NA	Flexible	NA	Flexible	NA
		Expansion Joint Type	NA	NA	NA	NA	NA	NA	NA	NA
13	Protection Works	Bed	NO	NV	NO	NV	NO	NV	NO	NV
		Slope Protection	YES	F	YES	F	YES	F	YES	F
		Launching Apron	NA	NA	NA	NA	NA	NA	NA	NA
		River Training Works	NA	NA	NA	NA	NA	NA	NA	NA
		Bed Material	NA	NA	NA	NA	NA	NA	NA	NA
		Drainage Spouts	NO	NA	NO	NA	NO	NA	NO	NA
1										
18	Remarks / Observations 1. Hazard Markers nor provided. 2. Drainage spouts not provided.									

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible


		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type :		LVUP		Direction Of Flow :		-		
Site Chainage (Km) : 54+438		Road Category/No :		NH-45A		Name Of River / Nala :				
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 12.066		1 x 12.066			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		12.07 Mts		12.07 Mts		-	
4	H / L Or Submersible		-		-		-		-	
5	Road Way Width Between Kerbs				9.10 Mts		9.10 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				10.10 Mts		10.10 Mts			
8	Width of Footpath		-		-		-		-	
9	Vertical Clearance (in case of underpass)		-		NA		NA		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foundation	Abutment Foundation	-	-	RAFT	NA	RAFT	NA	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	NA	RCC wall	NA	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	RE Wall	NA	RE Wall	NA	-	-
12	Super structure	Type	-	-	RCC Box	NA	RCC Box	NA	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	NA	YES	NA	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NA	NA	NA	NA	-	-
1										
18	Remarks / Observations		Structure Pending							


		Four laning of Puducherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry				TECHNICAL DUE DILIGENCE STUDY				
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : Flyover		Direction Of Flow : -						
Site Chainage (Km) : 55+386		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 30.547		1 x 30.547			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		30.57 Mts		30.57 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				9.50 Mts		9.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				10.50 Mts		10.50 Mts			
8	Width of Footpath		-		-		-		-	
9	Vertical Clearance (in case of underpass)		-		YES		YES		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foundation	Abutment Foundation	-	-	OPEN	F	OPEN	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	NA	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	PSC Girder	F	PSC Girder	F	-	-
		Type Of Bearing	-	-	Elastomeric	NA	Elastomeric	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	NA	YES	NA	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	YES	NA	YES	NA	-	-
General View of RE Wall					Under Construction Flyover (2)					
Under Construction Flyover (3)					Under Construction Flyover					
18	Remarks / Observations		1. Structure Under Construction. 2. Approaches Under Construction.							

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : ROB		Direction Of Flow : -						
Site Chainage (Km) : 60+724		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS	MCW - LHS	MCW - RHS	SR - RHS				
1	Span Arrangement (C/C Of EJ)			1 x 19.6/28.73 + 1 x 58.04 + 1 x 19.6/28.73	1 x 19.6/28.73 + 1 x 58.04 + 1 x 19.6/28.73					
2	Number of Spans		-	3 Nos	3 Nos	-				
3	Length of Bridge		-	97.24 Mts	97.24 Mts	-				
4	H / L Or Submersible		-	-	-	-				
5	Road Way Width Between Kerbs			9.50 Mts	9.50 Mts					
6	No. of Lanes		-	2 Lane	2 Lane	-				
7	Total Outer Width of Bridge			12.50 Mts	12.50 Mts					
8	Width of Footpath		-	-	-	-				
9	Vertical Clearance (in case of underpass)		-	NO	NO	-				
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition		
10	Foundation	Abutment Foundation	-	-	PILE	F	PILE	F	-	-
		Pier Foundation	-	-	PILE	-	PILE	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC wall	F	RCC wall	F	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	Bow String Girder	F	Bow String Girder	F	-	-
		Type Of Bearing	-	-	POT	F	POT	F	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	NA	NO	NA	-	-
General View of ROB (2).				General View of ROB.						
18	Remarks / Observations		Structure Under Construction							

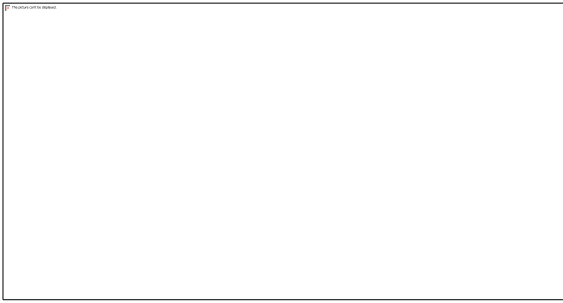
Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible








		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry							
		TECHNICAL DUE DILIGENCE STUDY							
BRIDGE INVENTORY & CONDITION SURVEY DATA									
Bridge No. :		Structure Type : Flyover		Direction Of Flow : -					
Site Chainage (Km) : 61+039		Road Category/No : NH-45A		Name Of River / Nala :					
INVENTORY DATA									
Sno	Description of Works		SR - LHS	MCW - LHS	MCW - RHS	SR - RHS			
1	Span Arrangement (C/C Of EJ)			1 x 17.115 + 1 x 32.327 + 1 x 17.115	1 x 17.115 + 1 x 32.327 + 1 x 17.115				
2	Number of Spans		-	3 Nos	3 Nos	-			
3	Length of Bridge		-	66.56 Mts	66.56 Mts	-			
4	H / L Or Submersible		-	High	High	-			
5	Road Way Width Between Kerbs			9.55 Mts	9.55 Mts				
6	No. of Lanes		-	2 Lane	2 Lane	-			
7	Total Outer Width of Bridge			12.50 Mts	12.50 Mts				
8	Width of Footpath		-	1.50 Mts	1.50 Mts	-			
9	Vertical Clearance (in case of underpass)		-	YES	YES	-			
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	
10	Foundation	Abutment Foundation	-	-	OPEN	F	OPEN	F	-
		Pier Foundation	-	-	OPEN	-	OPEN	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-
		Type Of Piers	-	-	RCC Circular	F	RCC Circular	F	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-
12	Super structure	Type	-	-	PSC Girder	F	PSC Girder	F	-
		Type Of Bearing	-	-	Elastomeric	F	Elastomeric	F	-
		Handrail/Cb/Kerb Type	-	-	CB	F	CB	F	-
		Wearing Coat Type	-	-	Flexible	F	Flexible	F	-
		Expansion Joint Type	-	-	STRIP SEAL	F	STRIP SEAL	F	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-
		Slope Protection	-	-	YES	F	YES	F	-
		Launching Apron	-	-	NA	NA	NA	NA	-
		River Training Works	-	-	NA	NA	NA	NA	-
		Bed Material	-	-	NA	NA	NA	NA	-
		Drainage Spouts	-	-	YES	F	YES	F	-
1									
18	Remarks / Observations								
Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible									






		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type :		LVUP (COS)		Direction Of Flow :		-		
Site Chainage (Km) : 62+090		Road Category/No :		NH-45A		Name Of River / Nala :				
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 12.0		1 x 12.0			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		12.00 Mts		12.00 Mts		-	
4	H / L Or Submersible		-		-		-		-	
5	Road Way Width Between Kerbs				8.50 Mts		8.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				9.50 Mts		9.50 Mts			
8	Width of Footpath		-		1.50 Mts		1.50 Mts		-	
9	Vertical Clearance (in case of underpass)		-		NA		NA		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foundation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NA	NA	NA	NA	-	-
1										
18	Remarks / Observations		Structure Under Construction							



Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type :		ROB		Direction Of Flow :		-		
Site Chainage (Km) : 62+285		Road Category/No :		NH-45A		Name Of River / Nala :				
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 15 + 1 x 31.24 + 1 x 15		1 x 15 + 1 x 31.24 + 1 x 15			
2	Number of Spans		-		3 Nos		3 Nos		-	
3	Length of Bridge		-		61.24 Mts		61.24 Mts		-	
4	H / L Or Submersible		-		-		-		-	
5	Road Way Width Between Kerbs				9.50 Mts		9.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				12.30 Mts		12.30 Mts			
8	Width of Footpath		-		-		-		-	
9	Vertical Clearance (in case of underpass)		-		NO		NO		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	PILE	F	PILE	F	-	-
		Pier Foundation	-	-	PILE	-	PILE	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC wall	F	RCC wall	F	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	Composite Girder	NA	Composite Girder	NA	-	-
		Type Of Bearing	-	-	POT	F	POT	F	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	NA	NO	NA	-	-
1										
18	Remarks / Observations		Structure Under Construction							






		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type :		MNB		Direction Of Flow :		-		
Site Chainage (Km) : 62+634		Road Category/No :		NH-45A		Name Of River / Nala :				
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)		3 x 5.0		3 x 5.0		3 x 5.0		3 x 5.0	
2	Number of Spans		-		3 Nos		3 Nos		-	
3	Length of Bridge		15.00 Mts		15.00 Mts		15.00 Mts		15.00 Mts	
4	H / L Or Submersible		High		High		High		High	
5	Road Way Width Between Kerbs		8.00 Mts		9.50 Mts		9.50 Mts		8.00 Mts	
6	No. of Lanes		2.00 Mts		2 Lane		2 Lane		2.00 Mts	
7	Total Outer Width of Bridge		11.00 Mts		10.50 Mts		10.50 Mts		11.00 Mts	
8	Width of Footpath		1.50 Mts		-		-		1.50 Mts	
9	Vertical Clearance (in case of underpass)		NO		NO		NO		NO	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	RAFT	-	RAFT	F	RAFT	F	RAFT	-
		Pier Foundation	RAFT	-	RAFT	-	RAFT	-	RAFT	-
11	Sub Structure	Type Of Abutment	RCC wall	F	RCC wall	F	RCC wall	F	RCC wall	F
		Type Of Piers	RCC wall	F	RCC wall	F	RCC wall	F	RCC wall	F
		Wing / Returns	RETURNS	F	RETURNS	F	RETURNS	F	RETURNS	F
12	Super structure	Type	RCC Box	F	RCC Box	F	RCC Box	F	RCC Box	F
		Type Of Bearing	NA	NA	NA	NA	NA	NA	NA	NA
		Handrail/Cb/Kerb Type	CB	NA	CB	NA	CB	NA	CB	NA
		Wearing Coat Type	Flexible	NA	Flexible	NA	Flexible	NA	Flexible	NA
		Expansion Joint Type	NA	NA	NA	NA	NA	NA	NA	NA
13	Protection Works	Bed	NO	NV	NO	NV	NO	NV	NO	NV
		Slope Protection	YES	F	YES	F	YES	F	YES	F
		Launching Apron	NA	NA	NA	NA	NA	NA	NA	NA
		River Training Works	NA	NA	NA	NA	NA	NA	NA	NA
		Bed Material	NA	NA	NA	NA	NA	NA	NA	NA
		Drainage Spouts	NO	NA	NO	NA	NO	NA	NO	NA
1										
18	Remarks / Observations 1. Hazard Markers nor provided. 2. Drainage spouts not provided.									

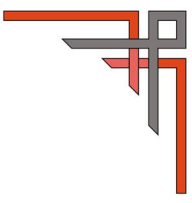
		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :			Structure Type : Flyover			Direction Of Flow : -				
Site Chainage (Km) : 62+880			Road Category/No : NH-45A			Name Of River / Nala :				
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 28.0		1 x 28.0			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		28.00 Mts		28.00 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				9.50 Mts		9.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				10.50 Mts		10.50 Mts			
8	Width of Footpath		-		-		-		-	
9	Vertical Clearance (in case of underpass)		-		YES		YES		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	OPEN	F	OPEN	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	NA	RCC wall	NA	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	PSC Girder	NA	PSC Girder	NA	-	-
		Type Of Bearing	-	-	Elastomeric	NA	Elastomeric	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	STRIP SEAL	NA	STRIP SEAL	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	NA	YES	NA	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	YES	NA	YES	NA	-	-
Flyover Under Construction (2)					Flyover Under Construction (3)					
										
Flyover Under Construction (4)					Flyover Under Construction					
18	Remarks / Observations		1. Structure Under Construction. 2. Approaches Under Construction.							
Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible										

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MNB		Direction Of Flow : -						
Site Chainage (Km) : 63+697		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS	MCW - LHS	MCW - RHS	SR - RHS				
1	Span Arrangement (C/C Of EJ)			1 x 7.0	1 x 7.0					
2	Number of Spans		-	1 Nos	1 Nos	-				
3	Length of Bridge		-	7.00 Mts	7.00 Mts	-				
4	H / L Or Submersible		-	High	High	-				
5	Road Way Width Between Kerbs			9.50 Mts	9.50 Mts					
6	No. of Lanes		-	2 Lane	2 Lane	-				
7	Total Outer Width of Bridge			12.50 Mts	12.50 Mts					
8	Width of Footpath		-	1.50 Mts	1.50 Mts	-				
9	Vertical Clearance (in case of underpass)		-	NO	NO	-				
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition		
10	Foun dation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	RAFT	-	RAFT	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	RCC wall	F	RCC wall	F	-	-
		Wing / Returns	-	-	RETURNS	NA	RETURNS	NA	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	F	CB	F	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NV	NO	NV	-	-
		Slope Protection	-	-	YES	NA	YES	NA	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	NA	NO	NA	-	-
MNB Under Construction (2)					MNB Under Construction (3)					
MNB Under Construction (4)					MNB Under Construction					
18	Remarks / Observations		1. Hazard Markers nor provided. 2. Drainage spouts not provided.							

		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry				TECHNICAL DUE DILIGENCE STUDY				
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :		Structure Type : MNB		Direction Of Flow : -						
Site Chainage (Km) : 63+993		Road Category/No : NH-45A		Name Of River / Nala :						
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				3 x 7.0		3 x 7.0			
2	Number of Spans		-		3 Nos		3 Nos		-	
3	Length of Bridge		-		21.00 Mts		21.00 Mts		-	
4	H / L Or Submersible		-		High		High		-	
5	Road Way Width Between Kerbs				9.50 Mts		9.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				12.50 Mts		12.50 Mts			
8	Width of Footpath		-		1.50 Mts		1.50 Mts		-	
9	Vertical Clearance (in case of underpass)		-		NO		NO		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	RAFT	NA	RAFT	NA	-	-
		Pier Foundation	-	-	RAFT	-	RAFT	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	NA	RCC wall	NA	-	-
		Type Of Piers	-	-	RCC wall	NA	RCC wall	NA	-	-
		Wing / Returns	-	-	RETURNS	NA	RETURNS	NA	-	-
12	Super structure	Type	-	-	RCC Box	NA	RCC Box	NA	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	NA	YES	NA	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NO	NA	NO	NA	-	-
MNB Under Construction (2)					MNB Under Construction (3)					
MNB Under Construction (4)					MNB Under Construction					
18	Remarks / Observations		Structure Yet to start							

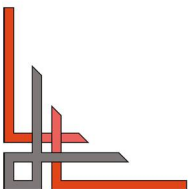
Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible


		Four laning of Puducherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry								
		TECHNICAL DUE DILIGENCE STUDY								
BRIDGE INVENTORY & CONDITION SURVEY DATA										
Bridge No. :			Structure Type : LVUP				Direction Of Flow : -			
Site Chainage (Km) : 65+870			Road Category/No : NH-45A				Name Of River / Nala :			
INVENTORY DATA										
Sno	Description of Works		SR - LHS		MCW - LHS		MCW - RHS		SR - RHS	
1	Span Arrangement (C/C Of EJ)				1 x 12.0		1 x 12.0			
2	Number of Spans		-		1 Nos		1 Nos		-	
3	Length of Bridge		-		12.00 Mts		12.00 Mts		-	
4	H / L Or Submersible		-		-		-		-	
5	Road Way Width Between Kerbs				8.50 Mts		8.50 Mts			
6	No. of Lanes		-		2 Lane		2 Lane		-	
7	Total Outer Width of Bridge				9.50 Mts		9.50 Mts			
8	Width of Footpath		-		-		-		-	
9	Vertical Clearance (in case of underpass)		-		NA		NA		-	
Sno	Description of Works		Type	Condition	Type	Condition	Type	Condition	Type	Condition
10	Foun dation	Abutment Foundation	-	-	RAFT	F	RAFT	F	-	-
		Pier Foundation	-	-	NA	-	NA	-	-	-
11	Sub Structure	Type Of Abutment	-	-	RCC wall	F	RCC wall	F	-	-
		Type Of Piers	-	-	NA	NA	NA	NA	-	-
		Wing / Returns	-	-	RE Wall	F	RE Wall	F	-	-
12	Super structure	Type	-	-	RCC Box	F	RCC Box	F	-	-
		Type Of Bearing	-	-	NA	NA	NA	NA	-	-
		Handrail/Cb/Kerb Type	-	-	CB	NA	CB	NA	-	-
		Wearing Coat Type	-	-	Flexible	NA	Flexible	NA	-	-
		Expansion Joint Type	-	-	NA	NA	NA	NA	-	-
13	Protection Works	Bed	-	-	NO	NA	NO	NA	-	-
		Slope Protection	-	-	YES	F	YES	F	-	-
		Launching Apron	-	-	NA	NA	NA	NA	-	-
		River Training Works	-	-	NA	NA	NA	NA	-	-
		Bed Material	-	-	NA	NA	NA	NA	-	-
		Drainage Spouts	-	-	NA	NA	NA	NA	-	-
General View of LVUP (2)					General View of LVUP					
						General View of RE Wall				
18	Remarks / Observations		1. Crash Barrier construction is pending. 2. Structure Under Construction.							
Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available, NV- Not Visible										



Annexure-4

Inventory and Condition of Culverts




		Four Lining of Puducherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyogana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																	
Road Category		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																	
S.No	Carriageway	Date of Inventory																																	
		NH-18																																17-11-2023 To 20-11-2023	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	35
		Schedule/GFC				Site / As-Built				Protection Works																									
Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Con/Retain)	Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Con/Retain)	No. of Vents	Vent Height (m)	Service Road (yes/No)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R. To L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/briech	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)	Adequacy of Water way	Vegetation On structure	Vegetation / Debris On verway			
1	LHS	29+045	BC	1x2x2.0	New	29+045	BC	1x2x2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	NV	NV	Yes	Yes	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.	
	RHS	29+045	BC	1x2x2.0	New	29+045	BC	1x2x2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	NV	NV	Yes	Yes	No	No	Ok	Yes	No		
2	LHS	29+480	BC	1x2x2.0	Re-Con	29+480	BC	1x2x2.0	Re-Con	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	NV	NV	Yes	Yes	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.	
	RHS	29+480	BC	1x2x2.0	New	29+480	BC	1x2x2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	NV	NV	Yes	Yes	No	No	Ok	Yes	Yes		
3	LHS	29+810	BC	1X2X2.0	New	29+810	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	NV	NV	Yes	Yes	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.	
	RHS	29+810	BC	1X2X2.0	New	29+810	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	NV	NV	Yes	Yes	No	No	Ok	Yes	Yes		
4	LHS	30+010	BC	1X2X2.0	New	30+010	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.	
	RHS	30+010	BC	1X2X2.0	New	30+010	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	Yes	Yes		
5	LHS	30+190	BC	1X2X2.0	New	28+150	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	NV	NV	Yes	Yes	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.	
	RHS	30+190	BC	1X2X2.0	New	28+150	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	NV	NV	Yes	Yes	No	No	Ok	Yes	Yes		
6	LHS	30+480	BC	1X2X2.0	New	28+200	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	NV	NV	Yes	Yes	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.	
	RHS	30+480	BC	1X2X2.0	New	28+200	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	NV	NV	Yes	Yes	No	No	Ok	Yes	Yes		



Four laning of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry

TECHNICAL DUE DILIGENCE STUDY
CULVERT INVENTORY AND CONDITION DATA

Road Category		NH-18																Date of Inventory																	17-11-2023 To 20-11-2023
		Schedule/GFC								Site / As-Built								Protection Works																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	35
S.No	Carriageway	Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)	Adequacy of Water way	Vegetation On structure	Vegetation / Debris On ventway	Remarks
7	LHS	30+780	BC	1X2X2.0	New	30+780	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	NV	NV	Yes	Yes	No	No	Ok	Yes	Yes	1. Hazard Marker pending. 2. Protection works pending.
	RHS	30+780	BC	1X2X2.0	New	30+780	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	Yes	Yes	Yes	Yes	No	No	Ok	Yes	Yes	
8	LHS	30+870	BC	1X2X2.0	New	31+950	BC	1X2X2.0	New	1	2.0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1. Hazard Marker pending 2. Protection works pending.
	RHS	30+870	BC	1X2X2.0	New	31+950	BC	1X2X2.0	New	1	2.0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	LHS	31+320	BC	1X2X2.0	New	31+320	BC	1X2X2.0	New	1	2.0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1. Hazard Marker pending 2. Protection works pending.
	RHS	31+320	BC	1X2X2.0	New	31+320	BC	1X2X2.0	New	1	2.0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	LHS	31+440	BC	1X2X2.0	New	32+700	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	No	No	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	31+440	BC	1X2X2.0	New	32+700	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	No	No	No	No	Ok	No	No	
11	LHS	31+550	BC	1X2X2.0	New	31+550	BC	1X2X2.0	New	1	2.0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1. Hazard Marker pending 2. Protection works pending.
	RHS	31+550	BC	1X2X2.0	New	31+550	BC	1X2X2.0	New	1	2.0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12	LHS	31+745	BC	1X2X2.0	New	34+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	No	No	No	No	Ok	No	Yes	1. Hazard Marker pending 2. Protection works pending.
	RHS	31+745	BC	1X2X2.0	New	34+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	
13	LHS	32+150	BC	1X2X2.0	New	32+150	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	Yes	No	No	No	Ok	No	Yes	1. Hazard Marker pending 2. Protection works pending.

		Four Lining of Pudukcherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyogana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																		
		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																		
Road Category		NH-18																															Date of Inventory		17-11-2023 To 20-11-2023	
S.No	Carriageway	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Remarks	
		Schedule/GFC				Site / As-Built				No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/brch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Protection Works						Adequacy of Water way	Vegetation On structure	Vegetation / Debris On verway		
		Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)																	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)					
	RHS	32+150	BC	1X2X2.0	New	32+150	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	Yes	Yes	Yes	No	No	Ok	Yes	yes	2. Protection works pending.	
14	LHS	32+270	BC	1X2X2.0	New	34+485	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.	
	RHS	32+270	BC	1X2X2.0	New	34+485	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	No	No	No	No	Ok	No	yes		
15	LHS	32+470	BC	1X2X2.0	New	35+380	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	Yes	Yes	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	32+470	BC	1X2X2.0	New	35+380	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	Yes	Yes	Yes	Yes	No	No	Ok	No	No		
16	LHS	32+780	BC	1X2X2.0	New	32+780	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	No	No	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.	
	RHS	32+780	BC	1X2X2.0	New	32+780	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	No	No	No	No	Ok	Yes	Yes		
17	LHS	32+980	BC	1X2X2.0	New	37+125	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	Fair	-	Fair	Yes	Yes	No	No	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.	
	RHS	32+980	BC	1X2X2.0	New	37+125	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	Yes	Yes	No	No	No	No	Ok	Yes	Yes		
18	LHS	33+170	BC	1X2X2.0	New	33+170	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	Yes	Yes	Yes	Yes	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.	
	RHS	33+170	BC	1X2X2.0	New	33+170	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	Yes	Yes	Yes	Yes	No	No	Ok	Yes	Yes		
19	LHS	33+417	BC	1X2X2.0	New	39+730	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	No	No	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.	
	RHS	33+417	BC	1X2X2.0	New	39+730	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	No	No	No	No	Ok	Yes	Yes		





Four Lining of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry

TECHNICAL DUE DILIGENCE STUDY
CULVERT INVENTORY AND CONDITION DATA


Road Category		NH-18				Date of Inventory																												17-11-2023 To 20-11-2023	
S.No	Carriageway	Schedule/GFC				Site / As-Built				No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R To L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Protection Works						Adequacy of Water way	Vegetation On structure	Vegetation / Debris On ventway	Remarks
		Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ wider/ re-Conf/Retain)	Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ wider/ re-Conf/Retain)																	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)				
20	LHS	33+550	BC	1x3x2.0	New	40+350	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	-	No	No	No	No	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.
	RHS	39+550	BC	1x3x2.0	New	40+350	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	-	No	No	No	No	No	No	Ok	Yes	Yes	
21	LHS	33+680	BC	1X2X2.0	New	40+907	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	No	No	No	No	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.
	RHS	33+680	BC	1X2X2.0	New	40+907	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	-	No	No	No	No	No	No	Ok	Yes	Yes	
22	LHS	34+020	BC	1X2X2.0	New	34+020	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	Fair	-	Fair	No	No	-	-	No	No	Ok	No	Yes	1. Hazard Marker pending 2. Protection works pending.
	RHS	34+020	BC	1X2X2.0	New	34+020	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	Fair	-	Fair	No	No	-	-	No	No	Ok	No	Yes	
23	LHS	34+098	BC	1X2X2.0	New	34+098	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	2.172	-	Yes	Fair	Fair	-	-	Fair	-	Fair	No	No	-	-	No	No	Ok	No	Yes	1. Hazard Marker pending 2. Protection works pending.
	RHS	34+098	BC	1X2X2.0	New	34+098	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	1.013	-	Yes	Fair	Fair	-	-	Fair	-	Fair	No	No	-	-	No	No	Ok	No	Yes	
24	LHS	34+243	BC	1X2X2.0	New	42+897	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	Yes	Yes	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	34+243	BC	1X2X2.0	New	42+897	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	Yes	Yes	Yes	Yes	No	No	Ok	Yes	Yes	
25	LHS	34+780	BC	1X2X2.0	New	43+320	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	Yes	Yes	No	No	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.
	RHS	34+780	BC	1X2X2.0	New	43+320	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	Fair	Fair	Yes	Yes	No	No	No	No	Ok	Yes	Yes	
26	LHS	34+974	BC	1X2X2.0	New	45+760	BC	1X2X2.0	New	1	2.0	0	0	0	0.45	1.1	-	Yes	-	Fair	-	-	Fair	-	Fair	No	No	No	No	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending


RUKY		Four Lining of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyogana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																				
Road Category		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																				
NH-18		Date of Inventory 17-11-2023 To 20-11-2023																																				
S.No	Carriageway	Schedule/GFC				Site / As-Built				9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Protection Works						31	32	33	35			
		Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)																	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)					Adequacy of Water way	Vegetation On structure	Vegetation / Debris On ventway
26	RHS	34+974	BC	1X2X2.0	New	45+760	BC	1X2X2.0	New	1	2.0	0	0		0.45	1.1	-	Yes	-	Fair	-	-	Fair	-	Fair	No	No	No	No	No	No	Ok	No	No	2. Protection works pending.			
27	LHS	35+090	BC	1X2X2.0	New	47+070	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ok	-	-	1. Hazard Marker pending 2. Protection works pending.				
	RHS	35+090	BC	1X2X2.0	New	47+070	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	Ok	-	-						
28	LHS	35+409	BC	2x2.5x2.5	New	48+100	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.5	1.1	-	-	Fair	Fair	Fair	-	Fair	Fair	Fair	No	No	No	No	No	No	Ok	No	Yes	1. Hazard Marker pending 2. Protection works pending.			
	RHS	35+409	BC	2x2.5x2.5	New	48+100	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.5	1.1	-	-	Fair	Fair	Fair	-	Fair	Fair	Fair	No	No	No	No	No	Ok	No	Yes					
29	LHS	35+700	BC	1X2X2.0	New	48+410	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	Fair	-	Fair	No	No	Yes	No	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.			
	RHS	35+700	BC	1X2X2.0	New	48+410	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	Fair	-	Fair	No	No	No	No	No	Ok	Yes	Yes					
30	LHS	35+850	BC	2x2.5x2.5	New	48+700	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	-	-	-	-	-	-	-	-	-	-	-	-	No	No	Ok	-	-	1. Hazard Marker pending 2. Protection works pending.			
	RHS	35+850	BC	2x2.5x2.5	New	48+700	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	-	-	Fair	-	-	-	-	-	-	-	-	No	No	Ok	-	-					
31	LHS	36+255	BC	1X2X2.0	New	36+255	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	-	-	-	-	-	-	-	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.		
	RHS	36+255	BC	1X2X2.0	New	36+255	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	-	-	-	-	-	-	No	No	Ok	Yes	Yes				
32	LHS	36+410	BC	1X2X2.0	New	50+180	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	-	-	-	-	-	-	No	No	Ok	Yes	Yes	1. Hazard Marker pending 2. Protection works pending.			
	RHS	36+410	BC	1X2X2.0	New	50+180	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	Fair	Fair	-	-	-	-	-	-	-	-	-	No	No	Ok	Yes	Yes				


		Four Lining of Puducherry-Poondiyanakuppam Section of NH-45A/New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyogana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																	
Road Category		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																	
NH-18		Date of Inventory 17-11-2023 To 20-11-2023																																	
S.No	Carriageway	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Remarks
		Schedule/GFC				Site / As-Built				No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Protection Works						Adequacy of Water way	Vegetation On structure	Vegetation / debris On ventway	
		Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ wider/ re-Conf/Retain)	Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ wider/ re-Conf/Retain)																	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)				
33	LHS	36+560	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	36+560	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
34	LHS	36+945	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	36+945	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
35	LHS	37+040	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	37+040	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
36	LHS	37+265	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	37+265	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
37	LHS	37+435	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	37+435	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
38	LHS	37+700	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	37+700	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
39	LHS	37+800	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.

		Four lining of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyogana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																			
		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																			
Road Category		NH-18																																	Date of Inventory		
S.No	Carriageway	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Remarks		
		Schedule/GFC				Site / As-Built				Protection Works																											
		Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)	Adequacy of Water way	Vegetation On structure	Vegetation / Debris On ventway			
39	RHS	37+800	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	2. Protection works pending.		
40	LHS	38+700	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.		
	RHS	38+700	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes			
41	LHS	38+932	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.		
	RHS	38+932	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes			
42	LHS	39+190	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.		
	RHS	39+190	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes			
43	LHS	39+400	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.		
	RHS	39+400	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes			
44	LHS	39+655	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.		
	RHS	39+655	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes			
45	LHS	39+990	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.		
	RHS	39+990	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes			

RUKY		Four laning of Puducherry-Poondiyanakuppam Section of NH-45A/New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																	
Road Category		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																	
NH-18		Date of Inventory 17-11-2023 To 20-11-2023																																	
S.No	Carriageway	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Remarks
		Schedule/GFC				Site / As-Built			No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R To L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Protection Works						Adequacy of Water way	Vegetation On structure	Vegetation / debris On ventway		
		Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ wider/ re-Conf/Retain)	Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement																	Type of const. (New/ wider/ re-Conf/Retain)	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)				SCOUR (D/S)	
46	LHS	40+350	BC	1x2x2.0	New	01+230	BC	1x2x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	40+350	BC	1x2x2.0	New	01+230	BC	1x2x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
47	LHS	40+840	BC	1x2x2.0	New	01+230	BC	1x2x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	40+840	BC	1x2x2.0	New	01+230	BC	1x2x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
48	LHS	41+250	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	41+250	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
49	LHS	41+360	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	41+360	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
50	LHS	41+755	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	41+755	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
51	LHS	41+920	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	41+920	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
52	LHS	42+090	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending

		Four Lining of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyajana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																	
		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																	
Road Category		NH-18																																	
S.No	Carriageway	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Remarks
		Schedule/GFC				Site / As-Built				No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Cash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Protection Works						Adequacy of Water way	Vegetation On structure	Vegetation / Debris On ventway	
		Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)																										
52	RHS	42+090	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	2. Protection works pending.
53	LHS	42+340	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	42+340	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
54	LHS	42+618	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	42+618	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
55	LHS	42+927	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	42+927	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
56	LHS	43+565	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	43+565	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
57	LHS	43+655	BC	1x4x2.5	New	01+230	BC	1x4x2.5	New	1	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	43+655	BC	1x4x2.5	New	01+230	BC	1x4x2.5	New	1	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
58	LHS	43+846	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	43+846	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	

		Four Lining of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000[Design chainage] under Bharatmala Priyojana Phase I [Residual NHDP-IV works] of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																	
		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																	
Road Category		Date of Inventory																																	
		17-11-2023 To 20-11-2023																																	
S.No	Carriageway	NH-18																																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Remarks
		Schedule/GFC				Site / As-Built																													
		Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ wider/ re-Conf/Retain)	Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ wider/ re-Conf/Retain)	No. of Vents	Vent Height (m)	Service Road (yes/No)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)	Adequacy of Water way	Vegetation On structure	Vegetation / debris On ventway		
59	LHS	44+198	BC	1x5x2.0	New	01+230	BC	1x5x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	
	RHS	44+198	BC	1x5x2.0	New	01+230	BC	1x5x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
60	LHS	44+272	BC	2x2.5x2.0	New	01+230	BC	2x2.5x2.0	New	2	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	44+272	BC	2x2.5x2.0	New	01+230	BC	2x2.5x2.0	New	2	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
61	LHS	44+650	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	44+650	BC	2x2.5x2.5	New	01+230	BC	2x2.5x2.5	New	2	2.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
62	LHS	44+927	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	44+927	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
63	LHS	44+961	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	44+961	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
64	LHS	45+160	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	45+160	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
65	LHS	45+451	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.


		Four lining of Pudukcherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyogana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																																			
		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																																			
Road Category		Date of Inventory																																																			
		17-11-2023 To 20-11-2023																																																			
S.No	Carriageway	NH-18		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	35																
		Schedule/GFC																																				Site / As-Built				Protection Works											
		Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)																																			Span Arrangement	Type of const. (New/ widen/ re-Conf/retain)	Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/retain)	No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Cash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	condition of Median /Median wall
65	RHS	45+451	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	2. Protection works pending.																		
66	LHS	45+745	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																		
	RHS	45+745	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																			
67	LHS	45+634	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																		
	RHS	45+634	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																			
68	LHS	46+550	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																		
	RHS	46+550	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																			
69	LHS	46+942	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																		
	RHS	46+942	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																			
70	LHS	47+200	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																		
	RHS	47+200	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																			
71	LHS	47+711	BC	1x3x2.0	Re-Con	01+230	BC	1x3x2.0	Re-Con	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																		
	RHS	47+711	BC	1x3x2.0	Re-Con	01+230	BC	1x3x2.0	Re-Con	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																			





Four Lining of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyodana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry


TECHNICAL DUE DILIGENCE STUDY
CULVERT INVENTORY AND CONDITION DATA

Road Category		NH-18										Date of Inventory																							17-11-2023 To 20-11-2023																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
S.No	Carriageway	Schedule/GFC				Site / As-Built				No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Protection Works						Adequacy of Water way	Vegetation On structure	Vegetation / Debris On ventway	Remarks																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
		Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)																	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							


		Four lining of Pudukcherry-Poondiyankuppam Section of NH-45A/New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																																							
		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																																							
Road Category		NH-18		Date of inventory 17-11-2023 To 20-11-2023																																																					
S.No	Carriageway	Schedule/GFC				Site / As-Built				9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Protection Works						31	32	33	35																						
		1	2	3	4	5	6	7	8																	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	No. of Vents	Vent Height (m)	Service Road (yes/no)					Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	Condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)	Adequacy of Water way	Vegetation On structure	Vegetation / Debris On ventway
78	RHS	49+368	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	2. Protection works pending.																						
79	LHS	49+660	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	49+660	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							
80	LHS	49+893	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	49+893	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							
81	LHS	50+170	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	50+170	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							
82	LHS	50+952	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	50+952	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							
83	LHS	51+060	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	51+060	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							
84	LHS	51+640	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	51+640	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							


		Four Lining of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000[Design chainage] under Bharatmala Priyojana Phase I [Residual NHDP-IV works] of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																	
		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																	
Road Category		Date of Inventory																																	
NH-18		17-11-2023 To 20-11-2023																																	
S.No	Carriageway	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Remarks
		Schedule/GFC				Site / As-Built			No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R To L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Wrch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Protection Works						Adequacy of Water way	Vegetation On structure	Vegetation / debris On ventway		
		Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ wider/ re-Conf/Retain)	Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement																	Type of const. (New/ wider/ re-Conf/Retain)	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)				SCOUR (D/S)	
85	LHS	51+834	BC	1x6x2.0	New	01+230	BC	1x6x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	51+834	BC	1x6x2.0	New	01+230	BC	1x6x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
86	LHS	52+036	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	52+036	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
87	LHS	52+140	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	52+140	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
88	LHS	53+140	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	53+140	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
89	LHS	53+210	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	53+210	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
90	LHS	53+310	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	53+310	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
91	LHS	53+490	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.


		Four lining of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyogana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																		
		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																		
Road Category		NH-18																																		
S.No	Carriageway	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Remarks	
		Schedule/GFC				Site / As-Built				No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Protection Works						Adequacy of Water way	Vegetation On structure	Vegetation / Debris On ventway		
		Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	Chainage (Km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)																	SCOUR (U/S)	SCOUR (D/S)	Slope Protection (U/S)	Slope Protection (D/S)							
91	RHS	53+490	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	2. Protection works pending.
92	LHS	54+040	BC	1x2.75x1.5	New	01+230	BC	1x2.75x1.5	New	1	1.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	54+040	BC	1x2.75x1.5	New	01+230	BC	1x2.75x1.5	New	1	1.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
93	LHS	54+190	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	54+190	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
94	LHS	54+540	BC	1x2.75x1.5	New	01+230	BC	1x2.75x1.5	New	1	1.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	54+540	BC	1x2.75x1.5	New	01+230	BC	1x2.75x1.5	New	1	1.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
95	LHS	54+650	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	54+650	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
96	LHS	54+920	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	54+920	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
97	LHS	55+190	BC	1x2.75x1.5	New	01+230	BC	1x2.75x1.5	New	1	1.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	55+190	BC	1x2.75x1.5	New	01+230	BC	1x2.75x1.5	New	1	1.5	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	

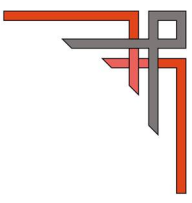
		Four lining of Pudukcherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																	
Road Category		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																	
S.No	Carriageway	NH-18													Date of inventory																		Remarks		
		Schedule/GFC				Site / As-Built				9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Protection Works						31		32	33
		1	2	3	4	5	6	7	8																	25	26	27	28	29	30				
Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	Condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)	Adequacy of Water way	Vegetation On structure	Vegetation / debris On ventway			
98	LHS	55+590	BC	1x2.75x1.5	New	01+230	BC	1x2.75x1.5	New	1	1.5	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	55+590	BC	1x2.75x1.5	New	01+230	BC	1x2.75x1.5	New	1	1.5	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		
99	LHS	55+760	BC	1x2.75x1.5	New	01+230	BC	1x2.75x1.5	New	1	1.5	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	55+760	BC	1x2.75x1.5	New	01+230	BC	1x2.75x1.5	New	1	1.5	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		
100	LHS	56+010	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	56+010	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		
101	LHS	56+300	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	56+300	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		
102	LHS	56+540	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	56+540	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		
103	LHS	57+140	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	57+140	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		
104	LHS	57+400	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending	

RUKY		Four lining of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyogana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																																							
		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																																							
Road Category		NH-18		Date of Inventory																														17-11-2023 To 20-11-2023																							
S.No	Carriageway	Schedule/GFC				Site / As-Built				9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Protection Works						31	32	33	35																						
		1	2	3	4	5	6	7	8																	Type of structure (Pipe/Sab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	No. of Vents	Vent Height (m)	Service Road (yes/No)					Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	Condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)	Adequacy of Water way	Vegetation On structure	Vegetation / Debris On ventway
104	RHS	57+400	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	2.1 Protection works pending.																						
105	LHS	57+650	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	57+650	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							
106	LHS	57+940	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	57+940	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							
107	LHS	58+320	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	58+320	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							
108	LHS	58+560	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	58+560	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							
109	LHS	59+220	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	59+220	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							
110	LHS	59+540	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.																						
	RHS	59+540	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes																							

		Four lining of Pudukcherry-Poondiyankuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyogana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																	
Road Category		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																	
NH-18		Date of Inventory 17-11-2023 To 20-11-2023																																	
S.No	Carriageway	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	Remarks
		Schedule/GFC				Site / As-Built				No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	Condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Protection Works						Adequacy of Water way	Vegetation On structure	Vegetation / debris On ventway	
		Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ wider/ re-Conf/Retain)	Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ wider/ re-Conf/Retain)																	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)						
111	LHS	59+800	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	59+800	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
112	LHS	60+140	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	60+140	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
113	LHS	60+400	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	60+400	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
114	LHS	60+640	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	60+640	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
115	LHS	61+185	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	61+185	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
116	LHS	61+410	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	61+410	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
117	LHS	61+550	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.

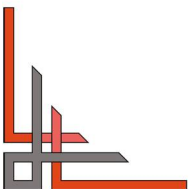
		Four lining of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyojana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																	
		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																	
Road Category		NH-18																															Date of Inventory		17-11-2023 To 20-11-2023
S.No	Carriageway	Schedule/GFC				Site / As-Built				9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Protection Works						31	32	33	35
		1	2	3	4	5	6	7	8																	25	26	27	28	29	30				
		Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Conf/Retain)	No. of Vents	Vent Height (m)	Service Road (yes/no)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/Arch	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)	Adequacy of Water way	Vegetation On structure	Vegetation / Debris On ventway	Remarks
	RHS	61+550	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	2. Protection works pending.
118	LHS	61+665	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	61+665	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
119	LHS	62+230	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	62+230	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
120	LHS	62+530	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	62+530	BC	1X2X2.0	New	01+230	BC	1X2X2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
121	LHS	62+950	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	62+950	BC	1x3x2.0	New	01+230	BC	1x3x2.0	New	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
122	LHS	63+351	BC	1X2X2.0	Re-Con	01+230	BC	1X2X2.0	Re-Con	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	63+351	BC	1X2X2.0	Re-Con	01+230	BC	1X2X2.0	Re-Con	1	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	
123	LHS	64+316	BC	2x2x2.0	Re-Con	01+230	BC	2x2x2.0	Re-Con	2	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.
	RHS	64+316	BC	2x2x2.0	Re-Con	01+230	BC	2x2x2.0	Re-Con	2	2.0	0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes	


		Four laning of Pudukcherry-Poondiyanakuppam Section of NH-45A(New NH-32) from Km.29.000 to Km.67.000(Design chainage) under Bharatmala Priyogana Phase I (Residual NHDP-IV works) of HAM in the State of Tamil Nadu and Union Territory of Puducherry																																	
Road Category		TECHNICAL DUE DILIGENCE STUDY CULVERT INVENTORY AND CONDITION DATA																																	
S.No	Carriageway	Date of Inventory																														17-11-2023 To 20-11-2023			
		NH-18																																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	35
Schedule/GFC				Site / As-Built				Protection Works																										Remarks	
Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Con/Retain)	Chainage (km)	Type of structure (Pipe/Slab/Box/Arch)	Span Arrangement	Type of const. (New/ widen/ re-Con/Retain)	No. of Vents	Vent Height (m)	Service Road (yes/No)	Formation Width (m)	Width of Culvert (m)	Parapet/Crash Barrier Width	Height of Parapet Wall(m)	Flow direction (L To R / R to L)	Fill / cushion	condition of Median /Median wall	Condition of Pipe/Slab/Box/Arch/briech	Condition of Abutment Wall / Head Wall	Condition of Pier Wall	Condition of Retaining wall	Condition of Fly Return Wall/Wing Wall	Condition of Parapet / Crash Barrier	Bed (U/S)	Bed (D/S)	Slope Protection (U/S)	Slope Protection (D/S)	SCOUR (U/S)	SCOUR (D/S)	Adequacy of Water way	Vegetation On structure	Vegetation / Debris On ventway			
124	LHS	64+717	BC	1X2X2.0	Re-Con	01+230	BC	1X2X2.0	Re-Con	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	64+717	BC	1X2X2.0	Re-Con	01+230	BC	1X2X2.0	Re-Con	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		
125	LHS	64+880	BC	2x2x2.0	Re-Con	01+230	BC	2x2x2.0	Re-Con	2	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	64+880	BC	2x2x2.0	Re-Con	01+230	BC	2x2x2.0	Re-Con	2	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		
126	LHS	65+244	BC	1X2X2.0	Re-Con	01+230	BC	1X2X2.0	Re-Con	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	65+244	BC	1X2X2.0	Re-Con	01+230	BC	1X2X2.0	Re-Con	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		
127	LHS	66+138	BC	1X2X2.0	Re-Con	01+230	BC	1X2X2.0	Re-Con	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	66+138	BC	1X2X2.0	Re-Con	01+230	BC	1X2X2.0	Re-Con	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		
128	LHS	66+655	BC	2x2.5x2.5	Re-Con	01+230	BC	2x2.5x2.5	Re-Con	2	2.5	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	66+655	BC	2x2.5x2.5	Re-Con	01+230	BC	2x2.5x2.5	Re-Con	2	2.5	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		
129	LHS	66+930	BC	1X2X2.0	Re-Con	01+230	BC	1X2X2.0	Re-Con	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	No	1. Hazard Marker pending 2. Protection works pending.	
	RHS	66+930	BC	1X2X2.0	Re-Con	01+230	BC	1X2X2.0	Re-Con	1	2.0	0	0	0.325	0.35	-	Yes	-	Fair	-	-	-	Fair	Fair	No	No	Yes	Yes	No	No	Ok	No	Yes		





Annexure-5

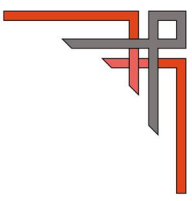
Inventory and Condition of MBCB



	Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu											
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
1	29+150	29+520	LHS	Med	WBCB	370	Good	No	Partially Available	NA	Available	
2	29+150	29+520	RHS	Med	WBCB	370	Good	No	NA	NA	Available	
3	29+160	29+230	RHS	MCW Edge	WBCB	70	Good	No	NA	NA	Partially Available	
4	29+650	30+040	LHS	Med	WBCB	390	Good	No	NA	NA	Available	
5	29+650	30+040	RHS	Med	WBCB	390	Good	No	NA	NA	Available	
6	29+980	30+040	RHS	MCW Edge	WBCB	60	Good	No	Partially Available	NA	Available	
7	31+560	31+912	RHS	Med	WBCB	352	Good	No	NA	NA	Partially Available	
8	31+560	31+912	LHS	Med	WBCB	352	Good	No	Partially Available	NA	Partially Available	
9	31+560	31+692	LHS	MCW Edge	WBCB	132	Good	No	NA	NA	Partially Available	
10	31+560	31+692	RHS	MCW Edge	WBCB	132	Good	No	Available	NA	Partially Available	
11	32+040	32+350	LHS	Med	WBCB	310	Good	No	Partially Available	NA	Partially Available	
12	32+040	32+350	RHS	Med	WBCB	310	Good	No	Partially Available	NA	Available	
13	32+289	32+415	RHS	MCW Edge	WBCB	126	Good	No	NA	NA	Available	
14	32+289	32+415	LHS	MCW Edge	WBCB	126	Good	No	NA	NA	Available	
15	32+290	32+418	LHS	MCW Edge	WBCB	128	Good	No	NA	NA	Partially Available	
16	32+462	32+578	RHS	MCW Edge	WBCB	116	Good	No	NA	NA	Partially Available	
17	33+460	33+510	LHS	Med	WBCB	50	Good	No	NA	NA	Partially Available	
18	33+460	33+510	RHS	Med	WBCB	50	Good	No	Partially Available	NA	Partially Available	
19	33+510	33+560	LHS	Med	WBCB	50	Good	No	Partially Available	NA	Partially Available	

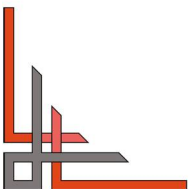
	Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu											
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
20	33+510	33+560	RHS	Med	WBCB	50	Good	No	NA	NA	Partially Available	
21	33+560	33+790	LHS	Med	WBCB	230	Good	No	NA	NA	Partially Available	
22	33+560	33+790	RHS	Med	WBCB	230	Good	No	NA	NA	Partially Available	
23	36+270	36+700	LHS	Med	WBCB	430	Good	No	Partially Available	NA	Partially Available	
24	36+270	36+700	RHS	Med	WBCB	430	Good	No	Partially Available	NA	Partially Available	
25	36+745	37+160	LHS	Med	WBCB	415	Good	No	Partially Available	NA	Partially Available	
26	36+745	37+170	RHS	Med	WBCB	425	Good	No	NA	NA	NA	
27	45+057	45+309	RHS	Med	WBCB	252	Good	No	NA	NA	NA	
28	45+057	45+309	LHS	Med	WBCB	252	Good	No	NA	NA	NA	
29	45+406	45+590	LHS	Med	WBCB	184	Good	No	NA	NA	NA	
30	45+406	45+590	RHS	Med	WBCB	184	Good	No	NA	NA	NA	
31	48+028	48+278	LHS	Med	WBCB	250	Good	No	NA	NA	Available	
32	48+028	48+278	RHS	Med	WBCB	250	Good	No	NA	NA	Available	
33	50+950	51+200	LHS	Med	WBCB	250	Good	No	NA	NA	Partially Available	
34	50+950	51+200	RHS	Med	WBCB	250	Good	No	Partially Available	NA	Partially Available	
35	50+960	51+080	LHS	MCW Edge	WBCB	120	Good	No	NA	NA	Partially Available	
36	50+960	51+080	RHS	MCW Edge	WBCB	120	Good	No	NA	NA	Partially Available	
37	51+676	51+680	LHS	Med	WBCB	4	Good	No	Partially Available	NA	Partially Available	
38	51+676	51+680	RHS	Med	WBCB	4	Good	No	Partially Available	NA	Partially Available	


	Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu											
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
39	51+680	51+902	LHS	Med	WBCB	222	Good	No	Partially Available	NA	Partially Available	
40	51+680	51+902	RHS	Med	WBCB	222	Good	No	NA	NA	NA	
41	51+950	51+996	LHS	Med	WBCB	46	Good	No	NA	NA	NA	
42	53+400	53+580	RHS	Med	WBCB	180	Good	No	Partially Available	NA	NA	
43	55+450	55+890	LHS	Med	WBCB	440	Good	No	NA	NA	NA	
44	55+450	55+890	RHS	Med	WBCB	440	Good	No	NA	NA	NA	
45	57+250	57+270	RHS	Med	WBCB	20	Good	No	NA	NA	Available	
46	57+280	57+320	RHS	Med	WBCB	40	Good	No	NA	NA	Partially Available	
47	57+880	57+900	RHS	Med	WBCB	20	Good	No	NA	NA	Partially Available	
48	57+940	57+960	RHS	Med	WBCB	20	Good	No	NA	NA	Partially Available	
49	58+130	58+150	RHS	Med	WBCB	20	Good	No	NA	NA	Partially Available	
50	59+530	59+630	RHS	Med	WBCB	100	Good	No	NA	NA	Partially Available	
51	59+700	59+770	RHS	MCW Edge	WBCB	70	Good	No	NA	NA	Partially Available	
52	59+780	59+810	RHS	MCW Edge	WBCB	30	Good	No	NA	NA	Partially Available	
53	59+830	59+870	RHS	MCW Edge	WBCB	40	Good	No	Partially Available	NA	Partially Available	
54	60+360	60+569	LHS	Med	WBCB	209	Good	No	Partially Available	NA	Partially Available	
55	60+360	60+569	RHS	Med	WBCB	209	Good	No	NA	NA	Partially Available	




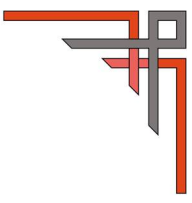
Annexure-6

Inventory of Highway Lighting

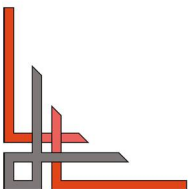


	Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu										
HIGHWAY LIGHTING - INVENTORY & CONDITION DATA											
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition	Remarks
1	29+000	29+680	LHS	MCW Edge	DA	40	18	LED	250	Good	
2	29+000	29+640	RHS	MCW Edge	DA	40	17	LED	250	Good	
3	31+040	31+240	LHS	MCW Edge	DA	40	5	LED	250	Good	
4	31+040	31+240	RHS	MCW Edge	DA	40	5	LED	250	Good	
5	31+280	31+960	LHS	MCW Edge	SA	40	18	LED	180	Good	
6	31+280	32+000	RHS	MCW Edge	SA	40	19	LED	180	Good	
7	32+480	32+640	LHS	MCW Edge	DA	40	5	LED	250	Good	
8	32+480	32+640	RHS	MCW Edge	DA	40	5	LED	250	Good	
9	33+410	33+650	LHS	MCW Edge	DA	40	7	LED	250	Good	
10	33+410	33+650	RHS	MCW Edge	DA	40	7	LED	250	Good	
11	33+710	33+750	LHS	MCW Edge	SA	40	2	LED	180	Good	
12	33+710	33+750	RHS	MCW Edge	SA	40	2	LED	180	Good	
13	36+220	36+780	LHS	MCW Edge	DA	40	15	LED	250	Good	
14	36+220	36+740	RHS	MCW Edge	DA	40	14	LED	250	Good	
15	38+500	38+900	LHS	MCW Edge	SA	40	11	LED	180	Good	
16	41+268	41+708	LHS	MCW Edge	SA	40	12	LED	180	Good	
17	42+163	42+626	LHS	MCW Edge	SA	35	13	LED	180	Good	
18	44+880	45+080	LHS	MCW Edge	DA	40	6	LED	250	Good	
19	44+880	45+040	RHS	MCW Edge	DA	40	5	LED	250	Good	
20	45+360	45+760	LHS	MCW Edge	SA	40	11	LED	180	Good	
21	48+220	48+460	LHS	MCW Edge	DA	40	7	LED	250	Good	
22	49+000	49+200	RHS	MCW Edge	SA	40	6	LED	180	Good	
23	50+450	50+730	LHS	MCW Edge	DA	40	8	LED	250	Good	
24	50+450	50+730	RHS	MCW Edge	DA	40	18	LED	250	Good	

	Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu										
HIGHWAY LIGHTING - INVENTORY & CONDITION DATA											
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition	Remarks
25	55+400	55+720	LHS	MCW Edge	DA	40	9	LED	250	Good	
26	55+400	55+680	RHS	MCW Edge	DA	40	8	LED	250	Good	
27	57+613	57+823	LHS	MCW Edge	SA	35	7	LED	180	Good	
28	57+613	57.785	RHS	MCW Edge	SA	35	6	LED	180	Good	
29	60+310	60+550	LHS	MCW Edge	DA	40	7	LED	250	Good	
30	60+310	60+510	RHS	MCW Edge	DA	40	6	LED	250	Good	



Annexure-7
Inventory of Truck Lay Bay





Four laning of Puducherry (Km 29.000) to Poondiyanuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu

TRUCK LAYBAY - INVENTORY & CONDITION DATA

Sno.	Description	Location / Chainage			
		@ Km. 30+300 LHS	@ Km. 30+300 RHS	@ Km. 59+300 LHS	@ Km. 59+300 RHS
1	FACILITIES				
1.1	Building Type	Masonry	Masonry	Masonry	Masonry
1.2	Condition of Building	Fair	Fair	Not Applicable	Not Applicable
1.3	Flooring condition	Not Applicable	NA	NA	NA
1.4	Toilets condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.5	Water Facility for Toilets	NA	Not Applicable	Not Applicable	Not Applicable
1.6	Toilets Cleanliness	NA	NA	NA	NA
1.7	Telephone Facility	NA	NA	NA	NA
1.8	Is Telephone working?	NA	NA	NA	NA
1.9	Drinking Water Facility	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.10	Electrical connection	Not Prov	Not Prov	Not Prov	Not Prov
1.11	Over all condition of Rest Area	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2	TRUCK LAYBAY				
2.1	Truck Laybay/Parking	Prov	Prov	Not Prov	Not Prov
2.2	Parking Pavement type	Rigid	Rigid	NA	NA
2.3	Island type	NA	Kerbed	NA	NA
2.4	Road Marking	No	No	NA	NA
2.4	Sign Boards as per Mannual?	Yes / No / NA	Yes / No / NA	Yes / No / NA	Yes / No / NA
2.5	Drainage condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2.6	Highway Lighting Facility	Prov	Prov	Prov	Prov
2.7	Lighting as per mannual?	Yes / No / NA	Yes / No / NA	Yes / No / NA	Yes / No / NA
2.8	Layout dimensions as per GFC?	Yes / No / NA	Yes / No / NA	Yes / No / NA	Yes / No / NA
2.9	Remarks / Observations on Laybay	Under Construction	Under Construction	Under Construction	Under Construction



TRUCK LAYBAY @ 30+300 LHS



TRUCK LAYBAY @ 30+300 RHS

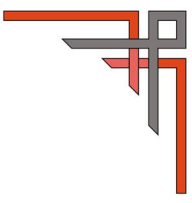


TRUCK LAYBAY @ 59+300 LHS



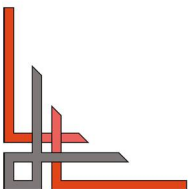
TRUCK LAYBAY






Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry






Annexure-8

Inventory and Condition of Bus Bays






	Four laning of Puducherry (Km 29.000) to Poondiyanuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu				
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 29+400 RHS	@ Km. 32+170 LHS	@ Km. 33+720 RHS	@ Km. 34+110 LHS
1	PASSANGER SHELTER				
1.1	Shelter Type	Masonary	Masonary	Masonary	Masonary
1.2	Condition of Shelter	Not Applicable	Not Applicable	Good	Fair
1.3	Passenger seating	Not Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.5	Flooring condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.6	Ramp for disabled persons	NA	NA	NA	NA
1.7	Guard Rails	NA	NA	NA	NA
1.8	Guard Rails condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.9	Cleanliness	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.10	Over all condition of Bus shelter	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2	BUSBAY				
2.1	Bus bay	NA	NA	NA	NA
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2.6	Layout dimensions as per GFC?	Yes / No / NA	Yes / No / NA	Yes / No / NA	Yes / No / NA
2.7	Remarks / Observations on Busbay	Not Applicable	Not Applicable	Not Applicable	Not Applicable
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	No	No	No	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	No	No	No	No
3.6	Remarks / Observations on facilities	Under Construction	Under Construction	Under Construction	Under Construction
					
Bus Shelter @ 29+400 RHS		Bus Shelter @ 32+170 LHS			
					
		Bus Shelter @ 34+110 LHS			




Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable , Pro = Provided , Not Pro = Not Provided, Mas = Masonry

		Four laning of Puducherry (Km 29.000) to Poondiyankuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu			
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 36+600 RHS	@ Km. 36+850 LHS	@ Km. 39+295 RHS	@ Km. 41+500 RHS
1	PASSANGER SHELTER				
1.1	Shelter Type	Masonry	Masonry	Masonry	Masonry
1.2	Condition of Shelter	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.3	Passenger seating	Not Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.5	Flooring condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.6	Ramp for disabled persons	NA	NA	Prov	Prov
1.7	Guard Rails	NA	Prov	Prov	Prov
1.8	Guard Rails condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.9	Cleanliness	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.10	Over all condition of Bus shelter	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Prov	Prov
2.2	Pavement type of Bus bay	NA	NA	Rigid	Rigid
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2.6	Layout dimensions as per GFC?	Yes / No / NA	Yes / No / NA	Yes / No / NA	Yes / No / NA
2.7	Remarks / Observations on Busbay	Not Applicable	Not Applicable	Not Applicable	Not Applicable
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	Yes	Yes
3.3	Sign Board	No	No	No	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities	Under Construction	Under Construction	Under Construction	Under Construction
 <div>23-Nov-2023 11:54:24 11.86640472N 79.76531758E Thavalakuppam-Embalam Road Pudukkada Tamil Nadu #36+600 RHS (Bus shelter)</div>		 <div>23-Nov-2023 11:44:17 11.86419005N 79.76562954E Abshga Pakkam Puducherry Tamil Nadu #36+800 LHS (Bus shelter)</div>			
Bus bay with shelter @ 39+295 RHS		Bus bay with shelter @ 41+500 RHS			

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable , Pro = Provided , Not Pro = Not Provided, Mas = Masonry

		Four laning of Puducherry (Km 29.000) to Poondiyanakuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu			
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 45+070 RHS	@ Km. 51+350 RHS	@ Km. 51+620 LHS	@ Km. 8+950 RHS
1	PASSANGER SHELTER				
1.1	Shelter Type	Masonary	Masonary	Masonary	RCC
1.2	Condition of Shelter	Not Applicable	Not Applicable	Not Applicable	Good
1.3	Passenger seating	Not Prov	Not Prov	Prov	Prov
1.4	Condition of Passenger seating	Not Applicable	Not Applicable	Not Applicable	Good
1.5	Flooring condition	Not Applicable	Not Applicable	Not Applicable	Fair
1.6	Ramp for disabled persons	NA	NA	NA	Prov
1.7	Guard Rails	NA	NA	NA	Prov
1.8	Guard Rails condition	Not Applicable	Not Applicable	Not Applicable	Good
1.9	Cleanliness	Not Applicable	Not Applicable	Not Applicable	Fair
1.10	Over all condition of Bus shelter	Not Applicable	Not Applicable	Not Applicable	Good
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	Not Applicable	Not Applicable	Not Applicable	Not Applicable
2.6	Layout dimensions as per GFC?	Yes / No / NA	Yes / No / NA	Yes / No / NA	Yes / No / NA
2.7	Remarks / Observations on Busbay	Not Applicable	Not Applicable	Not Applicable	Not Applicable
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	No	No	No	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities	Under Construction	Under Construction	Under Construction	Under Construction
Bus shelter @ 45+070 RHS		Bus shelter @ 51+350 RHS			
					
Bus shelter @ 51+620 LHS		Bus shelter @ 54+220 RHS			

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable , Pro = Provided , Not Pro = Not Provided, Mas = Masonry

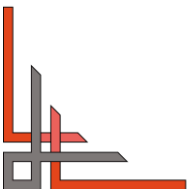
Sno.		Description		Location / Chainage	
		@ Km. 55+250 RHS	@ Km. 55+550 LHS		
<div>  <div> Four laning of Puducherry (Km 29.000) to Poondiyanuppam (Km 67.000) section of NH 45A on HAM under Bharatmala Pariyojana Phase I (Residual works under NHDP) in the state of Tamilnadu </div> </div>					
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
1	PASSANGER SHELTER				
1.1	Shelter Type	Masonary	Masonary		
1.2	Condition of Shelter	Not Applicable	Not Applicable		
1.3	Passenger seating	Prov	Not Prov		
1.4	Condition of Passenger seating	Not Applicable	Not Applicable		
1.5	Flooring condition	Not Applicable	Not Applicable		
1.6	Ramp for disabled persons	NA	NA		
1.7	Guard Rails	Not Prov	Not Prov		
1.8	Guard Rails condition	Not Applicable	Not Applicable		
1.9	Cleanliness	Not Applicable	Not Applicable		
1.10	Over all condition of Bus shelter	Not Applicable	Not Applicable		
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov		
2.2	Pavement type of Bus bay	NA	NA		
2.3	Island type	NA	NA		
2.4	Road Marking	NA	NA		
2.5	Drainage condition	Not Applicable	Not Applicable		
2.6	Layout dimensions as per GFC?	Yes / No / NA	Yes / No / NA		
2.7	Remarks / Observations on Busbay	Not Applicable	Not Applicable		
3	FACILITIES				
3.1	Drinking Water Facility	No	No		
3.2	Lighting	No	No		
3.3	Sign Board	No	No		
3.4	Landscaping and plantaion near Bus Bay	No	No		
3.5	Others.....	NA	NA		
3.6	Remarks / Observations on facilities	Under Construction	Under Construction		
 <p>23-Nov-2023 14:29:30 11.71518261N 79.71422626E Kurinjipadi - Cuddalore Road MavadiPalayam Tamil Nadu #55+450 RHS (Bus Shelter)</p>		 <p>23-Nov-2023 14:29:21 11.715242N 79.7142383E Kurinjipadi - Cuddalore Road MavadiPalayam Tamil Nadu</p>			
Bus shelter @		Bus shelter @			

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable , Pro = Provided , Not Pro = Not Provided, Mas = Masonry



Annexure-9

Status of Highway Strip Chart of Main Carriageway



Four - laning of Puducherry - Poondiyankuppam section of NH 45 A (New NH 32) from Km 29.000 to 67.000 (Design Chainage) under Bharamala Pariyojana Phase I (Residual NHDP IV Works) on HAM in the state of tamilnadu and Union Territory of Puducherry.

MAIN CARRIAGEWAY

HIGHWAY CHART PROGRESS FOR PUDUCHERRY - POONDIYANKUPPAM PROJECT (NH-32)

[illegible]

HIGHWAY CHART PROGRESS FOR PUDUCHERRY - POONDIYANKUPPAM PROJECT (NH-32)

[illegible]

HIGHWAY CHART PROGRESS FOR PUDUCHERRY - POONDIYANKUPPAM PROJECT (NH-32)

[illegible]

HIGHWAY CHART PROGRESS FOR PUDUCHERRY - POONDIYANKUPPAM PROJECT (NH-32)

[illegible]

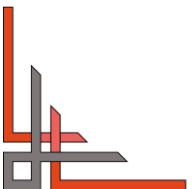
HIGHWAY CHART PROGRESS FOR PUDUCHERRY - POONDIYANKUPPAM PROJECT (NH-32)


[illegible]




Annexure-10

Operation & Maintenance Cost Estimate




	PROJECT: Four Laning of Puducherry to Poondiyankuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: ABSTRACT COST
---	---	------------------------------------

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2025-2026	-	2.16	3.80	5.96	
2026-2027	1.10	2.28	3.98	7.36	
2027-2028	3.69	2.50	4.12	10.31	
2028-2029	1.18	2.64	4.27	8.09	
2029-2030	1.32	2.62	4.42	8.36	
2030-2031	4.31	3.02	4.58	11.91	
2031-2032	10.51	3.72	4.75	18.98	
2032-2033	1.32	2.70	4.86	8.88	
2033-2034	1.45	2.89	4.98	9.32	
2034-2035	2.44	2.99	5.10	10.53	
2035-2036	4.42	3.13	5.22	12.77	
2036-2037	1.50	3.07	5.35	9.93	
2037-2038	4.89	3.21	5.48	13.58	
2038-2039	12.15	3.39	5.61	21.15	Concession End Date 25.11.2038
2039-2040	1.35	2.29	4.31	7.95	
Total Expenditure in	51.63	42.64	70.84	165.11	

	PROJECT: Four Laning of Puducherry to Poondiyankuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamil Nadu and Union Territory of Puducherry.	ANNEXURE: MMR
---	--	----------------------

FY	6. MMR (Rs in Cr)			Total Expenditure till the end of Concession Period
	MMR Highway	MMR Structure	MMR Toll Plaza	
2025-2026	-	-	-	-
2026-2027	1.10	-	-	1.10
2027-2028	3.69	-	-	3.69
2028-2029	1.18	-	-	1.18
2029-2030	1.32	-	-	1.32
2030-2031	4.31	-	-	4.31
2031-2032	10.51	-	-	10.51
2032-2033	1.32	-	-	1.32
2033-2034	1.45	-	-	1.45
2034-2035	2.44	-	-	2.44
2035-2036	0.42	4.00	-	4.42
2036-2037	1.50	-	-	1.50
2037-2038	4.89	-	-	4.89
2038-2039	12.15	-	-	12.15
2039-2040	1.35	-	-	1.35
Total Expenditure in Cr. Rs	47.63	4.00	-	51.63


	PROJECT: Four Laning of Puducherry to Poondiyanuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.												MMR-Highway
FY	Description	CODE	Unit	% of Treatement	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalat ion (%)	Year	Amount in INR after Escalation
	Main Carriageway - Flexible Pavement												
ENTIRE CONCESSION	Main Carriageway - Rigid Pavement												
ENTIRE CONCESSION	Replacement of Joint Sealent	MCW-JS	Rm					301,502.04	98	29,547,200			
ENTIRE CONCESSION	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum					33,214.16	2101.8	69,809,529			
ENTIRE CONCESSION	Replacement of Panels @ 2% area	MCW-CC PAN	Cum					33,214.16	7006	232,698,429			
ENTIRE CONCESSION	Diamond Grinding	MCW-GRIN	Sqm					292,553.04	100	29,255,304			
ENTIRE CONCESSION	Service Road - Rigid Pavement												
ENTIRE CONCESSION	Replacement of Joint Sealent	SR-JS	Rm					49,884.80	98	4,888,710			
ENTIRE CONCESSION	Dismantling of CC Panels @ 2% area	SR-CC DIS	Cum					5,256.37	2101.8	11,047,833			
ENTIRE CONCESSION	Replacement of Panels @ 2% area	SR-CC PAN	Cum					5,256.37	7006	36,826,110			
ENTIRE CONCESSION	Diamond Grinding	SR-GRIN	Sqm					123,621.80	100	12,362,180			
ENTIRE CONCESSION	Miscellaneous												
ENTIRE CONCESSION	Kerb	KERB	Rm					25,630.03	458	11,738,556			
ENTIRE CONCESSION	Kerb Painting	KERBP	Sqm					27,016.23	140	3,782,272			
ENTIRE CONCESSION	Road Marking - MCW	RM MCW	Sqm					34,122.39	701	23,919,794			
ENTIRE CONCESSION	Road Marking - SR	RM SR	Sqm					9,289.91	701	6,512,228			
ENTIRE CONCESSION	Studs	STUD	Nos					13,687.50	290	3,969,375			
TOTAL AMOUNT										476,357,520			
2027	Main Carriageway - Rigid Pavement										4.0%	2	-
2027	Replacement of Joint Sealent	MCW-JS	Rm	15%	298222			43,838.58	98	4,296,180	4.0%	2	4,639,875
2027	Diamond Grinding	MCW-GRIN	Sqm	10%	670993			67,099.32	100	6,709,932	4.0%	2	7,246,727
2028	Main Carriageway - Rigid Pavement										3.0%	3	-
2028	Replacement of Joint Sealent	MCW-JS	Rm	15%	298222			44,733.24	98	4,383,858	3.0%	3	4,778,405
2028	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	2%	670993		0.3	3,354.97	2102	7,051,468	3.0%	3	7,686,100
2028	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	2%	670993		0.3	3,354.97	7006	23,504,892	3.0%	3	25,620,332
2028	Diamond Grinding	MCW-GRIN	Sqm	3%	670993			19,458.80	100	1,945,880	3.0%	3	2,121,010
TOTAL AMOUNT										36,886,097			40,205,846
2029	Service Road - Rigid Pavement										3.0%	4	-
2029	Replacement of Joint Sealent	SR-JS	Rm	25%	62356			15,589.00	98	1,527,722	3.0%	4	1,711,049
2029	Dismantling of CC Panels @ 2% area	SR-CC DIS	Cum	2%	157480		0.26	716.53	2102	1,506,011	3.0%	4	1,686,733
2029	Replacement of Panels @ 2% area	SR-CC PAN	Cum	2%	157480		0.26	716.53	7006	5,020,037	3.0%	4	5,622,442
2029	Diamond Grinding	SR-GRIN	Sqm	24%	157480			37,795.20	100	3,779,520	3.0%	4	4,233,062
TOTAL AMOUNT										11,833,290			13,253,285
2030	Replacement of Joint Sealent	MCW-JS	Rm	25%	298222			74,555.40	98	7,306,429	3.0%	5	8,402,394





PROJECT: Four Laning of Puducherry to Poondiyanuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.

MMR-Highway

FY	Description	CODE	Unit	% of Treatement	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalation (%)	Year	Amount in INR after Escalation
2030	Diamond Grinding	MCW-GRIN	Sqm	1%	670993			4,696.95	100	469,695	3.0%	5	540,150
2030	Service Road - Rigid Pavement										3.0%	5	-
2030	Replacement of Joint Sealent	SR-JS	Rm	25%	62356			15,589.00	98	1,527,722	3.0%	5	1,756,880
2030	Diamond Grinding	SR-GRIN	Sqm	25%	157480			39,370.00	100	3,937,000	3.0%	5	4,527,550
TOTAL AMOUNT										13,240,846			15,226,973
2031	Main Carriageway - Rigid Pavement										3.0%	6	-
2031	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	2%	670993		0.3	4,730.50	2102	9,942,569	3.0%	6	11,732,232
2031	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	2%	670993		0.3	4,730.50	7006	33,141,897	3.0%	6	39,107,439
TOTAL AMOUNT										43,084,467			50,839,671
2032	Main Carriageway - Rigid Pavement										3.0%	7	-
2032	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	5%	670993		0.3	11,037.84	2102	23,199,328	3.0%	7	28,071,187
2032	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	5%	670993		0.3	11,037.84	7006	77,331,094	3.0%	7	93,570,624
2032	Miscellaneous										3.0%	7	-
2032	Road Marking - MCW	RM MCW	Sqm	50%	85224.93	0.15		6,391.87	701	4,480,701	3.0%	7	5,421,648
2032	Road Marking - SR	RM SR	Sqm	20%	8400	0.10		161.80	701	113,423	3.0%	7	137,242
TOTAL AMOUNT										105,124,546			127,200,701
2033	Miscellaneous										2.0%	8	-
2033	Kerb Painting	KERBP	Sqm	51%	100510	0.34		17,428.42	140	2,439,979	2.0%	8	2,830,376
2033	Road Marking - MCW	RM MCW	Sqm	90%	85224.93	0.15		11,505.37	701	8,065,261	2.0%	8	9,355,703
2033	Road Marking - SR	RM SR	Sqm	90%	8400	0.10		728.11	701	510,405	2.0%	8	592,069
2033	Studs	STUD	Nos	100%	7500			7,500.00	290	2,175,000	2.0%	8	2,523,000
TOTAL AMOUNT										13,190,645			15,301,148
2034	Main Carriageway - Rigid Pavement										2.0%	9	-
2034	Replacement of Joint Sealent	MCW-JS	Rm	15%	298222			45,329.68	98	4,442,309	2.0%	9	5,241,925
2034	Diamond Grinding	MCW-GRIN	Sqm	15%	670993			100,648.98	100	10,064,898	2.0%	9	11,876,580
TOTAL AMOUNT										14,507,207			17,118,504

	PROJECT: Four Laning of Puducherry to Poondiyanakuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.												MMR-Highway
FY	Description	CODE	Unit	% of Treatement	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalat ion (%)	Year	Amount in INR after Escalation
2035	Service Road - Rigid Pavement										2.0%	10	-
2035	Replacement of Joint Sealent	SR-JS	Rm	30%	62356			18,706.80	98	1,833,266	2.0%	10	2,199,920
2035	Dismantling of CC Panels @ 2% area	SR-CC DIS	Cum	5%	157480		0.26	1,968.50	2102	4,137,393	2.0%	10	4,964,872
2035	Replacement of Panels @ 2% area	SR-CC PAN	Cum	5%	157480		0.26	1,968.50	7006	13,791,311	2.0%	10	16,549,573
2035	Diamond Grinding	SR-GRIN	Sqm	30%	157480			46,456.60	100	4,645,660	2.0%	10	5,574,792
TOTAL AMOUNT										24,407,631			29,289,157
2036	Main Carriageway - Rigid Pavement										2.0%	11	-
2036	Replacement of Joint Sealent	MCW-JS	Rm	14%	298222			42,347.47	98	4,150,052	2.0%	11	5,063,063
TOTAL AMOUNT										4,150,052			5,063,063
2037	Main Carriageway - Rigid Pavement										2.0%	12	-
2037	Replacement of Joint Sealent	MCW-JS	Rm	17%	298222			50,697.67	98	4,968,372	2.0%	12	6,160,781
2037	Diamond Grinding	MCW-GRIN	Sqm	15%	670993			100,648.98	100	10,064,898	2.0%	12	12,480,474
TOTAL AMOUNT										15,033,270			18,641,255
2038	Main Carriageway - Rigid Pavement										2.0%	13	-
2038	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	2%	670993		0.3	4,025.96	2102	8,461,761	2.0%	13	10,661,819
2038	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	2%	670993		0.3	4,025.96	7006	28,205,870	2.0%	13	35,539,396
2038	Service Road - Rigid Pavement										2.0%	13	-
2038	Dismantling of CC Panels @ 2% area	SR-CC DIS	Cum	3%	157480		0.26	1,342.99	2102	2,822,695	2.0%	13	3,556,596
2038	Replacement of Panels @ 2% area	SR-CC PAN	Cum	3%	157480		0.26	1,342.99	7006	9,408,984	2.0%	13	11,855,320
TOTAL AMOUNT										48,899,310			61,613,131
2039	Main Carriageway - Rigid Pavement										2.0%	14	-
2039	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	5%	670993		0.3	10,064.90	2102	21,154,403	2.0%	14	27,077,635
2039	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	5%	670993		0.3	10,064.90	7006	70,514,675	2.0%	14	90,258,784
2039	Service Road - Rigid Pavement										2.0%	14	-
2039	Dismantling of CC Panels @ 2% area	SR-CC DIS	Cum	3%	157480		0.26	1,228.34	2102	2,581,733	2.0%	14	3,304,619
2039	Replacement of Panels @ 2% area	SR-CC PAN	Cum	3%	157480		0.26	1,228.34	7006	8,605,778	2.0%	14	11,015,396
2039	Miscellaneous										2.0%	14	-
2039	Kerb	KERB	Rm	50%	100510	0.34		17,086.69	458	7,825,704	2.0%	14	10,016,901
2039	Kerb Painting	KERBP	Sqm	50%	85224.93	0.15		6,391.87	140	894,862	2.0%	14	1,145,423
2039	Road Marking - MCW	RM MCW	Sqm	50%	177333	0.10		8,539.55	701	5,986,228	2.0%	14	7,662,371
2039	Road Marking - SR	RM SR	Sqm	50%	8400			4,200.00	701	2,944,200	2.0%	14	3,768,576
2039	Studs	STUD	Nos	45%	7500			3,375.00	290	978,750	2.0%	14	1,252,800
TOTAL AMOUNT										121,486,333			155,502,506
2040	Miscellaneous										2.0%		-
2040	Kerb	KERB	Rm	25%	100510	0.34		8,543.34	458	3,912,852	2.0%		5,086,708

	PROJECT: Four Laning of Puducherry to Poondiyankuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.												MMR-Highway
FY	Description	CODE	Unit	% of Treatement	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalat ion (%)	Year	Amount in INR after Escalation
2040	Kerb Painting	KERBP	Sqm	25%	85224.93	0.15		3,195.93	140	447,431	2.0%		581,660
2040	Road Marking - MCW	RM MCW	Sqm	45%	177333	0.10		7,685.60	701	5,387,605	2.0%		7,003,886
2040	Road Marking - SR	RM SR	Sqm	50%	8400			4,200.00	701	2,944,200	2.0%		3,827,460
2040	Studs	STUD	Nos	38%	7500			2,812.50	290	815,625	2.0%		1,060,313
TOTAL AMOUNT										13,507,713			17,560,027

	PROJECT: Four Laning of Puducherry to Poondiyankuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: ABSTRACT OF MMR STRUCTURES
---	---	---

2. Structure

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
2.01	2034	12/29/2033	3333892	40006698	10	0.0%	40006698	4.00	GST 0% considered




PROJECT: Four Laning of Puducherry to Poondiyankuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.


ANNEXURE: DETAILED CALCULATION OF STRUCTURE MMR

MMR Structure-Base Cost

Sr. No.	Item	Unit	Quantity	% of Extant to be Treated	Rate (Rs)	Amount (Rs)
1	Strip Seal Joint	Rmt	1342	20.00%	11389	3056808
2	Filler type expansion joint	Rmt	0	2.50%	4500	0
3	Crash Barrier on Structures	Rmt	23792	1.00%	3562	847473
4	Painting of Crash Barrier	Sqm	29951	20.00%	80	479219
5	Wearing Coat over Deck Slab	Sqm	39676	100.00%	681.25	27029598
6	Repalcement old Damaged Drainage Spoutes	Nos	618	15.00%	3562	330197
7	Lifting of Spans for rapair/replacement of bearings	Nos	378	15.00%	75000	4252500
8	Replacement of Elastomeric Bearings	Cu. Cm	6633900	20.00%	1	1326780
9	Replacement of POT PTFE Bearings	Nos	16	10.00%	115077	184123
10	Repair of RE Wall	Ls				2500000
Structure MMR Cost						40006698

	PROJECT: Four Laning of Puducherry to Poondiyankuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE:Routine Maintenance
--	---	-------------------------------------

FY	1. RM Costs (Rs in Cr) with Inflation				Total Expenditure till the end of Concession Period
	Highway Routine Maintenance Cost	Structure Routine Maintenance Cost	Route Maintenance Manpower Cost	Route Maintenance Vehicle & Equipment Cost	
Escalation	0.0%	0.0%	0.0%	0.0%	
Base Cost 2023-2024	0.90	0.39	0.82	0.47	2.58
2024-2025	0.93	0.40	0.85	0.49	2.68
2025-2026	0.75	0.33	0.69	0.40	2.16
2026-2027	0.79	0.34	0.72	0.42	2.28
2027-2028	0.87	0.38	0.79	0.46	2.50
2028-2029	0.92	0.40	0.84	0.48	2.64
2029-2030	0.91	0.39	0.83	0.48	2.62
2030-2031	1.05	0.45	0.96	0.55	3.02
2031-2032	1.30	0.56	1.18	0.68	3.72
2032-2033	0.94	0.41	0.86	0.50	2.70
2033-2034	1.01	0.44	0.92	0.53	2.89
2034-2035	1.04	0.45	0.95	0.55	2.99
2035-2036	1.09	0.47	0.99	0.57	3.13
2036-2037	1.07	0.46	0.98	0.56	3.07
2037-2038	1.12	0.48	1.02	0.59	3.21
2038-2039	1.18	0.51	1.08	0.62	3.39
2039-2040	0.80	0.34	0.73	0.42	2.29
Total Expenditure in Cr. Rs	14.87	6.42	13.54	7.81	42.64

	PROJECT: Four Laning of Puducherry to Poondiyankuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE
---	---	--

Routine Maintenance Cost


Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1	HIGHWAY								
1.1	FLEXIBLE PAVEMENT, MEDIAN & SHOULDERS								
1.1.1	Sealing of Cracks								
1.1.1.1	Covered with 6.7 mm size stone chipping @ 0.1 cum/ 10 sqm.	Sqm	0	1%	17	0	0		
1.1.1.2	Covered with dry coarse sand passing through 2.36 mm sieve and retained on 180 micron sieve @ 0.03 cum/10 sqm heated to 600 C	Sqm	0	1%	73	0	0		
1.1.1.3	Filling discrete cracks with slow curing bitumen emulsion as per Technical Specification Clause 3004.3.3	Rm	0	10%	5	0	0		
1.1.2	Treatment of Bleeding Surface								
1.1.2.1	Providing treatment to bleeding bituminous surface at scattered locations - Main carriageway	Sqm	0	5%	2	0	0		
1.1.2.2	Providing treatment to bleeding bituminous surface at scattered locations - Slip/Service Road	Sqm	0	1%	2	0	0		
1.1.3	Treatment of Rutting Surface								
1.1.3.1	Providing localised repair to rutted portion and edge breaking of bituminous surface - Main carriageway	Cum	0	0%	11193	0	0		
1.1.3.2	Providing localised repair to rutted portion and edge breaking of bituminous surface - Service/Slip road	Cum	0	5%	11193	0	0		
1.1.4	Pothole Repair								
1.1.4.1	Providing treatment and repair to pot-holes and patch work - MCW	Sqm	0	0%	439	0	0		
1.1.4.2	Providing treatment and repair to pot-holes and patch work - Service/Slip Road	Sqm	0	0%	439	0	0		
1.1.5	Proving and laying bituminous concrete (Asphaltic Concrete)	0.00	0	0%					
1.1.5.1	Using bitumen (VG-40) as per IRC: SP: 53	Cum	0	2%	11193	0	0		
1.1.5.2	Using bitumen SMA (VG-40)	Cum	0	2%	11193	0	0		
1.1.5.3	Using bitumen (VG-30)	Cum	0	2%	11193	0	0		
1.1.6	Filling in median island with approved materials	Cum	146	1%	256	3117	37402		
1.1.7	Shoulder Maintenance	Sqm	3652	3%	77	23437	281242		

1.2	DRAINAGE & PROTECTION					0	0		
1.2.1	Median drain Repair/Restoring	Rm	0	1%	500	0	0		
1.2.2	Lined drain Repair/Restoring	Rm	0	1%	300	0	0		
1.2.3	RCC drain Repair/Restoring	Rm	89	1%	500	3696	44350		
1.2.4	Earthen drain Repair/Restoring	Rm	1604	3%	100	13371	160450		
1.2.5	Repair/Restoring of Drain Slabs	Rm	222	3%	600	11088	133050		
1.2.6	Repair/Repstoration of Turfing on embankment slopes and at all other Project Facilities	Sqm	548	2%	46	2082	24983		
1.2.7	Rain Cuts Maintenance: Restoration of rain cuts soil, moorum, gravel or a combination of these	Sqm	1096	2%	46	4200	50404		
1.2.8	Providing and laying Stone pitching on slopes of road embankment	Cum	219	1%	1404	25641	307686		
1.2.9	Providing and laying Filter media on slopes of road embankment	Cum	0	1%	1509	0	0		
1.2.10	Repair of Chutes in High Embankment	Rm	730	1%	100	6087	73050		
1.3	PROJECT FACILITIES					0	0		
1.3.1	Gantry Sign Boards					0	0		
1.3.1.1	Overhead/ Gantry Sign boards	Nos	1	5%	10000	792	9500		
1.3.1.2	Cantilever Gantry Sign boards	Nos	0	5%	10000	0	0		
1.3.2	Other Sign Boards	Nos	42	5%	5450	19052	228628		
1.3.2.1	90cm Equilateral triangle	Nos	0	25%	4453	0	0		
1.3.2.2	60cm circular	Nos	0	25%	2965	0	0		
1.3.2.3	90 cm circular	Nos	0	25%	6647	0	0		
1.3.2.4	90cm high octagon	Nos	0	25%	6923	0	0		
1.3.2.5	80cm x 60cm rectangle	Nos	0	25%	5450	0	0		
1.3.2.6	Chevron signs 60cm x 50cm	Nos	0	25%	4529	0	0		
1.3.2.7	Advance Direction Signs	Nos	0	25%	16828	0	0		
1.3.2.8	Place identification signs (Fig 15.7 of IRC 67)	Nos	0	25%	9733	0	0		
1.3.2.9	Providing and fixing Object Markers	Nos	0	25%	2965	0	0		
1.3.2.10	Providing and fixing of retro-reflectorised Route Marker signs (size 450mm x 600mm)	Nos	0	25%	4529	0	0		
1.3.2.11	Road sign board mounted on single post	Nos	0	5%	9733	0	0		
1.3.2.12	Road sign board mounted on double post	Nos	0	5%	16828	0	0		
1.3.2.13	Oneway size Hazard 90 x 30 cm	Nos	0	5%	3839	0	0		
1.3.2.14	Twoway hazard size 90 x 45 cm	Nos	0	5%	4875	0	0		
1.3.2.15	Size 30cm triangular side cluster of red reflectors (screen printed)	Nos	0	20%	2965	0	0		
1.3.2.16	Painting to Sign Board pole	Nos	185	20%	87	1338	16058		
1.3.3	Cats Eyes/Raised pavement marker (NMC Nails Less)	Nos	225	3%	290	5438	65250		
1.3.4	Distance Measurement Stones								
1.3.4.1	Painting								
1.3.4.1.1	Hectometer stones	Nos	61	20%	36	180	2164		
1.3.4.1.2	5 Kilometer Stone	Nos	3	20%	500	133	1599		
1.3.4.1.3	Kilometer stone	Nos	12	20%	222	222	2665		

1.3.4.1.4	Boundary stone	Nos	76	5%	171	1081	12972		
1.3.4.1.5	Boundary Wall	Sqm	0	1%	140	0	0		
1.3.4.2	Fixing/Replacing/Restoring								
1.3.4.2.1	Hectometer stones	Nos	61	20%	690	3496	41952		
1.3.4.2.2	5 Kilometer Stone	Nos	2	10%	4022	536	6435		
1.3.4.2.3	Kilometer stone	Nos	6	10%	2350	1175	14100		
1.3.4.2.4	Boundary stone	Nos	15	1%	723	916	10990		
1.3.4.2.5	Boundary Wall	Cum	0	1%	5025	0	0		
1.3.5	Kerb								
1.3.5.1	Cement Concrete Kerb casting with-out channel section (I-Kerb)	Rm	1005	1%	458	38361	460336		
1.3.5.2	Cement Concrete Kerb casting with channel section (L-Kerb)	Rm	0	2%	612	0	0		
1.3.5.3	Painting of Kerb with-out channel section (I-Kerb)	Sqm	6835	20%	140	79738	956855		
1.3.5.4	Painting of Kerb with channel section (L-Kerb)	Sqm	0	20%	140	0	0		
1.3.6	Pavement Markings								
1.3.6.1	Lane / Centre Line / Edge Line	Sqm	5250	20%	701	306672	3680063		
1.3.6.2	Direction Arrows	Sqm	0	3%	701	0	0		
1.3.6.3	Diagonal Chevrons Markings	Sqm	0	3%	701	0	0		
1.3.7	Barriers								
1.3.7.1	Repair/Replace MBCB/W-beam Crash barrier	Rm	105	0%	2785	24320	291840		
1.3.7.2	Repair/Replace Tri-beam Crash barrier	Rm	0	1%	4262	0	0		
1.3.7.3	Repair/Replace Wire Rope Crash barrier	Rm	0	1%	3800	0	0		
1.3.7.4	Repair/Replace PGR (Pedestrian Guard Rail)	Rm	0	1%	2400	0	0		
1.3.7.5	Painting of Pedestrian Guard Rail (PGR)	Rm	119	10%	87	866	10388		
1.3.7.6	Repair/Replace Fencing	Rm	356	1%	388	11496	137955		
1.3.8	Plantation					0	0		
1.3.8.1	Maintenance of Median Plantation	Km	0	1%	331732	4971	59654		
1.3.8.2	Avenue Plantation	Nos	14	1%	1362	1565	18782		
1.3.8.3	Pruning of Median hedges	Km	0	50%	378	0	0		
1.3.9	Miscellaneous								
1.3.9.1	Others	Sqm	0	10%	0	0	0		
1.3.9.2	Providing/Repair of Rumble Strips	Rm	5	3%	378	171	2051		
1.3.9.3	Electrical Luminars	Nos	0	3%	378	0	0		
1.3.9.4	Solar Blinker	Nos	3	20%	25000	6667	80000		
1.3.9.5	Delinaters	Nos	20	20%	1183	2011	24133		
1.3.10	Bus Shelter								
1.3.10.1	Bus Shelter Damaged	Nos	0	1%	100000	3000	36000		
1.3.10.2	Bus Shelter Roof Damaged	Sqm	90	10%	250	1875	22500		
1.3.10.3	Bus Shelter Painting	Nos	3	8%	10000	2250	27000		
1.3.10.4	Bus Shelter Paver Blocks	Sqm	29	1%	250	613	7350		
1.4	RIGID PAVEMENT								
1.4.1	Longitudinal Cracks more than 1.5m	Lm	323	0.5%	80	2155	25855		
1.4.2	Longitudinal Cracks less than 1.5m	Lm	646	1.0%	100	5386	64637		
1.4.3	Transverse Cracks less than 1.5m	Lm	646	1.0%	80	4309	51710		
1.4.4	Transverse Cracks more than 1.5m	Lm	323	0.5%	100	2693	32319		

1.4.5	Longitudinal Crack full Depth	Cum	22	0.0%	7006	13084	157003		
1.4.6	Pothole	Sqm	83	0.0%	1962	13543	162520		
1.4.7	Corner Cracks	Cum	22	0.0%	7006	13084	157003		
1.4.8	Joint Spalling	Lm	323	0.5%	592	15944	191327		
1.4.9	Diagonal Crackings	Lm	323	0.5%	100	2693	32319		
1.4.10	Removal of Sealent & Replacement with Appoxy Sealent	Lm	901	0.3%	98	7362	88342		
1.4.11	Replacement of Panels	Nos	15	0.0%	30896	39820	477845		
1.4.12	Texturing/Raveling of panel	Sqm	2071	0.3%	100	17260	207118	8,987,835	18% Service Charge Considered
2	STRUCTURES								
2.01	Providing and laying of wearing course with 25 mm thick mastic asphalt laid over 40 mm thick bituminous concrete including correction of existing profile with bituminous concrete as per drawings and Technical Specifications clause 2700 (item rate includes cost of BC and profile correction course)	Sqm	99	0.25%	750	6199	74393		
2.02	Structure Repair Works	LS					1000000		
2.03	Expansion Joint Repair	Rm	34	2.50%	12000	33550	402600		
2.04	Providing Reinforced cement concrete crash barrier at the edges of the bridge structures constructed with M-40 grade concrete with HYSD-Fe 500 TMT reinforcement concrete per Rmt conforming to IRC:21 and fixing with dowel bars 16 mm dia to old concrete using epoxy grout as per drawing and Technical Specifications and as directed by the Engineer.	Rmt	67	0.25%	3834	21360	256323		
2.05	Painting of Concrete Crash Barrier	Sqm	803	20.0%	140	9364	112370		Considering 25% repainting per year & 1.25Sqm per Rm
2.06	Providing and fixing 50mm NB MS pipe rail on crash barrier with MS base plate and vertical stiffner fixed with anchor bolts complete including providing three or more coats of epoxy paint of approved colour, make and quality over a coat of epoxy primer complete as per drawings and Technical Specifications Sections 1900 & 2703.	Rmt	59	0.25%	150	744	8922		

2.07	Removal of earth, debris and vegetation from waterway of culverts and bridges by manual means through unskilled labor, and disposal of removed material within all lead as directed by Engineer. (Before and after Monsoon)	LS	129	100%	5000	53750	645000		
2.08	Providing Boulder apron on U/S and D/S sides, 1000 mm thick, including relaying / removing existing damaged boulders as per Technical Specification Sections 2500 and direction of Engineers.	Nos	54	2%	3436	15395	184740		
2.09	Providing and laying Stone pitching on slopes upto 0.5m height over H.F.L and for bed where specified, using hard variety stone of 200 mm nominal size, the joints being filled with spalls and pointed with 1:4 cement mortar as per technical specification	Nos	31	2.50%	1404	3583	42998		
2.10	Providing and laying Plain/Reinforced Cement Concrete in Rigid Apron excluding reinforcement complete as per Drawing and Technical Specifications.Ref. to Technical specification 1500,1700 & 2100 .	Cum	216	2%	5025	90293	1083512		
2.11	Cleaning of choked weep holes as per Technical Specification and as directed by the Engineer.	Nos	0	1.00%	250	0	0		
2.12	Providing gratings to the existing drainage spouts as per technical specification Clause 2705 & Additional Technical Specification	Nos	62	10.0%	500	2575	30900		
2.13	Repair/Replacement of Drainage Spoutes	Nos	31	5.00%	1443	3716	44589	3,886,347	18% Service Charge Considered

	PROJECT: Four Laning of Puducherry to Poondiyankuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: ROUTINE MAINTENANCE
---	---	--


3. Route Maintenance Manpower Cost

Sr. No.	Position	Unit	Nos	Shift	Blank	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
3.01	Manager	Nos	0	1		0	75000	0	0		
3.02	HR and Admin	Nos	1	1		1	45000	45000	540000		
3.03	Maintenance Engineer	Nos	1	1		1	50000	50000	600000		
3.04	Maintenance Supervisor	Nos	2	1		2	35000	70000	840000		
3.05	System Engineer (TMS)	Nos	0	1		0	40000	0	0		
3.06	System Engineer (HTMS)	Nos	1	1		1	40000	40000	480000		
3.07	Electrical Engineer	Nos	0	1		0	35000	0	0		
3.08	Labour for RRM (Male)	Nos	16	1		16	18867	301874	3622491		
3.09	Labour for RRM (Female)	Nos	4	1		4	18867	75469	905623		
3.10	Labour for Misc. works	Nos	2	1		2	20207	40414	484974		
3.11	Grass cutting operator	Nos	3	1		3	20207	60622	727460		
3.12	Sweeping Machine Truck Mounted Operator	Nos	0	1		0	20207	0	0		
3.13	Others	Nos	0	1		0	20207	0	0	8,200,548	Service Charge @ 0%
						30		683379			

4. Route Maintenance Vehicle & Equipment Cost

Sr. No.	Description	Unit	Nos	Shift	Blank	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
4.01	Bolero or equivalent	Nos	0	1		0	55840	0	0		
4.02	Water tanker 20 KL	Nos	1	1		1	61340	61340	736080		
4.03	Pickup /Camper	Nos	1	1		1	55840	55840	670080		
4.04	Staff Bus (20+ seater)	Nos	0	1		0	91144	0	0		
4.05	Water tanker 12 KL	Nos	0	1		0	107505	0	0		
4.06	Water tanker 5 KL	Nos	1	1		1	51595	51595	619142		
4.07	Grass Cutter	Nos	3	1		3	9438	28314	339771		
4.08	Man Basket for Elec.	Days/Month	5	1		5	16000	80000	960000		
4.09	JCB	Days/Month	5	1		5	16000	80000	960000		
4.10	Hydraulic trimmers	Nos	0	1		0	13000	0	0		

4.11	Bikes for Supervisor	Nos	2	1		2	4813	9627	115522		
4.12	PPE/Uniform for staff	Nos	5	1		5	525	2625	31500		Considering Rs. 350/- per pair & 2 pairs per each (75% of the Staff)
4.13	Safety items, Sign boards	Nos	1	1		1	10000	10000	120000		
4.14	Tools & tackles	Nos	1	1		1	15000	15000	180000		
4.15	Office space	Nos	0	1		0	5000	0	0		
4.16	Sweeping Machine Truck Mounted	Nos	0	1		0	0	0	0		
4.17	Others	Nos	0	1		0		0	0		
4.18	Others	Nos	0	1		0		0	0	4,732,095	Service Charge @ 0%
								394341		28361	Rs. Per Month per Km

	PROJECT: Four Laning of Puducherry to Poondiyankuppam section of NH-45A (New NH-332) (from Km 29.000 to Km 67.000 (Design Chainage) Under Bharatamala Pariyojana Phase-1 (Residual NHDP-IV works) HAM in the State of Tamila Nadu and Union Territory of Puducherry.	ANNEXURE: Operations Cost
---	---	--------------------------------------

Year	Operation Cost in Cr. Rs				Total Expenditure till the end of Concession Period
	SPV Cost	Manpower	Operating Expenses (IMV)	Electricity	
2024-2025	1.11	0.45	0.07	1.37	3.00
2025-2026	1.41	0.57	0.09	1.74	3.80
2026-2027	1.47	0.59	0.09	1.82	3.98
2027-2028	1.53	0.62	0.10	1.88	4.12
2028-2029	1.58	0.64	0.10	1.95	4.27
2029-2030	1.64	0.66	0.10	2.02	4.42
2030-2031	1.70	0.68	0.11	2.09	4.58
2031-2032	1.76	0.71	0.11	2.17	4.75
2032-2033	1.80	0.73	0.11	2.22	4.86
2033-2034	1.84	0.74	0.12	2.27	4.98
2034-2035	1.89	0.76	0.12	2.33	5.10
2035-2036	1.93	0.78	0.12	2.38	5.22
2036-2037	1.98	0.80	0.13	2.44	5.35
2037-2038	2.03	0.82	0.13	2.50	5.48
2038-2039	2.08	0.84	0.13	2.56	5.61
2039-2040	1.60	0.64	0.10	1.97	4.31

ANANTAM HIGHWAYS TRUST

Construction and up-gradation of NH-131A Km 34.600 (design ch:6.000) near Narenpur to Km 79+970 (Design Ch 53+000) near Purnea to 4 lane Standard and from Km 79+970 (design Ch:53+000) to Km 82+000 (Design Ch:55+000) near Purnea to 2 lanes with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode

FINAL REPORT



FEBRUARY, 2025



RUKY Projects Private Limited
Hyderabad

www.rukyprojects.com | contact@rukypjrojects.com | 040 4855 7777

RUKY

Construction and up-gradation of NH-131A Km 34.600 (design ch:6.000) near Narenpur to Km 79+970 (Design Ch 53+000) near Purnea to 4 lane Standard and from Km 79+970 (design Ch:53+000) to Km 82+000 (Design Ch:55+000) near Purnea to 2 lanes with paved shoulders standard in the State of Bihar on Hybrid Annuity.

REVISION RECORD

This document has been issued and amended as follows:

Document No.	Issue	Date	Description
RU- 337/AHT/TDD/NPHPL	R0	15-02-2025	Final Report



DISCLAIMER AND CONSENT FOR USE

This report has been prepared for the benefit of Anantam Highways Trust for and in connection with initial offer of units representing an undivided beneficial interest in the Trust. In Preparing this report, RUKY Projects Pvt Ltd has relied, in whole or in part, on data and information provided by Anantam Highways Trust and M/s Narenpur Purnea Highway Private Limited which RUKY Project Pvt Ltd has assumed to be accurate, complete, reliable and correct.

This report may be reproduced and included in the preliminary placement memorandum, placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust and may be made available for inspection in the manner specified therein. In connection with the report, the following details in relation to the Technical Consultant may be included in preliminary placement memorandum and the placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust

Technical Consultant:

RUKY PROJECTS PRIVATE LIMITED
Flat No. 1403A, 14th Floor,
Manjeera Trinity Corporate,
JNTU-Hitech City Road, Kukatpally,
Hyderabad – 500072
www.rukyprojects.com
contact@rukypjrojects.com
+91-040-4855 7777

TABLE OF CONTENTS

CHAPTER 1. EXECUTIVE SUMMARY	1
1.1 Project Description	1
1.2 Extension of Time	2
1.3 Present status of the Project	2
1.4 Condition of Project Corridor.....	2
1.4.1. Pavement Condition	3
1.4.2. Condition of Structures.....	3
1.4.3. Condition of Project Facilities	3
1.5 O&M Cost Estimate.....	3
CHAPTER 2. INTRODUCTION	5
2.1 Project Background.....	5
2.2 Project Geography	6
2.3 Project Overview.....	7
2.4 Chainage Equation	8
CHAPTER 3. SCOPE OF CONSULTANCY SERVICES	9
3.1 Scope of consultancy services.....	9
CHAPTER 4. SALIENT FEATURES OF THE PROJECT	10
4.1 Salient Features of the Project	10
4.2 Typical Cross Section (TCS) Schedule.....	10
4.3 Bypass	12
4.4 Service Roads/Slip Roads	13
4.5 Drainage.....	14
4.6 Summary of the Carriageway and Pavement Details	14
4.7 Summary of Structures	14
4.8 Project Facilities	14
CHAPTER 5. REVIEW OF AGREEMENTS	17
5.1 Review of Concession Agreement	17
5.1.1. Concession (Article 3)	17
5.1.2. Conditions precedent (Article 4).....	17
5.1.3. Major Obligations of the Concessionaire (Article 5).....	18
5.1.4. Performance Security (Article 9).....	18
5.1.5. Procurement of Site(Article 10)	18
5.1.6. Shifting of Utilities(Article 11).....	18
5.1.7. Tests (Clause 13.3)	19
5.1.8. Provisional Completion Certificate (Article 14)	19
5.1.9. Completion Certificate (Article 16)	19
5.1.10. Change of scope (Article 16)	20
5.1.11. O&M Obligations of the Concessionaire (Clause 17.1).....	20
5.1.12. Maintenance Requirements (Clause 17.2)	20
5.1.13. Maintenance Manual (Clause 17.3).....	20
5.1.14. Maintenance Programme (Clause 17.4)	21

5.1.15. Appointment of Independent Engineer(Article 21)m.....	21
5.1.16. Review of Correspondence.....	21
5.1.17. Non-performance of the O&M Operations:	21
CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS	23
6.1 Insurance.....	23
6.2 Monthly status reports	23
6.3 Inspection Reports.....	23
6.4 Review of Pavement design report.....	24
6.4.1. Flexible Pavement for main carriageway.....	24
6.4.2. Flexible Pavement for Overlay sections.....	26
6.4.3. Rigid Pavement for Toll Plaza	26
6.4.4. Pavement for Service road/Slip Road	27
6.4.5. Site Investigations	27
CHAPTER 7. SITE APPRAISAL	29
7.1 General.....	29
7.2 Highways.....	29
7.2.1. Road Inventory.....	29
7.2.2. Type of terrain	29
7.2.3. Land use	29
7.2.4. Villages/Towns along the Project	30
7.2.5. Main Carriageway – work status	30
7.3 Structures.....	31
7.3.1. Culverts.....	34
7.3.2. RE walls	37
7.4 Toll Plaza	38
7.5 Road Furniture	42
7.5.1. Traffic signs	42
7.5.2. Overhead signs.....	42
7.5.3. Pavement Marking.....	42
7.5.4. LED Blinker	42
7.5.5. Metallic Crash Barrier and Concrete Crash Barrier.....	42
7.5.6. Road Studs	42
7.5.7. Delineators.....	43
7.5.8. Boundary Wall.....	43
7.5.9. Pedestrian Guard rail	43
7.5.10. Hectometre (HM)/ Kilometres (KM.)stones	43
7.6 Highway Lighting.....	43
7.7 Rest Areas	43
7.8 Truck Lay Bye	43
7.9 Bus Shelters on Service Roads	44
7.10 Landscaping & Tree Plantation	44
7.11 Traffic Aid Post.....	44
7.12 Medical Aid Post	44
7.13 Vehicle Rescue Posts.....	44
7.14 Operation and maintenance (O&M) centre	44
7.15 Communication System	44

7.16	Advance Traffic Management System (ATMS)	45
7.17	Rain Water Harvesting	45
CHAPTER 8. REVIEW OF O&M AGREEMENT		46
CHAPTER 9. SCHEDULE OF ANNUITY PAYMENTS		48
9.1	Hybrid Annuity Model (HAM)	48
9.2	Schedule of Annuity Payments	48
CHAPTER 10. COST ESTIMATES		50
10.1	Maintenance of Project Cost	50
10.2	O&M Expense forecasts	51
CHAPTER 11 CONCLUSION		52

LIST OF TABLES

Table 1-1: Key Dates	1
Table 1-2: Key Features	1
Table 1-3: Summary of Cost Estimate	3
Table 2-1: Project Data	7
Table 2-2: Design chainage corresponding Existing chainage	8
Table 4-1: Salient Features of the Project	10
Table 4-2: Cross section Schedules and Typical Indicative Cross Sections	11
Table 5-1: Conditions Precedent to be fulfilled by the Concessionaire	17
Table 6-1: Details of Insurance policies	23
Table 6-2: Correspondence related to pavement design submission and approvals	24
Table 6-3: Summary of AADT	24
Table 6-4: Adopted traffic growth rates	25
Table 6-5: Summary of Vehicle Damage Factor	25
Table 6-6: Estimated Design Traffic (Million Standard Axles-MSA)	25
Table 6-7: Designed pavement crust summary as per pavement design report	26
Table 6-8: Summary of overlay requirement	26
Table 6-9: Pavement Composition for Toll plaza	26
Table 6-10: Pavement Composition for service road	27
Table 6-11: Pavement Design Thickness Vs Executed Crust Thickness	27
Table 7-1: Land use details along the project road	29
Table 7-2: Status of work of MCW	30
Table 7-3: Summary of Structures	32
Table 7-4: Detailed Inventory and Condition of Structures as on date	32
Table 7-5: Summary of inventory of culverts	34
Table 7-6: Summary of Inventory of RE walls	37
Table 7-7: Toll Plaza – Inventory & Condition	38
Table 7-8 :List of Incident Management System-Inventory & condition	39
Table 7-9 :List of Advanced Traffic Management System-Inventory & Condition	40
Table 7-10: List of Rest area	43
Table 7-11: Locations of Truck Lay-Byes	44
Table 7-12: Status of Avenue and median plantation	44
Table 9-1: Schedule of Payment Milestones	48
Table 9-2: Details of Annuity payments are as below	48
Table 10-1: Summary of Cost Estimate	51

LIST OF FIGURES

Figure 2.1: Project Location Map.....	6
Figure 6.1: Bar Chart showing Design thickness vs Executed thickness	28
Figure 7.1: Status of Main Carriageway.....	31
Figure 7.2: Photograph showing of Structures	34
Figure 7.3: Photograph showing status of Toll Plaza	39
Figure 7.4: Photograph showing of status of Advance Traffic Management	41

LIST OF ANNEXURES

Annexure-1: Inventory & Condition of Pavement Condition.....	53
Annexure-2: Inventory & Condition of Project Facilites	120
Annexure-3: Inventory and Condition of Structures	130
Annexure-4: Details of O & M Cost estimates	140

ABREVIATIONS

Abbreviation	Meaning	Abbreviation	Meaning
3A/3D/3G	Stages of Land Acquisition	EOT	Extension Of Time
AADT	Annual Average Daily Traffic	EPC	Engineering Procurement Construction
AASHTO	American Association of State Highway and Transportation Officials	ESAL	Equivalent Standard Axle Load
ADT	Average Daily Traffic	ESMF	Environment and Social Management Framework
ATMS	Advance Traffic Management System	Exc	Excavation
BBD	Benkelman Beam Deflection	FOB	Foot Over Bridge
BC	Bituminous Concrete	FWD	Falling weight Deflectometer
BI	Bump Integrator- Roughness (mm/Km.)	GDP	Gross Domestic Product
BM	Bituminous Macadam	GFC	Good For Construction
BOQ	Bill of Quantities	GNP	Gross National Product
BOT	Built Operate and Transfer	GOI	Government of India
BPC	Bid Project cost	GSB	Granular Sub Base
C&G	Clearing and Grubbing	HAM	Hybrid Annuity Mode
C/s	Cross-section	HFL	High Flood Level
CA	Concession Agreement	HPC	Hume Pipe culvert
CapEx	Capital Expenditure	HS	Hard Shoulder
CBR	California Bearing Ratio	Ht	Height
Ch	Chainage	HTMS	Highway Traffic Management System
cm	Centimetre	IE	Independent Engineer
COD	Commercial Operation date	IRC	Indian Roads Congress
Concessionaire/ NPHPL	M/s Narenpur Purnea Highway Private Limited	IRI	International Roughness Index
Cos	Change of Scope	IS	Indian Standard
Cr.	Crores	Kg	Kilogram
cum	Cubic Meter	Km.	Kilometre
CV	Commercial Vehicles	LHS	Left Hand Side
CVPD	Commercial Vehicles per Day	Ltr	Litre
DBM	Dense Bituminous Macadam	m (or) Mts	Metre/Meter
DFBOT	Design, Finance, Build, Operate and Transfer	M/s	Messers
DFO	District Forest Officer	MCW	Main Carriageway
Dia (or) *	Diameter	MDD	Maximum Dry Density
DLC	Dry Lean Concrete	MDR	Major District Road
DLP	Defect liability Period	Misc	Miscellaneous
DPR	Detailed Project Report	MJB	Major Bridge
DTM	Digital Terrain Model	mm	Millimetre
EIA	Environment Impact Assessment	MM	Major Maintenance
EIRR	Economic Internal Rate of Return	MNB	Minor Bridge
Emb	Embankment	MORTH	Ministry of Road Transport & Highways
EMP	Environment Management Plan	MOU	Memoranda Of Understanding

Construction and Up-gradation of Nh-131 A km34+600 (design Ch 6+000) near Narenpur to Km 79.970(design Ch 53+000) near Purnea to 4 lane standard and fom Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

Abbreviation	Meaning
MSA	Million Standard Axles
MT (or) T	Metric Tonne
NCR	Non-Conformance Report
NDT	Non-Destructive Test
NH	National Highway
NHAI	National Highway Authority of India
NHDP	National Highways Development Project
No. (or) Nos.	Numbers
NPV	Net Present value
NSDP	Net State Domestic Product
O&M	Operation and Maintenance
O-D	Origin and Destination
OpEx	Operative Expenditure
PCU	Passenger Car Unit
PIA	Project Influence Area
PIU	Project Implementation Unit
PM	Periodic Maintenance
PQC	Pavement Quality Concrete
PSC	Pre-stressed Concrete
RCC	Reinforced Cement Concrete
RE	Reinforced Earth

Abbreviation	Meaning
RHS	Right Hand Side
RoB	Road over Bridge
ROW	Right Of Way
RUB	Road Under bridge
RUKY	RUKY Projects Private Limited
SDBC	Semi Dense Bituminous Concrete
SF	Seasonal Factor
SH	State Highway
SPV	Special Purpose Vehicle
Sqm	Square Meter
SR	Service Road
TCS	Typical Cross Section
TDD	Technical Due Diligence
TOR	Terms of Reference
VDF	Vehicle Damage Factor
VOC	Vehicle Operating Costs
VOP	Vehicular Overpass
VUP	Vehicular Underpass
WMM	Wet Mix Macadam

CHAPTER 1. EXECUTIVE SUMMARY

1.1 Project Description

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970(design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode. Key Dates and Key features are given in tables below.

Table 1-1: Key Dates

S. No	Description	Date
1	LOA date	09-09-2020
2	Date of Agreement	24-10-2020
3	Appointed date	18-03-2021
4	Construction Period	730 days
5	Scheduled Construction End Date	17-03-2023
6	Extension of Time (if any)	288 days
7	Revised Construction End Date	31-12-2023
8	Operation Period	15 years
9	Date of issuance of Provisional Certificate	29-03-2024 for the length of 49.00 Km
10	Concession Period	730 days+15 years
11	Schedule Concession End Date	18-03-2038
12	Revised Concession End ate	15-07-2038
13	Provisional Completion Certificate	29-03-2024
14	Completion certificate	Applied for CC

Table 1-2: Key Features

S. No.	Particulars	As per CA	
1	Total Length of Four Lane (Flexible)	47.00 Km.	Total 49.00 km
	Total Length of Two lane (Flexible)	2.00 km	
2	Width of Main Carriage way (Four lane)	2 x 10.1 m / 2 x 9.1 m / 2 x 9.00 m	
2	Width of main carriageway (Two lane)	1 x 11.00 m	
3	Length of service Roads (Both sides)	27.080 Km.	
4	Length of Slip Roads (Both sides)	34.436 Km	
5	Length of bypass Roads	14.86 Km.	
6	Major junctions	02 Nos.	
7	Minor Junctions	48 Nos.	
8	Major Bridges (New)	02Nos.	
9	ROB (New)	03 Nos.	
10	Minor Bridges (New)	15 Nos.	
11	VUP (New)	03 Nos.	
12	Fly Over (New)	02 Nos	

S. No.	Particulars	As per CA
13	LVUP (New)	16 Nos
14	SVUP	2 Nos
15	Box Culverts	76 Nos.
16	Hume Pipe Culverts (New)	02 Nos
17	Toll Plaza (7+1 lane)	01 Nos
18	Bus Bays (Both Sides)	1 Nos.
19	Bus Shelters (Both sides)	16 Nos.
20	Truck Lay-byes (Both sides)	01 Nos
21	Rest area on LHS	01 Nos

1.2 Extension of Time

The construction period for the project is 730 days from the Appointed Date. Accordingly, the scheduled construction end date is on 18-03-2023. However, an Extension of Time (EOT) has been granted to the Concessionaire for 120 days, up to 15-07-2023, in accordance with the Settlement Agreement dated 13-06-2023. This extension is requested by Concessionaire's submission of 294 days due to the eruption of the Covid-19 pandemic. The grant of EOT is supported by the letter No. NHAI/Policy Guidelines/Atmanirbhar Bharat Policy and the Authority's letter No. NHAI/RO-BNG/22016/PKG-II/01/2020-21/1201 dated 13-06-2020."

The Concessionaire submitted the intermediate Extension of Time (EOT-2) application for a period of 243 days on 22-09-2023, citing reasons not attributable to the Concessionaire. The Independent Engineer recommended an EOT-2 for 169 days, resulting in a revised Scheduled Construction date up to 31-12-2023.

Upon review of the documents it is found that Provisional Certificate for the length of 49.00 km has been issued by the Independent Engineer on 29.03.2024 and thereafter commercial operation were commenced. List of Punch list items were appended to the Provisional Certificate. As per the Contract Agreement Punch list items shall be completed within 90 days from the COD. Accordingly punch list items has been completed by 29-06-2024.

The Concessionaire vide letter no NPHPL/NHAI/Narenpur-Purnea/2024-25/844 dated 26-06-2024 requested the Project Director for issuance of Completion Certificate as the Punch list items were Completed within the stipulated time lines except in the locations where the land is not encumbrance free and without Hindrance. Issuance of Completion Certificate is waited from the Authority.

1.3 Present status of the Project

Concessionaire has submitted a letter for Completion certificate. The Provisional Completion Certificate with effect from 26-04-2024 has been issued, since then the project has been in O&M Phase and Concession Period ends by 26-04-2039.

1.4 Condition of Project Corridor

1.4.1. Pavement Condition

Based on the visual condition, condition of the pavement constructed was found to be good. No adversity was noticed. Details are provided in **Chapter 8**.

1.4.2. Condition of Structures

Based on the visual condition, condition of the structures constructed was found to be good. No adversity was noticed. Details are provided in **Chapter 8**.

1.4.3. Condition of Project Facilities

During the site visit it is noticed that the Project facilities enumerated under Schedule C of the Project are being constructed/ provided and condition of Project facilities was good. Details are provided in **Chapter 7**

1.5 O&M Cost Estimate

The summary of year wise O&M and any immediate cost estimate are given below.

Table 1-3: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2024-2025	-	2.99	8.39	11.38
2025-2026	-	3.11	8.80	11.91
2026-2027	3.01	4.16	9.23	16.40
2027-2028	0.69	4.26	9.58	14.53
2028-2029	0.78	4.19	9.94	14.91
2029-2030	0.74	4.55	10.31	15.60
2030-2031	82.00	5.34	11.01	98.34
2031-2032	1.60	4.35	11.26	17.21
2032-2033	0.80	4.92	11.39	17.11
2033-2034	0.89	4.77	11.68	17.34
2034-2035	3.70	5.10	11.98	20.78
2035-2036	0.84	5.22	12.28	18.35
2036-2037	0.86	5.06	12.60	18.52
2037-2038	95.13	5.20	12.92	113.25
2038-2039	1.92	5.27	4.42	11.61

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970(design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2039-2040	-	-	4.53	4.53
Total Expenditure in Cr. Rs	192.96	68.50	160.33	421.79

CHAPTER 2. INTRODUCTION

2.1 Project Background

The Government of India had entrusted to the Authority the development, maintenance and management of Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970(design Ch 53+000) near Purnea to 4 lane standard and from Km 79.970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode in accordance with the terms and conditions to be set forth in a Concession Agreement dated 24-10-2020.

After evaluation of the bids received from prospective bidders, NHAI (hereafter referred to as “Authority”) had selected M/s Dilip BuildCon Limited and issued LOA vide NHAI/BH/Manihari-Purnea/NH-131A/Hyb/Proc/2015/10744 dated 09.09.2020. Further, the selected bidder formed an SPV in the name and style as M/s Narenpur Purnea Highway Private Limited as per Companies Act, 2013 and Concession Agreement (CA) was concluded between NHAI and SPV on 24-10-2020

Subsequently, the SPV vide Agreement dated 15-12-2020 appointed Dilip BuildCon Limited as EPC contractor for the construction of aforesaid work.

National Highway NH-131A, which starts at near Narenpur in Katihar District and ends at Near Purnea in Purnea District is a part of NH- 131 A It is one of the important highways in Bihar state .

The project road comprises the section of NH- 131A starts at capital city of Narenpur, passes through important towns like Lakhpura, pagalbari , Manoharpur , Kumaripur , Bhermara , Basantpur , Katihar bypass, routara , Chandi, abdunager/Purnea total design length of 49.00 km. The project Location map is given in **Figure 2.1**

Anantam Highways Trust (hereinafter referred to as ‘the Client’) appointed RUKY Projects Pvt. Ltd. as consultant for detailed Technical Due Diligence services of the above Road Project to know-how the present condition of Carriageway and Structures, probable costs of Operations and Maintenance during balance Concession period, additional road safety requirements if any and to review the annuity payments received and future schedule of annuity payments. etc. The Scope of Consultancy services is narrated under **Chapter-3** of this report.

The data and observations provided in this report are based on the status of the project observed by the Consultant.

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970(design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.



Figure 2.1: Project Location Map

This report is prepared based on documents made available, information shared by the Concessionaire, Client and observations made by the Consultants during the site visit

2.2 Project Geography

Mysore city is geographically located between 12° 18' 26 North Latitude and 76° 38' 59" East Longitude. The districts in which the Project corridor passes through are considered to be the primary project influence area (PIA). However, the nature of the project corridor, being the National Highway, facilitates mostly traffic movement; the influence area stretches beyond the district boundaries.

Climate: Project corridor is characterized by maximum temperatures of around 28.3 °C and minimum temperatures of around 16.9 °C. The monsoon season is quite short ranging between June to August. The relative humidity levels during the monsoon season are very high than the rest of the year. The average annual rainfall in the Project corridor is 667.2 mm

Terrain: The alignment traverse through the rich Horticulture Fields for some of the Projects length.

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970(design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

Villages and Towns: This Project Starts at the Near Narenpur , Passes through important villages Lakhpura , pagalbari , Manoharpur , Kumaripur , Bhermara , Basantpur , Katihar bypass , routara , Chandi, abdulnager/Purnea town .

2.3 Project Overview

Key features and timelines of the project are presented in the table below.

Table 2-1: Project Data

S. No.	Particulars	Details
1	Name of the project	Construction and Up-gradation of Nh-131 A km34+600 (design Ch 6+000) near Nrenpur to Km 79.970(design Ch 53+000) near Purnea to 4 lane standard and fom Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.
2	Name of the Authority	National Highways Authority of India (NHAI)
3	Name of the Concessionaire/SPV	M/s Narenpur Purnea Highways Private Limited
4	EPC contractor	M/s Dilip BuildCon Limited
5	Independent Engineer	Voyants Solutions Pvt Ltd JV with Geo Design and research Pvt Ltd in association with Agnitio infrastructure Project Pvt Ltd.
6	Safety Consultant	Shweta Technophile Consultants Pvt. Ltd
7	Manual of Specifications and Schedule to be followed	IRC SP-84-2019
8	Project Length as per Schedule B of CA	49.00 Km
9	Bid Project Cost	Rs.1905.00 Cr
10	Estimated Project Cost	Rs.1567.41 Cr
11	Toll collected by	Authority
12	Construction Period	730 days
13	Concession Period	15 years commencing from COD
14	Appointed Date	18-03-2021
15	Scheduled Construction End Date	18-03-2023
16	Extension of Time (if any)	120 days up to 15-07-2023
17	Revised Construction Completion Date	15-07-2023
18	Schedule Concession End Date	17-03-2038
19	Revised Concession End Date	29-03-2039
20	Date of PCOD Issued	29-03-2024
21	Date of Completion Certificate	Applied for CC

2.4 Chainage Equation

To avoid confusion while reviewing drawings and report it is necessary to understand the chainage equation between existing and New design chainages. As given in Appendix A-I of CA, the project design chainage corresponding to NH-131 A existing chainages are shown below the table. Reduction in length of new alignment compared to existing alignment is due to the provision of bypass and re alignment in proposed alignment. Unless otherwise specifically mentioned all chainages referred to in this document are design chainages.

Table 2-2: Design chainage corresponding Existing chainage

Existing Chainage	Design Chainage	Remarks
Km. 34.600	Km. 6.000	Project start
Km. 82.024	Km. 55.00	Project end
47.424 Km.	49.00 Km.	Project length

CHAPTER 3. SCOPE OF CONSULTANCY SERVICES

3.1 Scope of consultancy services

The consultant shall carry out the Technical Due Diligence services for the afore mentioned asset and the scope of work for the same is as follows:

- Review of various contractual documents
- Carryout detailed assessment of pavement condition and propose maintenance plan along with BOQ.
- Carrying out inventory & condition survey of all elements of road like embankment slope, plantation, road furniture of the project.
- Carrying out inventory & condition survey of all structures (Major Bridges, Minor Bridges, ROB, RE Wall, Flyovers, VUPs, PUPs, Culverts etc.), suggest any rehabilitation & maintenance requirements along with BOQ.
- Carryout road safety audit on Project highway and provide suggestions for improvement.
- Assess and Provide BOQ and cost estimate for routine & periodic maintenance including O&M.
- Review of validity of insurance and statutory compliances related to Project.
- Review of correspondence exchanged between parties on contract related issues and claims etc. Submission of detailed report on technical due diligence of the project

CHAPTER 4. SALIENT FEATURES OF THE PROJECT

4.1 Salient Features of the Project

The salient features of the Project as per Schedule B and C of Concession Agreement (CA) are listed in the following Table.

Table 4-1: Salient Features of the Project

S. No.	Particulars	As per CA		Remarks
1	Total Length of Four Lane (Flexible)	47.00 Km.	Total 49.00 km	
	Total Length of Two lane (Flexible)	2.00 km		
2	Width of Main Carriage way (Four lane)	2 x 10.1 m / 2 x 9.1 m / 2 x 9.00 m		
2	Width of main carriageway (Two lane)	1 x 11.00 m		
3	Length of service Roads (Both sides)	27.080 Km.		
4	Length of Slip Roads (Both sides)	34.436 Km		
5	Length of bypass Roads	14.86 Km.		
6	Major junctions	02 Nos.		
7	Minor Junctions	48 Nos.		
8	Major Bridges (New)	02Nos.		
9	ROB (New)	03 Nos.		
10	Minor Bridges (New)	15 Nos.		
11	VUP (New)	03 Nos.		
12	Fly Over (New)	02 Nos		
13	LVUP (New)	14 Nos		16 Nos Including COS
14	SVUP	0		02 Nos Including COS
15	Box Culverts	76 Nos.		
16	Hume Pipe Culverts (New)	02 Nos		
17	Toll Plaza (7+1 lane)	01 Nos		
18	Bus Bays (Both Sides)	1 Nos.		
19	Bus Shelters (Both sides)	16 Nos.		
20	Truck Lay-byes (Both sides)	01 Nos		
21	Rest area on LHS	01 Nos		

4.2 Typical Cross Section (TCS) Schedule

As per provisions of Schedule B of CA, there are 15 types of Typical Cross Sections (TCS) for the development of the Project Highway. The schedule of TCS as shown in Appendix BI of schedule B of CA is summarized and given in the following table.

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970 (design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

Table 4-2: Cross section Schedules and Typical Indicative Cross Sections.

S. No	Design Chainage		Length (m)	Typical Cross Section	Village / Town
	From (Km)	To (Km)			
1	6+000	6+300	300	V	Narenpur
2	6+300	6+700	400	VII	
3	6+700	6+850	150	VII	
4	6+850	7+100	250	II	
5	7+100	7+590	490	V	Lakhpura Builtup
6	7+590	8+400	810	VII	
7	8+400	8+860	460	V	Pagalbari, Manoharpur
8	8+860	9+440	580	VII	
9	9+440	10+000	560	V	Builtup
10	10+000	10+610	610	II	
11	10+610	11+330	720	VII	
12	11+330	13+000	1670	V	Kumaripur,
13	13+000	13+600	600	VII	Bhermara,
14	13+600	14+000	400	V	Basantpur Builtup
15	14+000	14+470	470	II	
16	14+470	15+120	650	VII	
17	15+120	16+300	1180	II	
18	16+300	16+600	300	V	
19	16+600	17+200	600	II	
20	17+200	18+100	900	VII	
21	18+100	18+150	50	V	
22	18+150	18+445	295	V	Realignment 1
23	18+445	18+770	325	V	
24	18+770	19+850	1080	V	bypass
25	19+850	20+500	650	VII	
26	20+500	21+180	680	V	
27	21+180	21+800	620	VII	
28	21+800	23+180	1380	V	
29	23+180	23+850	670	VII	
30	23+850	24+010	160	IX	
31	24+010	24+102	92	X	
32	24+102	24+650	548	VII	
33	24+650	25+050	400	V	
34	25+050	25+700	650	VII	
35	25+700	26+400	700	V	
36	26+400	27+550	1150	VII	
37	27+550	28+700	1150	V	
38	28+700	29+700	1000	VII	
39	29+700	30+521	821	V	

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970 (design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

S. No	Design Chainage		Length (m)	Typical Cross Section	Village / Town
	From (Km)	To (Km)			
40	30+521	30+541	20	XII	
41	30+541	31+000	459	V	
42	31+000	33+630	2630	VII	
43	33+630	34+090	460	VII	
44	34+090	35+030	940	in	
45	35+030	35+790	760	I	Realignment 2
46	35+790	36+020	230	VIII	
47	36+020	36+500	480	VIII	
48	36+500	37+200	700	III	
49	37+200	38+000	800	VIII	
50	38+000	39+400	1400	III	
51	39+400	39+600	200	I	Realignment 3
52	39+600	39+666	66	III	
53	39+666	39+696	30	X	
54	39+696	39+980	284	III	
55	39+980	40+260	280	I	Realignment 4
56	40+260	40+700	440	III	
57	40+700	41+550	850	VIII	Routara Builtup
58	41+550	42+950	1400	III	
59	42+950	43+800	850	VIII	
60	43+800	45+170	1370	III	
61	45+170	45+560	390	I	Realignment 5
62	45+560	47+780	2220	III	
63	47+780	48+510	730	VIII	
64	48+510	48+600	90	VIII	Chandi Built up
65	48+600	49+100	500	VI	
66	49+100	51+500	2400	III	
67	51+500	53+000	1500	VI	Bilauri, Abdullah Nagar Builtup
68	53+000	55+000	2000	IV	
		Total	49000		

4.3 Bypass

As per provisions of Schedule B of the Concession Agreement the details of Bypass are given in the table below.

Table 4.3: Details of Bypass

S. No.	Location	Existing Chainage (Km.)		Design Chainage (Km.)		Length (Km.)
		From	To	From	To	
1	Katihar bypass	47.350	60.450	18.770	33.630	14.860

4.4 Service Roads/Slip Roads

Following are the stretches where Service roads are provided on both sides of MCW along the project road as per Schedule B of CA.

Table 4.5: Service Road locations

S. no	Design Chainage		Length (m)	Side	Total Length (m)	Village / Town
	From (Km)	To (Km)				
1	6+000	6+300	300	Both	600	Narenpur
2	7+100	7+590	490	Both	980	
3	8+400	8+860	460	Both	920	Pagalbari, Manoharpur
4	9+440	10+000	560	Both	1120	
5	11+330	13+000	1670	Both	3340	
6	13+600	14+000	400	Both	800	
7	16+300	16+600	300	Both	600	
8	18+100	19+850	1750	Both	3500	Kathihar Bypass
9	20+500	21+180	680	Both	1360	Kathihar Bypass
10	21+800	23+180	1380	Both	2760	Kathihar Bypass
11	24+650	25+050	400	Both	800	Kathihar Bypass
12	25+700	26+400	700	Both	1400	
13	27+550	28+700	1150	Both	2300	Kathihar Bypass
14	29+700	31+000	1300	Both	2600	Kathihar Bypass
15	48+600	49+100	500	Both	1000	Chandi
16	51+500	53+000	1500	Both	3000	Bilauri, Abdullah Nagar
Total Length			13540		27080	27.080 kmm

Table 4.6 Slip road Locations

S.No	Design Chainage		Length (m)	Side	Total Length (m)	Village / Town
	From (Km)	To (Km)				
1	6+300	6+850	550	Both	1100	Narenpur
2	7+590	8+400	810	Both	1620	Kutubpur, Pagalbari
3	8+860	9+440	580	Both	1160	
4	10+610	11+330	720	Both	1440	
5	13+000	13+600	600	Both	1200	Kumaripur, Bhermara, Basantpur
6	14+470	15+120	650	Both	1300	
7	17+200	18+100	900	Both	1800	Marangi, Raghunichak, Sirnia
8	19+850	20+500	650	Both	1300	Sirnia
9	21+180	21+800	620	Both	1240	Daharia
10	23+180	23+850	670	Both	1340	Daharia

S.No	Design Chainage		Length	Side	Total Length	Village / Town
	From (Km)	To (Km)	(m)		(m)	
11	24+102	24+650	548	Both	1096	Kathihar Bypass
12	25+050	25+700	650	Both	1300	
13	26+400	27+104	704	Both	1408	Kathihar Bypass
14	27+104	27+550	446	Both	892	Kathihar Bypass
15	28+700	29+700	1000	Both	2000	Dalan
16	31+000	32+500	1500	Both	3000	Mehdai
17	32+500	34+090	1590	Both	3180	Rampur
18	35+790	36+500	710	Both	1420	
19	37+200	38+000	800	Both	1600	
20	40+700	41+550	850	Both	1700	Ratwari
21	42+950	43+800	850	Both	1700	
22	47+780	48+600	820	Both	1640	Chandi
Total Length			17.218		34.436	

4.5 Drainage

As per provisions of Schedule B of CA, drains are to be provided at entire Project of Highway. RCC drains have been proposed for a length of 124.899 Km. (Based on Schedule G)

4.6 Summary of the Carriageway and Pavement Details

Table 4.7: Summary of the Carriageway and Pavement Details

S No.	Description	Carriageway Width in m	Length (Km.)	Pavement Type
1	Main Carriageway (Four lane)	10.1 m/10.0 m/9.1 m	47.0	Flexible
	Main Carriageway (Two lane)	11.0 m	2.00	Flexible
2	Service road	7.50 m.	27.080	Flexible
	Slip road	7.50 m	34.436	Flexible

4.7 Summary of Structures

Summary of Structures as per provisions of schedule B of the CA is given in Table 8.5.

4.8 Project Facilities

As per Schedule C of CA, the following facilities shall be provided in the Project highway as per Manual Specifications and Standards for four – Laning of Highways Through Public Private Partnership (IRC:SP:84:2019)

- Toll Plaza
- One Toll Plaza at Km 47+900 With 2 x 7+1 Lanes

- All toll Lanes to be equipped with Hybrid ETC equipment as per NHAI Circular no- NHAI/13013/2016-17/CO/Hybrid ETC/112716 dated 08-02-2018.
- Minimum medium speed Weigh in Motion (WIM) devices shall be provided in all toll lanes at Toll Plaza Location. In addition to WIM, Static weigh Bridge (SWBs) shall be provided on each direction as per manual.
- Highway nest mini consisting of food and beverages kiosk, water, ATM, separate toilet facility under Swach Bharat along with Parking facility for road users shall be provided on each direction (LHS& RHS) near Toll Plaza.
- The toilets facilities must be constructed with international standards layout and 24 hours' functionality including operation and maintenance.
- Mini Nest

• Road Furniture

Road side furniture shall be provided as per Relevant Clauses of Manual of Specifications and Standards IRC: SP: 84-2019.

- Traffic signs:
- Overhead traffic signs
- Pavement Markings.
- LED Traffic Beacons:
- Delineators:
- Boundary wall:
- Kilometer/Hecto meter stones
- Crash barrier:
- Cat,s Eye/ Road Studs

• Street Lighting: LED type lighting shall be provided at the following locations.

- Toll plaza, Rest area,
- Truck lay bye, Bus bays/bus shelter
- Interchanges,
- Approaches to Underpasses,
- Flyovers,
- ROBs,
- Built up Sections & Junction locations given in Schedule –c.

• Pedestrian Facilities

• Landscaping and Tree plantations

Landscaping of the highway shall be done on, but not Limited to, the following.

- Landscaping at Toll Plaza, way side Ament and O & M Centre.
- Avenue plantation as per IRC SP -21
- Below the Grade Separated intersections, entry & exit Ramps
- Islands of At grade intersections
- Toll Plaza Area, way side Amenties and O & M center.
- Rest Areas – 1 No Shall be Provided at Km 36+800 on LHS.
- Truck lay- byes – 1 No
- Bus Shelter - 16 Nos on Both sides.
- Bus Bays - 2 Nos on Both Sides.

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970 (design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

- Traffic Aid Posts –
- Medical Aid Posts
- Vehicle Rescue Posts –
- Operation and Maintenance Centre
- Advanced Traffic Management Systems (ATMS) confirming to Schedule-D of CA
 - (a) Video Surveillance System (CCTV PTZ Drome/Fixed Camera)
 - (b) Video Incident Detection System
 - (c) Vehicle Actuated Radar Speed Displays.
 - (d) Emergency Roadside Telephones
 - (e) Fixed /Portable Variable Message Sign
 - (f) Meteorological System
 - (g) Portable weigh in Motion
 - (h) Automatic Traffic Counter Cum Classifier

Review of Project facilities is done in detail under **Chapter-8**

CHAPTER 5. REVIEW OF AGREEMENTS

5.1 Review of Concession Agreement

5.1.1. Concession (Article 3)

Authority grants Concession to the Concessionaire during the construction period of 730 days from the appointed date and operation period of 15 years commencing from COD.

5.1.2. Conditions precedent (Article 4)

5.1.2.1. *Conditions precedent to be fulfilled by the Authority*

- Providing adequate Right of Way pursuant to Clause 10.3.1 and 10.3.2 of the CA
- Providing necessary approvals as per the CA. As per Schedule E of the CA all permits are obtained.
- Providing Forest clearance:
As the appointed date is confirmed by the Authority as 18-03-2021 vide letter No FP/BR/ROAD/15852/2015/4512 Dated 11-02-2021.

5.1.2.2. *Conditions precedent to be fulfilled by the Concessionaire*

Table 5-1: Conditions Precedent to be fulfilled by the Concessionaire

S. No.	Condition Precedent to be fulfilled by the Concessionaire
1	Submission of Performance Security to the Authority pursuant to Clause 9.1 of the CA
2	Executed and procured execution of the Escrow Agreement
3	Executed and procured execution of the Substitution Agreement
4	Part-I of Schedule-E unconditionally or if subject to the conditions, then all such conditions required to be fulfilled by the date specified therein shall have been satisfied in full and such Applicable Permits Procured all the Applicable Permits specified in are in full force and effect
5	Financing Agreements and delivered to the Authority 3 (three) true copies thereof, duly attested by a Director of the Concessionaire
6	Submission to the Authority 3 (three) true copies of the Financial Package and the Financial Model, duly attested by a Director of the Concessionaire, along with 3 (three) soft copies of the Financial Model in MS Excel version or any substitute thereof, which is acceptable to the Senior Lenders;
7	Delivered to the Authority confirmation of the correctness of the representations and warranties set forth in Sub-clauses (k), 0) and (m) of Clause 7.1 of this Agreement

As the appointed date is confirmed by the Authority as 18-03-2021, it is deemed that Conditions precedent are fulfilled by both the parties.

5.1.3. Major Obligations of the Concessionaire (Article 5)

- The Concessionaire shall at its own cost and expense, procure, finance for undertaking the design, engineering, procurement, construction, operation and maintenance of the project.
- The Concessionaire shall obtain necessary applicable permits in conformity with the applicable laws
- Procure appropriate rights for obtaining materials
- Perform and fulfill its obligations under financing Agreements
- To make reasonable efforts to facilitate the acquisition of land required for the execution
- Transfer the project road upon the completion of the Concession period.

The Concessionaire fulfilled all above obligations; no adverse correspondence was noticed in this regard.

5.1.4. Performance Security (Article 9)

- The Concessionaire shall submit the Performance security to the Authority within 30 days from the date of the Agreement.
- The Performance security shall remain in force and effect for a period of one year from the Appointed Date
- Performance Security shall be released upon the Concessionaire expending on Project Construction an Aggregate sum that is not less than 30% of the Bid Project Cost.

Accordingly, Concessionaire has submitted the Performance Security to the Authority for an amount of Rs.95.25 Cr.

As the project construction progress is achieved more than 30% and as per clause no.9.3 of CA, the performance guarantee has been released by the Authority.

5.1.5. Procurement of Site(Article 10)

As per Clause 10.3.1 of the CA, Authority's Representative and Concessionaire shall prepare a memorandum containing an inventory of the site including the vacant and unencumbered land, buildings, road works, trees and any other immovable property on or attached to the site. Such memorandum shall have appended thereto an appendix specifying in reasonable detail those parts of the site to which vacant access and Right of Way has not been granted to the Concessionaire.

Prior to the Appointed date the Authority shall have granted vacant access and Right of Way such that Appendix shall not include land which shall in any manner prevent the Concessionaire from undertaking the construction of the Project to the extent of at least 80% of the Project length.

The Authority confirmed that 40.93 Km. is made available for Construction out of total length of the 49.00 Km. (i.e. 83.54% of the Project length) as per Settlement Agreement dated 13-06-2023.

5.1.6. Shifting of Utilities(Article 11)

Under the provisions of Clause 11.2.1 of CA, the Concessionaire shall, in accordance with applicable laws and with the assistance of Authority, undertake shifting of any utility (including electric lines,

water pipes and telephone cables), to an appropriate location or alignment, if such utility or obstruction adversely affects the execution of Works or Maintenance of the Project Highway in accordance with this Agreement, as per the scope given in Schedule B and in accordance with applicable standards and specifications of concerned utility owning entity. The cost of shifting of such, utilities indicated in Schedule-B is payable to the Concessionaire as part of Bid Project Cost. Cost of shifting utilities not included in the Schedule-B, if any, shall be treated as Change of Scope.

Based on the review of the schedule it is noted that there is no provision of utility shifting under Schedule B. The Concessioner has taken up the Shifting of Utilities and executed the works under cost reimbursable basis as per Clause 11.2.1 of CA.

5.1.7. Tests (Clause 13.3)

For determining that the project, conforms to the Maintenance Requirements, the Independent Engineer shall require the Concessionaire (Concessionaire shall in turn require the Contractor) to carry out, or cause to be carried out, tests specified by it in accordance with Good Industry Practice. One half of the costs incurred on such tests, and to the extent certified by the Independent Engineer as reasonable, shall be reimbursed by the Authority to the Concessionaire

Based on the review of correspondence and documents made available, no adverse correspondence or comments from IE are noticed in this regard.

5.1.8. Provisional Completion Certificate (Article 14)

A section of the project shall be deemed to be completed to open for traffic only when the completion certificate or provisional certificate for that section is issued in accordance with the Clause 14.3 of the CA. Further to note that as per 14.3.2, the Provisional certificate shall be issued for operating part of the Project, if the concessionaire has completed construction of 100% of the site made available to the Concessionaire up to 146 days from the Appointed date.

IE has issued Provisional Completion Certificate for the Project Length of 49.000 km vide IE Letter No. VSPL/TRB-PMC/BHR/IE-Purnea /2021-057/1509 dated 24-04-2024 with Punch list items.

5.1.9. Completion Certificate (Article 16)

Upon completion of Punch List items within the specified date, the Independent Engineer shall issue Completion Certificate to the Concessionaire as per Clause 16.6 of CA.

Upon review of the documents it is found that Provisional Certificate for the length of 49.00 km has been issued by the Independent Engineer on 29.03.2024 and thereafter commercial operation were commenced. List of Punch list items were appended to the Provisional Certificate.

The Concessionaire vide letter no NPHPL/NHAI/Narenpur-Purnea/2024-25/885 dated 25-07-2024 requested the Project Director for issuance of Completion Certificate as the Punch list items were Completed by 26-06-2024 , except in the locations where the land is not Availability of encumbrance free ROW. Issuance of Completion Certificate is awaited from the Authority.

5.1.10. Change of scope (Article 16)

As per Clause 16.1.1 of CA, the Authority may, notwithstanding anything to the contrary contained in the agreement, require the provision of additional works and services which are not included in the scope of the Project as contemplated by this agreement (the “Change of scope”). Any such change of scope shall be made in accordance with the provisions of this Article and cost shall be expended by the concessionaire and reimbursed to it by the Authority in accordance with clause 16.3.

5.1.11. O&M Obligations of the Concessionaire (Clause 17.1)

- Permitting safe, smooth and uninterrupted flow of traffic on the project road
- Minimizing the disruption to traffic in the event of accidents
- Undertaking routine maintenance including prompt repairs of pot holes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices
- Undertaking major maintenance such as resurfacing of pavements, repairs and refurbishments of tolling system and other equipment
- Preventing any unauthorized use of the project road.
- Protection of environment and provision of equipment and materials
- Complying with safety Requirements in accordance with the provisions of the CA.

5.1.12. Maintenance Requirements (Clause 17.2)

The Contractor shall procure that at all times during the Operations period; the project road conforms to the maintenance requirements set forth in Schedule K of CA (The “**Maintenance Requirements**”).

Upon review of the documents it is observed that the Concessionaire is fulfilling the Maintenance Requirements set forth in Schedule K of the CA. No adverse correspondence was noticed in this regard

5.1.13. Maintenance Manual (Clause 17.3)

No later than 90 (ninety) days prior to the Completion Date, the Concessionaire shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual (the “**Maintenance Manual**”) for the regular and preventive maintenance of the Project in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years and the provisions of this Clause shall apply, mutatis mutandis, to such revision.

Upon review of the documents shared with the Consultant, it is observed that Maintenance Manual was submitted by the Concessionaire vide Letter no NPHPL/IE/Narenpur-Purnea/2023-24/827 dated 07-04-2023

5.1.14. **Maintenance Programme (Clause 17.4)**

On or before COD and no later than 45 days prior to the beginning of each accounting year during the Operation Period as the case may be the Concessionaire shall provide to the Authority and Independent Engineer its proposed annual Program of preventive, urgent and the schedule maintenance.

Upon review of the documents shared with the Consultant, it is observed that Maintenance Programme is submitted by the Concessionaire.

5.1.15. **Appointment of Independent Engineer(Article 21)m**

The Authority shall appoint a consulting Engineer firm substantially in accordance with the selection criteria set forth in Schedule M, to be the Independent Engineer.

The appointment shall be made no later than 60 days from the date of this Agreement and shall be for a period of Construction period plus 6 months. On expiry or termination of the aforesaid appointment, the Authority shall appoint Independent Engineer for a further term of 3 years in accordance with the provisions of Schedule M of the CA.

As per Cl.21.1, IE shall be appointed within 60 days from the date of signing of agreement i.e. on or before 24-12-2020. Accordingly, the Authority appointed Voyants solutions Pvt Ltd Jv with Geo Design and Research Pvt Ltd in association with Agnitio infrastructure Projects Pvt Ltd.

One half of the remuneration cost and expenses incurred by the IE shall be reimbursed by the Concessionaire to the Authority pursuant to Clause 21.3 of the CA

5.1.16. **Review of Correspondence**

The Concessionaire provided letters exchanged between Concessionaire, EPC contractor and Independent Engineer. After review of the correspondence provided, the major issues dealt with are as follows:

Observation	Comment
Damages for failure in Maintenance requirements.	No adverse comment
Report on quality control issues	No adverse comment
Non-Confirmation Reports.	No Pending NCR
Safety issues and accident report	Regularly submitted in MPR
Weather Report	Regularly submitted in MPR

5.1.17. **Non-performance of the O&M Operations:**

Upon review of the Monthly Progress Reports, IE inspection and site visit along with the Concessionaire, no defects were identified during the joint inspection

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970(design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

Upon review of the documents, no adverse correspondence was noticed in this regard.

CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS

6.1 Insurance

As per Clause 32.1, Concessionaire shall effect and maintain at its own cost, during the construction period and operation period. The details of insurance policy are given in the following table:

Table 6-1: Details of Insurance policies

S No	Description of Insurance	Policy No	Name of Insurance Company
1	Industrial All Risks Policy	321300112310000040	The National Insurance Co

6.2 Monthly status reports

During the Construction Period, the Contractor shall, no later than 7 (seven) days after the close of each month, furnish to the Concessionaire, the Authority and the Independent Engineer a monthly report on physical and financial progress of the construction works and shall promptly give such other relevant information as may be required by the IE

Upon review of the documents, it is noticed that the Concessionaire is submitting the Monthly Status Report regularly.. Following are major items covered under the Monthly Status Reports

- *Construction activities during the month*
- *Pending shifting utilities*
- *Progress Review*
- *Construction Critical issues*
- *Quality control review*

Upon reviewing the documents, it is observed that the Concessionaire started submitting Monthly Status Reports as per the above clause.

6.3 Inspection Reports

Clause 13.2 of CA specifies that during Construction Period, the IE shall inspect the Project at least once in a month and make a report of such inspection stating in reasonable detail, the defects or deficiencies, if any with particular reference to the project completion schedule, the scope of the project etc. It shall send the Report to the Authority and Concessionaire. Upon receipt of such inspection report, the Concessionaire shall rectify or remedy the defects if any, stated in the report.

Following are major items covered under the Monthly Inspection Reports

- *Physical Progress*
- *Land Acquisition and clearance*
- *Change of Scope*
- *Quality Control issues*
- *Latest correspondence exchanges between the Authority, IE and the Concessionaire*
- *Weather Report*

➤ *Unusual occurrences Report*

Upon review of the documents, it is observed that the Monthly Inspection Reports are being submitted regularly by the IE as per the above Clause

6.4 Review of Pavement design report

The Concessionaire under the provisions of Article 10 submitted Pavement Design vide various letters given as under. Independent Engineer reviewed the submitted designs for its compliance under project specifications and standards and accorded their approval/consent. Reference correspondence related to submissions and approvals are given in the table below.

Table 6-2: Correspondence related to pavement design submission and approvals

S No.	Document Description	Report Reference
1	Pavement Design Report (Part I) For Main Carriageway	20105/RD/PS/PD/0001
2	Pavement Design Report (Part II) For Slip/Service Road	20105/RD/PS/PD/0002
3	Pavement Design Report (Part III) For Toll Plaza	20105/RD/PS/PD/0003
4	Pavement Design Report (Part IV) For Overlay Design	20105/RD/PS/PD/0004

The above pavement designs submitted and approved by the Independent Engineer were reviewed by the Consultant and is discussed in the following paragraphs.

6.4.1. Flexible Pavement for main carriageway**Traffic intensity in terms of commercial vehicles per day**

The entire project road considered as single homogeneous section and Classified traffic count survey data has been considered from feasibility report which was carried out in the year 2021 for seven consecutive days and analysed for Average Daily Traffic (ADT) and Average Annual Daily Traffic (AADT). The summary of the is given below.

Table 6-3: Summary of AADT

Project	Location	LCV	Bus	2 AT	3AT	MAV	Total CVPD	Traffic Survey Period
Ext. Km 23+000	Both Sides	72	171	121	225	249	838	2020

Traffic growth rate

The annual growth rate as presented in pavement design report is given below

Table 6-4: Adopted traffic growth rates

Vehicle type	2020 -2024	2025-2029	2030-2034	Beyond 2034
BUS	6.24	5.73	5.23	5.00
LCV	7.67	6.66	5.80	5.00
2 Axle Truck	5.60	5.10	5.00	5.00
3 Axle Truck	5.70	5.20	5.00	5.00
Multi Axle Truck	5.44	5.00	5.00	5.00

Vehicle Damage Factor (VDF)

Axle load surveys were conducted by design consultant along the project road and VDF were estimated by analysing the axle load data. Summary of VDF as per pavement design report for each category of vehicles is given below.

Table 6-5: Summary of Vehicle Damage Factor

S.No	Location	Direction	Vehicle Type				
			LCV	2 Axle	3 Axle	MAV	Bus
1	Ext. Km 23+000	Narenpur – Purnea	1.09	2.02	9.02	8.45	0.65
		Purnea - Narenpur	1.10	1.66	3.11	4.10	0.64

Design Life

The concessionaire has been adopted design life of 20 years.

The design traffic calculations were reviewed as per corresponding lane distribution factor and design life of 15 years. The summary of MSA values based on above data is given below

Table 6-6: Estimated Design Traffic (Million Standard Axles-MSA)

Location	Direction	Design MSA		
		As per Schedule	As per Traffic Survey	Adopted Design Traffic
Ext. Km 23+000	Narenpur – Purnea	100	26.22	100
	Purnea - Narenpur		11.89	

As per traffic Survey, maximum design traffic for 20 years is coming out 26.22 MSA. However as per Clause:5 of schedule B, “Notwithstanding anything to the contrary contained in this agreement or the IRC SP 84 2019, the concessionaire shall design the pavement of main carriageway as flexible for design traffic of 100 MSA”.

Sub grade CBR

The concessionaire has been adopted 10% CBR for Sub grade.

The pavement was designed by the design consultant based on homogeneous sections (HS) traffic and sub grade CBR as per pavement design report. The design traffic homogeneous sections wise summarized in the table below.

Table 6-7: Designed pavement crust summary as per pavement design report

Section	Design Traffic	Effective CBR %	BC (CRMB)	DBM	WMM	GSB	Subgrade
Entire Project main carriageway	100 MSA	10 %	50	130	250	200	500

As per IRC:37-2018 the pavement crust proposed is satisfying the design traffic with 10% CBR. Hence flexible pavement design for MCW is in order based on traffic and as per schedule B requirement.

6.4.2. Flexible Pavement for Overlay sections

The overlay requirement and the proposed overlay thickness are presented in the order of necessity and shall be designed in accordance with IRC 115-2014. The overlay thickness is summarized in the table below.

Table 6-8: Summary of overlay requirement

Homogeneous Section	Existing Chainage (in Km)	Overlay Requirement (mm)	Overlay Proposed (mm)
Kathihar - Bypass			
1	47+350 to 48+585	85	110
2	48+585 to 50+600	100	110
3	50+600 to 53+005	105	110
4	53+005 to 55+215	95	110
5	55+125 to 57+555	90	110
6	57+555 to 60+450	105	110
Main Carriageway			
1	79+968 to 82+024	80	110

6.4.3. Rigid Pavement for Toll Plaza

The rigid pavement shall be designed as per IRC 58-2015 with 10% CBR, as per pavement design report, the design calculations are found in order, and the adopted rigid pavement crust for toll plaza is given below

Table 6-9: Pavement Composition for Toll plaza

Description	Rigid pavement
Designed CBR	10 %
Pavement Quality Concrete (PQC) - mm	300
A de-bonding interlayer of polythene sheet having minimum thickness of 125 micron is provided between DLC and PQC, as per Cl:5.7.5 of IRC:58-2015.	
Dry Lean Concrete (DLC) - mm	150
Drainage Layer (GSB) - (mm)	150
Diameter of Dowel Bar (mm)	36
Length of Dowel Bar (mm)	500

Description	Rigid pavement
Spacing of Dowel Bars (mm) for Contraction Joint	300
Spacing of Dowel Bars (mm) For Expansion Joint	260
Diameter of Tie Bar (mm)	12 (Deformed)
Length of Tie Bar (mm)	640
Spacing of Tie Bars (mm)	590

6.4.4. Pavement for Service road/Slip Road

The project highway is having Service Roads at various locations of the project stretch. Service roads were designed for repetition of 10 million standard axles. The adopted pavement crust for Service road / Slip road along the Project corridor is as given below:

Table 6-10: Pavement Composition for service road

Section	Design Traffic	Design CBR	BC	DBM	Base (WMM)	Sub Base (GSB)
Entire Section	10 MSA	10%	30 mm	50 mm	250 mm	200 mm

As per IRC:37-2018 the pavement crust proposed is satisfying the design traffic with 10% CBR. Hence flexible pavement design for service road / slip road is in order.

6.4.5. Site Investigations

During site visit, core cutting test/ Trial pit test was conducted at some of the locations along the project stretch to compare the executed crust thickness with the design crust thickness and found that the crust thicknesses are in compliance with the design thickness. The representative test locations were given below.

Table 6-11: Pavement Design Thickness Vs Executed Crust Thickness

S. No	Test Location	Side	As per Design Report				As per site test pits	
			BC (mm)	DBM (mm)	WMM (mm)	GSB (mm)	BC+DBM (mm)	WMM+GSB (mm)
1	14+600	RHS	50	130	250	200	180	455
2	39+800	LHS	50	130	250	200	182	450

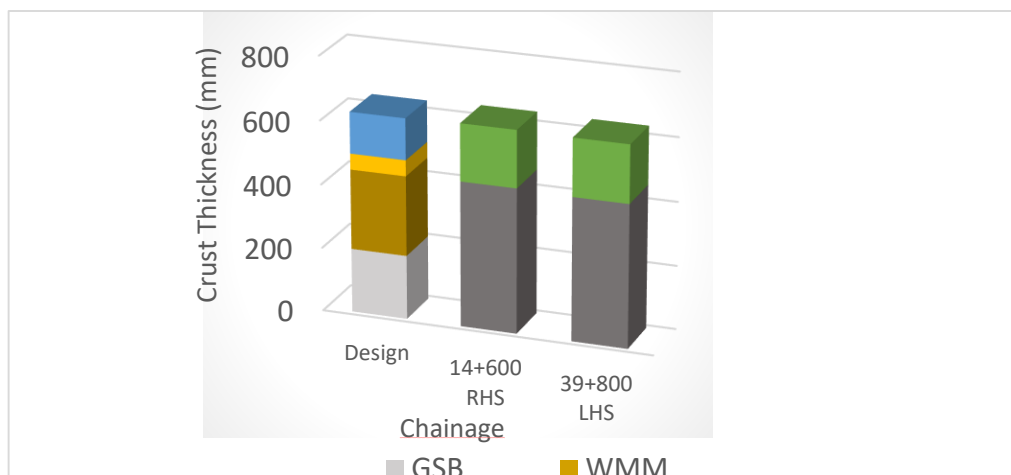


Figure 6.1: Bar Chart showing Design thickness vs Executed thickness

CHAPTER 7. SITE APPRAISAL

7.1 General

The TDD Consultant team visited the site from 11-01-2025 to 13-01-2025 and collected Road inventory besides examining the condition of pavement, structures and physical progress of site work.

7.2 Highways

7.2.1. Road Inventory

The objective of road inventory is to collect and compare information on all physical and visible features of the road with the GFC drawings, to assess progress of construction and to have visual quality inspection. All the details were recorded by actual measurements made at site, according to IRC-SP-19 format duly modified as per the project requirements. The Road Inventory was recorded under the following sub-heads: -

- Type of Terrain - (Plain/ Rolling/Hilly)
- Land use - (Built-up/Agri. /Forest/ Industrial/ Barren)
- Name of Village/Town
- Carriageway and Shoulder - Type/ Width/ Condition
- Embankment Height
- Submergence / water logging Area – location if any
- Details of Crossroads - Location/Road Name. /Carriageway Width
- Road Side Drainage (Non-Existing, Partially Functional, Functional)

7.2.2. Type of terrain

The project road combination of plain and rolling terrain.

7.2.3. Land use

The project road passes through built up, barren, agriculture and forest sections all along its length. The details are given below.

Table 7-1: Land use details along the project road

S.No.	From (Km.)	To (km.)	Length (Kms)	Land use	Village
1.	6+000	6+700	700	Built Up Area	Narenpur
2.	6+700	7+100	400	Agriculture	
3.	7+100	7+590	490	Built Up Area	Lakhpura
4.	7+590	8+400	810	Agriculture	
5.	8+400	10+000	1600	Built Up Area	Manoharpur
6.	10+000	11+300	1300	Agriculture	
7.	11+300	14+000	2700	Built Up Area	Basantpur

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970 (design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

S.No.	From (Km.)	To (km.)	Length (Kms)	Land use	Village
8.	14+000	40+700	26700	Agriculture	
9.	40+700	41+550	850	Built Up Area	Routara
10.	41+550	47+780	6230	Agriculture	
11.	47+780	49+100	1320	Built Up Area	Chandi
12.	49+100	51+500	2400	Agriculture	
13.	51+500	55+000	3500	Built Up Area	Abdullah

7.2.4. Villages/Towns along the Project

The following project road passes through major towns of Manihari, Katihar and Purnea. The project road lies in the State of Bihar

7.2.5. Main Carriageway – work status

The project road is Four-Laning / Two Lanning carriageway with paved shoulders. Overall assessment of pavement condition of the project road is good. The riding quality is observed to be to good

The construction of 4/2 lanes with paved shoulders for the main carriageway, covering a total length of 49.00 km, is completed. PCOD has been given for the entire project. The details of the PCOD stretch are provided below and Condition details are provided in **Annexure 1**

Table 7-2: Status of work of MCW

Main Carriageway LHS/RHS						
S.No	Chainage		Length(km)	Work Status(km)	Condition	Remarks
1	6+000	55+000	49.000	Completed	Good	PCOD Stretch



Main Carriage Way View



Main Carriage Way View



Figure 7.1: Status of Main Carriageway

7.3 Structures

Detailed inventory and condition of structures on the project road were carried out during the site visit as per the guide lines provided in IRC: SP: 52-1999 & IRC:SP: 35-1990. The summary of structures on the project road is given below:

Table 7-3: Summary of Structures

S. No.	Type of Structure	As per schedule B	COS	Total	De Scope	Revised Scope	As per site	Status
1	ROB / RUB	3	0	3	0	3	3	Completed
2	Major Bridges	2	0	2	0	2	2	Completed
3	Minor Bridge	15	0	15	0	15	15	Completed
4	Flyover	2	0	2	0	2	2	Completed
5	VUP	3	0	3	0	3	3	Completed
6	LVUP	14	2	16	0	16	16	Completed
7	Box Culverts	76	0	76	0	76	76	Completed
8	HPC at LOOP	2	-	2		2	2	Completed
9	SVUP	0	2	2		2	2	Completed

The detailed condition of the Structures is enclosed as Annexure-3.

Table 7-4: Detailed Inventory and Condition of Structures as on date .

S. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	6+540 LVUP	1 x 12.00	12	Completed	Good
2	6+960 MNB	3 X 10.00	30	Completed	Good
3	7+991 MNB	1 x 12.00	12	Completed	Good
4	9+154 LVUP	1 x 12.00	12	Completed	Good
5	10+958 LVUP	1 x 12.00	12	Completed	Good
6	13+284 LVUP	1 x 12.00	12	Completed	Good
7	14+783 LVUP	1 x 12.00	12	Completed	Good
8	15+681 MNB	2X 5.00	10	Completed	Good
9	16+751 MNB	3 X 9.00	27	Completed	Good
10	17+610 VUP	1 x 23.3	20	Completed	Good
11	18+698 MNB	3 x 8.803	26.409	Completed	Good
12	20+213 LVUP	1 x 12.00	12	Completed	Good
13	21+474 LVUP	1 x 12.00	12	Completed	Good

S. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
14	21+598 MNB	4 X 3.339	13.356	Completed	Good
15	22+554 MJR	2 x 30 +2 X 15	90	Completed	Good
16	22+842 MNB	1 X 8	8	Completed	Good
17	23+520 FLY OVER	2X23.250 +1X32.9	79.4	Completed	Good
18	24+250	1 x 12.00	12	Completed	Good
19	24+045 ROB	1 X 37.28+ 2X25.080	87.44	Completed	Good
20	25+363 LVUP	1 x 12.00	12	Completed	Good
21	25+592 MNB	3X9.397	28.191	Completed	Good
22	26+550 MNB	1 X 8	8	Completed	Good
23	27+035 ROB	4X18.5+ 1X37.2	111.2	Completed	Good
24	27+250	1 x 12.00	12	Completed	Good
25	29+260 FLY OVER	1 X 37.463+ 2X26.531	90.525	Completed	Good
26	30+519 MNB	2X9.962	19.924	Completed	Good
27	31+292 MNB	3X10	30	Completed	Good
28	31+517 VUP	1X23.82	20	Completed	Good
29	32+185 MNB	2X4	8	Completed	Good
30	32+302 MNB	2X4	8	Completed	Good
31	32+480 MNB	2X4	8	Completed	Good
32	32+541 ROB	1X23.675+ 1X64.010+ 1X20	107.685	Completed	Good
33	33+639 VUP	1X27.03	20	Completed	Good

S. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
34	34+186 MNB	1X6	6	Completed	Good
35	35+390 ROB	2X30	60	Completed	Good
36	36+093	1X12	12	Completed	Good
37	37+571	1X12	12	Completed	Good
38	39+672	3X10	30	Completed	Good
39	41+131	1X12	12	Completed	Good
40	43+367	1X12	12	Completed	Good
41	48+176	1X12	12	Completed	Good
42	22+720	1X7	7	Completed	Good
43	30+280	1X7	7	Completed	Good



Figure 7.2: Photograph showing of Structures

7.3.1. Culverts

7.3.1.1. Inventory

There are 76 Box Culverts in the project stretch. Detailed inventory and condition survey of Culverts is given in **Annexure-3**.

Summary of inventory of Culverts is provided in table given below.

Table 7-5: Summary of inventory of culverts

S No	Chainage	Type	Vent size	Scope	Remarks	Condition
1	6.700	BOX	1 x 2	New	Completed	Good
2	7.180	BOX	1 x 3	New	Completed	Good
3	7.790	BOX	1 x 3	New	Completed	Good

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970 (design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

S No	Chainage	Type	Vent size	Scope	Remarks	Condition
4	8.450	BOX	1 x 3	New	Completed	Good
5	9.380	BOX	1 x 2	New	Completed	Good
6	10.100	BOX	1 x 2	New	Completed	Good
7	10.260	BOX	1 x 2	New	Completed	Good
8	11.730	BOX	1 x 2	New	Completed	Good
9	12.250	BOX	1 x 2	New	Completed	Good
10	12.924	BOX	1 x 3	New	Completed	Good
11	13.941	BOX	1 x 2	New	Completed	Good
12	14.329	BOX	1 x 3	New	Completed	Good
13	15.090	BOX	1 x 2	New	Completed	Good
14	16.200	BOX	1 x 3	New	Completed	Good
15	17.280	BOX	1 x 3	New	Completed	Good
16	18.209	BOX	1 x 2	New	Completed	Good
17	18.520	BOX	1 x 3	New	Completed	Good
18	19.250	BOX	1 x 3	New	Completed	Good
19	19.900	BOX	1 x 3	New	Completed	Good
20	20.030	BOX	1 x 3	New	Completed	Good
21	20.290	BOX	1 x 2	New	Completed	Good
22	20.640	BOX	1 x 2	New	Completed	Good
23	20.900	BOX	1 x 3	New	Completed	Good
24	21.120	BOX	1 x 2	New	Completed	Good
25	21.780	BOX	1 x 3	New	Completed	Good
26	22.080	BOX	1 x 2	New	Completed	Good
27	23.320	BOX	1 x 3	New	Completed	Good
28	23.980	BOX	1 x 2	New	Completed	Good
29	24.400	BOX	1 x 4	New	Completed	Good
30	25.050	BOX	1 x 2	New	Completed	Good
31	26.125	BOX	1 x 2	New	Completed	Good
32	26.461	BOX	1 x 4	New	Completed	Good
33	26.708	BOX	1 x 2	New	Completed	Good
34	27.919	BOX	1 x 3	New	Completed	Good
35	28.195	BOX	1 x 2	New	Completed	Good
36	28.340	BOX	1 x 3.0	New	Completed	Good
37	28.548	BOX	1 x 2	New	Completed	Good
38	28.586	BOX	1 x 4.2	New	Completed	Good
39	28.900	BOX	1 x 2.0	New	Completed	Good
40	29.508	BOX	1 x 3.0	New	Completed	Good
41	29.619	BOX	1 x 2	New	Completed	Good
42	30.255	BOX	1 x 3	New	Completed	Good
43	30.380	BOX	1 x 3	New	Completed	Good

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970 (design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

S No	Chainage	Type	Vent size	Scope	Remarks	Condition
44	31.700	BOX	1 x 4	New	Completed	Good
45	32.720	BOX	1 x 2	New	Completed	Good
46	33.490	BOX	1 x 4	New	Completed	Good
47	34.845	BOX	1 x 2	Re-Con	Completed	Good
48	36.675	BOX	1 x 3	New	Completed	Good
49	37.215	BOX	1 x 2	New	Completed	Good
50	37.715	BOX	2 x 3	New	Completed	Good
51	38.535	BOX	1 x 2	New	Completed	Good
52	39.075	BOX	1 x 3	New	Completed	Good
53	40.389	BOX	1 x 2	Re-Con	Completed	Good
54	40.674	BOX	1 x 2	New	Completed	Good
55	41.479	BOX	1 x 2	New	Completed	Good
56	41.900	BOX	1 x 2	Re-Con	Completed	Good
57	42.664	BOX	1 x 2	New	Completed	Good
58	43.059	BOX	1X 5.5	Re-Con	Completed	Good
59	43.538	BOX	1 X 4	New	Completed	Good
60	43.855	BOX	1 X 4	New	Completed	Good
61	44.253	BOX	1 X 4	New	Completed	Good
62	44.713	BOX	1 x 2	New	Completed	Good
63	45.396	BOX	1 X 4	Re-Con	Completed	Good
64	46.350	BOX	1 X 3	New	Completed	Good
65	46.732	BOX	1 x 2	New	Completed	Good
66	47.182	BOX	1 x 2	New	Completed	Good
67	47.372	BOX	1 X 3.6	Widen	Completed	Good
68	47.602	BOX	1 x 2	New	Completed	Good
69	47.964	BOX	2 X 4	New	Completed	Good
70	48.588	BOX	1 x 2	Widen	Completed	Good
71	49.108	BOX	1 x 2	Widen	Completed	Good
72	49.650	BOX	1 x 2	New	Completed	Good
73	50.395	BOX	1 x 2	Widen	Completed	Good
74	50.884	BOX	1 x 3	Widen	Completed	Good
75	51.168	BOX	1 X 4	Widen	Completed	Good
76	54.110	BOX	1 x 2	New	Completed	Good
77	0.167	HPC	1X1.2	New	Completed	Good
78	0.277	HPC	1X1.2	New	Completed	Good

7.3.1.2. Status of Construction

All the culverts are constructed and culverts Quadrant pitching done and condition of culverts is good.

Structure wise condition of Culverts are given in detail in **Annexure-3**. In general, all new Culverts constructed are in Good to good condition.

7.3.2. RE walls

7.3.2.1. Inventory

As per schedule provisions of CA, RE Wall constructed at all locations of TCS VII, TCS VIII, TCS IX. Inventory of RE walls in the project stretch with detailed locations is below.

Table 7-6: Summary of Inventory of RE walls

S. No	From	To	Length
1	6+300	6+700	400
2	7+590	8+360	770
3	8+860	9+440	580
4	10+670	11+330	660
5	13+010	13+520	510
6	14+540	15+060	520
7	17+260	18+000	740
8	19+990	20+490	500
9	21+190(R/s), 21+250(L/s)	21+690	500
10	23+250	23+780	530
11	23+850	24+620	770
12	25+050	25+650	600
13	26+400	27+550	1150
14	28+770	29+700	930
15	31+070(R/s) 31+120(L/s)	31+870(R/s) 31+900(L/s)	800
16	32+050	33+200	1150
17	33+200	34+030	830
18	35+820	36+470	650
19	37+250	37+900	650
20	40+760	41+470	710
21	43+080	43+730	650
22	47+830	48+520	690

7.3.2.2. Status of Construction

All the requisite RE walls are constructed and Condition was good .

7.4 Toll Plaza

Concession agreement under Schedule C provides construction of one toll Plaza on the project road at Km. 42+200 with 7+1 toll lanes in each direction. As per GFC drawings one toll plaza with 7+1 toll lanes in each direction is provided at Km. 42+200 The facilities to be provided as per CA of Manual specification and Standard for Four- laning of Highways through Public Private Partnership (IRC SP 842019) at toll plaza location are listed below:

- All toll lanes to be equipped with ETC equipment
- Toilet facility for road users near the toll plaza
- Weigh- in -Motion (WIM) to be provided in all lanes
- One Static Weigh bridge in each direction
- Point of sale
- Administrative building connecting all toll cabins with tunnel etc.
- Operation and maintenance centre
- ATMS Control centre

List of equipment provided at the toll plaza and control room is given below. The inventory of Toll Plaza is provided at **Annexure-2**.

Table 7-7: Toll Plaza – Inventory & Condition

S No.	Description	Toll Plaza at 116+500	
		Inventory	Condition
1	Location Chainage (at km)	Km 42+200	
2	Location Name (Village)	-	
3	Canopy	Yes	Good
4	Solar Panels over Canopy	NA	NA
5	Tunnel	NA	NA
6	Administration Building Constructed?	Yes	Good
7	Medical Aid post Building/First aid Room	Yes	Good
8	Traffic Aid post Building	Yes	Good
9	Total No. Of Toll Lanes	2 x (7+1 Lanes)	Good
9.1	No. of ETC/Hybrid ETC Lanes	2 x (7+1 Lanes)	Good
9.2	No. of Non ETC Lanes	0	-
9.3	Reversible Lanes (if any)	2	-
10	No. of Lanes WIM installed?	2 x (7+1 Lanes)	Good
11	No. of Static Weigh Bridges installed?	2	Good
16	TMS System software Installed?	Devaditya	Good
17	TMS software installed by / Make	Devaditya	Good
18	ETC System installed by / Make	Devaditya	Good
19	Diesel Generator 125 KVA	1	Good
20	Inverter230..... V	7	Good
21	Testing Laboratory	1	Good

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970(design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

S No.	Description	Toll Plaza at 116+500	
		Inventory	Condition
22	Swachabharat Toilets	2	Good
23	Helipad	Not in scope	
24	Remarks / Observations		



Figure 7.3: Photograph showing status of Toll Plaza

Table 7-8 :List of Incident Management System-Inventory & condition

S.No.	Description		Vehicle 1		Vehicle 2	
			Inventory	Condition	Inventory	Condition
1	AMBULANCE with two Patient Life Supporting System		Force Motors Ltd		Force Motors Ltd	
1.1	Vehicle	Parking Location at Km.	Camp Km 84+000 RHS	Km74+000 to Km104+000	Km 116+500	
1.2		Vehicle Reg. No.	KA42B4507	Good	KA 42 B 4508	Good
1.3		Fitted with GPS ?	fitted		fitted	Good
1.4	Equipme	First Aid Kit	equipped	Good	equipped	Good
1.5		Oxygen Cylinder	equipped	Good	equipped	Good
1.6		Stretcher	Yes	Good	Yes	Good
1.7	Manp	No. Of shifts	3		3	
1.8		Driver	3		3	

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970 (design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

S.No.	Description		Vehicle 1		Vehicle 2	
			Inventory	Condition	Inventory	Condition
1.9		Paramedical Staff	2		2	
2	Route Patrolling Vehicle		TATA		TATA	
2.1	Vehicle	Parking Location at Km.	Camp Km 84+000 RHS	Km74+000 to Km104+000	Km 116+500	
2.2		Vehicle Reg. No.	BR39GB2464	Good	Br39GB2464	Good
2.3		Fitted with GPS ?	fitted		fitted	Good
2.4	Equipment	Safety Helmets	Yes		Yes	
2.5		Flags & Caution Tap	Yes	Good	Yes	Good
2.6		Safety Cones	Yes	Good	Yes	Good
2.7	Manpower	No. Of shifts	3		3	
2.8		Driver	3		3	
2.9		Helpers	-		-	
3	Crane / Towing Vehicle		Ashok Leyland		Ashok Leyland	
3.1	Vehicle	Parking Location at Km.	Camp Km 84+000 RHS	Km74+000 to Km104+000	Km 116+500	
3.2		Vehicle Reg. No.	MH10CR7134	Good	MH13CU9722	Good
3.3		Fitted with GPS ?	No	Good	No	Good
3.4		Capacity In Mt	25	Good	25	Good
3.5	Equipment	Tool Kit	Yes	Good	Yes	Good
3.6		Belt/Rope/Chain	Belt & Chain	Good	Belt & Chain	Good
3.7		Safety Cones	Yes	Good	Yes	Good
3.8	Manpower	No. Of shifts	3		3	
3.9		Driver	3		3	
3.10		Helpers	-		-	
		Remarks / Observations				

Table 7-9 :List of Advanced Traffic Management System-Inventory & Condition

S No.	Description	Inventory	Quantity	Condition
1	OUT-DOOR EQUIPMENT			
1.1	Emergency Call Box (ECB)	Yes	11	Good

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970 (design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

S No.	Description	Inventory	Quantity	Condition
1.2	Variable Message system (VMS)	Yes	3	Working
1.3	Meteorological Data System (MDS)	installed	1	Working
1.4	Automatic Traffic counting and classification (ATCC)	Yes	2	Working
1.5	Vehicle Speed Enforcement System cameras	Yes	2	Working
1.6	Video Incident Detection system	Yes	4	Working
1.7	Visibility Sensors	Yes	5	Working
1.8	Mobile Radio Communication System	No	-	-
2.0	IN-DOOR EQUIPMENT			
2.1	Central ATMS Server	Installed	1	Working
2.2	Network Management System	Installed	1	Working
2.3	Traffic Controller Operator	Installed	1	Working
2.4	Video Display	Installed	1	Working
2.5	Network Video Recording and Management system	Installed	1	Working
2.6	Emergency Call Management Center	Installed	1	Working
2.7	Video Incident Detection central System	Installed	1	Working
30	Remarks / Observations			

Figure 7.4: Photograph showing of status of Advance Traffic Management



Incident Management Vehicles

7.5 Road Furniture

7.5.1. Traffic signs

As per the provision of the CA and GFC signage plan status of traffic signs boards fixing work is Completed along the project highway is given below

During site visit it is noticed that Sign boards are installed at site accordingly and condition was good

7.5.2. Overhead signs

As per the provision of CA, a minimum of 16 Nos Cantilever sign and 70 nos of Gantry Overhead signs shall be provided.

During inspection, Overhead erecting work is Completed and Condition is good.

7.5.3. Pavement Marking

As per the provision of CA and marking plan the Road marking is being done along the project. Pavement marking condition is good.

7.5.4. LED Blinker

As per the provision of CA, LED blinker being fixed near pedestrian crossings, public gatherings, cross roads and median openings.

During site visit it is noticed that, LED blinker fixed as per Provisions.

7.5.5. Metallic Crash Barrier and Concrete Crash Barrier

As per provisions of the Schedule G and site condition km 9.54 of Metallic Crash Barrier & Concrete Crash Barrier required to be installed.

- During the site visit, it is noticed that Metallic Crash Barrier / Concrete Crash Barrier installation work is Completed

The inventory of MBCB is provided at **Annexure-2**.

7.5.6. Road Studs

As per the provision of CA, road studs shall be provided at Horizontal curves, Median openings, intersections, cross roads and built-up areas.

During the site visit it is noticed that Road studs fixing work is Completed at provided at Horizontal curves, Median openings, intersections, cross roads and built-up areas.

7.5.7. Delineators

As per the provision of CA, Delineators shall be provided for the entire project length as per IRC:79-1981.

During site visit it is noticed that Delineators are installation work is Completed and condition is good.

7.5.8. Boundary Wall

As per the provision of CA, Boundary wall shall be provided.

During site visit it is noticed that, Boundary wall work is Completed.

7.5.9. Pedestrian Guard rail

Pedestrian Guard rail work is Completed.

7.5.10. Hectometre (HM)/ Kilometres (KM.)stones

As per the provision of CA, Hectometer and Kilometer stones are provided for the entire project length. However, during the site visit it is noticed that Kilometer Stones and Hectometer stones were installation work is Completed

7.6 Highway Lighting

As per CA Concessionaire shall provide Highway street lighting shall be providing at Toll Plaza, Rest area, truck lay bye Bus bays/bus shelters, Fly overs, ROBs, built-up sections and junctions.

During Site Visit it is noticed that, Installation of electrical poles at toll plaza, grade separators, built-up sections and junctions are completed.

7.7 Rest Areas

As per Schedule C, there is one Rest area location throughout the Project Highway. The details are provided at **Annexure- 2**

Table 7-10: List of Rest area

S. No.	Location	side	Pavement Status	Lighting	Other Facilities
1	36+800	LHS	Completed	Good	Good

7.8 Truck Lay Bye

As per the Provision of Schedule-C of CA, there is no Truck-Lay Bye Location throughout the Project Highway. The details are provided at **Annexure-2**

Table 7-11: Locations of Truck Lay-Byes

S. No.	Location	side	Pavement Status	Lighting	Other Facilities
1	34+500	BHS	Completed	Good	Good

7.9 Bus Shelters on Service Roads .

As per the Provision of Schedule-C of CA, 16 locations of Bus Shelters with 150 m length of Pedestrian guard rails shall be provided on service road on both sides. Bus shelters are constructed as CA, Condition is good. The inventory of bus bays is provided at **Annexure-2**.

7.10 Landscaping & Tree Plantation

Work Completed as per Scope of Contract agreement

- Separator Plantation as per CA
- Landscaping: at Toll-plaza, Underpasses.
- Avenue Plantation as per IRC: SP-21.

Table 7-12: Status of Avenue and median plantation

S. No.	Description	Side	Remarks
1	Avenue Plantation/Land	LHS	Completed
2	Scaping	RHS	

During site visit, Consultant noticed that Land scaping and Avenue Plantation work is Completed.

7.11 Traffic Aid Post

Traffic Aid post shall be constructed at toll plaza as per schedule C, Traffic aid post building is completed

7.12 Medical Aid Post

Medical Aid post shall be constructed at each toll plaza as per schedule C. Medical aid post building is completed

7.13 Vehicle Rescue Posts

Vehicle rescue post shall be constructed at toll plaza as per schedule C.

7.14 Operation and maintenance (O&M) centre

Provided the Operation and maintenance specific provision in CA.

7.15 Communication System

Communication system provided as per schedule D, accordingly the cable work is Completed

7.16 Advance Traffic Management System (ATMS)

ATMS shall be provided as specified in the manual and as per NHA circular for convenience of users of Project Highway in accordance with IRC: SP:87-2013.

During the site visit it is noticed that ATMS are provided entire project length.

Variable Message sign (VMS) Panels shall have minimum dimensions of 3.0m X 1.8m X 0.2m and shall be provided at the 3 locations and shall conform to EN12966.

During the site visit it is noticed that three VMS provided entire project. The details are provided at **Annexure-2**.

7.17 Rain Water Harvesting.

As per Schedule B, Concessionaire has construct the Rainwater Harvesting structure's entire Project.

During site Visit, Consultant noticed that concessionaire has constructed and condition was good

CHAPTER 8. REVIEW OF O&M AGREEMENT

The Operation and Maintenance agreement was signed between M/s Narenpur Purnea Highway Private Limited and Dilip Buildcon Limited .

We have reviewed the provisions under various clauses of this O&M Agreement and our specific comments are indicated below:

Sr No	Clause No	Description in brief
1	Senior Lenders	Means financial institutions, banks, funds or trusts who provide or refinance the debt component of the cost of the Project
2	Contract Period	Contract period for this agreement shall be equivalent to a period commencing from the date of the COD achieved by the Concessionaire in accordance with the Concession Agreement and expiring on the earlier of a) completion of the Operations Period; b) early termination of the Concession Agreement or c) Stake sale of the Concessionaire
3	Scope of Work	O&M Contractor's scope under this Agreement shall be completely and fully in line with the scope of works defined in relevant schedules of the Concession Agreement including and not limited to any remedial/rectification works Scope of work shall confirm to the provisions, specifications and standards design and drawings and other parameters stipulated in the Concession Agreement
4	Contract Price	In consideration of its obligations under this Agreement, during the Contract Period, the O&M Contractor shall be paid an aggregate lump sum fixed contract price for each financial year. It is clarified that the O&M Contractor shall not be entitled to any adjustment of the Contract Price as a result or in consequence of : i. Any escalation of price and / or inflation; and/ or ii. Any quantities of non – consumables, consumables, spares or equipment required for the execution of the Works
5	Payment Terms	O&M Contractor would raise bill half-yearly within 7 days of Annuity Payment Dates. Any shortfall in Annuity payments and/or O&M payments by authority would result in similar reduction in payment under the RA Bill, provided that it is demonstrated that such shortfall in

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970 (design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

Sr No	Clause No	Description in brief
		release of the Annuity Payment and O&M Payment by the Authority to the Concessionaire has been solely due to default of the O&M Contractor under this agreement. Any defects found in O&M by Authority/ IE would be rectified by the O&M Contractor at its sole expense without recourse to the Concessionaire.
6	Assignment	<p>Assignment by the Concessionaire:</p> <p>The Concessionaire may, subject to the provisions of the Concession Agreement, assign or transfer or enter into an agreement to assign or transfer this Agreement or the rights and benefits hereunder, in favour of or for the benefit of the Senior Lenders.</p>
7	Termination	Concessionaire has rights to terminate the O&M agreement on account of O&M event of default and vice-versa

CHAPTER 9. SCHEDULE OF ANNUITY PAYMENTS

9.1 Hybrid Annuity Model (HAM)

Hybrid annuity model is the PPP model in which Authority makes payment of 40% of the Bid Project cost during construction period based on progress milestones set forth in Concession Agreement. Payment of the balance 60% of the Bid Project Cost is made in form of bi-annual annuities with interest during the operational phase of concession.

Table 9-1: Schedule of Payment Milestones

S. no	Payment Milestone Number	Criteria for releasing the Payment
1	I	On Achievement of 5% of Physical Progress
2	II	On Achievement of 10% of Physical Progress
3	III	On Achievement of 20% of Physical Progress
4	IV	On Achievement of 30% of Physical Progress
5	V	On Achievement of 40% of Physical Progress
6	VI	On Achievement of 50% of Physical Progress
7	VII	On Achievement of 60% of Physical Progress
8	VIII	On Achievement of 70% of Physical Progress
9	IX	On Achievement of 80% of Physical Progress
10	X	On Achievement of 90% of Physical Progress

During the Operation Period following payment components are payable.

Annuity Payment as per the Annuity Payment Schedule provided in 23.6.3 of the Concession Agreement. Interest to be paid on the balance of completion cost at an interest rate equal to the applicable Bank Rate Plus 3%. O&M Payment as a lump sum amount as per Clause 23.7.1 of the Concession Agreement.

9.2 Schedule of Annuity Payments

Table 9-2: Details of Annuity payments are as below

Annuity	Percentage of BCC	Annuity Due Date
1	2.10%	25-09-2024
2	2.17%	25-03-2025
3	2.24%	25-09-2025
4	2.31%	25-03-2026
5	2.38%	25-09-2026
6	2.45%	25-03-2027
7	2.52%	29-09-2027
8	2.60%	25-03-2028
9	2.68%	25-09-2028
10	2.76%	25-03-2029

Construction and Up-gradation of Nh-131 A km 34+600 (design Ch 6+000) near Narenpur to Km 79+970 (design Ch 53+000) near Purnea to 4 lane standard and from Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.

Annuity	Percentage of BCC	Annuity Due Date
11	2.84%	25-09-2029
12	2.93%	25-03-2030
13	3.02%	25-09-2030
14	3.11%	25-03-2031
15	3.20%	25-09-2031
16	3.30%	25-03-2032
17	3.40%	25-09-2032
18	3.50%	25-03-2033
19	3.61%	25-09-2033
20	3.72%	25-03-2034
21	3.83%	25-09-2034
22	3.94%	25-03-2035
23	4.06%	25-09-2035
24	4.18%	25-03-2036
25	4.25%	25-09-2036
26	4.25%	25-03-2037
27	4.44%	25-09-2037
28	4.71%	25-03-2038
29	4.75%	25-09-2038
30	4.75%	25-03-2039

CHAPTER 10. COST ESTIMATES

10.1 Maintenance of Project Cost

The maintenance methodology and yearly maintenance program will guide the Maintenance team to undertake the routine & periodic maintenance works of the Project Facilities. This program is the basic indicator of the intended works to be carried out by the Maintenance Team over a period of one year

Road maintenance can be carried out in four ways as listed below.

- i. Preventive Maintenance
- ii. Routine Maintenance
- iii. Periodic Maintenance
- iv. Special repairs

- Preventive Maintenance:

Preventive maintenance is an organized, systematic process of applying a series of preventive treatments over the life of the pavement to minimize life cycle costs.

The strategy of applying periodic treatments at appropriate times in a pavement's life is economical than applying treatment at the end of pavement's life. Preventive maintenance is designed to retard pavement deterioration. Regular preventive maintenance will be carried out to ensure adherence to the Design Requirements and specifications throughout the Concession period.

The flexible pavement is in good condition and hence does not require any immediate or preventive interventions.

- Routine Maintenance:

Routine maintenance, which involves repairing of cracks, replacement of safety girders along the highway, clearance of debris following accidents, ensuring functionality of signposts, maintenance of a security set-up, and such other activities

- Periodic Maintenance

In contrast to preventive maintenance treatments, periodic maintenance treatments are ideally applied on pavements to improve surface integrity and waterproofing, or to improve skid resistance, without increasing the strength of the pavement significantly

Schedule of Periodic Maintenance	
Description	Scheduled Year
1 st Periodic Maintenance	FY 2031
2 nd Periodic Maintenance	FY 2038

- Special Repairs

The group of activities performed to restore the roadway following damage due to natural calamities such as heavy floods, sand storms, hurricanes, cyclones, earthquakes or landslides which shall be unpredictable. The affected Project Road shall be rectified, and the system shall be restored to function as per program prepared in consultation with Independent Engineer.

Typical activities include:

- Culvert and bridge repairs;
- Retaining wall repairs and construction;
- Construction of Diversions;
- Roadway repairs; and
- Flood damage restoration works, etc.

10.2 O&M Expense forecasts

The O&M costs were estimated based on various parameters of CA, and design reports. The cost summary is given below, and detailed cost estimations are given in ANNEXURE-4. Proposed Plan for future Operation & Maintenance Costs (in Crores).

Table 10-1: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2024-2025	-	2.99	8.39	11.38
2025-2026	-	3.11	8.80	11.91
2026-2027	3.01	4.16	9.23	16.40
2027-2028	0.69	4.26	9.58	14.53
2028-2029	0.78	4.19	9.94	14.91
2029-2030	0.74	4.55	10.31	15.60
2030-2031	82.00	5.34	11.01	98.34
2031-2032	1.60	4.35	11.26	17.21
2032-2033	0.80	4.92	11.39	17.11
2033-2034	0.89	4.77	11.68	17.34
2034-2035	3.70	5.10	11.98	20.78
2035-2036	0.84	5.22	12.28	18.35
2036-2037	0.86	5.06	12.60	18.52
2037-2038	95.13	5.20	12.92	113.25
2038-2039	1.92	5.27	4.42	11.61
2039-2040	-	-	4.53	4.53
Total Expenditure in Cr. Rs	192.96	68.50	160.33	421.79

CHAPTER 11 CONCLUSION

Based on detailed site inspection, review of various documents and reports as described in the preceding chapters technical over view of the Project is provided below.

- **Pavement Condition**

The Pavement condition for the overall project is good. RCC drains are constructed in Built up locations and earthen drains in rural locations which facilitates effective drainage system along the project road. Shoulder condition is Good.

- **Condition of Structures**

Condition of Bridges is good. No structural defects were noticed. The general condition of Culverts is good.

- **Toll Plaza**

Toll Plaza is operational with ETC Toll collection system and connected by network system monitored in administrative building. Bus bays and truck Lay byes are in Good condition. Medical Aid posts found functional. Avenue plantation and landscaping at Toll Plaza is provided and being maintained well. Highway lighting is provided at toll plaza, bus bay and truck lay bye locations and the same is found functional.

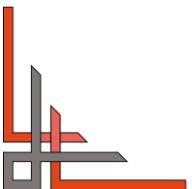
- **Road Safety**

Pavement marking is in good condition and number of sign boards are provided as per IRC SP 73-2007. The condition of sign boards & other road appurtenances like metal beam crash barriers is good.

--- END of REPORT ---



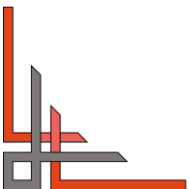
ANNEXURES





Annexure-1

Inventory & Condition of Pavement Condition



ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)

Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
6+000	6+200	P	BU	BT	9.5	G		1	G	V	G							
6+200	6+400	P	BU	BT	9.5	G		1	G	V	G							
6+400	6+600	P	BU	BT	9.5	G		1	G	V	G							
6+600	6+800	P	BU	BT	9.5	G		1	G	V	G							
6+800	7+000	P	BU	BT	9.5	G		1	G	V	G				Subhaoandari	BT	7.5	
7+000	7+200	P	BU	BT	9.5	G		1	G	V	G							
7+200	7+400	P	BU	BT	9.5	G		1	G	V	G							
7+400	7+600	P	BU	BT	9.5	G		1	G	V	G							
7+600	7+800	P	BU	BT	9.5	G		1	G	V	G							
7+800	8+000	P	BU	BT	9.5	G		1	G	V	G							
8+000	8+200	P	BU	BT	9.5	G		1	G	V	G							
8+200	8+400	P	BU	BT	9.5	G		1	G	V	G							
8+400	8+600	P	BU	BT	9.5	G		1	G	V	G							
8+600	8+800	P	BU	BT	9.5	G		1	G	V	G				Mahiyarpur	BT	5.5	
8+800	9+000	P	BU	BT	9.5	G		1	G	V	G							
9+000	9+200	P	BU	BT	9.5	G		1	G	V	G				Mahiyarpur	BT	5.5	
9+200	9+400	P	BU	BT	9.5	G		1	G	V	G							
9+400	9+600	P	BU	BT	9.5	G		1	G	V	G							
9+600	9+800	P	BU	BT	9.5	G		1	G	V	G							
9+800	10+000	P	BU	BT	9.5	G		1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
10+000	10+200	P	BU	BT	9.5	G		1	G	V	G				Lalbagh	BT	5.5	
10+200	10+400	P	BU	BT	9.5	G		1	G	V	G							
10+400	10+600	P	BU	BT	9.5	G		1	G	V	G							
10+600	10+800	P	BU	BT	9.5	G		1	G	V	G							
10+800	11+000	P	BU	BT	9.5	G		1	G	V	G							
11+000	11+200	P	BU	BT	9.5	G		1	G	V	G							
11+200	11+400	P	BU	BT	9.5	G		1	G	V	G							
11+400	11+600	P	BU	BT	9.5	G		1	G	V	G							
11+600	11+800	P	BU	BT	9.5	G		1	G	V	G				Kumaripur	BT	5.5	
11+800	12+000	P	BU	BT	9.5	G		1	G	V	G							
12+000	12+200	P	BU	BT	9.5	G		1	G	V	G							
12+200	12+400	P	BU	BT	9.5	G		1	G	V	G							
12+400	12+600	P	BU	BT	9.5	G		1	G	V	G							
12+600	12+800	P	BU	BT	9.5	G		1	G	V	G							
12+800	13+000	P	BU	BT	9.5	G		1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)

Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
13+000	13+200	P	BU	BT	9.5	G		1	G	V	G							
13+200	13+400	P	BU	BT	9.5	G		1	G	V	G				Raghopur	BT	5.5	
13+400	13+600	P	BU	BT	9.5	G		1	G	V	G				Kumaripur	BT	5.5	
13+600	13+800	P	BU	BT	9.5	G		1	G	V	G							
13+800	14+000	P	BU	BT	9.5	G		1	G	V	G					BT	7.5	
14+000	14+200	P	BU	BT	9.5	G		1	G	V	G							
14+200	14+400	P	BU	BT	9.5	G		1	G	V	G							
14+400	14+600	P	BU	BT	9.5	G		1	G	V	G							
14+600	14+800	P	BU	BT	9.5	G		1	G	V	G							
14+800	15+000	P	BU	BT	9.5	G		1	G	V	G							
15+000	15+200	P	BU	BT	9.5	G		1	G	V	G							
15+200	15+400	P	BU	BT	9.5	G		1	G	V	G							
15+400	15+600	P	BU	BT	9.5	G		1	G	V	G							
15+600	15+800	P	BU	BT	9.5	G		1	G	V	G							
15+800	16+000	P	BU	BT	9.5	G		1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
16+000	16+200	P	BU	BT	9.5	G		1	G	V	G							
16+200	16+400	P	BU	BT	9.5	G		1	G	V	G							
16+400	16+600	P	BU	BT	9.5	G		1	G	V	G							
16+600	16+800	P	BU	BT	9.5	G		1	G	V	G				Mansahi	BT	5.5	
16+800	17+000	P	BU	BT	9.5	G		1	G	V	G							
17+000	17+200	P	BU	BT	9.5	G		1	G	V	G							
17+200	17+400	P	BU	BT	9.5	G		1	G	V	G							
17+400	17+600	P	BU	BT	9.5	G		1	G	V	G							
17+600	17+800	P	BU	BT	9.5	G		1	G	V	G							
17+800	18+000	P	BU	BT	9.5	G		1	G	V	G				Ragnichak	BT	5.5	
18+000	18+200	P	BU	BT	9.5	G		1	G	V	G							
18+200	18+400	P	BU	BT	9.5	G		1	G	V	G							
18+400	18+600	P	BU	BT	9.5	G		1	G	V	G							
18+600	18+800	P	BU	BT	9.5	G		1	G	V	G							
18+800	19+000	P	BU	BT	9.5	G		1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
19+000	19+200	P	BU	BT	9.5	G		1	G	V	G							
19+200	19+400	P	BU	BT	9.5	G		1	G	V	G				Kisan Chowk	BT	5.5	
19+400	19+600	P	BU	BT	9.5	G		1	G	V	G							
19+600	19+800	P	BU	BT	9.5	G		1	G	V	G							
19+800	20+000	P	BU	BT	9.5	G		1	G	V	G							
20+000	20+200	P	BU	BT	9.5	G		1	G	V	G							
20+200	20+400	P	BU	BT	9.5	G		1	G	V	G							
20+400	20+600	P	BU	BT	9.5	G		1	G	V	G							
20+600	20+800	P	BU	BT	9.5	G		1	G	V	G							
20+800	21+000	P	BU	BT	9.5	G		1	G	V	G							
21+000	21+200	P	BU	BT	9.5	G		1	G	V	G							
21+200	21+400	P	BU	BT	9.5	G		1	G	V	G							
21+400	21+600	P	BU	BT	9.5	G		1	G	V	G							
21+600	21+800	P	BU	BT	9.5	G		1	G	V	G							
21+800	22+000	P	BU	BT	9.5	G		1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
22+000	22+200	P	BU	BT	9.5	G		1	G	V	G							
22+200	22+400	P	BU	BT	9.5	G		1	G	V	G							
22+400	22+600	P	BU	BT	9.5	G		1	G	V	G							
22+600	22+800	P	BU	BT	9.5	G		1	G	V	G							
22+800	23+000	P	BU	BT	9.5	G		1	G	V	G							
23+000	23+200	P	BU	BT	9.5	G		1	G	V	G							
23+200	23+400	P	BU	BT	9.5	G		1	G	V	G							
23+400	23+600	P	BU	BT	9.5	G		1	G	V	G							
23+600	23+800	P	BU	BT	9.5	G		1	G	V	G							
23+800	24+000	P	BU	BT	9.5	G		1	G	V	G							
24+000	24+200	P	BU	BT	9.5	G		1	G	V	G							
24+200	24+400	P	BU	BT	9.5	G		1	G	V	G							
24+400	24+600	P	BU	BT	9.5	G		1	G	V	G							
24+600	24+800	P	BU	BT	9.5	G		1	G	V	G							
24+800	25+000	P	BU	BT	9.5	G		1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
25+000	25+200	P	BU	BT	9.5	G		1	G	V	G							
25+200	25+400	P	BU	BT	9.5	G		1	G	V	G							
25+400	25+600	P	BU	BT	9.5	G		1	G	V	G							
25+600	25+800	P	BU	BT	9.5	G		1	G	V	G							
25+800	26+000	P	BU	BT	9.5	G		1	G	V	G							
26+000	26+200	P	BU	BT	9.5	G		1	G	V	G							
26+200	26+400	P	BU	BT	9.5	G		1	G	V	G							
26+400	26+600	P	BU	BT	9.5	G		1	G	V	G							
26+600	26+800	P	BU	BT	9.5	G		1	G	V	G							
26+800	27+000	P	BU	BT	9.5	G		1	G	V	G							
27+000	27+200	P	BU	BT	9.5	G		1	G	V	G							
27+200	27+400	P	BU	BT	9.5	G		1	G	V	G							
27+400	27+600	P	BU	BT	9.5	G		1	G	V	G							
27+600	27+800	P	BU	BT	9.5	G		1	G	V	G							
27+800	28+000	P	BU	BT	9.5	G		1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
28+000	28+200	P	BU	BT	9.5	G		1	G	V	G							
28+200	28+400	P	BU	BT	9.5	G		1	G	V	G							
28+400	28+600	P	BU	BT	9.5	G		1	G	V	G							
28+600	28+800	P	BU	BT	9.5	G		1	G	V	G							
28+800	29+000	P	BU	BT	9.5	G		1	G	V	G							
29+000	29+200	P	BU	BT	9.5	G		1	G	V	G							
29+200	29+400	P	BU	BT	9.5	G		1	G	V	G							
29+400	29+600	P	BU	BT	9.5	G		1	G	V	G							
29+600	29+800	P	BU	BT	9.5	G		1	G	V	G							
29+800	30+000	P	BU	BT	9.5	G		1	G	V	G							
30+000	30+200	P	BU	BT	9.5	G		1	G	V	G							
30+200	30+400	P	BU	BT	9.5	G		1	G	V	G							
30+400	30+600	P	BU	BT	9.5	G		1	G	V	G							
30+600	30+800	P	BU	BT	9.5	G		1	G	V	G							
30+800	31+000	P	BU	BT	9.5	G		1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
31+000	31+200	P	BU	BT	9.5	G		1	G	V	G							
31+200	31+400	P	BU	BT	9.5	G		1	G	V	G							
31+400	31+600	P	BU	BT	9.5	G		1	G	V	G							
31+600	31+800	P	BU	BT	9.5	G		1	G	V	G							
31+800	32+000	P	BU	BT	9.5	G		1	G	V	G							
32+000	32+200	P	BU	BT	9.5	G		1	G	V	G							
32+200	32+400	P	BU	BT	9.5	G		1	G	V	G							
32+400	32+600	P	BU	BT	9.5	G		1	G	V	G							
32+600	32+800	P	BU	BT	9.5	G		1	G	V	G							
32+800	33+000	P	BU	BT	9.5	G	-	1	G	V	G							
33+000	33+200	P	BU	BT	9.5	G	-	1	G	V	G							
33+200	33+400	P	BU	BT	9.5	G	-	1	G	V	G							
33+400	33+600	P	BU	BT	9.5	G	-	1	G	V	G				Katihar	BT	5.5	
33+600	33+800	P	BU	BT	9.5	G	-	1	G	V	G							
33+800	34+000	P	BU	BT	9.5	G	-	1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)

Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
34+000	34+200	P	BU	BT	9.5	G	-	1	G	V	G							
34+200	34+400	P	BU	BT	9.5	G	-	1	G	V	G							
34+400	34+600	P	BU	BT	9.5	G	-	1	G	V	G							
34+600	34+800	P	BU	BT	9.5	G	-	1	G	V	G					CC	5.5	
34+800	35+000	P	BU	BT	9.5	G	-	1	G	V	G							
35+000	35+200	P	BU	BT	9.5	G	-	1	G	V	G							
35+200	35+400	P	BU	BT	9.5	G	-	1	G	V	G							
35+400	35+600	P	BU	BT	9.5	G	-	1	G	V	G							
35+600	35+800	P	AG	BT	9.5	G	-	1	G	V	G							
35+800	36+000	P	AG	BT	9.5	G	-	1	G	V	G					BT	5.5	
36+000	36+200	P	AG	BT	9.5	G	-	1	G	V	G							
36+200	36+400	P	AG	BT	9.5	G	-	1	G	V	G							
36+400	36+600	P	AG	BT	9.5	G	-	1	G	V	G							
36+600	36+800	P	AG	BT	9.5	G	-	1	G	V	G							
36+800	37+000	P	AG	BT	9.5	G	-	1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
37+000	37+200	P	AG	BT	9.5	G	-	1	G	V	G							
37+200	37+400	P	AG	BT	9.5	G	-	1	G	V	G							
37+400	37+600	P	AG	BT	9.5	G	-	1	G	V	G							
37+600	37+800	P	AG	BT	9.5	G	-	1	G	V	G							
37+800	38+000	P	AG	BT	9.5	G	-	1	G	V	G							
38+000	38+200	P	AG	BT	9.5	G	-	1	G	V	G							
38+200	38+400	P	AG	BT	9.5	G	-	1	G	V	G							
38+400	38+600	P	AG	BT	9.5	G	-	1	G	V	G							
38+600	38+800	P	AG	BT	9.5	G	-	1	G	V	G							
38+800	39+000	P	BU	BT	9.5	G	-	1	G	V	G							
39+000	39+200	P	BU	BT	9.5	G	-	1	G	V	G							
39+200	39+400	P	BU	BT	9.5	G	-	1	G	V	G							
39+400	39+600	P	BU	BT	9.5	G	-	1	G	V	G							
39+600	39+800	P	BU	BT	9.5	G	-	1	G	V	G							
39+800	40+000	P	BU	BT	9.5	G	-	1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
40+000	40+200	P	BU	BT	9.5	G	-	1	G	V	G							
40+200	40+400	P	BU	BT	9.5	G	-	1	G	V	G							
40+400	40+600	P	BU	BT	9.5	G	-	1	G	V	G							
40+600	40+800	P	BU	BT	9.5	G	-	1	G	V	G							
40+800	41+000	P	BU	BT	9.5	G	-	1	G	V	G							
41+000	41+200	P	BU	BT	9.5	G	-	1	G	V	G							
41+200	41+400	P	BU	BT	9.5	G	-	1	G	V	G							
41+400	41+600	P	BU	BT	9.5	G	-	1	G	V	G							
41+600	41+800	P	BU	BT	9.5	G	-	1	G	V	G							
41+800	42+000	P	BU	BT	9.5	G	-	1	G	V	G							
42+000	42+200	P	BU	BT	9.5	G	-	1	G	V	G							
42+200	42+400	P	BU	BT	9.5	G	-	1	G	V	G							
42+400	42+600	P	BU	BT	9.5	G	-	1	G	V	G							
42+600	42+800	P	BU	BT	9.5	G	-	1	G	V	G							
42+800	43+000	P	BU	BT	9.5	G	-	1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)

Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
43+000	43+200	P	BU	BT	9.5	G	-	1	G	V	G							
43+200	43+400	P	BU	BT	9.5	G	-	1	G	V	G							
43+400	43+600	P	BU	BT	9.5	G	-	1	G	V	G							
43+600	43+800	P	BU	BT	9.5	G	-	1	G	V	G							
43+800	44+000	P	BU	BT	9.5	G	-	1	G	V	G							
44+000	44+200	P	BU	BT	9.5	G	-	1	G	V	G							
44+200	44+400	P	BU	BT	9.5	G	-	1	G	V	G							
44+400	44+600	P	BU	BT	9.5	G	-	1	G	V	G							
44+600	44+800	P	BU	BT	9.5	G	-	1	G	V	G							
44+800	45+000	P	BU	BT	9.5	G	-	1	G	V	G							
45+000	45+200	P	BU	BT	9.5	G	-	1	G	V	G							
45+200	45+400	P	BU	BT	9.5	G	-	1	G	V	G							
45+400	45+600	P	BU	BT	9.5	G	-	1	G	V	G							
45+600	45+800	P	BU	BT	9.5	G	-	1	G	V	G							
45+800	46+000	P	BU	BT	9.5	G	-	1	G	V	G							
46+000	46+200	P	BU	BT	9.5	G	-	1	G	V	G							
46+200	46+400	P	BU	BT	9.5	G	-	1	G	V	G							
46+400	46+600	P	BU	BT	9.5	G	-	1	G	V	G							
46+600	46+800	P	BU	BT	9.5	G	-	1	G	V	G							
46+800	47+000	P	BU	BT	9.5	G	-	1	G	V	G							
47+000	47+200	P	BU	BT	9.5	G	-	1	G	V	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)

Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
47+200	47+400	P	BU	BT	9.5	G	-	1	G	V	G							
47+400	47+600	P	BU	BT	9.5	G	-	1	G	V	G							
47+600	47+800	P	BU	BT	9.5	G	-	1	G	V	G							
47+800	48+000	P	BU	BT	9.5	G	-	1	G	V	G							
48+000	48+200	P	BU	BT	9.5	G	-	1	G	V	G							
48+200	48+400	P	BU	BT	9.5	G	-	1	G	V	G							
48+400	48+600	P	BU	BT	9.5	G	-	1	G	V	G							
48+600	48+800	P	BU	BT	9.5	G	-	1	G	V	G							
48+800	49+000	P	BU	BT	9.5	G	-	1	G	V	G				PaiKagola	ER	5.5	
49+000	49+200	P	BU	BT	9.5	G	-	1	G	V	G							
49+200	49+400	P	BU	BT	9.5	G	-	1	G	V	G							
49+400	49+600	P	BU	BT	9.5	G	-	1	G	V	G							
49+600	49+800	P	BU	BT	9.5	G	-	1	G	V	G							
49+800	50+000	P	BU	BT	9.5	G	-	1	G	V	G							
50+000	50+200	P	BU	BT	9.5	G	-	1	G	L	G				Ramgarh	ER	5.5	
50+200	50+400	P	BU	BT	7	G	-	1	F	L	F							
50+400	50+600	P	BU	BT	7	G	-	1	F	L	F							
50+600	50+800	P	BU	BT	7	G	-	1	F	L	F							
50+800	51+000	P	BU	BT	7	G	-	1	F	L	F							
51+000	51+200	P	BU	BT	7	G	-	1	F	L	F							
51+200	51+400	P	BU	BT	7	G	-	1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : LHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
51+400	51+600	P	BU	BT	7	G	-	1	F	L	F				Kosi River Road	ER	5.5	
51+600	51+800	P	BU	BT	7	G	-	1	F	L	F							
51+800	52+000	P	BU	BT	7	G	-	1	F	L	F							
52+000	52+200	P	BU	BT	7	G	-	1	F	L	F							
52+200	52+400	P	BU	BT	7	G	-	1	F	L	F							
52+400	52+600	P	BU	BT	7	G	-	1	F	L	F							
52+600	52+800	P	BU	BT	7	G	-	1	F	L	F							
52+800	53+000	P	BU	BT	7	G	-	1	F	L	F				Nougachiya	BT	5.5	
53+000	53+200	P	BU	BT	7	G	-	-	-	L	F							
53+200	53+400	P	BU	BT	7	G	-	-	-	L	F							
53+400	53+600	P	BU	BT	7	G	-	-	-	L	F							
53+600	53+800	P	BU	BT	7	G	-	-	-	L	F							
53+800	54+000	P	BU	BT	7	G	-	-	-	L	F				Ghospara	CC	5.5	
54+000	54+200	P	BU	BT	7	G	-	-	-	L	F							
54+200	54+400	P	BU	BT	7	G	-	-	-	L	F							
54+400	54+600	P	BU	BT	7	G	-	-	-	L	F							
54+600	54+800	P	BU	BT	7	G	-	-	-	L	F							
54+800	55+000	P	BU	BT	7	G	-	-	-	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
55+000	54+800	P	BU	BT	7	G	-	1	-	L	G				Purnea RLY Station	BT	7.5	
54+800	54+600	P	BU	BT	7	G	-	1	-	L	G							
54+600	54+400	P	BU	BT	7	G	-	1	-	L	G							
54+400	54+200	P	BU	BT	7	G	-	1	-	L	G							
54+200	54+000	P	BU	BT	7	G	-	1	-	L	G							
56+000	55+800	P	BU	BT	7	G	-	1	-	L	G							
55+800	55+600	P	BU	BT	7	G	-	1	-	L	G							
55+600	55+400	P	BU	BT	7	G	-	1	-	L	G							
55+400	55+200	P	BU	BT	7	G	-	1	-	L	G							
55+200	55+000	P	BU	BT	7	G	-	1	-	L	G							
55+000	54+800	P	BU	BT	7	G	-	1	-	L	G							
54+800	54+600	P	BU	BT	7	G	-	1	-	L	G							
54+600	54+400	P	BU	BT	7	G	-	1	-	L	G							
54+400	54+200	P	BU	BT	7	G	-	1	-	L	G							
54+200	54+000	P	BU	BT	7	G	-	1	-	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																			
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW							Details of Cross Roads			Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)		
54+000	53+800	P	BU	BT	7	G	-	1	-	L	G					Ghospara	CC	5.5	
53+800	53+600	P	BU	BT	7	G	-	1	-	L	G								
53+600	53+400	P	BU	BT	7	G	-	1	-	L	G								
53+400	53+200	P	BU	BT	7	G	-	1	-	L	G								
53+200	53+000	P	BU	BT	7	G	-	1	-	L	G								
54+000	53+800	P	BU	BT	7	G	-	1	-	L	G								
53+800	53+600	P	BU	BT	7	G	-	1	-	L	G								
53+600	53+400	P	BU	BT	7	G	-	1	-	L	G								
53+400	53+200	P	BU	BT	7	G	-	1	-	L	G								
53+200	53+000	P	BU	BT	7	G	-	1	-	L	G					Gulabbag	BT	5.5	
53+000	52+800	P	BU	BT	7	G	-	1	-	L	G								
52+800	52+600	P	BU	BT	7	G	-	1	-	L	G								
52+600	52+400	P	BU	BT	7	G	-	1	-	L	G								
52+400	52+200	P	BU	BT	7	G	-	1	-	L	G								
52+200	52+000	P	BU	BT	7	G	-	1	-	L	G								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
52+000	51+800	P	BU	BT	7	G	-	1	-	L	G							
51+800	51+600	P	BU	BT	9.5	G	-	1	F	L	G							
51+600	51+400	P	BU	BT	9.5	G	-	1	F	L	G							
51+400	51+200	P	BU	BT	9.5	G	-	1	F	L	G							
51+200	51+000	P	BU	BT	9.5	G	-	1	F	L	G							
53+000	52+800	P	BU	BT	9.5	G	-	1	F	L	G							
52+800	52+600	P	BU	BT	9.5	G	-	1	F	L	G							
52+600	52+400	P	BU	BT	9.5	G	-	1	F	L	G							
52+400	52+200	P	BU	BT	9.5	G	-	1	F	L	G							
52+200	52+000	P	BU	BT	9.5	G	-	1	F	L	G							
52+000	51+800	P	BU	BT	9.5	G	-	1	F	L	G							
51+800	51+600	P	BU	BT	9.5	G	-	1	F	L	G							
51+600	51+400	P	BU	BT	9.5	G	-	1	F	L	G							
51+400	51+200	P	BU	BT	9.5	G	-	1	F	L	G							
51+200	51+000	P	BU	BT	9.5	G	-	1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																			
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)		
51+000	50+800	P	BU	BT	9.5	G	-	1	F	L	G								
50+800	50+600	P	BU	BT	9.5	G	-	1	F	L	G								
50+600	50+400	P	BU	BT	9.5	G	-	1	F	L	G								
50+400	50+200	P	BU	BT	9.5	G	-	1	F	L	G								
50+200	50+000	P	BU	BT	9.5	G	-	1	F	L	G								
52+000	51+800	P	BU	BT	9.5	G	-	1	F	L	G								
51+800	51+600	P	BU	BT	9.5	G	-	1	F	L	G								
51+600	51+400	P	BU	BT	9.5	G	-	1	F	L	G								
51+400	51+200	P	BU	BT	9.5	G	-	1	F	L	G								
51+200	51+000	P	BU	BT	9.5	G	-	1	F	L	G								
51+000	50+800	P	BU	BT	9.5	G	-	1	F	L	G								
50+800	50+600	P	BU	BT	9.5	G	-	1	F	L	G								
50+600	50+400	P	BU	BT	9.5	G	-	1	F	L	G								
50+400	50+200	P	BU	BT	9.5	G	-	1	F	L	G								
50+200	50+000	P	BU	BT	9.5	G	-	1	F	L	G								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																			
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW							Details of Cross Roads			Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)					
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)		
50+000	49+800	P	BU	BT	9.5	G	-	1	F	L	G								
49+800	49+600	P	BU	BT	9.5	G	-	1	F	L	G								
49+600	49+400	P	BU	BT	9.5	G	-	1	F	L	G								
49+400	49+200	P	BU	BT	9.5	G	-	1	F	L	G								
49+200	49+000	P	BU	BT	9.5	G	-	1	F	L	G								
51+000	50+800	P	BU	BT	9.5	G	-	1	F	L	G								
50+800	50+600	P	BU	BT	9.5	G	-	1	F	L	G								
50+600	50+400	P	BU	BT	9.5	G	-	1	F	L	G								
50+400	50+200	P	BU	BT	9.5	G	-	1	F	L	G								
50+200	50+000	P	BU	BT	9.5	G	-	1	F	V	F								
50+000	49+800	P	BU	BT	9.5	G	-	1	F	V	F								
49+800	49+600	P	BU	BT	9.5	G	-	1	F	V	F								
49+600	49+400	P	BU	BT	9.5	G	-	1	F	V	F								
49+400	49+200	P	BU	BT	9.5	G	-	1	F	V	F								
49+200	49+000	P	BU	BT	9.5	G	-	1	F	V	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
49+000	48+800	P	BU	BT	9.5	G	-	1	F	V	F							
48+800	48+600	P	BU	BT	9.5	G	-	1	F	V	F							
48+600	48+400	P	BU	BT	9.5	G	-	1	F	V	F							
48+400	48+200	P	BU	BT	9.5	G	-	1	F	V	F							
48+200	48+000	P	BU	BT	9.5	G	-	1	F	V	F							
50+000	49+800	P	BU	BT	9.5	G	-	1	F	V	F							
49+800	49+600	P	BU	BT	9.5	G	-	1	F	V	F							
49+600	49+400	P	BU	BT	9.5	G	-	1	F	V	F							
49+400	49+200	P	BU	BT	9.5	G	-	1	F	V	F							
49+200	49+000	P	BU	BT	9.5	G	-	1	F	V	F							
49+000	48+800	P	BU	BT	9.5	G	-	1	F	V	F							
48+800	48+600	P	BU	BT	9.5	G	-	1	F	V	F							
48+600	48+400	P	BU	BT	9.5	G	-	1	F	V	F							
48+400	48+200	P	BU	BT	9.5	G	-	1	F	V	F							
48+200	48+000	P	BU	BT	9.5	G	-	1	F	V	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																			
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)		
48+000	47+800	P	BU	BT	9.5	G	-	1	F	V	F								
47+800	47+600	P	BU	BT	9.5	G	-	1	F	V	F								
47+600	47+400	P	BU	BT	9.5	G	-	1	F	V	F								
47+400	47+200	P	BU	BT	9.5	G	-	1	F	V	F								
47+200	47+000	P	BU	BT	9.5	G	-	1	F	V	F								
49+000	48+800	P	BU	BT	9.5	G	-	1	F	V	F								
48+800	48+600	P	BU	BT	9.5	G	-	1	F	V	F								
48+600	48+400	P	BU	BT	9.5	G	-	1	F	V	F								
48+400	48+200	P	BU	BT	9.5	G	-	1	F	V	F								
48+200	48+000	P	BU	BT	9.5	G	-	1	F	V	F								
48+000	47+800	P	BU	BT	9.5	G	-	1	F	V	F								
47+800	47+600	P	BU	BT	9.5	G	-	1	F	V	F								
47+600	47+400	P	BU	BT	9.5	G	-	1	F	V	F								
47+400	47+200	P	BU	BT	9.5	G	-	1	F	V	F								
47+200	47+000	P	BU	BT	9.5	G	-	1	F	V	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																			
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)		
47+000	46+800	P	BU	BT	9.5	G	-	1	F	V	F								
46+800	46+600	P	BU	BT	9.5	G	-	1	F	V	F								
46+600	46+400	P	BU	BT	9.5	G	-	1	F	V	F								
46+400	46+200	P	BU	BT	9.5	G	-	1	F	V	F								
46+200	46+000	P	BU	BT	9.5	G	-	1	F	V	F								
48+000	47+800	P	BU	BT	9.5	G	-	1	F	V	F								
47+800	47+600	P	BU	BT	9.5	G	-	1	F	V	F								
47+600	47+400	P	BU	BT	9.5	G	-	1	F	V	F								
47+400	47+200	P	BU	BT	9.5	G	-	1	F	V	F								
47+200	47+000	P	BU	BT	9.5	G	-	1	F	V	F								
47+000	46+800	P	BU	BT	9.5	G	-	1	F	V	F								
46+800	46+600	P	BU	BT	9.5	G	-	1	F	V	F								
46+600	46+400	P	BU	BT	9.5	G	-	1	F	V	F								
46+400	46+200	P	BU	BT	9.5	G	-	1	F	V	F								
46+200	46+000	P	BU	BT	9.5	G	-	1	F	V	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																			
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW							Details of Cross Roads			Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)					
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)		
46+000	45+800	P	BU	BT	9.5	G	-	1	F	V	F								
45+800	45+600	P	BU	BT	9.5	G	-	1	F	V	F								
45+600	45+400	P	BU	BT	9.5	G	-	1	F	V	F								
45+400	45+200	P	BU	BT	9.5	G	-	1	F	V	F								
45+200	45+000	P	BU	BT	9.5	G	-	1	F	V	F								
47+000	46+800	P	BU	BT	9.5	G	-	1	F	V	F								
46+800	46+600	P	BU	BT	9.5	G	-	1	F	V	F								
46+600	46+400	P	BU	BT	9.5	G	-	1	F	V	F								
46+400	46+200	P	BU	BT	9.5	G	-	1	F	V	F								
46+200	46+000	P	BU	BT	9.5	G	-	1	F	V	F								
46+000	45+800	P	BU	BT	9.5	G	-	1	F	V	F								
45+800	45+600	P	BU	BT	9.5	G	-	1	F	V	F								
45+600	45+400	P	BU	BT	9.5	G	-	1	F	V	F								
45+400	45+200	P	BU	BT	9.5	G	-	1	F	V	F								
45+200	45+000	P	BU	BT	9.5	G	-	1	F	V	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																			
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW							Details of Cross Roads			Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)					
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)		
45+000	44+800	P	BU	BT	9.5	G	-	1	F	V	F								
44+800	44+600	P	BU	BT	9.5	G	-	1	F	V	F								
44+600	44+400	P	BU	BT	9.5	G	-	1	F	V	F								
44+400	44+200	P	BU	BT	9.5	G	-	1	F	V	F								
44+200	44+000	P	BU	BT	9.5	G	-	1	F	V	F								
46+000	45+800	P	BU	BT	9.5	G	-	1	F	V	F								
45+800	45+600	P	BU	BT	9.5	G	-	1	F	V	F								
45+600	45+400	P	BU	BT	9.5	G	-	1	F	V	F								
45+400	45+200	P	BU	BT	9.5	G	-	1	F	V	F								
45+200	45+000	P	BU	BT	9.5	G	-	1	F	V	F								
45+000	44+800	P	BU	BT	9.5	G	-	1	F	V	F								
44+800	44+600	P	BU	BT	9.5	G	-	1	F	V	F								
44+600	44+400	P	BU	BT	9.5	G	-	1	F	V	F								
44+400	44+200	P	BU	BT	9.5	G	-	1	F	V	F								
44+200	44+000	P	BU	BT	9.5	G	-	1	F	V	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
44+000	43+800	P	BU	BT	9.5	G	-	1	F	V	F							
43+800	43+600	P	BU	BT	9.5	G	-	1	F	V	F							
43+600	43+400	P	BU	BT	9.5	G	-	1	F	V	F							
43+400	43+200	P	BU	BT	9.5	G	-	1	F	V	F							
43+200	43+000	P	BU	BT	9.5	G	-	1	F	V	F							
45+000	44+800	P	BU	BT	9.5	G	-	1	F	V	F							
44+800	44+600	P	BU	BT	9.5	G	-	1	F	V	F							
44+600	44+400	P	BU	BT	9.5	G	-	1	F	V	F							
44+400	44+200	P	BU	BT	9.5	G	-	1	F	V	F							
44+200	44+000	P	BU	BT	9.5	G	-	1	F	V	F							
44+000	43+800	P	BU	BT	9.5	G	-	1	F	V	F							
43+800	43+600	P	BU	BT	9.5	G	-	1	F	V	F							
43+600	43+400	P	BU	BT	9.5	G	-	1	F	V	F							
43+400	43+200	P	BU	BT	9.5	G	-	1	F	V	F							
43+200	43+000	P	BU	BT	9.5	G	-	1	F	V	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : RHS	Carriage way : MCW										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
43+000	42+800	P	BU	BT	9.5	G	High Embankment this location (km:- 43+900 to 43+800)	1	F	V	F							Embankment Height
42+800	42+600	P	BU	BT	9.5	G	-	1	F	V	F							
42+600	42+400	P	BU	BT	9.5	G	-	1	F	V	F							
42+400	42+200	P	BU	BT	9.5	G	-	1	F	V	F							
42+200	42+000	P	BU	BT	9.5	G	-	1	F	V	F							
42+000	41+800	P	BU	BT	9.5	G	-	1	F	V	F							
41+800	41+600	P	BU	BT	9.5	G	-	1	F	V	F							
41+600	41+400	P	BU	BT	9.5	G	-	1	F	V	F				Chhapi	BT	5.5	
41+400	41+200	P	BU	BT	9.5	G	-	1	F	V	F							
41+200	41+000	P	BU	BT	9.5	G	-	1	F	V	F							
41+000	40+800	P	BU	BT	9.5	G	-	1	F	V	F							
40+800	40+600	P	BU	BT	9.5	G	-	1	F	V	F							
40+600	40+400	P	BU	BT	9.5	G	-	1	F	V	F							
40+400	40+200	P	BU	BT	9.5	G	-	1	F	V	F							
40+200	40+000	P	BU	BT	9.5	G	-	1	F	V	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																				
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW								Details of Cross Roads			Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads					
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/F/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)			
40+000	39+800	P	BU	BT	9.5	G	-	1	F	V	F									
39+800	39+600	P	BU	BT	9.5	G	-	1	F	V	F									
39+600	39+400	P	BU	BT	9.5	G	-	1	F	V	F									
39+400	39+200	P	BU	BT	9.5	G	-	1	F	V	F									
39+200	39+000	P	BU	BT	9.5	G	-	1	F	V	F									
39+000	38+800	P	BU	BT	9.5	G	-	1	F	V	F									
38+800	38+600	P	BU	BT	9.5	G	-	1	F	V	F									
38+600	38+400	P	BU	BT	9.5	G	-	1	F	V	F									
38+400	38+200	P	BU	BT	9.5	G	-	1	F	V	F									
38+200	38+000	P	BU	BT	9.5	G	-	1	F	V	F									
38+000	37+800	P	BU	BT	9.5	G	-	1	F	V	F					Medina	ER	5.5		
37+800	37+600	P	BU	BT	9.5	G	-	1	F	V	F									
37+600	37+400	P	BU	BT	9.5	G	-	1	F	V	F									
37+400	37+200	P	BU	BT	9.5	G	-	1	F	V	F									
37+200	37+000	P	BU	BT	9.5	G	-	1	F	V	F									
37+000	36+800	P	BU	BT	9.5	G	-	1	F	V	F									
36+800	36+600	P	BU	BT	9.5	G	-	1	F	V	F									
36+600	36+400	P	BU	BT	9.5	G	-	1	F	V	F									
36+400	36+200	P	BU	BT	9.5	G	-	1	F	V	F									
36+200	36+000	P	BU	BT	9.5	G	-	1	F	V	F									
36+000	35+800	P	BU	BT	9.5	G	-	1	F	V	F									
35+800	35+600	P	BU	BT	9.5	G	-	1	F	V	F									
35+600	35+400	P	BU	BT	9.5	G	-	1	F	V	F									
35+400	35+200	P	BU	BT	9.5	G	-	1	F	V	F									
35+200	35+000	P	BU	BT	9.5	G	-	1	F	V	F									
35+000	34+800	P	BU	BT	9.5	G	-	1	F	V	F									
34+800	34+600	P	BU	BT	9.5	G	-	1	F	V	F									
34+600	34+400	P	BU	BT	9.5	G	-	1	F	V	F									
34+400	34+200	P	BU	BT	9.5	G	-	1	F	V	F									
34+200	34+000	P	BU	BT	9.5	G	-	1	F	V	F									
34+000	33+800	P	BU	BT	9.5	G	-	1	F	V	F									
33+800	33+600	P	BU	BT	9.5	G	-	1	F	V	F									

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
33+500	33+400	P	BU	BT	9.5	G	-	1	F	V	F							
33+400	33+200	P	BU	BT	9.5	G	-	1	F	V	F							
33+200	33+000	P	BU	BT	9.5	G	-	1	F	V	F							
33+000	32+800	P	BU	BT	9.5	G	-	1	F	V	F							
32+800	32+600	P	BU	BT	9.5	G	-	1	F	V	F							
32+600	32+400	P	BU	BT	9.5	G	-	1	F	V	F							
32+400	32+200	P	BU	BT	9.5	G	-	1	F	V	F							
32+200	32+000	P	BU	BT	9.5	G	-	1	F	V	F							
32+000	31+800	P	BU	BT	9.5	G	-	1	F	V	F							
31+800	31+600	P	BU	BT	9.5	G	-	1	F	V	F							
31+600	31+400	P	BU	BT	9.5	G	-	1	F	V	F							
31+400	31+200	P	BU	BT	9.5	G	-	1	F	V	F							
31+200	31+000	P	BU	BT	9.5	G	-	1	F	V	F							
31+000	30+800	P	BU	BT	9.5	G	-	1	F	V	F							
30+800	30+600	P	BU	BT	9.5	G	-	1	F	V	F							
30+600	30+400	P	BU	BT	9.5	G	-	1	F	V	F							
30+400	30+200	P	BU	BT	9.5	G	-	1	F	V	F							
30+200	30+000	P	BU	BT	9.5	G	-	1	F	V	F							
30+000	29+800	P	BU	BT	9.5	G	-	1	F	V	F							
29+800	29+600	P	BU	BT	9.5	G	-	1	F	V	F							
29+600	29+400	P	BU	BT	9.5	G	-	1	F	V	F							
29+400	29+200	P	BU	BT	9.5	G	-	1	F	V	F							
29+200	29+000	P	BU	BT	9.5	G	-	1	F	V	F							
29+000	28+800	P	BU	BT	9.5	G	-	1	F	V	F							
28+800	28+600	P	BU	BT	9.5	G	-	1	F	V	F							
28+600	28+400	P	BU	BT	9.5	G	-	1	F	V	F							
28+400	28+200	P	BU	BT	9.5	G	-	1	F	V	F							
28+200	28+000	P	BU	BT	9.5	G	-	1	F	V	F							
28+000	27+800	P	BU	BT	9.5	G	-	1	F	V	F							
27+800	27+600	P	BU	BT	9.5	G	-	1	F	V	F							
27+600	27+400	P	BU	BT	9.5	G	-	1	F	V	F							
27+400	27+200	P	BU	BT	9.5	G	-	1	F	V	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																				
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW								Details of Cross Roads			Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads					
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)			
27+200	27+000	P	BU	BT	9.5	G	-	1	F	V	F									
27+000	26+800	P	BU	BT	9.5	G	-	1	F	V	F									
26+800	26+600	P	BU	BT	9.5	G	-	1	F	V	F									
26+600	26+400	P	BU	BT	9.5	G	-	1	F	V	F									
26+400	26+200	P	BU	BT	9.5	G	-	1	F	V	F									
26+200	26+000	P	BU	BT	9.5	G	-	1	F	V	F									
26+000	25+800	P	BU	BT	9.5	G	-	1	F	V	F									
25+800	25+600	P	BU	BT	9.5	G	-	1	F	V	F									
25+600	25+400	P	BU	BT	9.5	G	-	1	F	V	F									
25+400	25+200	P	BU	BT	9.5	G	-	1	F	V	F									
25+200	25+000	P	BU	BT	9.5	G	-	1	F	V	F									
25+000	24+800	P	BU	BT	9.5	G	-	1	F	V	F									
24+800	24+600	P	BU	BT	9.5	G	-	1	F	V	F									
24+600	24+400	P	BU	BT	9.5	G	-	1	F	V	F									
24+400	24+200	P	BU	BT	9.5	G	-	1	F	V	F									
24+200	24+000	P	BU	BT	9.5	G	-	1	F	V	F									
24+000	23+800	P	BU	BT	9.5	G	-	1	F	V	F									
23+800	23+600	P	BU	BT	9.5	G	-	1	F	V	F									
23+600	23+400	P	BU	BT	9.5	G	-	1	F	V	F									
23+400	23+200	P	BU	BT	9.5	G	-	1	F	V	F									
23+200	23+000	P	BU	BT	9.5	G	-	1	F	V	F									
23+000	22+800	P	BU	BT	9.5	G	-	1	F	V	F									
22+800	22+600	P	BU	BT	9.5	G	-	1	F	V	F									
22+600	22+400	P	BU	BT	9.5	G	-	1	F	V	F									
22+400	22+200	P	BU	BT	9.5	G	-	1	F	V	F									
22+200	22+000	P	BU	BT	9.5	G	-	1	F	V	F									
22+000	21+800	P	BU	BT	9.5	G	-	1	F	V	F									
21+800	21+600	P	BU	BT	9.5	G	-	1	F	V	F									
21+600	21+400	P	BU	BT	9.5	G	-	1	F	V	F									
21+400	21+200	P	BU	BT	9.5	G	-	1	F	V	F									
21+200	21+000	P	BU	BT	9.5	G	-	1	F	V	F									
21+000	20+800	P	BU	BT	9.5	G	-	1	F	V	F									

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
20+800	20+600	P	BU	BT	9.5	G	-	1	F	V	F							
20+600	20+400	P	BU	BT	9.5	G	-	1	F	V	F							
20+400	20+200	P	BU	BT	9.5	G	-	1	F	V	F							
20+200	20+000	P	BU	BT	9.5	G	-	1	F	V	F							
20+000	19+800	P	BU	BT	9.5	G	-	1	F	V	F							
19+800	19+600	P	BU	BT	9.5	G	-	1	F	V	F							
19+600	19+400	P	BU	BT	9.5	G	-	1	F	V	F							
19+400	19+200	P	BU	BT	9.5	G	-	1	F	V	F				\	BT	5.5	
19+200	19+000	P	BU	BT	9.5	G	-	1	F	V	F							
19+000	18+800	P	BU	BT	9.5	G	-	1	F	V	F							
18+800	18+600	P	BU	BT	9.5	G	-	1	F	V	F							
18+600	18+400	P	BU	BT	9.5	G	-	1	F	V	F							
18+400	18+200	P	BU	BT	9.5	G	-	1	F	V	F							
18+200	18+000	P	BU	BT	9.5	G	-	1	F	V	F							
18+000	17+800	P	BU	BT	9.5	G	-	1	F	V	F							
17+800	17+600	P	BU	BT	9.5	G	-	1	F	V	F							
17+600	17+400	P	BU	BT	9.5	G	-	1	F	V	F							
17+400	17+200	P	BU	BT	9.5	G	-	1	F	V	F							
17+200	17+000	P	BU	BT	9.5	G	-	1	F	V	F							
17+000	16+800	P	BU	BT	9.5	G	-	1	F	V	F							
16+800	16+600	P	BU	BT	9.5	G	-	1	F	V	F							
16+600	16+400	P	BU	BT	9.5	G	-	1	F	V	F							
16+400	16+200	P	BU	BT	9.5	G	-	1	F	V	F							
16+200	16+000	P	BU	BT	9.5	G	-	1	F	V	F							
16+000	15+800	P	BU	BT	9.5	G	-	1	F	V	F							
15+800	15+600	P	BU	BT	9.5	G	-	1	F	V	F							
15+600	15+400	P	BU	BT	9.5	G	-	1	F	V	F							
15+400	15+200	P	BU	BT	9.5	G	-	1	F	V	F							
15+200	15+000	P	BU	BT	9.5	G	-	1	F	V	F							
15+000	14+800	P	BU	BT	9.5	G	-	1	F	V	F							
14+800	14+600	P	BU	BT	9.5	G	-	1	F	V	F							
14+600	14+400	P	BU	BT	9.5	G	-	1	F	V	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH								Side : RHS		Carriage way : MCW								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
14+400	14+200	P	BU	BT	9.5	G	-	1	F	V	F							
14+200	14+000	P	BU	BT	9.5	G	-	1	F	V	F							
14+000	13+800	P	BU	BT	9.5	G	-	1	F	V	F							
13+800	13+600	P	BU	BT	9.5	G	-	1	F	V	F							
13+600	13+400	P	BU	BT	9.5	G	-	1	F	V	F							
13+400	13+200	P	BU	BT	9.5	G	-	1	F	V	F							
13+200	13+000	P	BU	BT	9.5	G	-	1	F	V	F							
13+000	12+800	P	BU	BT	9.5	G	-	1	F	V	F							
12+800	12+600	P	BU	BT	9.5	G	-	1	F	V	F							
12+600	12+400	P	BU	BT	9.5	G	-	1	F	V	F							
12+400	12+200	P	BU	BT	9.5	G	-	1	F	V	F							
12+200	12+000	P	BU	BT	9.5	G	-	1	F	V	F							
12+000	11+800	P	BU	BT	9.5	G	-	1	F	V	F							
11+800	11+600	P	BU	BT	9.5	G	-	1	F	V	F							
11+600	11+400	P	BU	BT	9.5	G	-	1	F	V	F							
11+400	11+200	P	BU	BT	9.5	G	-	1	F	V	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																		
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : MCW									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
11+200	11+000	P	BU	BT	9.5	G	-	1	F	V	F							
11+000	10+800	P	BU	BT	9.5	G	-	1	F	V	F							
10+800	10+600	P	BU	BT	9.5	G	-	1	F	V	F							
10+600	10+400	P	BU	BT	9.5	G	-	1	F	V	F							
10+400	10+200	P	BU	BT	9.5	G	-	1	F	V	F							
10+200	10+000	P	BU	BT	9.5	G	-	1	F	V	F				Mahiyarpur	BT	5.5	
10+000	9+800	P	BU	BT	9.5	G	-	1	F	V	F							
9+800	9+600	P	BU	BT	9.5	G	-	1	F	V	F							
9+600	9+400	P	BU	BT	9.5	G	-	1	F	V	F							
9+400	9+200	P	BU	BT	9.5	G	-	1	F	V	F				Mahiyarpur	CC	5.5	
9+200	9+000	P	BU	BT	9.5	G	-	1	F	V	F							
9+000	8+800	P	BU	BT	9.5	G	-	1	F	V	F							
8+800	8+600	P	BU	BT	9.5	G	-	1	F	V	F							
8+600	8+400	P	BU	BT	9.5	G	-	1	F	V	F							
8+400	8+200	P	BU	BT	9.5	G	-	1	F	V	F							
8+200	8+000	P	BU	BT	9.5	G	-	1	F	V	F							
8+000	7+800	P	BU	BT	9.5	G	-	1	F	V	F				Subhapandari	ER	5.5	
7+800	7+600	P	BU	BT	9.5	G	-	1	F	V	F							
7+600	7+400	P	BU	BT	9.5	G	-	1	F	V	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (NARENPUR - PURNEA)																			
Surveyed By : NAGARAJU AND ANVESH							Side : RHS	Carriage way : MCW								Details of Cross Roads			Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)		
7+400	7+200	P	BU	BT	9.5	G	-	1	F	V	F								
7+200	7+000	P	BU	BT	9.5	G	-	1	F	V	F								
7+000	6+800	P	BU	BT	9.5	G	-	1	F	V	F								
6+800	6+600	P	BU	BT	9.5	G	-	1	F	V	F								
6+600	6+400	P	BU	BT	9.5	G	-	1	F	V	F								
6+400	6+200	P	BU	BT	9.5	G	-	1	F	V	F								
6+200	6+000	P	BU	BT	9.5	G	-	1	F	V	F								
6+000	5+800	P	BU	BT	9.5	G	-	1	F	V	F								
5+800	5+600	P	BU	BT	9.5	G	-	1	F	V	F								
5+600	5+400	P	BU	BT	9.5	G	-	1	F	V	F								
5+400	5+200	P	BU	BT	9.5	G	-	1	F	V	F								
5+200	5+000	P	BU	BT	9.5	G	-	1	F	V	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																			
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type				Condition (G/F/P/VP)	Location	Type (CC/BT/ER)		Width (m)
6+000	6+200	P	BU	BT	7.25	G	Narenpur	KM:- 6+000 TO 6+300	1	F	L	F							
6+200	6+400	P	BU	BT	7.25	G	Narenpur		1	F	L	F							
6+400	6+600	P	BU	BT	7.25	G	Narenpur	Km:- 6+300 to 6+850 Slip road	1	F	L	F							
6+600	6+800	P	BU	BT	7.25	G	Narenpur		1	F	L	F							
6+800	7+000	P	BU	BT	7.25	G	Narenpur		1	F	L	F							
7+000	7+200	P	AG	BT	7.25	G	-	KM:- 7+100 TO 7+590	1	F	L	F							
7+200	7+400	P	AG	BT	7.25	G	-		1	F	L	F							
7+400	7+600	P	AG	BT	7.25	G	-		1	F	L	F							
7+600	7+800	P	AG	BT	7.25	G	Kutubpur, pagalbari	KM:- 7+590 TO 8+400 Slip road	1	F	L	F							
7+800	8+000	P	AG	BT	7.25	G			1	F	L	F							
8+000	8+200	P	AG	BT	7.25	G			1	F	L	F							
8+200	8+400	P	AG	BT	7.25	G			1	F	L	F							
8+400	8+600	P	BU	BT	7.25	G	Pagalbari Manoharpur	KM:- 8+400 TO 8+860	1	F	L	F							
8+600	8+800	P	BU	BT	7.25	G			1	F	L	F							
8+800	9+000	P	BU	BT	7.25	G	-	KM:-8+860 TO 9+440 Slip road	1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																				
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
9+000	9+200	P	AG	BT	7.25	G	-		1	F	L	F								
9+200	9+400	P	AG	BT	7.25	G	-		1	F	L	F								
9+400	9+600	P	AG	BT	7.25	G	-		1	F	L	F								
9+600	9+800																			
9+800	10+000	P	AG	BT	7.25	G	-		1	F	L	F								
10+000	10+200	P	AG	BT	7.25	G	-		1	F	L	F								
10+200	10+400	P	AG	BT	7.25	G	-		1	F	L	F								
10+400	10+600	P	AG	BT	7.25	G			1	F	L	F								
10+600	10+800	P	AG	BT	7.25	G		KM:-10+610 to 11+330 Slip road	1	F	L	F								
10+800	11+000	P	AG	BT	7.25	G			1	F	L	F								
11+000	11+200	P	AG	BT	7.25	G			1	F	L	F								
11+200	11+400	P	AG	BT	7.25	G			1	F	L	F								
11+400	11+600	P	AG	BT	7.25	G			1	F	L	F								
11+600	11+800	P	AG	BT	7.25	G			1	F	L	F								
11+800	12+000	P	AG	BT	7.25	G			1	F	L	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																			
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type				Condition (G/F/P/VP)	Location	Type (CC/BT/ER)		Width (m)
12+000	12+200	P	AG	BT	7.25	G		KM:- 11+330 TO 13+000	1	F	L	F							
12+200	12+400	P	AG	BT	7.25	G			1	F	L	F							
12+400	12+600	P	AG	BT	7.25	G			1	F	L	F							
12+600	12+800	P	AG	BT	7.25	G			1	F	L	F							
12+800	13+000	P	AG	BT	7.25	G			1	F	L	F							
13+000	13+200	P	AG	BT	7.25	G	Kumaripur, Bhermara, Basantpur	KM:- 13+000 TO 13+600 Slip road	1	F	L	F							
13+200	13+400	P	AG	BT	7.25	G	Kumaripur, Bhermara, Basantpur		1	F	L	F							
13+400	13+600	P	AG	BT	7.25	G	Kumaripur, Bhermara, Basantpur		1	F	L	F							
13+600	13+800	P	BU	BT	7.25	G		KM:- 13+600 TO 14+000	1	F	L	F							
13+800	14+000	P	BU	BT	7.25	G			1	F	L	F							
14+000	14+200	P	BU	BT	7.25	G			1	F	L	F							
14+200	14+400	P	BU	BT	7.25	G			1	F	L	F							
14+400	14+600	P	BU	BT	7.25	G		KM:- 14+470 TO 15+120 Slip road	1	F	L	F							
14+600	14+800	P	BU	BT	7.25	G			1	F	L	F							
14+800	15+000	P	BU	BT	7.25	G			1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																			
Surveyed By : NAGARAJU AND ANVESH								Side : LHS		Carriage way : SERVICE/ SLIP ROAD									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
15+000	15+200	P	BU	BT	7.25	G			1	F	L	F							
15+200	15+400	P	BU	BT	7.25	G			1	F	L	F							
15+400	15+600	P	BU	BT	7.25	G			1	F	L	F							
15+600	15+800	P	BU	BT	7.25	G			1	F	L	F							
15+800	16+000	P	BU	BT	7.25	G			1	F	L	F							
16+000	16+200	P	BU	BT	7.25	G			1	F	L	F							
16+200	16+400	P	BU	BT	7.25	F		km:-16+300 to 16+600	1	F	L	F							
16+400	16+600	P	BU	BT	7.25	F			1	F	L	F							
16+600	16+800	P	BU	BT	7.25	F			1	F	L	F							
16+800	17+000	P	BU	BT	7.25	F			1	F	L	F							
17+000	17+200	P	BU	BT	7.25	F			1	F	L	F							
17+200	17+400	P	BU	BT	7.25	G	Marangi, Raghunichak, Sirnia	KM:- 17+200 TO 18+100 Slip road	1	F	L	F							
17+400	17+600	P	BU	BT	7.25	G	Marangi, Raghunichak, Sirnia		1	F	L	F							
17+600	17+800	P	BU	BT	7.25	G	Marangi, Raghunichak, Sirnia		1	F	L	F							
17+800	18+000	P	BU	BT	7.25	G	Marangi, Raghunichak, Sirnia		1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																				
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
18+000	18+200	P	BU	BT	7.25	G	Marangi, Raghunichak, Sirnia	KM:- 18+100 TO 19+850	1	F	L	F								
18+200	18+400	P	BU	BT	7.25	G	Kathihar by pass		1	F	L	F								
18+400	18+600	P	BU	BT	7.25	G	Kathihar by pass		1	F	L	F								
18+600	18+800	P	BU	BT	7.25	G	Kathihar by pass		1	F	L	F								
18+800	19+000	P	BU	BT	7.25	G	Kathihar by pass		1	F	L	F								
19+000	19+200	P	BU	BT	7.25	G	Kathihar by pass		1	F	L	F								
19+200	19+400	P	BU	BT	7.25	G	Kathihar by pass		1	F	L	F								
19+400	19+600	P	BU	BT	7.25	G	Kathihar by pass		1	F	L	F								
19+600	19+800	P	BU	BT	7.25	G	Kathihar by pass	1	F	L	F									
19+800	20+000	P	BU	BT	7.25	G	Sirnia	KM:- 19+850 TO 20+500	1	F	L	F								
20+000	20+200	P	BU	BT	7.25	G	Sirnia		1	F	L	F								
20+200	20+400	P	BU	BT	7.25	G	Sirnia		1	F	L	F								
20+400	20+600	P	BU	BT	7.25	G	Sirnia		1	F	L	F								
20+600	20+800	P	BU	BT	7.25	G		KM:- 20+500 TO 21+180	1	F	L	F								
20+800	21+000	P	BU	BT	7.25	G			1	F	L	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																				
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
21+000	21+200	P	BU	BT	8.25	G			1	F	L	F								
21+200	21+400	P	BU	BT	9.25	G			1	F	L	F								
21+400	21+600	P	BU	BT	10.25	G			1	F	L	F								
21+600	21+800	P	BU	BT	11.25	G			1	F	L	F								
21+800	22+000	P	BU	BT	12.25	G			1	F	L	F								
22+000	22+200	P	BU	BT	13.25	G			1	F	L	F								
22+200	22+400	P	BU	BT	14.25	G			1	F	L	F								
22+400	22+600	P	BU	BT	15.25	G			1	F	L	F								
22+600	22+800	P	BU	BT	16.25	G			1	F	L	F								
22+800	23+000	P	BU	BT	17.25	G			1	F	L	F								
23+000	23+200	P	BU	BT	18.25	G			1	F	L	F								
23+200	23+400	P	BU	BT	19.25	G			1	F	L	F								
23+400	23+600	P	BU	BT	20.25	G			1	F	L	F								
23+600	23+800	P	BU	BT	21.25	G			1	F	L	F								
23+800	24+000	P	BU	BT	22.25	G			1	F	L	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																				
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
24+000	24+200	P	BU	BT	23.25	G			1	F	L	F								
24+200	24+400	P	BU	BT	24.25	G			1	F	L	F								
24+400	24+600	P	BU	BT	25.25	G			1	F	L	F								
24+600	24+800	P	BU	BT	26.25	G			1	F	L	F								
24+800	25+000	P	BU	BT	27.25	G			1	F	L	F								
25+000	25+200	P	BU	BT	28.25	G			1	F	L	F								
25+200	25+400	P	BU	BT	29.25	G			1	F	L	F								
25+400	25+600	P	BU	BT	30.25	G			1	F	L	F								
25+600	25+800	P	BU	BT	31.25	G			1	F	L	F								
25+800	26+000		BU	BT	32.25	G			1	F	L	F								
26+000	26+200		BU	BT	33.25	G			1	F	L	F								
26+200	26+400		BU	BT	34.25	G			1	F	L	F								
26+400	26+600		BU	BT	35.25	G			1	F	L	F								
26+600	26+800	P	BU	BT	36.25	G			1	F	L	F								
26+800	27+000	P	BU	BT	37.25	G			1	F	L	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																			
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type				Condition (G/F/P/VP)	Location	Type (CC/BT/ER)		Width (m)
27+000	27+200	P	BU	BT	38.25	G			1	F	L	F							
27+200	27+400	P	BU	BT	39.25	G			1	F	L	F							
27+400	27+600	P	BU	BT	40.25	G			1	F	L	F							
27+600	27+800	P	BU	BT	41.25	G			1	F	L	F							
27+800	28+000	P	BU	BT	42.25	G			1	F	L	F							
28+000	28+200	P	BU	BT	43.25	G			1	F	L	F							
28+200	28+400	P	BU	BT	44.25	G			1	F	L	F							
28+400	28+600	P	BU	BT	45.25	G			1	F	L	F							
28+600	28+800	Under	BU	BT	46.25	G			1	F	L	F							
28+800	29+000		BU	BT	47.25	G			1	F	L	F							
29+000	29+200		BU	BT	48.25	G			1	F	L	F							
29+200	29+400		BU	BT	49.25	G			1	F	L	F							
29+400	29+600		BU	BT	50.25	G			1	F	L	F							
29+600	29+800		BU	BT	51.25	G			1	F	L	F							
29+800	30+000		BU	BT	52.25	G			1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																			
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type				Condition (G/F/P/VP)	Location	Type (CC/BT/ER)		Width (m)
30+000	30+200		BU	BT	53.25	G			1	F	L	F							
30+200	30+400		BU	BT	54.25	G			1	F	L	F							
30+400	30+600		BU	BT	55.25	G			1	F	L	F							
30+600	30+800		BU	BT	56.25	G			1	F	L	F							
30+800	31+000		BU	BT	57.25	G			1	F	L	F							
31+000	31+200		BU	BT	58.25	G			1	F	L	F							
31+200	31+400		BU	BT	59.25	G			1	F	L	F							
31+400	31+600		BU	BT	60.25	G			1	F	L	F							
31+600	31+800		BU	BT	61.25	G			1	F	L	F							
31+800	32+000		BU	BT	62.25	G			1	F	L	F							
32+000	32+200	P	BU	BT	63.25	G			1	F	L	F							
32+200	32+400	P	BU	BT	64.25	G			1	F	L	F							
32+400	32+600	P	BU	BT	65.25	G			1	F	L	F							
32+600	32+800	P	BU	BT	66.25	G			1	F	L	F							
32+800	33+000	P	BU	BT	67.25	G			1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																				
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
33+000	33+200	P	BU	BT	7.25	F	Rampur		1	F	L	F								
33+200	33+400	P	BU	BT	7.25	F	Rampur		1	F	L	F								
33+400	33+600	P	BU	BT	7.25	F	Rampur		1	F	L	F								
33+600	33+800	P	BU	BT	7.25	F	Rampur		1	F	L	F								
33+800	34+000	P	BU	BT	7.25	F	Rampur		1	F	L	F								
34+000	34+200	P	BU	BT	7.25	F	Rampur		1	F	L	F								
34+200	34+400	P	BU	BT	7.25	F	Rampur		1	F	L	F								
34+400	34+600	P	BU	BT	7.25	F	Rampur		1	F	L	F								
34+600	34+800	P	BU	BT	7.25	F	Rampur		1	F	L	F								
34+800	35+000	P	BU	BT	7.25	F	Rampur		1	F	L	F								
35+000	35+200	P	BU	BT	7.25	F	Rampur		1	F	L	F								
35+200	35+400	P	BU	BT	7.25	F	Rampur		1	F	L	F								
35+400	35+600	P	BU	BT	7.25	F	Rampur		1	F	L	F								
35+600	35+800	P	BU	BT	7.25	F		KM:- 35+790 TO 36+500 Slip road	1	F	L	F								
35+800	36+000	P	BU	BT	7.25	F			1	F	L	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																				
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
36+000	36+200	P	BU	BT	7.25	F			1	F	L	F								
36+200	36+400	P	BU	BT	7.25	F			1	F	L	F								
36+400	36+600	P	BU	BT	7.25	F			1	F	L	F								
36+600	36+800	P	BU	BT	7.25	F			1	F	L	F								
36+800	37+000	P	BU	BT	7.25	F			1	F	L	F								
37+000	37+200	P	BU	BT	7.25	F			1	F	L	F								
37+200	37+400	P	BU	BT	7.25	F		KM:- 37+200 TO 38+000 Slip road	1	F	L	F								
37+400	37+600	P	BU	BT	7.25	F			1	F	L	F								
37+600	37+800	P	BU	BT	7.25	F			1	F	L	F								
37+800	38+000	P	BU	BT	7.25	F			1	F	L	F								
38+000	38+200	P	BU	BT	7.25	F			1	F	L	F								
38+200	38+400	P	BU	BT	7.25	F			1	F	L	F								
38+400	38+600	P	BU	BT	7.25	F			1	F	L	F								
38+600	38+800	P	BU	BT	7.25	F			1	F	L	F								
38+800	39+000	P	BU	BT	7.25	F			1	F	L	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																			
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
39+000	39+200	P	BU	BT	7.25	F			1	F	L	F							
39+200	39+400	P	BU	BT	7.25	F			1	F	L	F							
39+400	39+600	P	BU	BT	7.25	F			1	F	L	F							
39+600	39+800	P	BU	BT	7.25	F			1	F	L	F							
39+800	40+000	P	BU	BT	7.25	F			1	F	L	F							
40+000	40+200	P	BU	BT	7.25	F			1	F	L	F							
40+200	40+400	P	BU	BT	7.25	F			1	F	L	F							
40+400	40+600	P	BU	BT	7.25	F			1	F	L	F							
40+600	40+800	P	BU	BT	7.25	F	Ratwari	KM:- 40+700 TO 41+550	1	F	L	F							
40+800	41+000	P	BU	BT	7.25	F	Ratwari		1	F	L	F							
41+000	41+200	P	BU	BT	7.25	F	Ratwari		1	F	L	F							
41+200	41+400	P	BU	BT	7.25	F	Ratwari		1	F	L	F							
41+400	41+600	P	BU	BT	7.25	F	Ratwari		1	F	L	F							
41+600	41+800	P	BU	BT	7.25	F	Ratwari		1	F	L	F							
41+800	42+000	P	BU	BT	7.25	F	Ratwari		1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)

Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
42+000	42+200	P	BU	BT	7.25	F	Ratwari		1	F	L	F							
42+200	42+400	P	BU	BT	7.25	F	Ratwari		1	F	L	F							
42+400	42+600	P	BU	BT	7.25	F	Ratwari		1	F	L	F							
42+600	42+800	P	BU	BT	7.25	F	Ratwari		1	F	L	F							
42+800	43+000	P	BU	BT	7.25	F		km:- 42+950 to 43+800	1	F	L	F							
43+000	43+200	P	BU	BT	7.25	F			1	F	L	F							
43+200	43+400	P	BU	BT	7.25	F			1	F	L	F							
43+400	43+600	P	BU	BT	7.25	F			1	F	L	F							
43+600	43+800	P	BU	BT	7.25	F			1	F	L	F							
43+800	44+000	P	BU	BT	7.25	F			1	F	L	F							
44+000	44+200	P	BU	BT	7.25	F			1	F	L	F							
44+200	44+400	P	BU	BT	7.25	F			1	F	L	F							
44+400	44+600	P	BU	BT	7.25	F			1	F	L	F							
44+600	44+800	P	BU	BT	7.25	F			1	F	L	F							
44+800	45+000	P	BU	BT	7.25	F			1	F	L	F							
45+000	45+200	P	BU	BT	7.25	F			1	F	L	F							
45+200	45+400	P	BU	BT	7.25	F			1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)

Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
45+400	45+600	P	BU	BT	7.25	F			1	F	L	F							
45+600	45+800	P	BU	BT	7.25	F			1	F	L	F							
45+800	46+000	P	BU	BT	7.25	F			1	F	L	F							
46+000	46+200	P	BU	BT	7.25	F			1	F	L	F							
46+200	46+400	P	BU	BT	7.25	F			1	F	L	F							
46+400	46+600	P	BU	BT	7.25	F			1	F	L	F							
46+600	46+800	P	BU	BT	7.25	F			1	F	L	F							
46+800	47+000	P	BU	BT	7.25	F			1	F	L	F							
47+000	47+200	P	BU	BT	7.25	F			1	F	L	F							
47+200	47+400	P	BU	BT	7.25	F			1	F	L	F							
47+400	47+600	P	BU	BT	7.25	F			1	F	L	F							
47+600	47+800	P	BU	BT	7.25	F	Chandi	KM:- 47+780 TO 48+600	1	F	L	F							
47+800	48+000	P	BU	BT	7.25	F	Chandi		1	F	L	F							
48+000	48+200	P	BU	BT	7.25	F	Chandi		1	F	L	F							
48+200	48+400	P	BU	BT	7.25	F	Chandi		1	F	L	F							
48+400	48+600	P	BU	BT	7.25	F	Chandi		1	F	L	F							
48+600	48+800	P	BU	BT	7.25	F		KM:- 48+600 TO 49+100	1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																				
Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type				Condition (G/F/P/VP)	Location	Type (CC/BT/ER)		Width (m)	
48+800	49+000	P	BU	BT	7.25	F			1	F	L	F								
49+000	49+200	P	BU	BT	7.25	F			1	F	L	F								
49+200	49+400	P	BU	BT	7.25	F			1	F	L	F								
49+400	49+600	P	BU	BT	7.25	F			1	F	L	F								
49+600	49+800	P	BU	BT	7.25	F			1	F	L	F								
49+800	50+000	P	BU	BT	7.25	F			1	F	L	F								
50+000	50+200	P	BU	BT	7.25	F			1	F	L	F								
50+200	50+400	P	BU	BT	7.25	F			1	F	L	F								
50+400	50+600	P	BU	BT	7.25	F			1	F	L	F								
50+600	50+800	P	BU	BT	7.25	F			1	F	L	F								
50+800	51+000	P	BU	BT	7.25	F			1	F	L	F								
51+000	51+200	P	BU	BT	7.25	F			1	F	L	F								
51+200	51+400	P	BU	BT	7.25	F			1	F	L	F								
51+400	51+600	P	BU	BT	7.25	F		KM:- 51+500 TO 53+000	1	F	L	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)

Surveyed By : NAGARAJU AND ANVESH								Side : LHS	Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
51+600	51+800	P	BU	BT	7.25	F			1	F	L	F							
51+800	52+000	P	BU	BT	7.25	F			1	F	L	F							
52+000	52+200	P	BU	BT	7.25	F	Bilauri, abdullah Nagar		1	F	L	F							
52+200	52+400	P	BU	BT	7.25	F	Bilauri, abdullah Nagar		1	F	L	F							
52+400	52+600	P	BU	BT	7.25	F	Bilauri, abdullah Nagar		1	F	L	F							
52+600	52+800	P	BU	BT	7.25	F			1	F	L	F							
52+800	53+000	P	BU	BT	7.25	F			1	F	L	F							
53+000	53+200	P	BU	BT	7.25	F			1	F	L	F							
53+200	53+400	P	BU	BT	7.25	F			1	F	L	F							
53+400	53+600	P	BU	BT	7.25	F			1	F	L	F							
53+600	53+800	P	BU	BT	7.25	F			1	F	L	F							
53+800	54+000	P	BU	BT	7.25	F			1	F	L	F							
54+000	54+200	P	BU	BT	7.25	F			1	F	L	F							
54+200	54+400	P	BU	BT	7.25	F			1	F	L	F							
54+400	54+600	P	BU	BT	7.25	F			1	F	L	F							
54+600	54+800	P	BU	BT	7.25	F			1	F	L	F							
54+800	55+000	P	BU	BT	7.25	F			1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)

Surveyed By : NAGARAJU AND ANVESH																				
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway	Width (m)	Condition (G/F/P/VP)	Village name	Side : RHS	Describe type of Distress	Carriage way : SERVICE/ SLIP ROAD					Encroachments	Embankment Height (m)	Details of Cross Roads	Type (CC/BT/ER)	Width (m)	Remarks
From	To									Earthen Shoulder	Condition (G/F/P/VP)	Drain SR	Condition (G/F/P/VP)	Submergence / Water Bodies						
55+000	54+800	P	BU	BT	7.25	F	Bilauri, abdullah Nagar	KM:- 53+000 to 51+500		1	F	L	F							
54+800	54+600	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							
54+600	54+400	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							
54+400	54+200	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							
54+200	54+000	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							
54+000	53+800	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							
53+800	53+600	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							
53+600	53+400	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							
53+400	53+200	P	BU	BT	7.25	F	Bilauri, abdullah Nagar		1	F	L	F								
53+200	53+000	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							
53+000	52+800	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							
52+800	52+600	P	BU	BT	7.25	F	Bilauri, abdullah Nagar	KM:- 53+000 to 51+500		1	F	L	F							
52+600	52+400	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							
52+400	52+200	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							
52+200	52+000	P	BU	BT	7.25	F	Bilauri, abdullah Nagar			1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																			
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
52+000	51+800	P	BU	BT	7.25	F			1	F	L	F							
51+800	51+600	P	BU	BT	7.25	F			1	F	L	F							
51+600	51+400	P	BU	BT	7.25	F			1	F	L	F							
51+400	51+200	P	BU	BT	7.25	F			1	F	L	F							
51+200	51+000	P	BU	BT	7.25	F			1	F	L	F							
51+000	50+800	P	BU	BT	7.25	F			1	F	L	F							
50+800	50+600	P	BU	BT	7.25	F			1	F	L	F							
50+600	50+400	P	BU	BT	7.25	F			1	F	L	F							
50+400	50+200	P	BU	BT	7.25	F			1	F	L	F							
50+200	50+000	P	BU	BT	7.25	F			1	F	L	F							
50+000	49+800	P	BU	BT	7.25	F			1	F	L	F							
49+800	49+600	P	BU	BT	7.25	F			1	F	L	F							
49+600	49+400	P	BU	BT	7.25	F			1	F	L	F							
49+400	49+200	P	BU	BT	7.25	F			1	F	L	F							
49+200	49+000	P	BU	BT	7.25	F			1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																			
Surveyed By : NAGARAJU AND ANVESH								Side : RHS		Carriage way : SERVICE/ SLIP ROAD									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
49+000	48+800	P	BU	BT	7.25	F		KM:- 49+100 TO 48+600	1	F	L	F							
48+800	48+600	P	BU	BT	7.25	F			1	F	L	F							
48+600	48+400	P	BU	BT	7.25	F	Chandi	KM:- 48+600 to 47+780 Slip road	1	F	L	F							
48+400	48+200	P	BU	BT	7.25	F	Chandi		1	F	L	F							
48+200	48+000	P	BU	BT	7.25	F	Chandi		1	F	L	F							
48+000	47+800	P	BU	BT	7.25	F	Chandi		1	F	L	F							
47+800	47+600	P	BU	BT	7.25	F	Chandi		1	F	L	F							
47+600	47+400	P	BU	BT	7.25	F			1	F	L	F							
47+400	47+200	P	BU	BT	7.25	F			1	F	L	F							
47+200	47+000	P	BU	BT	7.25	F			1	F	L	F							
47+000	46+800	P	BU	BT	7.25	F			1	F	L	F							
46+800	46+600	P	BU	BT	7.25	F			1	F	L	F							
46+600	46+400	P	BU	BT	7.25	F			1	F	L	F							
46+400	46+200	P	BU	BT	7.25	F			1	F	L	F							
46+200	46+000	P	BU	BT	7.25	F			1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																				
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
46+000	45+800	P	BU	BT	7.25	F			1	F	L	F								
45+800	45+600	P	BU	BT	7.25	F			1	F	L	F								
45+600	45+400	P	BU	BT	7.25	F			1	F	L	F								
45+400	45+200	P	BU	BT	7.25	F			1	F	L	F								
45+200	45+000	P	BU	BT	7.25	F			1	F	L	F								
45+000	44+800	P	BU	BT	7.25	F			1	F	L	F								
44+800	44+600	P	BU	BT	7.25	F			1	F	L	F								
44+600	44+400	P	BU	BT	7.25	F			1	F	L	F								
44+400	44+200	P	BU	BT	7.25	F			1	F	L	F								
44+200	44+000	P	BU	BT	7.25	F			1	F	L	F								
44+000	43+800	P	BU	BT	7.25	F			1	F	L	F								
43+800	43+600	P	BU	BT	7.25	F		km:- 43+800 to 42+950 Slip road	1	F	L	F			5.5					
43+600	43+400	P	BU	BT	7.25	F			1	F	L	F			1.5					
43+400	43+200	P	BU	BT	7.25	F			1	F	L	F			1.5					
43+200	43+000	P	BU	BT	7.25	F			1	F	L	F			1.5					

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																		
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : SERVICE/ SLIP ROAD									
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)
43+000	42+800	P	BU	BT	7.25	F			1	F	L	F			1.5			
42+800	42+600	P	BU	BT	7.25	F			1	F	L	F						
42+600	42+400	P	BU	BT	7.25	F			1	F	L	F						
42+400	42+200	P	BU	BT	7.25	F			1	F	L	F						
42+200	42+000	P	BU	BT	7.25	F			1	F	L	F						
42+000	41+800	P	BU	BT	7.25	F			1	F	L	F						
41+800	41+600	P	BU	BT	7.25	F			1	F	L	F						
41+600	41+400	P	BU	BT	7.25	F	Ratwari	KM:-41+550 to 40+700 Slip road	1	F	L	F						
41+400	41+200	P	BU	BT	7.25	F	Ratwari		1	F	L	F						
41+200	41+000	P	BU	BT	7.25	F	Ratwari		1	F	L	F						
41+000	40+800	P	BU	BT	7.25	F	Ratwari		1	F	L	F						
40+800	40+600	P	BU	BT	7.25	F	Ratwari		1	F	L	F						
40+600	40+400	P	BU	BT	7.25	F			1	F	L	F						
40+400	40+200	P	BU	BT	7.25	F			1	F	L	F						
40+200	40+000	P	BU	BT	7.25	F			1	F	L	F						

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																					
Surveyed By : NAGARAJU AND ANVESH								Side : RHS		Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
40+000	39+800	P	BU	BT	7.25	F			1	F	L	F									
39+800	39+600	P	BU	BT	7.25	F			1	F	L	F									
39+600	39+400	P	BU	BT	7.25	F			1	F	L	F									
39+400	39+200	P	BU	BT	7.25	F			1	F	L	F									
39+200	39+000	P	BU	BT	7.25	F			1	F	L	F									
39+000	38+800	P	BU	BT	7.25	F			1	F	L	F									
38+800	38+600	P	BU	BT	7.25	F			1	F	L	F									
38+600	38+400	P	BU	BT	7.25	F			1	F	L	F									
38+400	38+200	P	BU	BT	7.25	F			1	F	L	F									
38+200	38+000	P	BU	BT	7.25	F			1	F	L	F									
38+000	37+800	P	BU	BT	7.25	F			1	F	L	F									
37+800	37+600	P	BU	BT	7.25	F			1	F	L	F									
37+600	37+400	P	BU	BT	7.25	F			1	F	L	F									
37+400	37+200	P	BU	BT	7.25	F			1	F	L	F									
37+200	37+000	P	BU	BT	7.25	F			1	F	L	F									

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																			
Surveyed By : NAGARAJU AND ANVESH							Side : RHS		Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
37+000	36+800	P	BU	BT	7.25	F			1	F	L	F							
36+800	36+600	P	BU	BT	7.25	F			1	F	L	F							
36+600	36+400	P	BU	BT	7.25	F			1	F	L	F							
36+400	36+200	P	BU	BT	7.25	F			1	F	L	F							
36+200	36+000	P	BU	BT	7.25	F			1	F	L	F							
36+000	35+800	P	BU	BT	7.25	F			1	F	L	F							
35+800	35+600	P	BU	BT	7.25	F			1	F	L	F							
35+600	35+400	P	BU	BT	7.25	F			1	F	L	F							
35+400	35+200	P	BU	BT	7.25	F			1	F	L	F							
35+200	35+000	P	BU	BT	7.25	F			1	F	L	F							
35+000	34+800	P	BU	BT	7.25	F			1	F	L	F							
34+800	34+600	P	BU	BT	7.25	F			1	F	L	F							
34+600	34+400	P	BU	BT	7.25	F			1	F	L	F							
34+400	34+200	P	BU	BT	7.25	F			1	F	L	F							
34+200	34+000	P	BU	BT	7.25	F			1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)

Surveyed By : NAGARAJU AND ANVESH																			
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Side : RHS	Carriage way : SERVICE/ SLIP ROAD										Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)	Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads	Location	Type (CC/BT/ER)	
34+000	33+800	P	BU	BT	7.25	F			1	F	L	F							
33+800	33+600	P	BU	BT	7.25	F			1	F	L	F							
33+600	33+400	P	BU	BT	7.25	F			1	F	L	F							
33+400	33+200	P	BU	BT	7.25	F			1	F	L	F							
33+200	33+000	P	BU	BT	7.25	F			1	F	L	F							
33+000	32+800	P	BU	BT	7.25	F			1	F	L	F							
32+800	32+600	P	BU	BT	7.25	F			1	F	L	F							
32+600	32+400	P	BU	BT	7.25	F			1	F	L	F							
32+400	32+200	P	BU	BT	7.25	F			1	F	L	F							
32+200	32+000	P	BU	BT	7.25	F			1	F	L	F							
32+000	31+800	P	BU	BT	7.25	F			1	F	L	F							
31+800	31+600	P	BU	BT	7.25	F			1	F	L	F							
31+600	31+400	P	BU	BT	7.25	F			1	F	L	F							
31+400	31+200	P	BU	BT	7.25	F			1	F	L	F							
31+200	31+000	P	BU	BT	7.25	F			1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																					
Surveyed By : NAGARAJU AND ANVESH								Side : RHS		Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
31+000	30+800	P	BU	BT	7.25	F			1	F	L	F									
30+800	30+600	P	BU	BT	7.25	F			1	F	L	F									
30+600	30+400	P	BU	BT	7.25	F			1	F	L	F									
30+400	30+200	P	BU	BT	7.25	F			1	F	L	F									
30+200	30+000	P	BU	BT	7.25	F			1	F	L	F									
30+000	29+800	P	BU	BT	7.25	F			1	F	L	F									
29+800	29+600	P	BU	BT	7.25	F			1	F	L	F									
29+600	29+400	P	BU	BT	7.25	F			1	F	L	F									
29+400	29+200	P	BU	BT	7.25	F			1	F	L	F									
29+200	29+000	P	BU	BT	7.25	F			1	F	L	F									
29+000	28+800	P	BU	BT	7.25	F			1	F	L	F									
28+800	28+600	P	BU	BT	7.25	F			1	F	L	F									
28+600	28+400	P	BU	BT	7.25	F			1	F	L	F									
28+400	28+200	P	BU	BT	7.25	F			1	F	L	F									
28+200	28+000	P	BU	BT	7.25	F			1	F	L	F									

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																		
Surveyed By : NAGARAJU AND ANVESH								Side : RHS		Carriage way : SERVICE/ SLIP ROAD								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)
28+000	27+800	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F						
27+800	27+600	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F						
27+600	27+400	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F						
27+400	27+200	P	BU	BT	7.25	F	Kathihar by pass	KM:-26+400 to 27+104 Slip road	1	F	L	F						
27+200	27+000	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F						
27+000	26+800	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F						
26+800	26+600	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F						
26+600	26+400	P	BU	BT	7.25	F			1	F	L	F						
26+400	26+200	P	BU	BT	7.25	F			1	F	L	F						
26+200	26+000	P	BU	BT	7.25	F			1	F	L	F						
26+000	25+800	P	BU	BT	7.25	F			1	F	L	F						
25+800	25+600	P	BU	BT	7.25	F	Daharia	KM:- 23+850 to 23+180 Slip road	1	F	L	F						
25+600	25+400	P	BU	BT	7.25	F	Daharia		1	F	L	F						
25+400	25+200	P	BU	BT	7.25	F	Daharia		1	F	L	F						
25+200	25+000	P	BU	BT	7.25	F	Daharia		1	F	L	F						

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)

Surveyed By : NAGARAJU AND ANVESH								Side : RHS	Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)			Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
25+000	24+800	P	BU	BT	7.25	F	Daharia		1	F	L	F								
24+800	24+600	P	BU	BT	7.25	F	Kathihar by pass	KM:- 24+102 to 24+650 Slip road	1	F	L	F								
24+600	24+400	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F								
24+400	24+200	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F								
24+200	24+000	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F								
24+000	23+800	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F								
23+800	23+600	P	BU	BT	7.25	F		km:- 25+700 to 25+050 Slip road	1	F	L	F								
23+600	23+400	P	BU	BT	7.25	F			1	F	L	F								
23+400	23+200	P	BU	BT	7.25	F			1	F	L	F								
23+200	23+000	P	BU	BT	7.25	F			1	F	L	F								
23+000	22+800	P	BU	BT	7.25	F	Kathihar by pass	KM:- 23+180 to 21+800	1	F	L	F								
22+800	22+600	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F								
22+600	22+400	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F								
22+400	22+200	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F								
22+200	22+000	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																			
Surveyed By : NAGARAJU AND ANVESH								Side : RHS	Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
22+000	21+800	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F							
21+800	21+600	P	BU	BT	7.25	F	Daharia	KM:- 21+800 to 21+180 Slip road	1	F	L	F							
21+600	21+400	P	BU	BT	7.25	F	Daharia		1	F	L	F							
21+400	21+200	P	BU	BT	7.25	F	Daharia		1	F	L	F							
21+200	21+000	P	BU	BT	7.25	F		KM:- 21+180 to 20+500	1	F	L	F							
21+000	20+800	P	BU	BT	7.25	F			1	F	L	F							
20+800	20+600	P	BU	BT	7.25	F			1	F	L	F							
20+600	20+400	P	BU	BT	7.25	F	Sirnia	KM:- 20+500 to 19+850 Slip road	1	F	L	F							
20+400	20+200	P	BU	BT	7.25	F	Sirnia		1	F	L	F							
20+200	20+000	P	BU	BT	7.25	F	Sirnia		1	F	L	F							
20+000	19+800	P	BU	BT	7.25	F	Sirnia		1	F	L	F							
19+800	19+600	P	BU	BT	7.25	F	Marangi, Raghunichak, Sirnia		1	F	L	F							
19+600	19+400	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F							
19+400	19+200	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F							
19+200	19+000	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)

Surveyed By : NAGARAJU AND ANVESH									Side : RHS		Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)			Terrain (P/R/H) Land Use (BU/AG/FO/IND/ BA)	Carriageway					Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads				Remarks		
From	To				Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name		Describe type of Distress		Width (m)				Condition (G/F/P/VP)	Type				Condition (G/F/P/VP)	
19+000	18+800	P	BU	BT	7.25	F	Kathihar by pass	KM:- 18+100 TO 19+850	1	F	L	F										
18+800	18+600	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F										
18+600	18+400	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F										
18+400	18+200	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F										
18+200	18+000	P	BU	BT	7.25	F	Kathihar by pass		1	F	L	F										
18+000	17+800	P	BU	BT	7.25	F	Marangi, Raghunichak, Sirnia	KM:- 18+100 to 17+200 Slip road	1	F	L	F										
17+800	17+600	P	BU	BT	7.25	F	Marangi, Raghunichak, Sirnia		1	F	L	F										
17+600	17+400	P	BU	BT	7.25	F	Marangi, Raghunichak, Sirnia		1	F	L	F										
17+400	17+200	P	BU	BT	7.25	F	Marangi, Raghunichak, Sirnia		1	F	L	F										
17+200	17+000	P	BU	BT	7.25	F			1	F	L	F										
17+000	16+800	P	BU	BT	7.25	F			1	F	L	F										
16+800	16+600	P	BU	BT	7.25	F			1	F	L	F										
16+600	16+400	P	BU	BT	7.25	F			1	F	L	F										
16+400	16+200	P	BU	BT	7.25	F			1	F	L	F										
16+200	16+000	P	BU	BT	7.25	F		km:-16+600 to 16+300	1	F	L	F										
16+000	15+800	P	BU	BT	7.25	F			1	F	L	F										
15+800	15+600	P	BU	BT	7.25	F			1	F	L	F										

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																				
Surveyed By : NAGARAJU AND ANVESH								Side : RHS		Carriage way : SERVICE/ SLIP ROAD										
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway						Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
15+600	15+400	P	BU	BT	7.25	F			1	F	L	F								
15+400	15+200	P	BU	BT	7.25	F			1	F	L	F								
15+200	15+000	P	BU	BT	7.25	F		KM:- 15+120 to 14+470 Slip road	1	F	L	F								
15+000	14+800	P	BU	BT	7.25	F			1	F	L	F								
14+800	14+600	P	BU	BT	7.25	F			1	F	L	F								
14+600	14+400	P	BU	BT	7.25	F			1	F	L	F								
14+400	14+200	P	BU	BT	7.25	F			1	F	L	F								
14+200	14+000	P	BU	BT	7.25	F			1	F	L	F								
14+000	13+800	P	BU	BT	7.25	F			1	F	L	F								
13+800	13+600	P	BU	BT	7.25	F			1	F	L	F								
13+600	13+400	P	AG	BT	7.25	F	Kumaripur, Bhermara, Basantpur	KM:- 13+600 TO 13+000 Slip road	1	F	L	F								
13+400	13+200	P	AG	BT	7.25	F	Kumaripur, Bhermara, Basantpur		1	F	L	F								
13+200	13+000	P	AG	BT	7.25	F	Kumaripur, Bhermara, Basantpur		1	F	L	F								
13+000	12+800	P	AG	BT	7.25	F		KM:- 13+000 to 11+330	1	F	L	F								
12+800	12+600	P	AG	BT	7.25	F			1	F	L	F								
12+600	12+400	P	AG	BT	7.25	F			1	F	L	F								
12+400	12+200	P	AG	BT	7.25	F			1	F	L	F								

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)																					
Surveyed By : NAGARAJU AND ANVESH								Side : RHS		Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway						Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
12+200	12+000	P	AG	BT	7.25	F		KM:- 12+000 to 11+330	1	F	L	F									
12+000	11+800	P	AG	BT	7.25	F			1	F	L	F									
11+800	11+600	P	AG	BT	7.25	F			1	F	L	F									
11+600	11+400	P	AG	BT	7.25	F			1	F	L	F									
11+400	11+200	P	AG	BT	7.25	F		KM:- 11+330 to 10+610 Slip road													
11+200	11+000	P	AG	BT	7.25	F			1	F	L	F									
11+000	10+800	P	AG	BT	7.25	F			1	F	L	F									
10+800	10+600	P	AG	BT	7.25	F			1	F	L	F									
10+600	10+400	P	AG	BT	7.25	F			1	F	L	F									
10+400	10+200	P	AG	BT	7.25	F			1	F	L	F									
10+200	10+000	P	AG	BT	7.25	F			1	F	L	F									
10+000	9+800	P	AG	BT	7.25	F			1	F	L	F									
9+800	9+600	P	AG	BT	7.25	F			1	F	L	F									
9+600	9+400	P	BU	BT	7.25	F	-		1	F	L	F									

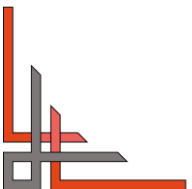
ROAD INVENTORY AND CONDITION SURVEY FORMAT (Narenpur - Purnea)


Surveyed By : NAGARAJU AND ANVESH									Side : RHS		Carriage way : SERVICE/ SLIP ROAD											
Chainage (Km)			Terrain (P/R/H) Land Use (BU/AG/FO/IND/ BA)	Carriageway						Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks		
From	To				Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Village name	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)			Location	Type (CC/BT/ER)	Width (m)				
9+400	9+200	P	AG	BT	7.25	F	-	KM:-9+440 to 8+860 Slip road	1	F	L	F										
9+200	9+000	P	AG	BT	7.25	F	-		1	F	L	F										
9+000	8+800	P	AG	BT	7.25	F	-		1	F	L	F										
8+800	8+600	P	BU	BT	7.25	F	Pagalbari Manoharpur	KM:- 8+860 to 8+400	1	F	L	F										
8+600	8+400	P	BU	BT	7.25	F			1	F	L	F										
8+400	8+200	P	AG	BT	7.25	F	Kutubpur, pagalbari	KM:- 8+400 to 7+590 Slip road	1	F	L	F										
8+200	8+000	P	AG	BT	7.25	F			1	F	L	F										
8+000	7+800	P	AG	BT	7.25	F			1	F	L	F										
7+800	7+600	P	AG	BT	7.25	F			1	F	L	F										
7+600	7+400	P	AG	BT	7.25	F	-	KM:- 7+590 to 7+100	1	F	L	F										
7+400	7+200	P	AG	BT	7.25	F	-		1	F	L	F										
7+200	7+000	P	AG	BT	7.25	F	-		1	F	L	F										
7+000	6+800	P	BU	BT	7.25	F	Narenpur	Km:- 6+850 to 6+300 Slip road	1	F	L	F										
6+800	6+600	P	BU	BT	7.25	F	Narenpur		1	F	L	F										
6+600	6+400	P	BU	BT	7.25	F	Narenpur		1	F	L	F										
6+400	6+200	P	BU	BT	7.25	F	Narenpur		1	F	L	F										
6+200	6+000	P	BU	BT	7.25	F	Narenpur		1	F	L	F										





Annexure-2


Inventory & Condition of Project Facilities





	Construction and Up-gradation of Nh-131 A km34+600 (design Ch 6+000) near Narenpur to Km 79.970(design Ch 53+000) near Purnea to 4 lane standard and fom Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE -2			
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - LHS			
		@ Km. 6+500	@ Km. 8+100	@ Km. 13+600	@ Km. 14+900
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Prov	Prov	Prov	Prov
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	NA	NA	NA	NA
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	NA	NA	NA	NA
3	FACILITIES				
3.1	Drinking Water Facility	Yes	Yes	Yes	Yes
3.2	Lighting	Yes	Yes	Yes	Yes
3.3	Sign Board	Yes	Yes	Yes	Yes
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities	Good	Good	Good	Good


	Construction and Up-gradation of Nh-131 A km34+600 (design Ch 6+000) near Narenpur to Km 79.970(design Ch 53+000) near Purnea to 4 lane standard and fom Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE -2			
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - LHS			
		@ Km. 16+550	@ Km. 17+700	@ Km. 37+650	@ Km. 48+300
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Prov	Prov	Prov	Prov
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	NA	NA	NA	NA
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	NA	NA	NA	NA
3	FACILITIES				
3.1	Drinking Water Facility	Yes	Yes	Yes	Yes
3.2	Lighting	Yes	Yes	Yes	Yes
3.3	Sign Board	Yes	Yes	Yes	Yes
3.4	Landscaping and plantaion near Bus Bay	NA	NA	NA	NA
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities	Good	Good	Good	Good


	Construction and Up-gradation of Nh-131 A km34+600 (design Ch 6+000) near Narenpur to Km 79.970(design Ch 53+000) near Purnea to 4 lane standard and fom Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE -2			
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - LHS			
		@ Km. 52850	@ Km. 51+000		
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC		
1.2	Condition of Shelter	Good	Good		
1.3	Passenger seating	Prov	Prov		
1.4	Condition of Passenger seating	Good	Good		
1.5	Flooring condition	Good	Good		
1.6	Ramp for disabled persons	Prov	Prov		
1.7	Guard Rails	Prov	Prov		
1.8	Guard Rails condition	Prov	Prov		
1.9	Cleanliness	Fair	Fair		Fair
1.10	Over all condition of Bus shelter	Good	Good		
2	BUSBAY		YES		
2.1	Bus bay	NA	Prov		
2.2	Pavement type of Bus bay	NA	Flexi		
2.3	Island type	NA	Ghost		
2.4	Road Marking	NA	Yes		
2.5	Drainage condition	NA	Fair		
3	FACILITIES				
3.1	Drinking Water Facility	Yes	Yes		
3.2	Lighting	Yes	Yes		
3.3	Sign Board	Yes	Yes		
3.5	Others.....	NA	NA		
3.6	Remarks / Observations on facilities	Good	Good		


	Construction and Up-gradation of Nh-131 A km34+600 (design Ch 6+000) near Narenpur to Km 79.970(design Ch 53+000) near Purnea to 4 lane standard and fom Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE -2			
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - RHS			
		@ Km. 6+600	@ Km. 7+900	@ Km. 13+500	@ Km. 15+120
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	
1.5	Flooring condition	Good	Good	Good	
1.6	Ramp for disabled persons	Prov	Prov	Prov	
1.7	Guard Rails	Prov	Prov	Prov	
1.8	Guard Rails condition	Prov	Prov	Prov	
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	
2	BUSBAY				
2.1	Bus bay	NA	NA	NA	NA
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	NA	NA	NA	NA
2.7	Remarks / Observations on Busbay	NA	NA	NA	NA
3	FACILITIES				
3.1	Drinking Water Facility	Yes	Yes	Yes	Yes
3.2	Lighting	Yes	Yes	Yes	Yes
3.3	Sign Board	Yes	Yes	Yes	Yes
3.6	Remarks / Observations on facilities	Good	Good	Good	Good

	Construction and Up-gradation of Nh-131 A km34+600 (design Ch 6+000) near Narenpur to Km 79.970(design Ch 53+000) near Purnea to 4 lane standard and fom Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE -2			
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - RHS			
		@ Km. 16+550	@ Km. 17+550	@ Km. 37+550	@ Km. 48+100
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Prov	Prov	Prov	Prov
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	NA	NA	NA	NA
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	NA	NA	NA	NA
2.6	Layout dimensions as per GFC?	NA	NA	NA	NA
2.7	Remarks / Observations on Busbay	NA	NA	NA	NA
3	FACILITIES				
3.1	Drinking Water Facility	Yes	Yes	Yes	Yes
3.2	Lighting	Yes	Yes	Yes	Yes
3.3	Sign Board	Yes	Yes	Yes	Yes
3.6	Remarks / Observations on facilities	Good	Good	Good	Good

	Construction and Up-gradation of Nh-131 A km34+600 (design Ch 6+000) near Narenpur to Km 79.970(design Ch 53+000) near Purnea to 4 lane standard and fom Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.				ANNEXURE -2
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - RHS			
		@ Km. 47+550	@ Km. 52+850	@ Km. 50+770	
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	
1.2	Condition of Shelter	Good	Good	Good	
1.3	Passenger seating	Prov	Prov	Prov	
1.4	Condition of Passenger seating	Good	Good	Good	
1.5	Flooring condition	Good	Good	Good	
1.6	Ramp for disabled persons	Prov	Prov	Prov	
1.7	Guard Rails	Prov	Prov	Prov	
1.8	Guard Rails condition	Prov	Prov	Prov	
1.9	Cleanliness	Good	Good	Good	
1.10	Over all condition of Bus shelter	Good	Good	Good	
2	BUSBAY			YES	
2.1	Bus bay	NA	NA	Prov	
2.2	Pavement type of Bus bay	NA	NA	Flexi	
2.3	Island type	NA	NA	Ghost	
2.4	Road Marking	No	No	Yes	
2.5	Drainage condition	Good	Good	Good	
2.7	Remarks / Observations on Busbay	NA	NA	Good	
3	FACILITIES				
3.1	Drinking Water Facility	Yes	Yes	Yes	
3.2	Lighting	Yes	Yes	Yes	
3.3	Sign Board	Yes	Yes	Yes	
3.5	Others.....	NA	NA	NA	
3.6	Remarks / Observations on facilities	Good	Good	Good	Good

	Construction and Up-gradation of Nh-131 A km34+600 (design Ch 6+000) near Narenpur to Km 79.970(design Ch 53+000) near Purnea to 4 lane standard and fom Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.			
REST AREA - INVENTORY & CONDITION DATA				
Sno.	Description	Rest Area @ Km 36815 LHS		Remarks
		Inventory	Condition	
1	Area of Development in Ha	Steel/ RCC/ Mas/ NA	Not Applicable	
2	FACILITIES IN REST AREA			
2.1	Cafeteria (50 Nos seating)	Prov	Good	
2.2	Toilets for Gents	Yes	Good	
2.3	Toilets for ladies	Yes	Good	
2.4	Min. 5 Nos WC Provided?	Yes	Good	
2.5	Min. 10 Nos urinals Provided?	Yes	Good	
2.6	Dormitory With 20 Beds	yes	Good	
2.7	Telephone with STD/ISD Facility	Yes	Good	
2.8	Drinking Water Facility	Yes	Good	
2.9	Shops for travel Need	yes	Good	
2.10	First Aid Facility	Yes	Good	
2.11	Parking For 100 Trucks	Yes	Good	
2.12	Parking For 50 Cars	Yes	Good	
2.13	Parking Pavement type	Yes	Good	
2.14	Lighting as per mannual	yes	Good	
2.14	Compound Wall	No	No	
2.15	Land Scaping	No	No	
2.15	Informatory sign Boards	Yes	Good	
2.16	Additional Facilities if any			
a	Fuel station			
2.17	Does Rest Area In Operation?	Constructed	Good Condition	
1.19	Remarks / Observations	Good		

	Construction and Up-gradation of Nh-131 A km34+600 (design Ch 6+000) near Narenpur to Km 79.970(design Ch 53+000) near Purnea to 4 lane standard and fom Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.			
TRUCK LAYBAY - INVENTORY & CONDITION DATA				
Sno.	Description	Location / Chainage		Remarks
		Location / Chainage	Location / Chainage	
1	FACILITIES	Km.34950 (LHS)	Km.34950 (RHS)	
1.1	Building Type	RCC	RCC	
1.2	Condition of Building	Good	Good	
1.3	Flooring condition	Good	Good	
1.4	Toilets condition	Good	Good	
1.5	Water Facility for Toilets	Prov	Good	
1.6	Toilets Cleanliness	NA	NA	
1.7	Telephone Facility	NA	NA	
1.8	Is Telephone working?	NA	NA	
1.9	Drinking Water Facility	NA	NA	
1.10	Electrical connection	Prov	Good	
1.11	Over all condition of Rest Area	Good	Good	
2	TRUCK LAYBAY			
2.1	Truck Laybay/Parking	Prov	Prov	
2.2	Parking Pavement type	Flexi	Flexi	
2.3	Island type	Kerbed	Kerbed	
2.4	Road Marking	No	No	
2.4	Sign Boards as per Mannual?	No	No	
2.5	Drainage condition	Poor	Poor	
2.6	Highway Lighting Facility	Prov	Prov	
2.7	Lighting as per mannual?	Yes	Yes	
2.8	Layout dimensions as per GFC?	Yes	Yes	

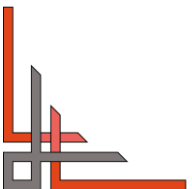
	Construction and Up-gradation of Nh-131 A km34+600 (design Ch 6+000) near Narenpur to Km 79.970(design Ch 53+000) near Purnea to 4 lane standard and fom Km 79+970 (design Ch 53+000) to Km 82+000 (design Ch 55+000) near Purnea to 2 lane with paved shoulders standard in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE-11			
ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS) - INVENTORY & CONDITION					
Sno.	Description	Inventory	Quantity	Condition	Remarks
1	OUT-DOOR EQUIPMENT				
1.1	Emergency Call Box (ECB)	Yes		Working	
1.2	Variable Message system (VMS)	Yes	3	Working	
1.3	Meteorological Data System (MDS)	Yes		Working	
1.4	Automatic Traffic counting and classification (ATCC)	Yes		Working	
1.5	Vehicle Speed Enforcement System cameras	Yes	4	Working	
1.6	CCTV Surveillance system	Yes	9	Working	
1.7	Video Incident Detection system	Yes	7	Working	
1.8	Visibility Sensors	Yes		Working	
1.9	Mobile Radio Communication System	Yes		Working	
2	IN-DOOR EQUIPMENT				
2.1	Central ATMS Server	Yes		Working	
2.2	Network Management System	Yes		Working	
2.3	Traffic Controller Operator	Yes		Working	
2.4	Video Display	Yes		Working	
2.5	Network Video Recording and Management system	Yes		Working	
2.6	Emergency Call Management Center	Yes		Working	
2.7	Video Incident Detection central System	Yes		Working	

Signature



Annexure-3

Inventory & Condition of Structures



Construction and up gradation of NH 131A from Narenpur to pumea (Km 6.000 to Km 53.000 to 4 Lane standard and Km 53.000 to Km 55.000 to 2 lane with paved houlders standard) in the state of Bihar on H rid Annuit Mode

BOX culvert

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	6.700	1 x 2	Completed	Good	
2	7.180	1 x 3	Completed	Good	
3	7.790	1 x 3	Completed	Good	
4	8.450	1 x 3	Completed	Good	
5	9.380	1 x 2	Completed	Good	
6	10.100	1 x 2	Completed	Good	
7	10.260	1 x 2	Completed	Good	
8	11.730	1 x 2	Completed	Good	
9	12.250	1 x 2	Completed	Good	
10	12.924	1 x 3	Completed	Good	
11	13.941	1 x 2	Completed	Good	
12	14.329	1 x 3	Completed	Good	
13	15.090	1 x 2	Completed	Good	
14	16.200	1 x 3	Completed	Good	
15	17.280	1 x 3	Completed	Good	
16	18.209	1 x 2	Completed	Good	
17	18.520	1 x 3	Completed	Good	
18	19.250	1 x 3	Completed	Good	
19	19.900	1 x 3	Completed	Good	
20	20.030	1 x 3	Completed	Good	
21	20.290	1 x 2	Completed	Good	
22	20.640	1 x 2	Completed	Good	
23	20.900	1 x 3	Completed	Good	
24	21.120	1 x 2	Completed	Good	
25	21.780	1 x 3	Completed	Good	
26	22.080	1 x 2	Completed	Good	
27	23.320	1 x 3	Completed	Good	
28	23.980	1 x 2	Completed	Good	
29	24.400	1 x 4	Completed	Good	
30	25.050	1 x 2	Completed	Good	
31	26.125	1 x 2	Completed	Good	
32	26.461	1 x 4	Completed	Good	
33	26.708	1 x 2	Completed	Good	
34	27.919	1 x 3	Completed	Good	
35	28.195	1 x 2	Completed	Good	
36	28.340	1 x 3.0	Completed	Good	
37	28.548	1 x 2	Completed	Good	
38	28.586	1 x 4.2	Completed	Good	
39	28.900	1 x 2.0	Completed	Good	
40	29.508	1 x3.0	Completed	Good	
41	29.619	1 x 2	Completed	Good	
42	30.255	1 x 3	Completed	Good	
43	30.380	1 x 3	Completed	Good	

Construction and up gradation of NH 131A from Narenpur to pumea (Km 6.000 to Km 53.000 to 4 Lane standard and Km 53.000 to Km 55.000 to 2 lane with paved houlders standard) in the state of Bihar on H rid Annuit Mode

BOX culvert					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
44	31.700	1 x 4	Completed	Good	
45	32.720	1 x 2	Completed	Good	
46	33.490	1 x 4	Completed	Good	
47	34.845	1 x 2	Completed	Good	
48	36.675	1 x 3	Completed	Good	
49	37.215	1 x 2	Completed	Good	
50	37.715	2 x 3	Completed	Good	
51	38.535	1 x 2	Completed	Good	
52	39.075	1 x 3	Completed	Good	
53	40.389	1 x 2	Completed	Good	
54	40.674	1 x 2	Completed	Good	
55	41.479	1 x 2	Completed	Good	
56	41.900	1 x 2	Completed	Good	
57	42.664	1 x 2	Completed	Good	
58	43.059	1X 5.5	Completed	Good	
59	43.538	1 X 4	Completed	Good	
60	43.855	1 X 4	Completed	Good	
61	44.253	1 X 4	Completed	Good	
62	44.713	1 x 2	Completed	Good	
63	45.396	1 X 4	Completed	Good	
64	46.350	1 X 3	Completed	Good	
65	46.732	1 x 2	Completed	Good	
66	47.182	1 x 2	Completed	Good	
67	47.372	1 X 3.6	Completed	Good	
68	47.602	1 x 2	Completed	Good	
69	47.964	2 X 4	Completed	Good	
70	48.588	1 x 2	Completed	Good	
71	49.108	1 x 2	Completed	Good	
72	49.650	1 x 2	Completed	Good	
73	50.395	1 x 2	Completed	Good	
74	50.884	1 x 3	Completed	Good	
75	51.168	1 X 4	Completed	Good	
76	54.110	1 x 2	Completed	Good	

Construction and up gradation of NH 131A from Narenpur to pumea (Km 6.000 to Km 53.000 to 4 Lane standard and Km 53.000 to Km 55.000 to 2 lane with paved houlders standard) in the state of Bihar on H rid Annuit Mode

MNB					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	6+960	3 X 10.00	Completed	Good	
2	15+681	2X 5.00	Completed	Good	
3	16+751	3 X 9.00	Completed	Good	
4	18+698	3 x 8.803	Completed	Good	
5	21+598	4 X 3.339	Completed	Good	
6	22+842	1 X 8	Completed	Good	
7	25+592	3X9.397	Completed	Good	
8	26+550	1 X 8	Completed	Good	
9	30+519	2X9.962	Completed	Good	
10	31+292	3X10	Completed	Good	
11	32+185	2X4	Completed	Good	
12	32+302	2X4	Completed	Good	
13	32+480	2X4	Completed	Good	
14	34+186	1X6	Completed	Good	
15	39+672	3X10	Completed	Good	

Construction and up gradation of NH 131A from Narenpur to pumea (Km 6.000 to Km 53.000 to 4 Lane standard and Km 53.000 to Km 55.000 to 2 lane with paved houlders standard) in the state of Bihar on H rid Annuit Mode					
MJB					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	22+554	2 x 30+2 X 15	Completed	Good	
2	35+390	2X30	Completed	Good	

Construction and up gradation of NH 131A from Narenpur to pumea (Km 6.000 to Km 53.000 to 4 Lane standard and Km 53.000 to Km 55.000 to 2 lane with paved houlders standard) in the state of Bihar on H rid Annuit Mode

LVUP					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	6+540	1X12	Completed	Good	
2	7+991	1X12	Completed	Good	
3	9+154	1X12	Completed	Good	
4	10+958	1X12	Completed	Good	
5	13+284	1X12	Completed	Good	
6	14+783	1X12	Completed	Good	
7	20+213	1X12	Completed	Good	
8	21+474	1X12	Completed	Good	
9	24+250	1X12	Completed	Good	
10	25+363	1X12	Completed	Good	
11	27+250	1X12	Completed	Good	
12	36+093	1X12	Completed	Good	
13	37+571	1X12	Completed	Good	
14	41+131	1X12	Completed	Good	
15	43+367	1X12	Completed	Good	
16	48+176	1X12	Completed	Good	

Construction and up gradation of NH 131A from Narenpur to pumea (Km 6.000 to Km 53.000 to 4 Lane standard and Km 53.000 to Km 55.000 to 2 lane with paved houlders standard) in the state of Bihar on H rid Annuit Mode					
VUP					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	22+720	1X7	Completed	Good	
2	30+280	1X7	Completed	Good	

Construction and up gradation of NH 131A from Narenpur to pumea (Km 6.000 to Km 53.000 to 4 Lane standard and Km 53.000 to Km 55.000 to 2 lane with paved houlders standard) in the state of Bihar on H rid Annuit Mode

VUP					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	17+610	1 x 23.3	Completed	Good	
2	31+517	1X23.82	Completed	Good	
3	33+639	1X27.03	Completed	Good	

Construction and up gradation of NH 131A from Narenpur to pumea (Km 6.000 to Km 53.000 to 4 Lane standard and Km 53.000 to Km 55.000 to 2 lane with paved houlders standard) in the state of Bihar on H rid Annuit Mode

FL OVER

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	23+520	2X23.250+1X32.9	Completed	Good	
2	29+260	X 37.463+2X26.53	Completed	Good	

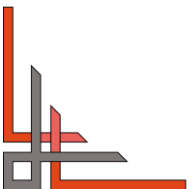
Construction and up gradation of NH 131A from Narenpur to pumea (Km 6.000 to Km 53.000 to 4 Lane standard and Km 53.000 to Km 55.000 to 2 lane with paved houlders standard) in the state of Bihar on H rid Annuit Mode


ROB					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	24+045	X 37.28+2X25.08	Completed	Good	
2	27+035	4X18.5+1X37.2	Completed	Good	
3	32+541	3.675+1X64.010+1	Completed	Good	




Annexure-4

Operation & Maintenance cost Estimate





	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE: ABSTRACT COST
---	---	------------------------------------


FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2024-2025	-	2.99	8.39	11.38	
2025-2026	-	3.11	8.80	11.91	
2026-2027	3.01	4.16	9.23	16.40	
2027-2028	0.69	4.26	9.58	14.53	
2028-2029	0.78	4.19	9.94	14.91	
2029-2030	0.74	4.55	10.31	15.60	
2030-2031	82.00	5.34	11.01	98.34	
2031-2032	1.60	4.35	11.26	17.21	
2032-2033	0.80	4.92	11.39	17.11	
2033-2034	0.89	4.77	11.68	17.34	
2034-2035	3.70	5.10	11.98	20.78	
2035-2036	0.84	5.22	12.28	18.35	
2036-2037	0.86	5.06	12.60	18.52	
2037-2038	95.13	5.20	12.92	113.25	
2038-2039	1.92	5.27	4.42	11.61	
2039-2040	-	-	4.53	4.53	
Total Expenditure in Cr. Rs	192.96	68.50	160.33	421.79	

	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE: MMR
---	---	----------------------

FY	6. MMR (Rs in Cr)			Total Expenditure till the end of Concession Period
	MMR Highway	MMR Structure	MMR Toll Plaza	
2023-2024	-	-	-	-
2024-2025	-	-	-	-
2025-2026	-	-	-	-
2026-2027	3.01	-	-	3.01
2027-2028	0.69	-	-	0.69
2028-2029	0.78	-	-	0.78
2029-2030	0.74	-	-	0.74
2030-2031	82.00	-	-	82.00
2031-2032	1.41	-	0.19	1.60
2032-2033	0.61	-	0.18	0.80
2033-2034	-	0.70	0.19	0.89
2034-2035	2.80	0.71	0.19	3.70
2035-2036	0.65	-	0.19	0.84
2036-2037	0.86	-	-	0.86
2037-2038	90.95	-	4.18	95.13
2038-2039	1.72	-	0.20	1.92
2039-2040	-	-	-	-
Total Expenditure in Cr. Rs	186.22	1.41	5.33	192.96


	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.											MMR-Highway	
FY	Description	CODE	Unit	% of Treatement	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalat ion (%)	Year	Amount in INR after Escalation
2027	Filling of Earthen Shoulder	MCW-SF	Cum	33%	98,000.00	1.5		48,170.85	558	2,68,79,333	4.0%	3	3,01,04,852
TOTAL AMOUNT										2,68,79,333			3,01,04,852
2028	Milling	MCW-Mill	Sqm	4%	98,000.00	9.631		42,058.15	90	37,85,234	3.0%	4	42,39,462
2028	TC for BC	MCW-TC BC	Sqm	1%	98,000.00			980.00	14	13,720	3.0%	4	15,366
2028	BC Overlay	MCW-BC	Cum	1%	98,000.00	9.631	0.04	243.16	9817	23,87,096	3.0%	4	26,73,548
TOTAL AMOUNT										61,86,050			69,28,376
2029	Milling	MCW-Mill	Sqm	1%	98,000.00	9.631		9,438.01	90	8,49,421	3.0%	5	9,76,834
2029	TC for BC	MCW-TC BC	Sqm	1%	98,000.00			980.00	14	13,720	3.0%	5	15,778
2029	BC Overlay	MCW-BC	Cum	2%	98,000.00	9.631	0.04	603.60	9817	59,25,474	3.0%	5	68,14,295
TOTAL AMOUNT										67,88,614			78,06,906
2030	TC for BC	MCW-TC BC	Sqm	1%	98000	9.631		12,471.35	14	1,74,599	3.0%	6	2,06,027
2030	BC Overlay	MCW-BC	Cum	1%	98,000.00	9.631	0.05	616.74	9817	60,54,481	3.0%	6	71,44,288
TOTAL AMOUNT										62,29,080			73,50,314
2031	TC for BC	MCW-TC BC	Sqm	99%	98000	9.631		9,31,531.26	14	1,30,41,438	3.0%	7	1,57,80,139
2031	BC Overlay	MCW-BC	Cum	99%	98,000.00	9.631	0.05	43,827.95	9817	43,02,52,430	3.0%	7	52,06,05,440
2031	TC for BC	SR-TC	Sqm	100%	60860	7.5		4,56,450.00	14	63,90,300	3.0%	7	77,32,263
2031	BC Overlay	SR-BC	Cum	100%	60860	7.50	0.05	21,452.99	9817	21,06,00,786	3.0%	7	25,48,26,951
2031	Road Marking - MCW	RM MCW	Sqm	100%	2,28,666.67	0.15		34,300.00	400	1,37,20,000	3.0%	7	1,66,01,200
2031	Studs	STUD	Nos	100%	18370			18,370.00	200	36,74,000	3.0%	7	44,45,540
TOTAL AMOUNT										67,76,78,954			81,99,91,534
2032	Kerb	KERB	Rm	17%	45052			7,711.79	458	35,31,999	3.0%	8	43,79,679
2032	Kerb Painting	KERBP	Sqm	100%	45052	0.34		15,317.68	140	21,44,475	3.0%	8	26,59,149
2032	Road Marking - SR	RM SR	Sqm	100%	142006.6667	0.10		14,200.67	400	56,80,267	3.0%	8	70,43,531
TOTAL AMOUNT										1,13,56,741			1,40,82,359
2033	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	9%	24305		0.3	638.20	1875	11,96,628	2.0%	9	14,12,021
2033	Replacement of Panels @ 2% area	TP-CC PAN	Cum	9%	24305		0.3	638.20	6250	39,88,759	2.0%	9	47,06,736
TOTAL AMOUNT										51,85,387			61,18,757
2035	Filling of Earthen Shoulder	MCW-SF	Cum	10%	98,000.00	1.5		15,412.77	558	86,00,328	2.0%	11	1,04,92,400
2035	Replacement of Joint Sealent	TP-JS	Rm	100%	14722			14,722.10	98	14,42,766	2.0%	11	17,60,174
2035	Diamond Grinding	TP-GRIN	Sqm	100%	24305			24,304.50	100	24,30,450	2.0%	11	29,65,149
2035	Microsurfacing	SR-MS	Sqm	96%	60860			58,287.80	180	1,04,91,804	2.0%	11	1,28,00,001
TOTAL AMOUNT										2,29,65,348			2,80,17,725
2036	Filling of Earthen Shoulder	MCW-SF	Cum	6%	98,000.00	1.5		9,412.57	558	52,52,215	2.0%	12	65,12,747

	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.											MMR-Highway	
FY	Description	CODE	Unit	% of Treatement	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalat ion (%)	Year	Amount in INR after Escalation
TOTAL AMOUNT										52,52,215			65,12,747
2037	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	12%	24305		0.3	841.10	1875	15,77,054	2.0%	13	19,87,088
2037	Replacement of Panels @ 2% area	TP-CC PAN	Cum	12%	24305		0.3	841.10	6250	52,56,847	2.0%	13	66,23,627
TOTAL AMOUNT										68,33,901			86,10,715
2038	TC for BC	MCW-TC BC	Sqm	100%	98000	9.630619		9,43,800.66	14	1,32,13,209	2.0%	14	1,69,12,908
2038	BC Overlay	MCW-BC	Cum	100%	98,000.00	9.630619	0.05	47,472.56	9817	46,60,31,048	2.0%	14	59,65,19,741
2038	TC for BC	SR-TC	Sqm	90%	60860	7.5		4,10,805.00	14	57,51,270	2.0%	14	73,61,626
2038	BC Overlay	SR-BC	Cum	90%	60860	7.5	0.05	20,785.95	9817	20,40,52,544	2.0%	14	26,11,87,256
2038	Road Marking - MCW	RM MCW	Sqm	100%	2,28,666.67	0.15		34,300.00	400	1,37,20,000	2.0%	14	1,75,61,600
2038	Road Marking - SR	RM SR	Sqm	52%	142006.6667	0.15		11,093.40	400	44,37,359	2.0%	14	56,79,819
2038	Studs	STUD	Nos	90%	18370			16,533.00	200	33,06,600	2.0%	14	42,32,448
TOTAL AMOUNT										71,05,12,030			90,94,55,398
2039	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	10%	24305		0.3	740.41	1875	13,88,262	2.0%	15	18,04,740
2039	Replacement of Panels @ 2% area	TP-CC PAN	Cum	10%	24305		0.3	729.14	6250	45,57,094	2.0%	15	59,24,222
2039	Kerb	KERB	Rm	3%	45052			1,514.11	458	6,93,462	2.0%	15	9,01,500
2039	Kerb Painting	KERBP	Sqm	100%	45052	0.34		15,317.68	140	21,44,475	2.0%	15	27,87,818
2039	Road Marking - SR	RM SR	Sqm	48%	142006.6667	0.15		10,224.48	400	40,89,792	2.0%	15	53,16,730
2039	Studs	STUD	Nos	10%	18370			1,837.00	200	3,67,400	2.0%	15	4,77,620
TOTAL AMOUNT										1,32,40,484			1,72,12,630

	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE: ABSTRACT OF MMR EXPENDITURE
---	---	--


2. Structure

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
	2034	29-12-2033	486755	5841059	10	0	7009271	0.70	GST 0% considered
2.01	2035	29-12-2034	486755	5841059	11	0	7126092	0.71	GST 0% considered

	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ABSTRACT OF MMR STRUCTURE
---	---	--


Structure MMR Base

Sr. No.	Item	Unit	Quantity	% of Extant to be Treated	Rate (Rs)	Amount (Rs)
1	Strip Seal Joint	Rmt	933	5.00%	11389	531297
2	Filler type expansion joint	Rmt	0	5.00%	4500	0
3	Crash Barrier on Structures	Rmt	34535	2.55%	3562	3142293
4	Painting of Crash Barrier	Sqm	38679	20.00%	80	618867
5	Wearing Coat over Deck Slab	Sqm	32523	10.00%	681.25	2215610
6	Repalcement old Damaged Drainage Spoutes	Nos	472	5.00%	3562	84063
7	Lifting of Spans for rapair/replacement of bearings	Nos	208	25.00%	75000	3900000
8	Replacement of Elastomeric Bearings	Cu. Cm	3650400	15.00%	1	547560
9	Replacement of POT PTFE Bearings	Nos	8	5.00%	115077	46031
10	Soil Nailing	Sqm	136	10.00%	7088	96397
11	Repair of RE Wall	Ls				500000
Total Structure MMR Cost						11682118
Total Structure MMR Cost (50%)						5841059


	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE: ABSTRACT OF MMR TOLL PLAZA
--	---	---

3. Toll Plaza

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
3.01	2032	30-12-2031	129646	15,55,750	8	0	1929130	0.19	GST 0% considered
3.01	2033	29-12-2032	129646	15,55,750	9	0	1835785	0.18	GST 0% considered
3.01	2034	29-12-2033	129646	15,55,750	10	0	1866900	0.19	GST 0% considered
3.01	2035	29-12-2034	129646	15,55,750	11	0	1898015	0.19	GST 0% considered
3.01	2036	29-12-2035	129646	15,55,750	12	0	1929130	0.19	GST 0% considered
3.01	2038	28-12-2037	2722563	3,26,70,750	14	0	41818560	4.18	GST 0% considered
3.01	2039	28-12-2038	129646	15,55,750	15	0	2022475	0.20	GST 0% considered


	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE:Routine Maintenance
--	---	-------------------------------------

FY	1. RM Costs (Rs in Cr) with Inflation				Total Expenditure till the end of Concession Period
	Highway Routine Maintenance Cost	Structure Routine Maintenance Cost	Route Maintenance Manpower Cost	Route Maintenance Vehicle & Equipment Cost	
Base Cost 2023-2024	1.14	0.50	0.70	0.54	2.88
2023-2024	0.28	0.12	0.18	0.14	0.72
2024-2025	1.18	0.52	0.73	0.57	2.99
2025-2026	1.23	0.54	0.76	0.59	3.11
2026-2027	1.64	0.72	1.02	0.78	4.16
2027-2028	1.68	0.73	1.04	0.80	4.26
2028-2029	1.65	0.72	1.02	0.79	4.19
2029-2030	1.80	0.78	1.11	0.86	4.55
2030-2031	2.11	0.92	1.30	1.01	5.34
2031-2032	1.72	0.75	1.06	0.82	4.35
2032-2033	1.94	0.85	1.20	0.93	4.92
2033-2034	1.88	0.82	1.17	0.90	4.77
2034-2035	2.01	0.88	1.25	0.96	5.10
2035-2036	2.06	0.90	1.28	0.99	5.22
2036-2037	2.00	0.87	1.24	0.96	5.06
2037-2038	2.05	0.90	1.27	0.98	5.20
2038-2039	2.08	0.91	1.29	0.99	5.27
2039-2040	-	-	-	-	-
Total Expenditure in Cr. Rs	27.32	11.92	16.91	13.06	69.22

	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-Base Cost
--	---	--


Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damage d % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1	HIGHWAY								
1.1	FLEXIBLE PAVEMENT, MEDIAN & SHOULDERS								
1.1.1	Sealing of Cracks								
1.1.1.3	Filling discrete cracks with slow curing bitumen emulsion as per Technical Specification Clause 3004.3.3	Rm	9442	10%	5	3,934.37	47,212.45		
1.1.2	Treatment of Bleeding Surface								
1.1.2.1	Providing treatment to bleeding bituminous surface at scattered locations - Main carriageway	Sqm	84982	10%	2	15,013.56	1,80,162.72		
1.1.3	Treatment of Rutting Surface								
1.1.3.1	Providing localised repair to rutted portion and edge breaking of bituminous surface - Main carriageway	Cum	334	1%	10917	3,03,636.84	36,43,642.10		
1.1.4	Pothole Repair								
1.1.4.1	Providing treatment and repair to pot-holes and patch work - MCW	Sqm	1986	0%	462	76,455.47	9,17,465.70		
1.1.4.2	Providing treatment and repair to pot-holes and patch work - Service/Slip Road	Sqm	426	0%	462	16,401.77	1,96,821.24		
1.1.7	Shoulder Maintenance	Sqm	4249	2%	85	30,097.94	3,61,175.27		
1.2.3	RCC drain Repair/Restoring	Rm	327	1%	500	13,640.83	1,63,690.00		
1.2.4	Earthen drain Repair/Restoring	Rm	160	1%	100	1,330.00	15,960.00		
1.2.5	Repair/Restoring of Drain Slabs	Rm	655	1%	600	32,738.00	3,92,856.00		
1.2.6	Repair/Restoration of Turfing on embankment slopes and at all other Project Facilities	Sqm	1888	2%	46	7,176.29	86,115.51		
1.2.7	Rain Cuts Maintenance: Restoration of rain cuts soil, moorum, gravel or a combination of these	Sqm	4721	1%	46	18,098.11	2,17,177.28		
1.2.8	Providing and laying Stone pitching on slopes of road embankment	Cum	425	1%	1404	49,714.71	5,96,576.56		
1.2.10	Repair of Chutes in High Embankment	Rm	2833	2%	100	23,606.23	2,83,274.72		
1.3.1.1	Overhead/ Gantry Sign boards	Nos	1	5%	10000	416.67	5,000.00		
1.3.1.2	Cantilever Gantry Sign boards	Nos	1	5%	10000	666.67	8,000.00		
1.3.2	Other Sign Boards	Nos	36	3%	5450	16,172.88	1,94,074.50		
1.3.2.16	Painting to Sign Board pole	Nos	326	25%	87	2,366.58	28,398.98		
1.3.3	Cats Eyes/Raised pavement marker (NMC Nails Less)	Nos	459	3%	200	7,654.17	91,850.00		
1.3.4	Distance Measurement Stones								
1.3.4.1	Painting								
1.3.4.1.1	Hectometer stones	Nos	98	25%	36	290.73	3,488.80		
1.3.4.1.2	5 Kilometer Stone	Nos	5	25%	350	145.83	1,750.00		

	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-Base Cost
--	---	--


Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damage d % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1.3.4.1.3	Kilometer stone	Nos	20	25%	222	360.91	4,330.95		
1.3.4.1.4	Boundary stone	Nos	49	5%	171	696.95	8,363.38		
1.3.4.2	Fixing/Replacing/Restoring								
1.3.4.2.1	Hectometer stones	Nos	98	25%	690	5,635.00	67,620.00		
1.3.4.2.2	5 Kilometer Stone	Nos	2	10%	4022	670.33	8,044.00		
1.3.4.2.3	Kilometer stone	Nos	8	10%	2350	1,527.50	18,330.00		
1.3.4.2.4	Boundary stone	Nos	10	1%	723	590.45	7,085.40		
1.3.4.2.5	Boundary Wall	Cum	111	1%	5025	46,372.44	5,56,469.23		
1.3.5	Kerb								
1.3.5.1	Cement Concrete Kerb casting with-out channel section (I-Kerb)	Rm	14	1%	458	533.38	6,400.55		
1.3.5.2	Cement Concrete Kerb casting with channel section (L-Kerb)	Rm	423	1%	612	21,551.07	2,58,612.84		
1.3.5.3	Painting of Kerb with-out channel section (I-Kerb)	Sqm	190	20%	140	2,217.37	26,608.40		
1.3.6	Pavement Markings								
1.3.6.1	Lane / Centre Line / Edge Line	Sqm	3177	5%	400	1,05,906.67	12,70,880.00		
1.3.7	Barriers								
1.3.7.1	Repair/Replace MBCB/W-beam Crash barrier	Rm	144	0%	2785	33,317.88	3,99,814.60		
1.3.7.2	Repair/Replace Tri-beam Crash barrier	Rm	126	0%	4262	44,836.24	5,38,034.88		
1.3.7.4	Repair/Replace PGR (Pedestrian Guard Rail)	Rm	41	1%	2400	8,120.00	97,440.00		
1.3.7.5	Painting of Pedestrian Guard Rail (PGR)	Rm	406	10%	87	2,943.50	35,322.00		
1.3.8	Plantation								
1.3.8.1	Maintenance of Median Plantation	Km	0	1%	331732	13,051.57	1,56,618.81		
1.3.8.2	Avenue Plantation	Nos	127	1%	1362	14,445.15	1,73,341.74		
1.3.9	Miscellaneous								
1.3.9.2	Providing/Repair of Rumble Strips	Rm	9	3%	378	275.63	3,307.50		
1.3.9.4	Solar Blinker	Nos	18	20%	4500	6,750.00	81,000.00		
1.3.9.5	Delinaters	Nos	30	20%	1183	2,957.50	35,490.00		
1.3.10	Bus Shelter								
1.3.10.1	Bus Shelter Damaged	Nos	0	1%	100000	1,500.00	18,000.00		
1.3.10.2	Bus Shelter Roof Damaged	Sqm	90	20%	250	1,875.00	22,500.00		
1.3.10.3	Bus Shelter Painting	Nos	1	8%	10000	1,125.00	13,500.00		
1.3.10.4	Bus Shelter Paver Blocks	Sqm	5	1%	250	102.08	1,225.00		
1.4	RIGID PAVEMENT								
1.4.10	Removal of Sealent & Replacement with Appoxy Sealent	Lm	294	2%	98	2,404.61	28,855.32		
1.4.11	Replacement of Panels	Nos	2	0.1%	27563	3,546.38	42,556.50		
1.4.12	Texturing/Raveling of panel	Sqm	486	2%	100	4,050.75	48,609.00	1,13,63,052	0 Service Charge Considered

	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-Base Cost
--	---	--


Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damage d % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2	STRUCTURES								
2.01	Providing and laying of wearing course with 25 mm thick mastic asphalt laid over 40 mm thick bituminous concrete including correction of existing profile with bituminous concrete as per drawings and Technical Specifications clause 2700 (item rate includes cost of BC and profile correction course)	Sqm	163	1%	750	10,163.35	1,21,960.17		
2.02	Structure Repair Works	LS					10,00,000.00		Repair of RE wall
2.03	Expansion Joint Repair	Rm	933	2.50%	12000	23,325.00	2,79,900.00		
2.04	Providing Reinforced cement concrete crash barrier at the edges of the bridge structures constructed with M-40 grade concrete with HYSD-Fe 500 TMT reinforcement concrete per Rmt conforming to IRC:21 and fixing with dowel bars 16 mm dia to old concrete using epoxy grout as per drawing and Technical Specifications and as directed by the Engineer.	Rmt	86	0.25%	6500	46,766.13	5,61,193.56		
2.05	Painting of Concrete Crash Barrier	Sqm	8013	20%	140	93,484.98	11,21,819.79		Considering 50% repainting per year & 1.25Sqm per Rm
2.07	Removal of earth, debris and vegetation from waterway of culverts and bridges by manual means through unskilled labor, and disposal of removed material within all lead as directed by Engineer. (Before and after Monsoon)	LS	91	100%	5000	37,916.67	4,55,000.00		
2.08	Providing Boulder apron on U/S and D/S sides, 1000 mm thick, including relaying / removing existing damaged boulders as per Technical Specification Sections 2500 and direction of Engineers.	Cum	333	5%	1500	41,631.25	4,99,575.00		
2.09	Providing and laying Stone pitching on slopes upto 0.5m height over H.F.L and for bed where specified, using hard variety stone of 200 mm nominal size, the joints being filled with spalls and pointed with 1:4 cement mortar as per technical specification	Cum	9	2.5%	4416	3,238.40	38,860.80		Hexagonal blocks

	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-Base Cost
--	---	--


Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damage d % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2.10	Providing and laying Plain/Reinforced Cement Concrete in Rigid Apron excluding reinforcement complete as per Drawing and Technical Specifications.Ref. to Technical specification 1500,1700 & 2100 .	Cum	153	5%	5025	64,152.50	7,69,830.00		
2.11	Cleaning of choked weep holes as per Technical Specification and as directed by the Engineer.	Nos	72	5%	250	1,501.04	18,012.50		
2.12	Providing gratings to the existing drainage spouts as per technical specification Clause 2705 & Additional Technical Specification	Nos	118	25%	500	4,916.67	59,000.00		
2.13	Repair/Replacement of Drainage Spoutes	Nos	24	5%	1443	2,837.90	34,054.80	49,59,207	0 Service Charge Considered

	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE: SPV EXPENDITURE
---	---	----------------------------------

3. Route Maintenance Manpower Cost

Sr. No.	Position	Unit	Nos	Shift	Blank	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
3.02	HR and Admin	Nos	1	1		1	45000	45,000	5,40,000		
3.03	Maintenance Engineer	Nos	1	1		1	50000	50,000	6,00,000		
3.04	Maintenance Supervisor	Nos	2	1		2	35000	70,000	8,40,000		
3.06	System Engineer (TMS)	Nos	1	1		1	40000	40,000	4,80,000		
3.07	System Engineer (HTMS)	Nos	1	1		1	35000	35,000	4,20,000		
3.08	Labour for RRM (Male)	Nos	14	1		14	13849	1,93,885	23,26,623		
3.09	Labour for RRM (Female)	Nos	4	1		4	13849	55,396	6,64,750		
3.10	Labour for Misc. works	Nos	2	1		2	13849	27,698	3,32,375		
3.11	Grass cutting operator	Nos	5	1		5	13849	69,245	8,30,937		
3.13	Others	Nos	0	1		0	17504	-	-	70,34,685	Service Charge @ 0%
						31		586224			

	PROJECT: Construction and Upgradation of NH-131A from Km 34.600 (design Ch. 6.000) near Narenpur to Km 79.970 (design Ch. 53.000) near Purnea to Four Lane standard and from Km 79.970 (design Ch. 53.000) to Km 82.024 (design Ch. 55.000) near Purnea to Two Lane with Paved Shoulders in the State of Bihar on Hybrid Annuity Mode.	ANNEXURE: SPV EXPENDITURE
---	---	----------------------------------

4. Route Maintenance Vehicle & Equipment Cost

Sr. No.	Description	Unit	Nos	Shift	Blank	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
4.02	Water tanker 20 KL	Nos	1	1		1	102634	1,02,634	9,23,706		
4.03	Pickup /Campher	Nos	1	1		1	67035	67,035	8,04,420		
4.06	Water tanker 5 KL	Nos	2	1		2	51613	1,03,226	9,29,030		
4.07	Grass Cutter	Nos	5	1		5	9445	47,226	5,66,706		
4.08	Man Basket for Elec.	Days/Month	3	1		3	26667	80,000	9,60,000		
4.09	JCB	Days/Month	3	1		3	26667	80,000	9,60,000		
4.11	Bikes for Supervisor	Nos	2	1		2	4961	9,923	1,19,071		
4.12	PPE/Uniform for staff	Nos	6	1		6	525	3,150	37,800		Considering Rs. 350/- per pair & 2 pairs per each (75% of the Staff)
4.13	Safety items, Sign boards	Nos	1	1		1	6000	6,000	72,000		
4.14	Tools & tackles	Nos	1	1		1	5000	5,000	60,000		
4.18	Others	Nos	0	1		0		-	-	54,32,733	Service Charge @ 0%
								504193		21203	Rs. Per Month per Km

Anantam Highways Trust

Four laning of Expressway from Km.26+400 to Km.53+500 Malur to Bangarpet Section of Bangalore Chennai Expressway in the State of Karnataka (Phase I Package II) on Hybrid Annuity Mode

(FINAL REPORT)



FEBRUARY, 2025



**RUKY Projects Private Limited
Hyderabad**

www.rukyprojects.com | contact@rukypjrojects.com | 040 4855 7777

RUKY



BLANK PAGE



Four laning of Expressway from Km.26+400 to Km.53+500 Malur to Bangarpet Section of Bangalore Chennai Expressway in the State of Karnataka (Phase I Package II) on Hybrid Annuity Mode

REVISION RECORD

This document has been issued and amended as follows:

Document No.	Issue	Date	Description
RU337 /AHT/TDD/MBHPL	RO	15-02-2025	Final Report

RUKY Projects Private Ltd has prepared this report in accordance with the instructions of client, for the client's sole and specific use. Any other persons who use any information contained herein do so at their own risk.

RUKY Projects Private Limited
#1403A, Manjeera Trinity Corporate,
JNTU-HITEC City Road,
Kukatpally, Hyderabad – 500 072,
Telangana, India,
+91 40 4855 7777 / 2304 4777
www.rukyprojects.com



DISCLAIMER AND CONSENT FOR USE

This report has been prepared for the benefit of Anantam Highways Trust for and in connection with initial offer of units representing an undivided beneficial interest in the Trust. In Preparing this report, RUKY Projects Pvt Ltd has relied, in whole or in part, on data and information provided by Anantam Highways Trust and M/s Malur Bangarpet Highways Private Limited which RUKY Project Pvt Ltd has assumed to be accurate, complete, reliable and correct.

This report may be reproduced and included in the preliminary placement memorandum, placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust and may be made available for inspection in the manner specified therein. In connection with the report, the following details in relation to the Technical Consultant may be included in preliminary placement memorandum and the placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust

Technical Consultant:

RUKY PROJECTS PRIVATE LIMITED

Flat No. 1403A, 14th Floor,

Manjeera Trinity Corporate,

JNTU-Hitech City Road, Kukatpally,

Hyderabad – 500072

www.rukyprojects.com

contact@rukypjrojects.com

+91-040-4855 7777

TABLE OF CONTENTS

CHAPTER 1. EXECUTIVE SUMMARY	6
1.1 Project Description	6
1.2 Present status of the Project	6
1.3 Condition of Project Corridor.....	7
1.3.1. Pavement Condition	7
1.3.2. Condition of Structures.....	7
1.3.3. Condition of Project Facilities	7
1.4 Status Of Completion Certificate	7
1.5 O&M Cost Estimate.....	7
CHAPTER 2. INTRODUCTION.....	8
2.1 Project Background.....	8
2.2 Project Geography and Climate	9
2.3 Project Overview.....	10
CHAPTER 3. SCOPE OF CONSULTANCY SERVICES.....	11
3.1 Scope of Cconsultancy Services	11
CHAPTER 4. SALIENT FEATURES OF THE PROJECT.....	12
4.1 Salient Features of the Project	12
4.2 Typical Cross Section (TCS) Schedule.....	12
4.3 Drainage.....	13
4.4 Summary of the Carriageway and Pavement Details	13
4.5 Summary of Structures	13
4.6 Project Facilities.....	13
CHAPTER 5. REVIEW OF AGREEMENTS	15
5.1 Review of Concession Agreement	15
5.1.1. Concession (Article 3)	15
5.1.2. Pre-PCOD scenario in the project	15
5.1.3. Provisional Completion Certificate (Article 14)	15
5.1.4. Change of scope (Article 16)	15
5.1.5. O&M Obligations of the Concessionaire (Clause 17.1).....	16
5.1.6. Maintenance Requirements (Clause 17.2)	17
5.1.7. Maintenance Manual (Clause 17.3).....	17
5.1.8. Maintenance Programme (Clause 17.4)	17
5.1.9. Damages for Breach of Maintenance Obligations (Clause 17.8)	17
5.1.10. Tests During O&M Period (Clause 19.3)	17
5.1.11. Appointment of Independent Engineer(Article 21).....	18
5.1.12. Review of Correspondence.....	18
5.1.13. Non-performance of the O&M Operations:	18
CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS.....	19
6.1 Monthly status reports	19
6.2 Inspection Reports	19
6.3 Review of Pavement design report.....	19

6.3.1.	Flexible pavement for main carriageway.....	20
6.3.2.	Flexible Pavement for Connecting Roads	20
	Connecting Roads	21
6.3.3.	Rigid pavement for Toll Plaza	21
6.3.4.	Site Investigations	21
CHAPTER 7. SITE APPRAISAL		23
7.1	General.....	23
7.2	Highways.....	23
7.2.1.	Road Inventory.....	23
7.2.2.	Type of terrain	23
7.2.3.	Land use	23
7.2.4.	Villages/Towns along the Project	23
7.2.5.	Main Carriageway and Condition	23
7.2.6.	Cross road details.....	26
7.2.7.	Road Side Drainage	26
7.2.8.	Retaining Wall.....	26
7.2.9.	Kerb.....	26
7.3	Structures.....	26
7.4	Culverts	29
7.4.1.	Inventory.....	29
7.4.2.	Status of Construction	29
7.5	Project Facilities.....	30
7.5.1.	Toll Plaza	30
7.5.2.	ATMS.....	30
7.5.3.	Road Furniture	30
7.5.4.	Overhead Signs	31
7.5.5.	Landscaping & Tree Plantation	31
7.5.6.	Pavement marking.....	31
7.5.7.	Metal beam Crash Barrier.....	31
7.5.8.	Hectometre/Km. stones.....	32
7.5.9.	Highway Lighting.....	32
7.5.10.	Rest Areas	32
7.5.11.	Truck Lay Bye	32
7.5.12.	Bus Bay and Bus shelters	33
7.5.13.	Traffic Aid Post.....	33
7.5.14.	Medical Aid Post	33
7.5.15.	Vehicle Rescue Posts.....	33
7.5.16.	Operation and Maintenance (O&M) Centre.....	33
7.5.17.	Telecom System	33
7.5.18.	Advance Traffic Management System (ATMS)	33
7.5.19.	Noise Barrier	33
7.5.20.	Road Studs	33
7.5.21.	NCRs and its status.....	33
CHAPTER 8. REVIEW OF O&M AGREEMENT.....		34
CHAPTER 9. SCHEDULE OF ANNUITY PAYMENTS		35
9.1	Hybrid Annuity Model (HAM)	35

9.2	Schedule of Annuity Payments	35
CHAPTER 10.	COST ESTIMATES	37
10.1	Maintenance of Project Cost	37
10.2	O&M Expense forecasts.....	38
CHAPTER 11.	CONCLUSION	39

LIST OF TABLES

Table 1-1:	Key Dates	6
Table 1-2:	Salient Features	6
Table 1-3:	Summary of O&M Cost Estimate	7
Table 2-1:	Project Data	10
Table 4-1:	Salient Features of the Project	12
Table 4-2:	TCS Summary as per CA	12
Table 4-3:	Summary of the Carriageway and Pavement Details	13
Table 6-1:	Correspondence related to pavement design submission and approvals.....	20
Table 6-2:	Designed pavement crust summary as per pavement design report.....	20
Table 6-3:	Designed pavement crust summary as per pavement design report.....	21
Table 6-4:	Pavement Composition for Toll plaza	21
Table 6-5:	Pavement Design Thickness Vs Executed Crust Thickness	21
Table 7-1:	Land use details along the project road	23
Table 7-2:	Summary of Structures	26
Table 7-3:	Summary of structure.....	26
Table 7-4:	Inventory of structures	29
Table 7-5:	Details of Toll Plazas	30
Table 7-6:	ATMs details	30
Table 7-7 :	Status of traffic sign boards	31
Table 7-8:	Status of Avenue and median plantation as per Schedule G.....	31
Table 7-9:	Status of Metal beam Crash barrier.....	31
Table 7-10:	Location of Rest Areas	32
Table 7-11:	Locations of Proposed Truck Lay-Byes.....	32
Table 7-12:	Status of Bus bays and shelters	33
Table 9-1:	Schedule of Payment Milestones	35
Table 9-2:	Details of Annuity payments.....	35
Table 10-1:	Summary of Cost Estimate.....	38

LIST OF FIGURES

Figure 2.1:	Project Location Map.....	9
Figure 6.1:	Bar Chart showing Design thickness vs Executed thickness	22
Figure 7.1:	Photographs of Main Carriageway	25
Figure 7.2:	Photographs of W Beam Crash Barrier.....	32

List of Annexures

Annexure 1:	Inventory and Condition of Structures.....	40
Annexure-2:	Operation & Maintenance Cost Estimate.....	44

ABREVIATIONS

Abbreviation	Meaning	Abbreviation	Meaning
3A/3D/3G	Stages of Land Acquisition	EOT	Extension Of Time
AADT	Annual Average Daily Traffic	EPC	Engineering Procurement Construction
AASHTO	American Association of State Highway and Transportation Officials	ESAL	Equivalent Standard Axle Load
ADT	Average Daily Traffic	ESMF	Environment and Social Management Framework
ATMS	Advance Traffic Management System	Exc	Excavation
BBD	Benkelman Beam Deflection	FOB	Foot Over Bridge
BC	Bituminous Concrete	FWD	Falling weight Deflectometer
BI	Bump Integrator- Roughness (mm/Km.)	GDP	Gross Domestic Product
BM	Bituminous Macadam	GFC	Good For Construction
BOQ	Bill of Quantities	GNP	Gross National Product
BOT	Built Operate and Transfer	GOI	Government of India
BPC	Bid Project cost	GSB	Granular Sub Base
C&G	Clearing and Grubbing	HAM	Hybrid Annuity Mode
C/s	Cross-section	HFL	High Flood Level
CA	Concession Agreement	HPC	Hume Pipe culvert
CapEx	Capital Expenditure	HS	Hard Shoulder
CBR	California Bearing Ratio	Ht	Height
Ch	Chainage	HTMS	Highway Traffic Management System
cm	Centimetre	IE	Independent Engineer
COD	Commercial Operation date	IRC	Indian Roads Congress
Concessionaire	M/s Malur Bangarpet Highways Private Limited	IRI	International Roughness Index
Cos	Change of Scope	IS	Indian Standard
Cr.	Crores	Kg	Kilogram
cum	Cubic Meter	Km.	Kilometre
CV	Commercial Vehicles	LHS	Left Hand Side
CVPD	Commercial Vehicles per Day	Ltr	Litre
NMHPL	M/s Malur Bangarpet Highways Private Limited	m (or) Mts	Metre/Meter
DBM	Dense Bituminous Macadam	M/s	Messers
DFBOT	Design, Finance, Build, Operate and Transfer	MCW	Main Carriageway
DFO	District Forest Officer	MDD	Maximum Dry Density
Dia (or) *	Diameter	MDR	Major District Road
DLC	Dry Lean Concrete	Misc	Miscellaneous
DLP	Defect liability Period	MJB	Major Bridge
DPR	Detailed Project Report	mm	Millimetre
DTM	Digital Terrain Model	MM	Major Maintenance
EIA	Environment Impact Assessment	MNB	Minor Bridge
EIRR	Economic Internal Rate of Return	MORTH	Ministry of Road Transport & Highways
Emb	Embankment	MOU	Memoranda Of Understanding
EMP	Environment Management Plan	MSA	Million Standard Axles

Abbreviation	Meaning	Abbreviation	Meaning
MT (or) T	Metric Tonne	RHS	Right Hand Side
NCR	Non-Conformance Report	RoB	Road over Bridge
NDT	Non-Destructive Test	ROW	Right Of Way
NH	National Highway	RUB	Road Under bridge
NHAI	National Highway Authority of India	RUKY	RUKY Projects Private Limited
NHDP	National Highways Development Project	SDBC	Semi Dense Bituminous Concrete
No. (or) Nos.	Numbers	SF	Seasonal Factor
NPV	Net Present value	SH	State Highway
NSDP	Net State Domestic Product	SPV	Special Purpose Vehicle
O&M	Operation and Maintenance	Sqm	Square Meter
O-D	Origin and Destination	SR	Service Road
OpEx	Operative Expenditure	TCS	Typical Cross Section
PCU	Passenger Car Unit	TDD	Technical Due Diligence
PIA	Project Influence Area	TOR	Terms of Reference
PIU	Project Implementation Unit	VDF	Vehicle Damage Factor
PM	Periodic Maintenance	VOC	Vehicle Operating Costs
PQC	Pavement Quality Concrete	VOP	Vehicular Overpass
PSC	Pre-stressed Concrete	VUP	Vehicular Underpass
RCC	Reinforced Cement Concrete	WMM	Wet Mix Macadam
RE	Reinforced Earth		

CHAPTER 1. EXECUTIVE SUMMARY

1.1 Project Description

Project pertains to Four laning of Malur to Bangarpet section from Km 26.400 to Km 53.500 (length: 27.100 Km.) in the State of Karnataka under Public Private Partnership (PPP) on Hybrid Annuity Mode. Key Dates and Key features are given in tables below.

Table 1-1: Key Dates

S No	Description	Date/Period	Remarks
1	LOA date	04-03-2021	
2	Date of Agreement	17-05-2021	
3	Appointed date	20-09-2021	
4	Construction Period	730 days	From the appointed date
5	Scheduled Construction End Date	19-09-2023	
6	Extension of Time	31-03-2024	Recommended as per settlement agreement
7	Operation Period	15 years	From the COD
8	Concession Period	730 days+15 years	Construction Period+ Operation Period
9	Commercial Operation date	16-05-2024	
10	Revised Concession Period	16-05-2039	
11	Completion Certificate		Applied for CC

Table 1-2: Salient Features

S No	Particulars	As per CA	At Site
1	Total Length of Four Lane (Flexible)	27.100 Km.	27.100 Km.
2	Interchange Connecting Roads	2.477 Km.	2.477 Km.
3	Interchange	1 No.	1 No.
4	ROB	1 No.	1 No.
5	Major Junctions	Nil.	Nil.
6	Minor Junctions	Nil.	Nil.
7	Major Bridges	9 Nos.	9 Nos.
8	Minor Bridges	27 Nos.	27 Nos.
9	Utility Structures	1 No.	1 No.
10	Box Culverts	33 Nos.	33 Nos.
11	LVUP	6 Nos.	6 Nos.
12	VUP	8 Nos.	8 Nos.
13	VOP	3 Nos	3 Nos
14	Toll Plaza	1 No.	1 No.
15	Rest Areas	1 No.	1 No.
16	Truck Lay-Byes	Nil	Nil

1.2 Present status of the Project

PCOD is issued by the Independent Engineer and project is in O&M phase.

1.3 Condition of Project Corridor**1.3.1. Pavement Condition**

Overall assessment of Pavement Condition of the project road is in Good Condition. Details are provided at **Chapter 8**.

1.3.2. Condition of Structures

Overall condition of the structures is Good. . Details are provided in **Chapter 8**.

1.3.3. Condition of Project Facilities

Project has one toll plaza, same is operational and in good condition. All signboards along the project road are in good reflective condition. Bus Bays are in good condition. **Details are provided in Chapter 8**.

1.4 Status Of Completion Certificate

P-COD was given for 26.56 km. out of 27.10 km on 15/05/2024, the remaining length are listed in Punch List B at the time of issuing the COD by the Independent Engineer. However, Punch list items are now completed.

1.5 O&M Cost Estimate

Total Expenditure till the end of Concession Period (Opex cost) as per market rates is given below.

Table 1-3:Summary of O&M Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2024-2025	-	2.31	3.62	5.93
2025-2026	-	2.62	3.82	6.44
2026-2027	1.24	3.37	4.02	8.64
2027-2028	0.25	3.51	4.19	7.94
2028-2029	0.15	3.56	4.36	8.08
2029-2030	0.15	3.74	4.55	8.44
2030-2031	31.58	5.17	4.79	41.53
2031-2032	3.75	3.90	5.09	12.74
2032-2033	0.22	4.04	5.07	9.33
2033-2034	0.17	4.06	5.22	9.44
2034-2035	1.54	4.18	5.36	11.09
2035-2036	0.30	4.30	5.52	10.12
2036-2037	0.18	4.30	5.68	10.15
2037-2038	36.63	4.44	5.84	46.91
2038-2039	4.31	4.43	4.50	13.24
2039-2040	0.08	0.38	4.63	5.09
Total Expenditure in Cr. Rs	80.54	58.32	76.27	215.13

CHAPTER 2. INTRODUCTION**2.1 Project Background**

The Ministry of Shipping, Road Transport & Highways, Government of India, through the National Highways Authority of India, has been contemplating enhancing the traffic capacity and safety of goods and passenger traffic on selected, heavily trafficked corridors in India. Four laning of Malur to Bangarpet section from Km 26.400 to Km 53.500 (length: 27.100 Km.) (phase I Package II) in Karnataka state on Hybrid Annuity Mode

The project section spanning a total length of 27.100 Km., connects various cities and towns in the district of Kolar in the state of Karnataka. The project corridor starts at Km 26+400 in Malur and traverses parallel to SH 95, Hoskote-Malur-Bangarpet and Bethmangala Road and crosses SH 99 and SH 5 enroute and finally ends at Km 53+500 near Bangarpet.

After evaluation of the bids received from prospective bidders, Authority had selected M/s Dilip Buildcon Limited and issued LOA vide letter: NHAI/KNT/BCE/Pkg-II/LOA/Main Work/2021/38286, dated 04-03-2021. Further the selected bidder formed an SPV in the name and style as M/s Malur Bagarpet Highways Private Limited as per Companies Act, 2013 and Concession Agreement (CA) was executed between the Authority and the Concessionaire on 14-05-2021.

Subsequently, the Concessionaire appointed Dilip Buildcon Limited as EPC contractor for construction of afore said work connects Malur, Sulikunte, Tekal, Bangarapet etc. along its alignment in the state of Karnataka. Project Location map is given at Figure 2.1.

Anantam Highways Trust appointed RUKY Projects Pvt. Ltd. as consultant for detailed Technical Due Diligence services of the above Road Project to know-how the present condition of Carriageway and Structures, estimate costs of Operations and Maintenance during balance Concession Period, additional road safety requirements if any and to review the annuity payments received and future schedule of annuity payments. etc. The Scope of Consultancy services is narrated under Chapter-3 of this report.

The data and observations provided in this report are based on the status of the project observed by the Consultant.

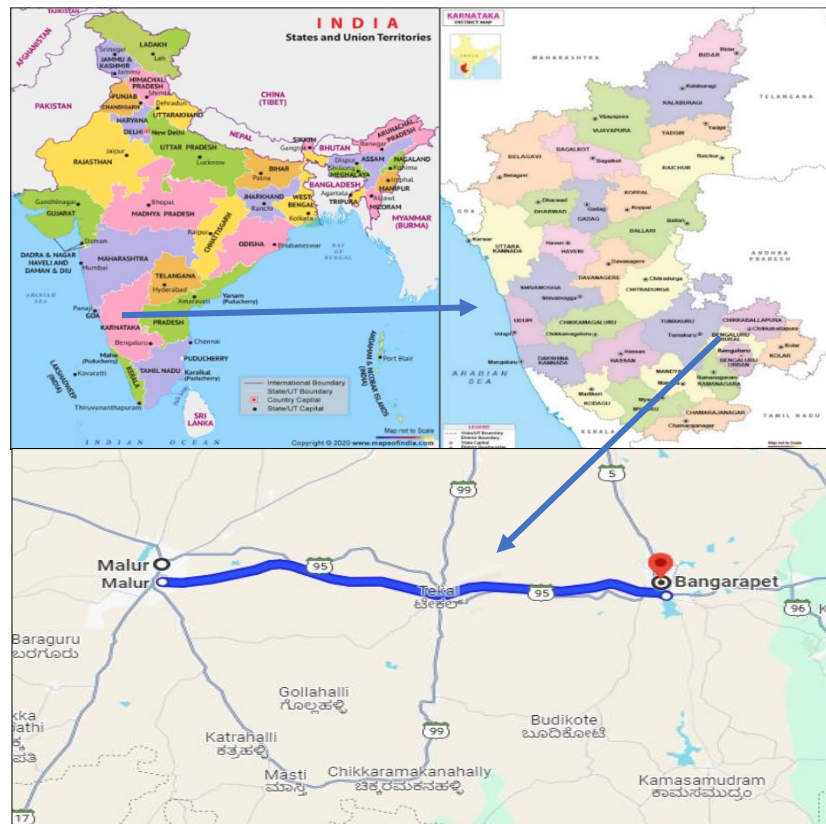


Figure 2.1: Project Location Map

This report is prepared based on documents made available, information shared by the Concessionaire, Client and observations made by the Consultants during the site visit

2.2 Project Geography and Climate

Climate: The Climate Condition of the district is generally Tropical wet and dry and temperature ranges between 30.0°C to 42.0°C during April to June and in Winters, temperature remains in the comfortable range between 16.0°C to 30.0°C during November to March.

Terrain: The project road stretch is passing through Plain terrain.

Villages and Towns: The Villages/Towns along the Project starts at Malur, Sulikunte, Tekal, and ends at Bangarpet etc.

2.3 Project Overview

Key features and timelines of the project are presented in the table below.

Table 2-1: Project Data

S. No.	Particulars	Details
1	Name of the Project	Four Lane Expressway from Km 26.400 to Km 53.500 Malur to Bangarpet Section of Bangalore Chennai Expressway on Hybrid Annuity Mode under Bharatmala Pariyojana in the State of Karnataka (Phase I Package II).
2	Road Type	National Highway
3	Name of the Authority	National Highways Authority of India (NHAI)
4	Name of the Bidder	Dilip Buildcon Limited
5	Name of the Concessionaire	M/s Malur Bangarpet Highways Private Limited
6	EPC Contractor	M/s. Dilip Buildcon Limited
7	Independent Engineer	M/s K&J Projects Private Limited in JV with SATRA Services & Solutions Private Limited
8	Project Length as per Schedule B of CA	27.100 Km.
9	Project Lane Configuration	Four Lane
10	Manual Specifications and Standards	Manual of Specifications and Standards for Expressways of IRC :SP:99:-2013.
11	Total Project Cost	Rs. 1279.00 Cr.
12	Letter of Award	04-03-2021
13	Date of CA	17-05-2021
14	Appointed Date	20-09--2021
15	Construction Period	730 days from Appointed Date
16	Concession Period	15 years commencing from COD
17	Scheduled Construction End Date	19-09-2023
18	Schedule Concession End Date	19-09-2038
19	Commercial Operation date	16-05-2024
20	Revised Concession Period	16-05-2039

CHAPTER 3. SCOPE OF CONSULTANCY SERVICES**3.1 Scope of Cconsultancy Services**

The consultant shall carry out the Technical Due Ddiligence services for the afore mentioned asset and the scope of work for the same is as follows:

- Review of various contractual documents
- Carryout detailed assessment of pavement condition and propose maintenance plan along with BOQ.
- Carrying out inventory & condition survey of all elements of road like embankment slope, plantation, road furniture of the project.
- Carrying out inventory & condition survey of all structures (Major Bridges, Minor Bridges, ROB, RE Wall, Flyovers, VUPs, PUPs, Culverts etc.), suggest any rehabilitation & maintenance requirements along with BOQ.
- Carryout road safety audit on Project highway and provide suggestions for improvement.
- Assess and Provide BOQ and cost estimate for routine & periodic maintenance including O&M.
- Review of validity of insurance and statutory compliances related to Project.
- Review of correspondence exchanged between parties on contract related issues and claims etc. Submission of detailed report on technical due diligence of the RUKY projects Pvt Ltd

CHAPTER 4. SALIENT FEATURES OF THE PROJECT**4.1 Salient Features of the Project**

The salient features of the Project as per Schedule B and C of Concession Agreement (CA) are listed in the following Table.

Table 4-1: Salient Features of the Project

S No	Particulars	As per CA	At Site
1	Total Length of Four Lane (Flexible)	27.100 Km.	27.100 Km.
2	Interchange Connecting Roads	2.477 Km.	2.477 Km.
3	Interchange	1 No.	1 No.
4	ROB	1 No.	1 No.
5	Major Junctions	Nil.	Nil.
6	Minor Junctions	Nil.	Nil.
7	Major Bridges	9 Nos.	9 Nos.
8	Minor Bridges	27 Nos.	27 Nos.
9	Utility Structures	1 No.	1 No.
10	Box Culverts	33 Nos.	33 Nos.
11	LVUP	6 Nos.	6 Nos.
12	VUP	8 Nos.	8 Nos.
13	VOP	3 Nos	3 Nos
14	Toll Plaza	1 No.	1 No.
15	Rest Areas	1 No.	1 No.
16	Truck Lay-Byes	Nil	Nil

4.2 Typical Cross Section (TCS) Schedule

As per provisions of Schedule B of CA, there are 7 types of Typical Cross Sections (TCS) for the development of the Project Highway. The schedule of TCS as shown in Appendix BI of schedule B of CA is summarized and given in the following table.

Table 4-2: TCS Summary as per CA

TCS Type	Length (Km.)	TCS Length in %
1	13.99	51.62
2	3.782	13.96
3	0.308	1.14
4	0.623	2.30
5A	0.213	0.79
6	6.141	22.66
6A	1.732	6.39
13	0.311	1.15
Total	27.100	100

4.3 Drainage

As per provisions of Schedule B of CA, drains are to be provided at entire Project of Highway. RCC drains have been proposed for a length of 20.04 Km. and unlined drains for a length of 28.36 km. (Based on Schedule G)

4.4 Summary of the Carriageway and Pavement Details

Table 4-3: Summary of the Carriageway and Pavement Details

S No.	Description	Carriageway Width in m	Length (Km.)	Pavement Type
1	Main Carriageway	2x 10.5 m	21.700	Flexible

4.5 Summary of Structures

Summary of Structures as per provisions of schedule B of the CA is given in **Table 4.1**.

4.6 Project Facilities

As per Schedule C of CA, the following facilities shall be provided in the project highway

- One Toll Plaza at Km. 52+085 (Design Chainage)
- Road side furniture shall be provided as per Relevant Clauses of Manual of Specifications and in Consultation with the Independent Engineer
- Thrie Beam Metal Crash Barrier to be provided in entire length on outer side of each main carriageway, including both side of the ramps at Interchange
- Chain-link fencing to be provided on entire length 2m inside the ROW on either side of the road
- Traffic signs and Pavement marking shall include road side signs, Overhead signs, curve mounted signs and road marking along the project highway. The locations for these provisions shall be finalized in consultation with Independent Engineer
 - Traffic Safety Devices shall be provided wherever
 - Boundary Stones for entire Project road
 - Hectometer/ Kilometer stones
 - Traffic Blinkers
- Landscaping
 - Median Plantation
 - Landscaping at interchanges and Toll Plaza
 - Avenue Plantation
- One Rest area
- Advanced Traffic Management Systems (ATMS) confirming to Schedule-D of CA
 - Video Surveillance System (CCTV PTZ Drone/Fixed Camera)
 - Video Incident Detection System
 - Vehicle Actuated Radar Speed Displays
 - Emergency Roadside Telephones
 - Fixed / Portable Variable Message Sign
 - Meteorological System

- Portable Weigh in Motion
- Automatic Traffic Counter Cum Classifier
- The ATMS Control Centre including the equipment (Hardware, Software and Local Networking)
- Communications System utilizing Optic Fiber, GSM/GPRS and Wi-Fi Communications linked to ATMS Control Centre
- Street Lighting shall be provided in accordance standards and Specifications.
- Boundary and Hectometer stones shall be provided for the entire project Highway.

Review of Project facilities is done in detail under **Chapter 7**.

CHAPTER 5. REVIEW OF AGREEMENTS

5.1 Review of Concession Agreement

Commercial operations are commenced in the Project with effect from 16-05-2024 (PCOD Date). Currently the Project is under operation phase.

5.1.1. Concession (Article 3)

Subject to and in accordance with the provisions of this Agreement, the Applicable Laws and the Applicable Permits, the Authority hereby grants to the Concessionaire the concession set forth herein including the exclusive right, license and authority to construct, operate and maintain the Project (the "Concession") for a period of 730 days for Construction from the commencing of Appointed Date and 15 (Fifteen) years from commencing of Commercial Operations.

In accordance with the provisions of the Concession Agreement Appointed date was declared as 20-10-2021. As per the above Clause, schedule Concession Period end date is 20-10-2038.

5.1.2. Pre-PCOD scenario in the project

The Concession Agreement (CA) was executed on 17-05-2021. After fulfilling all the requirements as per Article 4 and 24 of CA, the Appointed Date was fixed on 28-10-2021 and the development of the project Highway was commenced. Though the Construction period for the project was fixed as 730 days as per Schedule G of CA from Appointed Date (Construction Period End date is 20-09-2021). Commercial Operations were commenced from 16-5-2024 upon issuance of Provisional Completion Certificate.

5.1.3. Provisional Completion Certificate (Article 14)

A section of the project shall be deemed to be completed to open for traffic only when the completion certificate or provisional certificate for that section is issued in accordance with the Clause 14.3 of the CA. Further to note that as per 14.3.2, the Provisional certificate shall be issued for operating part of the Project, if the concessionaire has completed construction of 100% of the site made available to the Concessionaire up to 146 days from the Appointed date.

Provisional Completion Certificate was issued on 16-5-2024 for the length of 27.100 km with the Punch List items. The Concessionaire vide their letter No.DBL-SO/NHAI/Malur-Bangarpet/2024-25/1190 dated 5-8-2024 has informed Team Leader as per Clause 14.4 notification of the completion of the works in Punch List A.

5.1.4. Change of scope (Article 16)

As per Clause 16.1.1 of CA, the Authority may, notwithstanding anything to the contrary contained in the agreement, require the provision of additional works and services which are not included in the scope of the Project as contemplated by this agreement (the "Change of scope"). Any such change of scope shall be made in accordance with the provisions of this Article and cost shall be expended by the concessionaire and reimbursed to it by the Authority in accordance with clause 16.3.

As per monthly Review Reports for the month of July 2024. The following Change of scope is given .

Sl.No.	Proposal details	Date of first submission to IE	Current status	COS amount	Expected/Actual date of approval
1	Shifting water Utilities	Concessionaire letter No.394 dated 31.1.2023	Approved	Rs.12,60,729	Approval has given by NHAI vide letter No.468 dated 12.07.2024
2	Nala diversion with Box Drain fro Km.47+070 to Km.47+500	Concessionaire letter No.469 dated 5.8.2023	IE recommended vide letter No.2383 dated 26-9-2023	Rs.255,37,153	-
3	Monthly video drone recording	Concessionaire letter no.513 dated 7-11-2023	Approved	Rs.9,69,	637Approval has given by NHAI vide leter no.411 dated 3-7-2024
4	Implementation of ATMS as per NHAI Policy circular No.11.53/2023 dated 10-10-2023	Concessionaire letter no.552 dated 17-2-2024	Rejected	Rs.1,33,02,769	Authority has rejected the COS proposal vide letter no.337 dated 19-6-2024
5	COS descope proposal for Avenue Plantation from the scope of Concessionaire as per Clause 16.6 of the Concession agreement	Concessionaire letter no.554 dated 29-2-2024	IE recommended vide letter no.2845 dated 21-3-2024 and 2940 dated 29-5-2024	Rs.-72,79,101	-
6	Change of scope proposal of signage Boards as per Guidelines for provision of	Concessionaire letter no.559 dated 11-3+-2024	IE recommended vide letter no.2926 dated 21-5-2024	Rs.6,89,27,509	-

5.1.5. O&M Obligations of the Concessionaire (Clause 17.1)

The project is under construction; the commercial operation date may have anticipated soon.

- Permitting safe, smooth and uninterrupted flow of traffic on the project road
- Minimizing the disruption to traffic in the event of accidents
- Undertaking routine maintenance including prompt repairs of pot holes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices
- Undertaking major maintenance such as resurfacing of pavements, repairs and refurbishments of tolling system and other equipment
- Preventing any unauthorized use of the project road.
- Protection of environment and provision of equipment and materials
- Complying with safety Requirements in accordance with the provisions of the CA.

As the Commercial operations are not yet commenced, the above Clause is not relevant at this stage.

5.1.6. Maintenance Requirements (Clause 17.2)

The Contractor shall procure that at all times during the Operations period; the project road conforms to the maintenance requirements set forth in Schedule K of CA (The “**Maintenance Requirements**”).

As the Commercial operations are not yet commenced, the above Clause is not relevant at this stage.

5.1.7. Maintenance Manual (Clause 17.3)

No later than 90 (ninety) days prior to the Completion Date, the Concessionaire shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual (the “**Maintenance Manual**”) for the regular and preventive maintenance of the Project in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years and the provisions of this Clause shall apply, mutatis mutandis, to such revision.

Upon review of the documents shared with the Consultant, it is observed that Maintenance Manual was submitted by the Concessionaire.

5.1.8. Maintenance Programme (Clause 17.4)

On or before COD and no later than 45 days prior to the beginning of each accounting year during the Operation Period as the case may be the Concessionaire shall provide to the Authority and Independent Engineer its proposed annual Program of preventive, urgent and the schedule maintenance.

Upon review of the documents shared with the Consultant, it is observed that Maintenance Programme is submitted by the Concessionaire

5.1.9. Damages for Breach of Maintenance Obligations (Clause 17.8)

- In the event that the Concessionaire fails to repair or rectify any defect or deficiency set forth in the Maintenance Requirements within the period specified therein, it shall be deemed to be in breach of the Agreement and the Authority shall be entitled to recover Damages, to be calculated and paid for each day of delay until the breach is cured, at the higher of the following.
- 2% (Two percent) of the Performance Security and
- 0.1% (zero point one per cent) of the cost of such repair or rectification as estimated by the Independent Engineer.

Upon review of the documents, no adverse correspondence was noticed in this regard

5.1.10. Tests During O&M Period (Clause 19.3)

For determining the project Highway conforms to the Maintenance Requirements, the Independent Engineer shall require the Concessionaire to carry out or cause to be carried out, tests specified by it in accordance with good industry practice. The Concessionaire carry out all such tests and furnish results of such tests forthwith to the Independent Engineer. One half of the costs of such tests to the extent certified by the Independent Engineer as reasonable shall be reimbursed by the Authority.

Upon review of the documents it is observed that no additional tests have been instructed by the Independent Engineer as per the above Clause.

5.1.11. Appointment of Independent Engineer(Article 21)

The Authority shall appoint a consulting Engineer firm substantially in accordance with the selection criteria set forth in Schedule M, to be the Independent Engineer. The appointment shall be made no later than 60 days from the date of this Agreement and shall be for a period of Construction period plus 6 months. On expiry or termination of the aforesaid appointment, the Authority shall appoint Independent Engineer for a further term of 3 years in accordance with the provisions of Schedule M of the CA.

Upon review of the documents, M/s K&J Projects Private Limited in JV with SATRA Services & Solutions Private Limited was appointed as Independent Engineer.

5.1.12. Review of Correspondence

The Concessionaire provided letters exchanged between Concessionaire, EPC contractor and Independent Engineer. After review of the correspondence provided, the major issues dealt with are as follows:

Observation	Comment
Damages for failure in Maintenance requirements.	No adverse comment
Report on quality control issues	No adverse comment
Non-Confirmation Reports.	No Pending NCR
Safety issues and accident report	Regularly submitted in MPR
Weather Report	Regularly submitted in MPR

5.1.13. Non-performance of the O&M Operations:

Upon review of the Monthly Progress Reports, IE inspection and site visit along with the Concessionaire, no defects were identified during the joint inspection.

Upon review of the documents, no adverse correspondence was noticed in this regard.

CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS

6.1 Monthly status reports

During the Construction Period, the Contractor shall, no later than 7 (seven) days after the close of each month, furnish to the Concessionaire, the Authority and the Independent Engineer a monthly report on physical and financial progress of the construction works and shall promptly give such other relevant information as may be required by the IE

Upon review of the documents, it is noticed that the Concessionaire is submitting the Monthly Status Report regularly. Following are major items covered under the Monthly Status Reports

- *Construction activities during the month*
- *Pending shifting utilities*
- *Progress Review*
- *Construction Critical issues*
- *Quality control review.*

Upon reviewing the documents, it is observed that the Concessionaire started submitting Monthly Status Reports as per the above clause. PCOD was issued on 16-05-2024. There are no adverse findings in these reports.

6.2 Inspection Reports

Clause 13.2 of CA specifies that during Construction Period, the IE shall inspect the Project at least once in a month and make a report of such inspection stating in reasonable detail, the defects or deficiencies, if any with particular reference to the project completion schedule, the scope of the project etc. It shall send the Report to the Authority and Concessionaire. Upon receipt of such inspection report, the Concessionaire shall rectify or remedy the defects if any, stated in the report.

It is reported that the IE has carried out inspections on the project road.

Following are major items covered under the Monthly Inspection Reports

- *Physical Progress*
- *Land Acquisition and clearance*
- *Change of Scope*
- *Quality Control issues*
- *Latest correspondence exchanges between the Authority, IE and the Concessionaire*
- *Weather Report*
- *Unusual occurrences Report*

Upon review of the documents, it is observed that the Monthly Inspection Reports are being submitted regularly by the IE as per the above Clause and upon pursuing same, it is observed that there are no adverse comments from IE.

6.3 Review of Pavement design report

The Concessionaire under the provisions of Article 10 submitted Pavement Design reports vide various letters given as under. Independent Engineer reviewed the submitted designs for its compliance under project specifications and standards and accorded their approval/consent. Reference correspondence related to submissions and approvals are given in the table below.

Table 6-1: Correspondence related to pavement design submission and approvals

S No.	Document Description	Report Reference
1	Pavement Design Report (Part I) For Main Carriageway and Interchange Loop & Ramp	21039/RD/PS/PD/0001
2	Pavement Design Report (Part II) For Connecting Road	21039/RD/PS/PD/0002
3	Pavement Design Report (Part III) For Toll Plaza	21039/RD/PS/PD/0003

The above pavement designs submitted and approved by the Independent Engineer were reviewed by the Consultant and is discussed in the following paragraphs.

6.3.1. *Flexible* pavement for main carriageway

Design traffic

As stated in Clause 4.15 of Schedule-B, "The Flexible Perpetual Pavement type for Main Carriageway and Interchange Loop and Ramp shall be designed for a minimum design traffic of 300 MSA for a minimum design period of 30 years."

Sub grade CBR

The concessionaire has been adopted 12% CBR for Sub grade.

The pavement was designed by the design consultant based on homogeneous sections (HS) traffic and sub grade CBR as per pavement design report. The design traffic homogeneous sections wise summarized in the table below.

Table 6-2: Designed pavement crust summary as per pavement design report

Section	Design Traffic	Effective CBR %	BC (CRMB)	DBM	Crack Relief Layer (WMM)	Cementitious Base (CTB)	Cementitious Sub Base (CTSB)
Entire Project main carriageway and Interchange Loop & Ramp	300 MSA	12 %	50	125	100	200	200

As per IRC:37-2018 the pavement crust proposed is satisfying the design traffic with 12% CBR. Hence flexible pavement design for MCW is in order based on traffic and as per schedule B requirement.

6.3.2. *Flexible Pavement for Connecting Roads*

Design traffic

As stated in Clause 4.15 of Schedule-B, "The Flexible Pavement for connecting road shall be designed for a minimum design traffic of 10 MSA and 10 % CBR, hence flexible pavement design for connecting roads is in order based on traffic and as per schedule B requirement.

Table 6-3: Designed pavement crust summary as per pavement design report

Section	Design Traffic	Effective CBR %	BC	WMM	CTSB
Connecting Roads	10 MSA	10 %	40	150	200

6.3.3. Rigid pavement for Toll Plaza

The rigid pavement shall be designed as per IRC: 58-2015 with 12% CBR, as per pavement design report, the design calculations are found in order, and the adopted rigid pavement crust for toll plaza is given below.

Table 6-4: Pavement Composition for Toll plaza

Description	Rigid pavement
Designed CBR	12 %
Pavement Quality Concrete (PQC) - mm	320
A de-bonding interlayer of polythene sheet having minimum thickness of 125 micron is provided between DLC and PQC, as per Cl:5.7.5 of IRC:58-2015.	
Dry Lean Concrete (DLC) - mm	150
Drainage Layer (GSB) - (mm)	150
Diameter of Dowel Bar (mm)	36
Length of Dowel Bar (mm)	500
Spacing of Dowel Bars (mm) contraction Joint	300
Spacing of Dowel Bars (mm) Expansion Joint	270
Diameter of Tie Bar (mm)	12 (Deformed)
Length of Tie Bar (mm)	640
Spacing of Tie Bars (mm)	520

6.3.4. Site Investigations**Table 6-5: Pavement Design Thickness Vs Executed Crust Thickness**

S. No	Test Location	Side	As per Design Report					As per site test pits		
			BC (mm)	DBM (mm)	AIL (mm)	CTB (mm)	CTSB (mm)	BC+ DBM	AIL	CTB+ CTSB
1	28+000	RHS	50	125	100	200	200	177	100	400
2	36+120	LHS	50	125	100	200	200	174	100	400
3	36+700	RHS	50	125	100	200	200	175	99	400

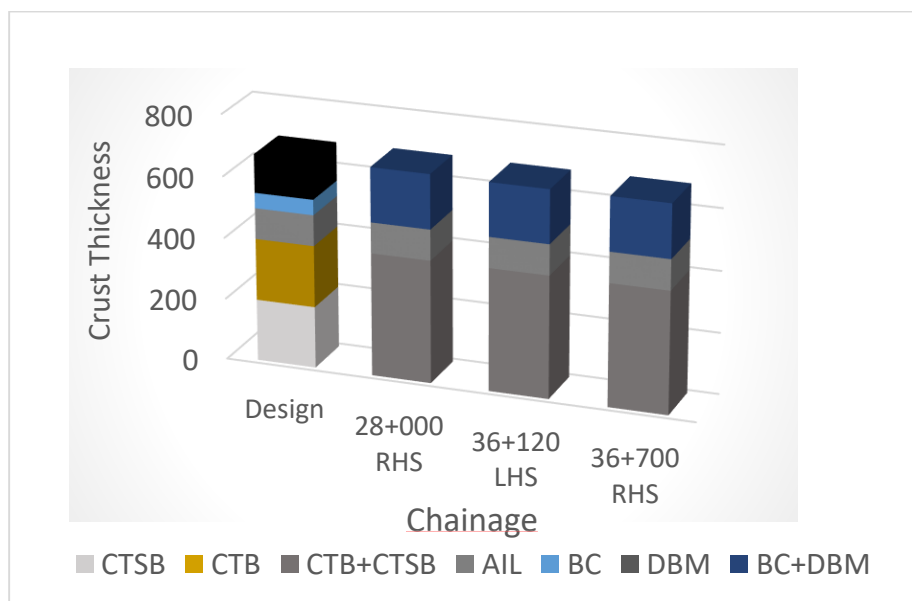


Figure 6.1: Bar Chart showing Design thickness vs Executed thickness

During site visit, core cutting test/ Trial pit test was conducted at some of the locations along the project stretch to compare the executed crust thickness with the design crust thickness and found that the crust thicknesses are in compliance with the design thickness.

CHAPTER 7. SITE APPRAISAL**7.1 General**

The TDD Consultant team visited the site from 21-01-2025 to 24-01-2025 and collected Road inventory besides examining the condition of pavement, structures and physical progress of site work.

7.2 Highways**7.2.1. Road Inventory**

The objective of road inventory is to collect and compare information on all physical and visible features of the road with the GFC drawings, to assess progress of construction and to have visual quality inspection. All the details were recorded by actual measurements made at site, according to IRC-SP-19 format duly modified as per the project requirements The Road Inventory was recorded under the following sub-heads: -

- Type of Terrain - (Plain/ Rolling/Hilly)
- Land use - (Built-up/Agri. /Forest/ Industrial/ Barren)
- Name of Village/Town
- Carriageway and Shoulder - Type/ Width/ Condition
- Embankment Height
- Submergence / water logging Area – location if any
- Details of Crossroads - Location/Road Name. /Carriageway Width
- Road Side Drainage (Non-Existing, Partially Functional, Functional)

7.2.2. Type of terrain

The project road combination of plain and rolling terrain.

7.2.3. Land use

The project road passes through agriculture land all along its length. The details are given below.

Table 7-1: Land use details along the project road

S.No.	From (Km.)	To (km.)	Length (Km)	Land use
1	26.400	53.500	27.1	Agriculture

7.2.4. Villages/Towns along the Project

The project is green field and starts at Malur and ends at Bangarupet.

7.2.5. Main Carriageway and Condition .

The project road is Four lane divided carriageway with Rigid Pavement and Service / Slip Roads with Flexible Pavement. The survey on general pavement conditions was primarily a visual exercise undertaken by means of slow drive-over survey supplemented with measurements wherever necessary.

Overall assessment of pavement condition of the project road is good. The riding quality is observed to be good.

7.2.6 Status of Punch List B

Punch list items are Completed





Figure 7.1: Photographs of Main Carriageway

7.2.6. Cross road details

This is access controlled expressway, there are no junctions.

7.2.7. Road Side Drainage

As per schedule G of CA, Drain constructed at all locations. The total length of drain is 20.557 Km and the Condition of the same is good.

7.2.8. Retaining Wall

All the requisite RE walls are constructed.

7.2.9. Kerb

There is no Provision of kerb throughout the project due to 21m depressed median. At super elevation location 3.620 kms kerb provided to guide water to chutes.

7.3 Structures

Detailed inventory and condition of structures on the project road were carried out during the site visit as per the guide lines provided in IRC: SP: 52-1999 & IRC: SP: 35-1990. The summary of structures on the project road is given below:

Table 7-2: Summary of Structures

S. No.	Type of Structure	As per schedule B	COS	Total	As per site	As per site	Status
1	Major bridges	9	0	9	9	9	Completed
2	Minor Bridges	27	0	27	27	27	Completed
3	Interchange	1	0	1	1	1	Completed
4	VUP	8	0	8	8	8	Completed
5	LVUP	6	0	6	6	6	Completed
6	ROB	1	0	1	1	1	Completed
7	VOP	3	0	3	3	3	Completed
8	Utility	1	0	1	1	1	Completed
9	Box Culverts	33	0	33	33	33	Completed

The Bridge inventory and condition of structures is enclosed as **Annexure-1**.

Table 7-3: Summary of structure**MAJOR BRIDGES**

Sl. No	Chainage	Span	Total length of bridge	Status of Construction
1	30+670	4x45	180	Completed
2	35+595	6x42	252	Completed
3	39+175	2x45	90	Completed
4	41+342	6x42	252	Completed
5	44+240	3x33.33	99.99	Completed

Sl. No	Chainage	Span	Total length of bridge	Status of Construction
6	45+907	4x37.50+1x15	165	Completed
7	47+516	4x37.50	150	Completed
8	49+892	10x45	450	Completed
9	00+443	8x30	240	Completed

MINOR BRIDGES

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	26+942	2x4.5	9	Completed	Good
2	27+205	4x7.5	30	Completed	Good
3	28+333	1x7.50	7.5	Completed	Good
4	28+813	3x6	18	Completed	Good
5	34+122	2x7.5	15	Completed	Good
6	35+006	2x4	8	Completed	Good
7	35+195	4x4.875	19.5	Completed	Good
8	36+080	1x7.50	7.5	Completed	Good
9	36+162	3x4	12	Completed	Good
10	36+414	2x5	10	Completed	Good
11	37+753	1x8	8	Completed	Good
12	38+120	3x6.667	20.001	Completed	Good
13	40+850	4x10	40	Completed	Good
14	43+556	2x9	18	Completed	Good
15	46+275	1x7.50	7.5	Completed	Good
16	46+644	4x4.5	18	Completed	Good
17	48+881	3x5	15	Completed	Good
18	50+393	3x6.50	19.5	Completed	Good
19	51+090	2x6.5	13	Completed	Good
20	51+221	2x6.50	13	Completed	Good
21	52+272	2x6.50	13	Completed	Good
22	52+614	3x5.50	16.5	Completed	Good
23	52+984	4x6.5	26	Completed	Good
24	53+079	4x6.5	26	Completed	Good
25	53+153	2x4	8	Completed	Good
26	01+375	2x4	8	Completed	Good
27	01+525	4x6.25	25	Completed	Good

INTERCHANGE

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	52+037	1x35.0	35.0	Completed	Good

VEHICLE UNDERPASS

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	28+092	1x12	12	Completed	Good
2	28+653	1x12	12	Completed	Good
3	32+293	1x30	30	Completed	Good
4	37+198	1x12	12	Completed	Good
5	39+570	1x12	12	Completed	Good
6	43+640	1x12	12	Completed	Good
7	47+200	1x12	12	Completed	Good
8	49+172	1x12	12	Completed	Good

VEHICLE OVERPASS

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	31+274	2x40	80	Completed	Good
2	33+542	2x40	80	Completed	Good
3	44+988	2x40	80	Completed	Good

LIGHT VEHICLE UNDERPASS

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	29+451	1x12	12	Completed	Good
2	34+033	1x12	12	Completed	Good
3	36+730	1x12	12	Completed	Good
4	38+506	1x12	12	Completed	Good
5	40+554	1x12	12	Completed	Good
6	48+442	1x12	12	Completed	Good

ROAD OVER BRIDGE

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	41+920	1x15+1x35+ 1x43.75+1x15	108.75	Completed	Good

UTILITY

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	29+254	1x26	26	Completed	Good

7.4 Culverts**7.4.1. Inventory**

There are 48 Box and 1 Pipe Culverts in the project stretch. Detailed inventory and condition survey of Culverts is given in **Annexure-1**. Summary of inventory of Culverts is provided in table given below.

Table 7-4: Inventory of structures

S. No	Schedule Chainage	Design Chainage	Type of structure	Span Arrangement	Status of Construction	Condition
1	26+860	26+860	BOX	1x2x2.5	Completed	Good
2	27+529	27+529	BOX	1x2x2.5	Completed	Good
3	27+764	27+764	BOX	2x2x2.5	Completed	Good
4	27+966	27+966	BOX	1x2x2.5	Completed	Good
5	28+113	28+150	BOX	2x2.5x3	Completed	Good
6	28+333	28+200	BOX	3x2x2.5	Completed	Good
7	29+640	29+640	BOX	1x2x2.5	Completed	Good
8	31+735	31+950	BOX	1x2x2.5	Completed	Good
9	32+166	32+166	BOX	1x2x2.5	Completed	Good
10	46+275	32+700	BOX	1x2x2.5	Completed	Good
11	33+000	33+000	BOX	1x2x2.5	Completed	Good
12	34+205	34+230	BOX	1x2x2.5	Completed	Good
13	34+315	34+315	BOX	1x2x2.5	Completed	Good
14	34+540	34+485	BOX	1x3x3	Completed	Good
15	30+500	35+380	BOX	1x2x2.5	Completed	Good(Relocated)
16	35+800	35+800	BOX	1x2x2.5	Completed	Good
17	37+110	37+125	BOX	1x2x2.5	Completed	Good
18	38+920	38+920	BOX	1x2x2.5	Completed	Good
19	39+780	39+730	BOX	1x2x2.5	Completed	Good
20	40+380	40+350	BOX	1x2x2.5	Completed	Good
21	43+603	40+907	BOX	1x3x3	Completed	Good
22	41+665	41+665	BOX	1x2x2.5	Completed	Good
23	42+475	42+475	BOX	1x2x2.5	Completed	Good
24	42+938	42+897	BOX	1x6x3	Completed	Good
25	43+395	43+320	BOX	2x3x3	Completed	Good
26	45+698	45+644	BOX	2x3x3	Completed	Good
27	46+900	47+070	BOX	1x2x2.5	Completed	Good
28	52+960	48+100	BOX	2x3x3	Completed	Good(Relocated)
29	48+450	48+410	BOX	1x2x2.5	Completed	Good
30	34+160	48+700	BOX	1x2x2.5	Completed	Good(Relocated)
31	49+455	49+455	BOX	1x2x2.5	Completed	Good
32	48+720	50+180	BOX	1x2x2.5	Completed	Good(Relocated)
33	52+085	01+230	BOX	1x3x3	Completed	Good

7.4.2. Status of Construction

The condition of the Box culverts /Pipe Culverts is verified at site and condition is good. The details along with inventory is enclosed as **Annexure-1**.

7.5 Project Facilities

7.5.1. Toll Plaza

Concession Agreement under Schedule C provides construction of four toll Plazas on the project road and details are given in the following table. Each Toll plaza has 8 lanes on each side of 3.5m width and one extra width lane.

Table 7-5: Details of Toll Plazas

S.No	Toll plaza location	Village Name
TP1	0+985 of connecting road	52+085 Interchange

TP1 has been Km 0+985 with 5 Entry+ 9 Exit lanes configuration with static weigh bridges.

Facilities to be provided as per CA at toll plaza location are listed below:

- Traffic Aid Post
- Medical aid post
- Vehicle rescue post
- ATMS
- Ambulance
- Crane
- Patrolling vehicle
- Toeing vehicle



7.5.2. ATMS

During site visit it is reported that following items are provided under ATMS system.

Table 7-6: ATMs details

Sl. No	Item	Nos/Locations	Remarks
	ATMs	1 No	Completed

7.5.3. Road Furniture

All the requisite traffic sign boards are installed along the project highways and are in good condition.

Table 7-7 : Status of traffic sign boards

S. No.	Category	Minimum signs to be fixed (Nos)	Status	Condition
1	Mandatory	9	Completed	Good
2	Warning	259	Completed	Good
3	Informatory	8	Completed	Good

7.5.4. Overhead Signs

As per the provision of CA, minimum 2 Nos and Cantilever signs are 12no, fixing of Over sign boards work is Completed and condition is good.

7.5.5. Landscaping & Tree Plantation

Status of Road Side Plantation as per Concessionaire monthly Progress report July 2024 (Schedule G)

Table 7-8: Status of Avenue and median plantation as per Schedule G

S. No.	Item of work	Chainage		side	Unit	Status
		From	To			
1	Avenue Plantation	26.400	53.500	LHS	Km	Descope
2	Avenue Plantation	26.400	53.500	RHS	Km	Descope
3	Median Plantation	26.400	53.500	-	Km	Completed

7.5.6. Pavement marking

During the site visit, it is observed that project is Completed, and condition is good.

7.5.7. Metal beam Crash Barrier

During site visit it is observed that metal beam crash barrier has been installed at outer edge of main carriage way full length of project and condition is good.

Table 7-9: Status of Metal beam Crash barrier

S.No.	Item of work	Chainage		side	Status
		From	To		
1	MBCB Outer edge of Carriage way	26.400	53.500	Both side	Completed



Figure 7.2: Photographs of W Beam Crash Barrier

7.5.8. Hectometre/Km. stones

Kilometre stones shall be provided for entire project length as per the chainages of the project and condition is good.

7.5.9. Highway Lighting

Highway Lighting shall be provided at toll plaza, truck lay bye, bus shelters, MJBs, grade separators, built-up sections and junctions.

S.no	Type of pole	Type of bulb	Total Nos provided	Status	Condition
1	Single arm	LED	322	Completed	Good
2	Double arm	LED	45	Completed	Good
3	High mast	LED	12	Completed	Good

7.5.10. Rest Areas

As per Schedule C, There are one Rest area(both sides)

Table 7-10:Location of Rest Areas

Chainage	Side	Remarks
1 Nos	Completed and Condition is good	

7.5.11. Truck Lay Bye

As per the Provision of Schedules of CA. There are no Truck lay bye in this project.

Table 7-11: Locations of Proposed Truck Lay-Byes

S. No.	Location	side	Parking	Drinking water	Toilet facility	Lighting	Access road
NIL							

7.5.12. Bus Bay and Bus shelters

As per the Provision of Schedules of CA there is no bus bays or bus shelters

Table 7-12: Status of Bus bays and shelters

S.No.	Design Chainage	Side	Deviation	Type
NIL				

7.5.13. Traffic Aid Post

Traffic Aid post shall be constructed at Toll Plaza as per schedule C, Traffic aid post building is completed at Toll Plaza and 1 No. of patrolling vehicles is mobilized to carry out the obligations.

7.5.14. Medical Aid Post

Medical Aid post shall be constructed at Toll Plaza as per schedule C. Medical aid post building is completed at Toll Plaza and 1 No. of ambulance vehicle is mobilized in each Toll Plaza.

7.5.15. Vehicle Rescue Posts

Vehicle rescue post shall be constructed at toll plaza as per schedule C, and 1 No. of crane and tow vehicle is arranged at Toll plaza to tow away the breakdown vehicles.

7.5.16. Operation and Maintenance (O&M) Centre

O&M canter shall be constructed as per schedule C; O&M building is completed at each Toll Plaza.

7.5.17. Telecom System

The telecom communication system shall be provided as per schedule C, accordingly Installation of ECB (Emergency Call Box or SOS) is Completed and Condition is good

7.5.18. Advance Traffic Management System (ATMS)

ATMS shall be provided for convenience of users of Project Highway in accordance with IRC: SP:84. Details are given in 7.5.2.

7.5.19. Noise Barrier

There is no provision in this project.

7.5.20. Road Studs

As per the provision of CA, road studs shall be provided all along the road.

7.5.21. NCRs and its status

Upon review of the documents, it is observed that all NCRs have been closed.

CHAPTER 8. REVIEW OF O&M AGREEMENT

The Operation and Maintenance agreement was signed between M/s Malur Bangarpet Highways Private Limited and Dilip Buildcon Limited .

We have reviewed the provisions under various clauses of this O&M Agreement and our specific comments are indicated below:

S. No	Clause No	Description in brief
1	Senior Lenders	Means financial institutions, banks, funds or trusts who provide or refinance the debt component of the cost of the Project
2	Contract Period	Contract period for this agreement shall be equivalent to a period commencing from the date of the COD achieved by the Concessionaire in accordance with the Concession Agreement and expiring on the earlier of a) completion of the Operations Period; b) early termination of the Concession Agreement or c) Stake sale of the Concessionaire
3	Scope of Work	O&M Contractor's scope under this Agreement shall be completely and fully in line with the scope of works defined in relevant schedules of the Concession Agreement including and not limited to any remedial/rectification works Scope of work shall confirm to the provisions, specifications and standards design and drawings and other parameters stipulated in the Concession Agreement
4	Contract Price	In consideration of its obligations under this Agreement, during the Contract Period, the O&M Contractor shall be paid an aggregate lump sum fixed contract price for each financial year. It is clarified that the O&M Contractor shall not be entitled to any adjustment of the Contract Price as a result or in consequence of : i. Any escalation of price and / or inflation; and/ or ii. Any quantities of non – consumables, consumables, spares or equipment required for the execution of the Works
5	Payment Terms	O&M Contractor would raise bill half-yearly within 7 days of Annuity Payment Dates. Any shortfall in Annuity payments and/or O&M payments by authority would result in similar reduction in payment under the RA Bill, provided that it is demonstrated that such shortfall in release of the Annuity Payment and O&M Payment by the Authority to the Concessionaire has been solely due to default of the O&M Contractor under this agreement. Any defects found in O&M by Authority/ IE would be rectified by the O&M Contractor at its sole expense without recourse to the Concessionaire.
6	Assignment	Assignment by the Concessionaire: The Concessionaire may, subject to the provisions of the Concession Agreement, assign or transfer or enter into an agreement to assign or transfer this Agreement or the rights and benefits hereunder, in favour of or for the benefit of the Senior Lenders.
7	Termination	Concessionaire has rights to terminate the O&M agreement on account of O&M event of default and vice-versa

CHAPTER 9. SCHEDULE OF ANNUITY PAYMENTS**9.1 Hybrid Annuity Model (HAM)**

Hybrid annuity model is the PPP model in which Authority makes payment of 40% of the Bid Project cost during construction period based on progress milestones set forth in Concession Agreement. Payment of the balance 60% of the Bid Project Cost is made in form of bi-annual annuities with interest during the operational phase of concession.

Table 9-1: Schedule of Payment Milestones

S. no	Payment Milestone Number	Criteria for releasing the Payment
1	I	On Achievement of 5% of Physical Progress
2	II	On Achievement of 10% of Physical Progress
3	III	On Achievement of 20% of Physical Progress
4	IV	On Achievement of 30% of Physical Progress
5	V	On Achievement of 40% of Physical Progress
6	VI	On Achievement of 50% of Physical Progress
7	VII	On Achievement of 60% of Physical Progress
8	VIII	On Achievement of 70% of Physical Progress
9	IX	On Achievement of 80% of Physical Progress
10	X	On Achievement of 90% of Physical Progress

During the Operation Period following payment components are payable.

Annuity Payment as per the Annuity Payment Schedule provided in 23.6.3 of the Concession Agreement. Interest to be paid on the balance of completion cost at an interest rate equal to the average of one year MCLR of top 5 scheduled commercial Bank plus 1.25%. O&M Payment as a lump sum amount as per Clause 23.7.1 of the Concession Agreement.

9.2 Schedule of Annuity Payments**Table 9-2: Details of Annuity payments**

Annuity No.	Percentage of BCC	Annuity Due date
1	2.10%	12-11-2024
2	2.17%	12-05-2025
3	2.24%	12-11-2025
4	2.31%	12-05-2026
5	2.38%	12-11-2026
6	2.45%	12-05-2027
7	2.52%	12-11-2027
8	2.60%	12-05-2028
9	2.68%	12-11-2028
10	2.76%	12-05-2029
11	2.84%	12-11-2029
12	2.93%	12-05-2030
13	3.02%	12-11-2030
14	3.11%	12-05-2031
15	3.20%	12-11-2031

Annuity No.	Percentage of BCC	Annuity Due date
16	3.30%	12-05-2032
17	3.40%	12-11-2032
18	3.50%	12-05-2033
19	3.61%	12-11-2033
20	3.72%	12-05-2034
21	3.83%	12-11-2034
22	3.94%	12-05-2035
23	4.06%	12-11-2035
24	4.18%	12-05-2036
25	4.25%	12-11-2036
26	4.25%	12-05-2037
27	4.44%	12-11-2037
28	4.71%	12-05-2038
29	4.75%	12-11-2038
30	4.75%	12-05-2039

CHAPTER 10. COST ESTIMATES

10.1 Maintenance of Project Cost

The maintenance methodology and yearly maintenance program will guide the Maintenance team to undertake the routine & periodic maintenance works of the Project Facilities. This program is the basic indicator of the intended works to be carried out by the Maintenance Team over a period of one year

Road maintenance can be carried out in four ways as listed below.

- i. Preventive Maintenance
- ii. Routine Maintenance
- iii. Periodic Maintenance
- iv. Special repairs

- Preventive Maintenance:

Preventive maintenance is an organized, systematic process of applying a series of preventive treatments over the life of the pavement to minimize life cycle costs.

The strategy of applying periodic treatments at appropriate times in a pavement's life is economical than applying treatment at the end of pavement's life. Preventive maintenance is designed to retard pavement deterioration. Regular preventive maintenance will be carried out to ensure adherence to the Design Requirements and specifications throughout the Concession period.

The flexible pavement is in good condition and hence does not require any immediate or preventive interventions.

- Routine Maintenance:

Routine maintenance, which involves repairing of cracks, replacement of safety girders along the highway, clearance of debris following accidents, ensuring functionality of signposts, maintenance of a security set-up, and such other activities

- Periodic Maintenance

In contrast to preventive maintenance treatments, periodic maintenance treatments are ideally applied on pavements to improve surface integrity and waterproofing, or to improve skid resistance, without increasing the strength of the pavement significantly

Schedule of Periodic Maintenance	
Description	Scheduled Year
1 st Periodic Maintenance	FY 2031
2 nd Periodic Maintenance	FY 2038

- Special Repairs

The group of activities performed to restore the roadway following damage due to natural calamities such as heavy floods, sand storms, hurricanes, cyclones, earthquakes or landslides which shall be

unpredictable. The affected Project Road shall be rectified, and the system shall be restored to function as per program prepared in consultation with Independent Engineer.

Typical activities include:

- a. Culvert and bridge repairs;
- b. Retaining wall repairs and construction;
- c. Construction of Diversions;
- d. Roadway repairs; and
- e. Flood damage restoration works, etc.

10.2 O&M Expense forecasts

The O&M costs were estimated based on various parameters of CA, and design reports. The cost summary is given below, and detailed cost estimations are given in Annexure-2.

Proposed Plan for Future Operation & Maintenance Costs (in Crores)

Table 10-1: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2024-2025	-	2.31	3.62	5.93
2025-2026	-	2.62	3.82	6.44
2026-2027	1.24	3.37	4.02	8.64
2027-2028	0.25	3.51	4.19	7.94
2028-2029	0.15	3.56	4.36	8.08
2029-2030	0.15	3.74	4.55	8.44
2030-2031	31.58	5.17	4.79	41.53
2031-2032	3.75	3.90	5.09	12.74
2032-2033	0.22	4.04	5.07	9.33
2033-2034	0.17	4.06	5.22	9.44
2034-2035	1.54	4.18	5.36	11.09
2035-2036	0.30	4.30	5.52	10.12
2036-2037	0.18	4.30	5.68	10.15
2037-2038	36.63	4.44	5.84	46.91
2038-2039	4.31	4.43	4.50	13.24
2039-2040	0.08	0.38	4.63	5.09
Total Expenditure in Cr. Rs	80.54	58.32	76.27	215.13

CHAPTER 11. CONCLUSION

Based on detailed site inspection, review of various documents and reports as described in the preceding chapters technical over view of the Project is provided below.

- **Pavement Condition**

The Pavement condition for the overall project is good. Lined and unlined drains constructed as per CA provisions, which facilitates the effective drainage system along the highway, which facilitates effective drainage system along the project road. Shoulder condition is fair.

- **Condition of Structures**

Condition of Bridges is good. No structural defects were noticed. The general condition of Culverts is good.

- **Toll Plaza**

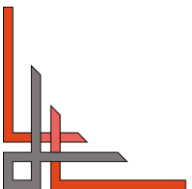
Toll Plaza is operational with ETC Toll collection system and connected by network system monitored in administrative building. Medical Aid posts found functional. Avenue plantation and landscaping at Toll Plaza is provided and being maintained well. Highway lighting is provided at toll plaza is found functional.

- **Road Safety**

Pavement marking is in good condition and number of sign boards are provided as per IRC SP 73-2007. The condition of sign boards & other road appurtenances like metal beam crash barriers is good.



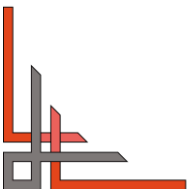
ANNEXURES





Annexure-1

Inventory & Condition of Structures



**CONSTRUCTION OF 4-LANE BANGALORE CHENNAI EXPRESSWAY FROM KM.26.400 TO
KM 53.500 MALUR TO BANGARPET SECTION IN THE STATE OF KARNATAKA UNDER
BHARATMALA ON HYBRID ANNUITY MODE(PHASE-1, PACKAGE-2)**

BOX culvert

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	26+860	1x2x2.5	Completed	Good	
2	27+529	1x2x2.5	Completed	Good	
3	27+764	2x2x2.5	Completed	Good	
4	27+966	1x2x2.5	Completed	Good	
5	28+113	2x2.5x3	Completed	Good	
6	28+333	3x2x2.5	Completed	Good	
7	29+640	1x2x2.5	Completed	Good	
8	31+735	1x2x2.5	Completed	Good	
9	32+166	1x2x2.5	Completed	Good	
10	46+275	1x2x2.5	Completed	Good	
11	33+000	1x2x2.5	Completed	Good	
12	34+205	1x2x2.5	Completed	Good	
13	34+315	1x2x2.5	Completed	Good	
14	34+540	1x3x3	Completed	Good	
15	30+500	1x2x2.5	Completed	Good	
16	35+800	1x2x2.5	Completed	Good	
17	37+110	1x2x2.5	Completed	Good	
18	38+920	1x2x2.5	Completed	Good	
19	39+780	1x2x2.5	Completed	Good	
20	40+380	1x2x2.5	Completed	Good	
21	43+603	1x3x3	Completed	Good	
22	41+665	1x2x2.5	Completed	Good	
23	42+475	1x2x2.5	Completed	Good	
24	42+938	1x6x3	Completed	Good	
25	43+395	2x3x3	Completed	Good	
26	45+698	2x3x3	Completed	Good	
27	46+900	1x2x2.5	Completed	Good	
28	52+960	2x3x3	Completed	Good	
29	48+450	1x2x2.5	Completed	Good	
30	34+160	1x2x2.5	Completed	Good	
31	49+455	1x2x2.5	Completed	Good	
32	48+720	1x2x2.5	Completed	Good	
33	52+085	1x3x3	Completed	Good	

MNB

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	26+942	2x4.5	Completed	Good	
2	27+205	4x7.5	Completed	Good	
3	28+333	1x7.50	Completed	Good	
4	28+813	3x6	Completed	Good	
5	29+254	1x26	Completed	Good	Utility IOCL Pipe line

**CONSTRUCTION OF 4-LANE BANGALORE CHENNAI EXPRESSWAY FROM KM.26.400 TO
KM 53.500 MALUR TO BANGARPET SECTION IN THE STATE OF KARNATAKA UNDER
BHARATMALA ON HYBRID ANNUITY MODE(PHASE-1, PACKAGE-2)**

6	34+122	2x7.5	Completed	Good	
7	35+006	2x4	Completed	Good	
8	35+195	4x4.875	Completed	Good	
9	36+080	1x7.50	Completed	Good	
10	36+162	3x4	Completed	Good	
11	36+414	2x5	Completed	Good	
12	37+753	1x8	Completed	Good	
13	38+120	3x6.667	Completed	Good	
14	40+850	4x10	Completed	Good	
15	43+556	2x9	Completed	Good	
16	46+275	1x7.50	Completed	Good	
17	46+644	4x4.5	Completed	Good	
18	48+881	3x5	Completed	Good	
19	50+393	3x6.50	Completed	Good	
20	51+090	2x6.50	Completed	Good	
21	51+221	2x6.50	Completed	Good	
22	52+272	2x6.50	Completed	Good	
23	52+614	3x5.50	Completed	Good	
24	52+984	4x6.5	Completed	Good	
25	53+079	4x6.5	Completed	Good	
26	53+153	2x4	Completed	Good	
27	01+375	2x4.0	Completed	Good	
28	01+525	4x6.25	Completed	Good	

MJB

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	30+670	4x45	Completed	Good	
2	35+595	6x42	Completed	Good	
3	39+175	2x45	Completed	Good	
4	41+342	6x42	Completed	Good	
5	44+240	3x33.33	Completed	Good	
6	45+907	4x37.50+15	Completed	Good	MJB+VUP
7	47+516	4x37.50	Completed	Good	
8	49+892	10x45	Completed	Good	
9	00+443	8x30	Completed	Good	

LVUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	29+451	1X12	Completed	Good	
2	34+033	1X12	Completed	Good	
3	36+730	1X12	Completed	Good	
4	38+506	1X12	Completed	Good	
5	40+554	1X12	Completed	Good	
6	48+442	1X12	Completed	Good	

**CONSTRUCTION OF 4-LANE BANGALORE CHENNAI EXPRESSWAY FROM KM.26.400 TO
KM 53.500 MALUR TO BANGARPET SECTION IN THE STATE OF KARNATAKA UNDER
BHARATMALA ON HYBRID ANNUITY MODE(PHASE-1, PACKAGE-2)**

VUP					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	28+092	1x12	Completed	Good	
2	28+653	1x12	Completed	Good	
3	32+293	1x30	Completed	Good	
4	37+198	1x12	Completed	Good	
5	39+570	1x12	Completed	Good	
6	43+640	1x12	Completed	Good	
7	47+200	1x12	Completed	Good	
8	49+172	1x12	Completed	Good	

VOP					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	31+274	2x40	Completed	Good	
2	33+542	2x40	Completed	Good	
3	44+988	2x40	Completed	Good	

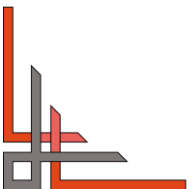
INTERCHANGE					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	52+037	1x35	Completed	Good	


ROB					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	41+920	1x15+1x35+1x43. 75+1x15	Completed	Good	



Annexure-2

Operation & Maintenance cost Estimate



	PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)	ANNEXURE: ABSTRACT COST
---	--	------------------------------------

FY	Routine Maintenance Cost in Cr. Rs.	Major Maintenance in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2024-2025	2.31	-	2.31	
2025-2026	2.62	-	2.62	
2026-2027	3.37	1.24	4.61	
2027-2028	3.51	0.25	3.75	
2028-2029	3.56	0.15	3.71	
2029-2030	3.74	0.15	3.89	
2030-2031	5.17	31.58	36.74	
2031-2032	3.90	3.75	7.65	
2032-2033	4.04	0.22	4.26	
2033-2034	4.06	0.17	4.22	
2034-2035	4.18	1.54	5.73	
2035-2036	4.30	0.30	4.60	
2036-2037	4.30	0.18	4.48	
2037-2038	4.44	36.63	41.07	
2038-2039	4.43	4.31	8.74	
2039-2040	0.38	0.08	0.46	
Total Expenditure in Cr. Rs	58.32	80.54	138.86	



PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)

**ANNEXURE:
ABSTRACT COST**

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2024-2025	-	2.31	3.62	5.93	
2025-2026	-	2.62	3.82	6.44	
2026-2027	1.24	3.37	4.02	8.64	
2027-2028	0.25	3.51	4.19	7.94	
2028-2029	0.15	3.56	4.36	8.08	
2029-2030	0.15	3.74	4.55	8.44	
2030-2031	31.58	5.17	4.79	41.53	
2031-2032	3.75	3.90	5.09	12.74	
2032-2033	0.22	4.04	5.07	9.33	
2033-2034	0.17	4.06	5.22	9.44	
2034-2035	1.54	4.18	5.36	11.09	
2035-2036	0.30	4.30	5.52	10.12	
2036-2037	0.18	4.30	5.68	10.15	
2037-2038	36.63	4.44	5.84	46.91	
2038-2039	4.31	4.43	4.50	13.24	
2039-2040	0.08	0.38	4.63	5.09	
Total Expenditure in Cr. Rs	80.54	58.32	76.27	215.13	



PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)

ANNEXURE: MMR

FY	6. MMR (Rs in Cr)			Total Expenditure till the end of Concession Period
	MMR Highway	MMR Structure	MMR Toll Plaza	
2024-2025	-	-	-	-
2025-2026	-	-	-	-
2026-2027	1.24	-	-	1.24
2027-2028	-	0.25	-	0.25
2028-2029	0.15	-	-	0.15
2029-2030	0.15	-	-	0.15
2030-2031	31.58	-	-	31.58
2031-2032	3.64	-	0.10	3.75
2032-2033	0.22	-	-	0.22
2033-2034	0.17	-	-	0.17
2034-2035	1.54	-	-	1.54
2035-2036	0.30	-	-	0.30
2036-2037	0.18	-	-	0.18
2037-2038	36.63	-	-	36.63
2038-2039	1.99	-	2.31	4.31
2039-2040	0.08	-	-	0.08
Total Expenditure in Cr. Rs	77.88	0.25	2.42	80.54



PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)

MMR-Highway

FY	Description	CODE	Unit	% of Treatment	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalation (%)	Year	Amount in INR after Escalation
2027	Filling of Earthen Shoulder	MCW-SF	Cum	25%	54,200.00	1.5		20,625.75	558	1,15,09,167	4.0%	2	1,24,29,900
TOTAL AMOUNT										1,15,09,167			1,24,29,900
2029	TC for BC	MCW-TC BC	Sqm	1%	54,200.00			361.34	12	4,336	3.0%	4	4,856
2029	BC Overlay	MCW-BC	Cum	1%	54,200.00	11.242	0.04	162.48	8169	13,27,373	3.0%	4	14,86,658
TOTAL AMOUNT										13,31,709			14,91,514
2030	TC for BC	MCW-TC BC	Sqm	1%	54,200.00	11.242		3,139.19	12	37,670	3.0%	5	43,321
2030	BC Overlay	MCW-BC	Cum	1%	54,200.00	11.242	0.05	155.24	8169	12,68,239	3.0%	5	14,58,475
TOTAL AMOUNT										13,05,909			15,01,796
2031	TC for DBM	MCW-TC DBM	Sqm	6%	54,200.00	11.242		36,772.64	12	4,41,272	3.0%	6	5,20,701
2031	DBM Overlay	MCW-DBM	Cum	6%	54,200.00	11.242	0.05	1,742.19	9564	1,66,62,345	3.0%	6	1,96,61,567
2031	TC for BC	MCW-TC BC	Sqm	100%	54,200.00	11.242		6,09,292.68	12	73,11,512	3.0%	6	86,27,584
2031	BC Overlay	MCW-BC	Cum	100%	54,200.00	11.242	0.05	28,866.74	8169	23,58,25,383	3.0%	6	27,82,73,952
2031	TC for BC	SR-TC	Sqm	100%	2,477.00	7.5		18,577.50	12	2,22,930	3.0%	6	2,63,057
2031	BC Overlay	SR-BC	Cum	100%	2,477.00	7.50	0.05	873.14	8169	71,33,041	3.0%	6	84,16,988
TOTAL AMOUNT										26,75,96,482			31,57,63,849
2032	Filling of Earthen Shoulder	MCW-SF	Cum	22%	54,200.00	2.9726326		35,959.62	558	2,00,65,467	3.0%	7	2,42,79,215
2032	Road Marking - MCW	RM MCW	Sqm	100%	1,26,466.67	0.15		18,970.00	400	75,88,000	3.0%	7	91,81,480
2032	Road Marking - SR	RM SR	Sqm	100%	5,779.67	0.10		556.64	400	2,22,658	3.0%	7	2,69,416
2032	Studs	STUD	Nos	100%	10,092.00			10,092.00	220	22,20,240	3.0%	7	26,86,490
TOTAL AMOUNT										3,00,96,364			3,64,16,601
2033	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	1%	29,303.84		0.3	100.71	2700	2,71,921	3.0%	8	3,37,182
2033	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	2%	29,303.84		0.3	168.62	9000	15,17,577	3.0%	8	18,81,796
TOTAL AMOUNT										17,89,498			22,18,978
2034	Filling of Earthen Shoulder	MCW-SF	Cum	0%	54,200.00	1.5		371.39	558	2,07,235	2.0%	9	2,44,537
2034	Replacement of Joint Sealent	MCW-JS	Rm	5%	29,303.84		0.3	439.56	98	43,077	2.0%	9	50,830
2034	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	5%	29,303.84		0.3	439.56	2700	11,86,806	2.0%	9	14,00,431
TOTAL AMOUNT										14,37,117			16,95,798
2035	Filling of Earthen Shoulder	MCW-SF	Cum	23%	54,200.00	1.5		18,894.06	558	1,05,42,883	2.0%	10	1,26,51,460
2035	Replacement of Joint Sealent	TP-JS	Rm	100%	17,408.30			17,408.30	98	17,06,013	2.0%	10	20,47,216
2035	Diamond Grinding	TP-GRIN	Sqm	9%	29,303.84			2,780.06	100	2,78,006	2.0%	10	3,33,608
2035	Microsurfacing	SR-MS	Sqm	76%	2,477.00			1,880.88	180	3,38,559	2.0%	10	4,06,271
TOTAL AMOUNT										1,28,65,462			1,54,38,555



PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)

MMR-Highway

FY	Description	CODE	Unit	% of Treatment	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalation (%)	Year	Amount in INR after Escalation
2036	Replacement of Joint Sealent	TP-JS	Rm	100%	17,408.30			17,408.30	98	17,06,013	2.0%	11	20,81,336
2036	Diamond Grinding	TP-GRIN	Sqm	26%	29,303.84			7,494.89	100	7,49,489	2.0%	11	9,14,377
TOTAL AMOUNT										24,55,502			29,95,713
2037	TC for BC	MCW-TC BC	Sqm	1%	54,200.00	11.241562		3,347.10	12	40,165	2.0%	12	49,805
2037	BC Overlay	MCW-BC	Cum	1%	54,200.00	11.24	0.05	168.36	8169	13,75,383	2.0%	12	17,05,475
TOTAL AMOUNT										14,15,548			17,55,280
2038	TC for BC	MCW-TC BC	Sqm	93%	54,200.00	11.241562		5,66,747.73	12	68,00,973	2.0%	13	85,69,226
2038	BC Overlay	MCW-BC	Cum	93%	54,200.00	11.24	0.05	28,507.05	8169	23,28,86,883	2.0%	13	29,34,37,472
2038	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	32%	29,303.84		0.3	2,819.13	2700	76,11,659	2.0%	13	95,90,691
2038	Replacement of Panels @ 2% area	TP-CC PAN	Cum	32%	29,303.84		0.3	2,819.13	9000	2,53,72,197	2.0%	13	3,19,68,968
2038	TC for BC	SR-TC	Sqm	100%	2,477.00	7.5		18,577.50	12	2,22,930	2.0%	13	2,80,892
2038	BC Overlay	SR-BC	Cum	100%	2,477.00	7.5	0.05	939.99	8169	76,79,169	2.0%	13	96,75,753
2038	Road Marking - MCW	RM MCW	Sqm	100%	1,26,466.67	0.15		18,970.00	400	75,88,000	2.0%	13	95,60,880
2038	Road Marking - SR	RM SR	Sqm	100%	5,779.67	0.15		866.95	400	3,46,780	2.0%	13	4,36,943
2038	Studs	STUD	Nos	100%	10,092.00			10,092.00	220	22,20,240	2.0%	13	27,97,502
TOTAL AMOUNT										29,07,28,831			36,63,18,327
2039	TC for BC	MCW-TC BC	Sqm	5%	54,200.00	11.241562		31,804.02	12	3,81,648	2.0%	14	4,88,510
2039	BC Overlay	MCW-BC	Cum	5%	54,200.00	11.24	0.05	1,599.72	8169	1,30,68,847	2.0%	14	1,67,28,125
2039	Road Marking - MCW	RM MCW	Sqm	28%	1,26,466.67	0.15		5,333.59	400	21,33,436	2.0%	14	27,30,798
TOTAL AMOUNT										1,55,83,932			1,99,47,433
2040	Studs	STUD	Nos	29%	10,092.00			2,957.64	220	6,50,680	2.0%	15	8,45,884
TOTAL AMOUNT										6,50,680			8,45,884




PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)

**ANNEXURE:
ABSTRACT OF
MMR STRUCTURE**


2. Structure

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
2.01	2028	22-10-2028	182934	2195203	3	4.0%	2458627	0.25	GST 0% considered

	PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)	ABSTRACT OF MMR STRUCTURE
--	--	--------------------------------------


Structure MMR-Base

Sr. No.	Item	Unit	Quantity	% of Extant to be Treated	Rate (Rs)	Amount (Rs)
1	Strip Seal Joint	Rmt	1800	1.00%	11,389.00	2,04,945
2	Painting of Crash Barrier	Sqm	27020	10.00%	80.00	2,16,163
3	Wearing Coat over Deck Slab	Sqm	86438	5.00%	681.25	29,44,282
4	Replacement of POT PTFE Bearings	Nos	744	1.20%	1,15,077.00	10,25,015
al Structure MMR Cost						43,90,405
ture MMR Cost (consider 50%)						21,95,203

	PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)	ANNEXURE: MMR TOLL PLAZA
---	--	-------------------------------------

3. Toll Plaza

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalat ion Period	Escalatio n Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
3.01	2032	21-10-2032	71702	860425	7	3.0%	1041114	0.10	GST 0% considered
3.01	2039	20-10-2039	1505744	18068925	14	2.0%	23128224	2.31	GST 0% considered

	PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)	ANNEXURE:Routine Maintenance
---	--	-------------------------------------

FY	1. RM Costs (Rs in Cr) with Inflation				Total Expenditure till the end of Concession Period
	Highway Routine Maintenance Cost	Structure Routine Maintenance Cost	Route Maintenance Manpower Cost	Route Maintenance Vehicle & Equipment Cost	
Base Cost 2023-2024	0.47	0.21	0.81	0.51	2.00
2024-2025	0.54	0.24	0.94	0.59	2.31
2025-2026	0.61	0.27	1.07	0.67	2.62
2026-2027	0.79	0.35	1.37	0.86	3.37
2027-2028	0.82	0.37	1.43	0.89	3.51
2028-2029	0.83	0.37	1.45	0.91	3.56
2029-2030	0.87	0.39	1.52	0.95	3.74
2030-2031	1.21	0.54	2.10	1.32	5.17
2031-2032	0.91	0.41	1.59	0.99	3.90
2032-2033	0.94	0.42	1.64	1.03	4.04
2033-2034	0.95	0.43	1.65	1.03	4.06
2034-2035	0.98	0.44	1.70	1.07	4.18
2035-2036	1.01	0.45	1.75	1.10	4.30
2036-2037	1.01	0.45	1.75	1.10	4.30
2037-2038	1.04	0.47	1.81	1.13	4.44
2038-2039	1.04	0.46	1.80	1.13	4.43
2039-2040	0.09	0.04	0.15	0.10	0.38
Total Expenditure in Cr. Rs	13.63	6.11	23.71	14.86	58.32

	PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-BASE COST
--	--	--

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1	HIGHWAY								
1.1	FLEXIBLE PAVEMENT, MEDIAN & SHOULDERS								
1.1.1	Sealing of Cracks								
1.1.1.3	Filling discrete cracks with slow curing bitumen emulsion as per Technical Specification Clause 3004.3.3	Rm	2418	5%	5	1,007.42	12,089		
1.1.2	Treatment of Bleeding Surface								
1.1.2.1	Providing treatment to bleeding bituminous surface at scattered locations - Main carriageway	Sqm	27200	5%	2	4,805.41	57,665		
1.1.3	Treatment of Rutting Surface								
1.1.3.1	Providing localised repair to rutted portion and edge breaking of bituminous surface - Main carriageway	Cum	33	0%	10669	29,021.36	3,48,256		
1.1.4	Pothole Repair								
1.1.4.1	Providing treatment and repair to pot-holes and patch work - MCW	Sqm	1360	0%	441	49,980.79	5,99,769		
1.1.4.2	Providing treatment and repair to pot-holes and patch work - Service/Slip Road	Sqm	87	1%	441	3,186.04	38,232		

	PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-BASE COST
--	--	--

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1.1.7	Shoulder Maintenance	Sqm	2176	2%	85	15,413.58	1,84,963		
1.2	DRAINAGE & PROTECTION								
1.2.3	RCC drain Repair/Restoring	Rm	200	1%	500	8,349.17	1,00,190		
1.2.4	Earthen drain Repair/Restoring	Rm	284	1%	100	2,363.17	28,358		
1.2.5	Repair/Restoring of Drain Slabs	Rm	301	2%	600	15,028.50	1,80,342		
1.2.6	Repair/Repstoration of Turfing on embankment slopes and at all other Project Facilities	Sqm	1209	3%	46	4,593.85	55,126		
1.2.7	Rain Cuts Maintenance: Restoration of rain cuts soil, moorum, gravel or a combination of these	Sqm	2418	1%	46	9,268.29	1,11,220		
1.2.8	Providing and laying Stone pitching on slopes of road embankment	Cum	435	2%	1404	50,919.20	6,11,030		
1.2.10	Repair of Chutes in High Embankment	Rm	967	1%	100	8,059.39	96,713		
1.3	PROJECT FACILITIES								
1.3.1	Gantry Sign Boards								
1.3.1.1	Overhead/ Gantry Sign boards	Nos	0	5%	10000	83.33	1,000		
1.3.1.2	Cantilever Gantry Sign boards	Nos	0	5%	10000	166.67	2,000		
1.3.2	Other Sign Boards	Nos	14	5%	5450	6,267.50	75,210		
1.3.2.16	Painting to Sign Board pole	Nos	61	20%	87	440.22	5,283		
1.3.3	Cats Eyes/Raised pavement marker (NMC Nails Less)	Nos	505	5%	220	9,251.00	1,11,012		
1.3.4	Distance Measurement Stones								
1.3.4.1	Painting								

	PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-BASE COST
---	--	--

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1.3.4.1.1	Hectometer stones	Nos	54	25%	36	160.20	1,922		
1.3.4.1.2	5 Kilometer Stone	Nos	3	25%	350	87.50	1,050		
1.3.4.1.3	Kilometer stone	Nos	11	25%	222	203.59	2,443		
1.3.4.1.4	Boundary stone	Nos	27	5%	171	385.46	4,625		
1.3.4.2	Fixing/Replacing/Restoring								
1.3.4.2.1	Hectometer stones	Nos	54	25%	690	3,105.00	37,260		
1.3.4.2.2	5 Kilometer Stone	Nos	1	10%	4022	402.20	4,826		
1.3.4.2.3	Kilometer stone	Nos	4	10%	2350	861.67	10,340		
1.3.4.2.4	Boundary stone	Nos	54	10%	723	3,265.55	39,187		
1.3.4.2.5	Boundary Wall	Cum	80	1%	5025	33,454.27	4,01,451		
1.3.6	Pavement Markings								
1.3.6.1	Lane / Centre Line / Edge Line	Sqm	945	5%	400	31,487.22	3,77,847		
1.3.7	Barriers								
1.3.7.2	Repair/Replace Tri-beam Crash barrier	Rm	194	0%	4262	68,754.58	8,25,055		
1.3.8	Plantation								
1.3.8.1	Maintenance of Median Plantation	Km	0	1%	331732	6,683.89	80,207		
1.3.8.2	Avenue Plantation	Nos	70	2%	1362	7,942.16	95,306		

	PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-BASE COST
--	--	--

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1.3.9	Miscellaneous								
1.3.9.4	Solar Blinker	Nos	1	25%	4500	375.00	4,500		
1.4	RIGID PAVEMENT								
1.4.10	Removal of Sealent & Replacement with Appoxy Sealent	Lm	348	2%	98	2,843.36	34,120		
1.4.11	Replacement of Panels	Nos	2	0.1%	39690	6,155.26	73,863		
1.4.12	Texturing/Raveling of panel	Sqm	586	2%	100	4,883.97	58,608	46,71,069	18% Service Charge Considered

	PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-BASE COST
--	--	--

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2	STRUCTURES								
2.01	Providing and laying of wearing course with 25 mm thick mastic asphalt laid over 40 mm thick bituminous concrete including correction of existing profile with bituminous concrete as per drawings and Technical Specifications clause 2700 (item rate includes cost of BC and profile correction course)	Sqm	216	0%	750	13,505.88	1,62,071		
2.03	Expansion Joint Repair	Rm	1800	2.50%	12000	44,987.50	5,39,850		
2.04	Providing Reinforced cement concrete crash barrier at the edges of the bridge structures constructed with M-40 grade concrete with HYSD-Fe 500 TMT reinforcement concrete per Rmt conforming to IRC:21 and fixing with dowel bars 16 mm dia to old concrete using epoxy grout as per drawing and Technical Specifications and as directed by the Engineer.	Rmt	60	0.25%	6500	32,669.76	3,92,037		
2.05	Painting of Concrete Crash Barrier	Sqm	1865	25%	140	21,758.56	2,61,103		Considering 50% repainting per year & 1.25Sqm per Rm
2.06	Providing and fixing 50mm NB MS pipe rail on crash barrier with MS base plate and vertical stiffener fixed with anchor bolts complete including providing three or more coats of epoxy paint of approved colour, make and quality over a coat of epoxy primer complete as per drawings and Technical Specifications Sections 1900 & 2703.	Rmt	60	0.25%	150	753.92	9,047		

	PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-BASE COST
--	--	--

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2.07	Removal of earth, debris and vegetation from waterway of culverts and bridges by manual means through unskilled labor, and disposal of removed material within all lead as directed by Engineer. (Before and after Monsoon)	LS	33	100%	5000	13,750.00	1,65,000		
2.08	Providing Boulder apron on U/S and D/S sides, 1000 mm thick, including relaying / removing existing damaged boulders as per Technical Specification Sections 2500 and direction of Engineers.	Cum	52	5%	1500	6,559.81	78,718		
2.09	Providing and laying Stone pitching on slopes upto 0.5m height over H.F.L and for bed where specified, using hard variety stone of 200 mm nominal size, the joints being filled with spalls and pointed with 1:4 cement mortar as per technical specification	Cum	18	2.5%	1404	2,105.95	25,271		
2.10	Providing and laying Plain/Reinforced Cement Concrete in Rigid Apron excluding reinforcement complete as per Drawing and Technical Specifications.Ref. to Technical specification 1500,1700 & 2100 .	Cum	69	5%	5025	28,763.40	3,45,161		
2.11	Cleaning of choked weep holes as per Technical Specification and as directed by the Engineer.	Nos	2	1%	250	41.67	500		
2.12	Providing gratings to the existing drainage spouts as per technical specification Clause 2705 & Additional Technical Specification	Nos	148	25%	500	6,156.25	73,875		
2.13	Repair/Replacement of Drainage Spoutes	Nos	30	5%	1443	3,553.39	42,641	20,95,273	18% Service Charge Considered



PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)

**ANNEXURE: ROUTINE
MAINTENANCE
EXPENDITURE**

3. Route Maintenance Manpower Cost

Sr. No.	Position	Unit	Nos	Shift	Blank	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
3.01	Manager	Nos	1	1		1	75000	75000	900000		
3.02	HR and Admin	Nos	1	1		1	45000	45000	540000		
3.03	Maintenance Engineer	Nos	1	1		1	50000	50000	600000		
3.04	Maintenance Supervisor	Nos	1	1		1	35000	35000	420000		
3.08	Labour for RRM (Male)	Nos	12	1		12	22495	269941	3239298		
3.09	Labour for RRM (Female)	Nos	4	1		4	22495	89980	1079766		
3.10	Labour for Misc. works	Nos	2	1		2	22495	44990	539883		
3.11	Grass cutting operator	Nos	3	1		3	22495	67485	809824		
3.13	Others	Nos	0	1		0	23653	0	0	81,28,771	Service Charge @ 0%
						25		677398			



PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)

**ANNEXURE: ROUTINE
MAINTENANCE
EXPENDITURE**

4. Route Maintenance Vehicle & Equipment Cost

Sr. No.	Description	Unit	Nos	Shift	Blank	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
4.01	Bolero or equivalent	Nos	1	1		1	53968	53968	647610		
4.02	Water tanker 20 KL	Nos	1	1		1	98692	98692	888232		
4.03	Pickup /Campher	Nos	1	1		1	53968	53968	647610		
4.06	Water tanker 5 KL	Nos	1	1		1	50135	50135	451212		
4.07	Grass Cutter	Nos	3	1		3	8854	26562	318739		
4.08	Man Basket for Elec.	Days/Month	3	1		3	26667	80000	960000		
4.09	JCB	Days/Month	3	1		3	26667	80000	960000		
4.11	Bikes for Supervisor	Nos	1	1		1	4758	4758	57098		
4.12	PPE/Uniform for staff	Nos	5	1		5	525	2625	31500		Considering Rs. 350/- per pair & 2 pairs per each (75% of the Staff)
4.13	Safety items, Sign boards	Nos	1	1		1	6000	6000	72000		
4.14	Tools & tackles	Nos	1	1		1	5000	5000	60000		
4.18	Others	Nos	0	1		0		0	0	50,94,001	Service Charge @ 0%
								461707		40660	Rs. Per Month per Km



PROJECT: Four lane Expressway from Km 26.400 to Km 53.500 of Malur to Bangarpeta Section of Bengaluru Chennai Expressway on Hybrid Annuity Mode under Bharatamala in the State of Karnataka (Phase-1 Package-2)

**ANNEXURE:
Operations Cost**

Year	Operation Cost in Cr. Rs				Total Expenditure till the end of Concession Period
	SPV Cost	Manpower	Operating Expenses (IMV)	Electricity	
2024-2025	1.90	1.29	0.35	0.08	3.62
2025-2026	1.98	1.39	0.36	0.09	3.82
2026-2027	2.06	1.50	0.38	0.09	4.02
2027-2028	2.12	1.59	0.39	0.09	4.19
2028-2029	2.18	1.69	0.40	0.10	4.36
2029-2030	2.25	1.79	0.41	0.10	4.55
2030-2031	2.32	1.89	0.47	0.10	4.79
2031-2032	2.39	2.01	0.59	0.10	5.09
2032-2033	2.43	2.09	0.44	0.11	5.07
2033-2034	2.48	2.17	0.45	0.11	5.22
2034-2035	2.53	2.26	0.46	0.11	5.36
2035-2036	2.58	2.35	0.47	0.11	5.52
2036-2037	2.63	2.44	0.48	0.12	5.68
2037-2038	2.69	2.54	0.49	0.12	5.84
2038-2039	2.06	1.98	0.38	0.09	4.50
2039-2040	2.10	2.06	0.38	0.09	4.63

Anantam Highways Trust

Four laning of Dodaballapur Bypass to Hoskote section of NH-648 (Old NH-207) from Km.42+000 to Km.80+000 (Package-II) in the State of Karnataka (Package-II) through Public Private Partnership (PPP) on Hybrid Annuity Mode.

(FINAL REPORT)



FEBRUARY, 2025



**RUKY Projects Private Limited
Hyderabad**

contact@rukypjrojects.com | www.rukypjrojects.com | 040 4855 7777

RUKY



BLANK PAGE



**Four laning of Dodaballapur Bypass to Hoskote section of
NH-648 (Old NH-207) from Km.42+000 to Km.80+000
(Package-II) in the State of Karnataka (Package-II) through
Public Private Partnership (PPP) on Hybrid Annuity Mode.**

REVISION RECORD

Document No.	Issue	Date	Description
Doc No.RU-337 /AHT/TDD/ DHHPL	R1	15-02-2025	Final Report



DISCLAIMER AND CONSENT FOR USE

This report has been prepared for the benefit of Anantam Highways Trust for and in connection with initial offer of units representing an undivided beneficial interest in the Trust. In Preparing this report, RUKY Projects Pvt Ltd has relied, in whole or in part, on data and information provided by Anantam Highways Trust and M/s Dodaballapur Hoskote Hgihways Private Limited which RUKY Project Pvt Ltd has assumed to be accurate, complete, reliable and correct.

This report may be reproduced and included in the preliminary placement memorandum, placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust and may be made available for inspection in the manner specified therein. In connection with the report, the following details in relation to the Technical Consultant may be included in preliminary placement memorandum and the placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust

Technical Consultant:

RUKY PROJECTS PRIVATE LIMITED
Flat No. 1403A, 14th Floor,
Manjeera Trinity Corporate,
JNTU-Hitech City Road, Kukatpally,
Hyderabad – 500072
www.rukyprojects.com
contact@rukypjrojects.com
Tel: +91 40 4855 7777

TABLE OF CONTENTS

CHAPTER 1. EXECUTIVE SUMMARY.....	7
1.1 Project Description	7
1.2 Present status of the Project	8
1.3 Critical Issues.....	8
1.4 Condition of Project Corridor.....	8
1.4.1. Pavement Condition	8
1.4.2. Condition of Structures.....	8
1.4.3. Condition of Project Facilities	8
1.5 O&M Cost Estimate.....	8
CHAPTER 2. INTRODUCTION	10
2.1 Project Background.....	10
2.2 Key plan of the Project.....	11
2.3 Project Geography	12
2.4 Project Overview.....	12
2.4.1. Project pictorial over view is shown below:	12
CHAPTER 3. SCOPE OF CONSULTANCY SERVICES.....	14
3.1 Scope of consultancy services.....	14
CHAPTER 4. SALIENT FEATURES OF THE PROJECT.....	15
4.1 Salient Features of the Project	15
4.2 Typical Cross Section (TCS) Schedule.....	15
4.3 Bypass/Realignment	17
4.4 Service Roads/Slip Roads	17
4.5 Drainage.....	18
4.6 Summary of the Carriageway and Pavement Details	18
4.7 Summary of Structures	19
4.8 Project Facilities.....	19
CHAPTER 5. REVIEW OF AGREEMENTS	21
5.1 Review of Concession Agreement	21
5.1.1. Concession (Article 3)	21
5.1.2. Provisional scenario in the project	21
5.1.3. Provisional Certificate (Article 14).....	21
5.1.4. Completion Certificate (Article 14).....	21
5.1.5. O&M Obligations of the Concessionaire (Clause 17.1).....	22
5.1.6. Maintenance Requirements (Clause 17.2)	22
5.1.7. Maintenance Programme (Clause 17.4)	22
5.1.8. Maintenance Manual (Clause 17.3).....	23
5.1.9. Damages for Breach of Maintenance Obligations (Clause 17.8)	23
5.1.10. Monthly status reports (Clause 19.1)	23
5.1.11. IE O&M Inspection reports (Clause 19.2)	23
5.1.12. Tests During O&M Period (Clause 19.3)	24
5.1.13. Appointment of Independent Engineer (Article 23).....	24
5.1.14. Insurance (Article 26).....	24

5.2	Review of Correspondence.....	25
CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS		26
6.1	Review of Pavement design report.....	26
6.1.1.	Flexible Pavement for main carriageway.....	26
6.1.2.	Traffic growth rate	26
6.1.3.	Vehicle Damage Factor (VDF)	27
6.1.4.	Design Life.....	27
6.1.5.	Sub grade CBR.....	28
6.1.6.	Flexible Pavement for Service Road	28
6.1.7.	Rigid pavement for Toll Plaza	28
6.1.8.	Site Investigations.....	29
CHAPTER 7. SITE APPRAISAL.....		31
7.1	General.....	31
7.2	Highways.....	31
7.2.1.	Road Inventory.....	31
7.2.2.	Type of terrain	31
7.2.3.	Land use	31
7.2.4.	Villages/Towns along the Project	32
7.2.5.	Main Carriageway – work status	32
7.2.6.	Cross road details.....	34
7.2.7.	Roadside Drainage	35
7.2.8.	Retaining/Breast wall.....	35
7.2.9.	Kerb.....	35
7.2.10.	GFC Vs Site Comparison.....	35
7.3	Pavement Condition	36
7.4	Project Facilities.....	36
7.4.1.	Toll Plaza	36
7.4.2.	Incident Management	39
7.4.3.	ATMS.....	39
7.4.4.	Road Furniture	39
7.4.5.	Overhead Signs	40
7.4.6.	Landscaping & Tree Plantation	41
7.4.7.	Pavement marking.....	42
7.4.8.	LED Blinkers.....	42
7.4.9.	Metal beam Crash Barrier.....	42
7.4.10.	Hectometer/Km. stones.....	43
7.4.11.	Highway Lighting.....	43
7.4.12.	Rest Areas	43
7.4.13.	Bus Bay and Bus shelters	44
7.4.14.	Traffic Aid Post.....	45
7.4.15.	Medical Aid Post	45
7.4.16.	Vehicle Rescue Posts.....	45
7.4.17.	Operation and Maintenance (O&M) Centre.....	45
7.4.18.	Telecom System	45
7.4.19.	Advance Traffic Management System (ATMS)	45
7.4.20.	Road Studs	45
7.4.21.	NCRs and its status.....	46

7.5	Structures.....	46
7.5.1.	Status of Construction	48
7.5.2.	Culverts	48
7.5.3.	RE walls	49
CHAPTER 8. REVIEW OF O&M AGREEMENT.....		52
CHAPTER 9. SCHEDULE OF ANNUITY PAYMENTS		54
9.1	Hybrid Annuity Model (HAM)	54
9.2	Schedule of Annuity Payments	54
CHAPTER 10. COST ESTIMATES		56
10.1	Maintenance of Project Cost	56
10.2	O&M Expense forecasts.....	57
CHAPTER 11. CONCLUSION.....		58

LIST OF TABLES

Table 1-1: Key Dates	7
Table 1-2: Key Features	7
Table 1-3: Summary of Cost Estimate.....	8
Table 2-1: Project Data	12
Table 4-1: Salient Features of the Project.....	15
Table 4-2: List of Cross Sections	16
Table 4-3: TCS Summary as per CA	17
Table 4-4: Details of Bypass.....	17
Table 4-5: Service Road locations as per Schedule B of CA.....	17
Table 4-6: Provision for Drains as per As built drawings	18
Table 4-7: Summary of the Carriageway and Pavement Details	18
Table 5-1: Insurance Details	25
Table 6-1: Correspondence related to pavement design submission and approvals.....	26
Table 6-2: Summary of AADT.....	26
Table 6-3: Adopted traffic growth rates	27
Table 6-4: Summary of Vehicle Damage Factor.....	27
Table 6-5: Estimated Design Traffic (Million Standard Axles-MSA)	27
Table 6-6: Designed pavement crust summary as per pavement design report	28
Table 6-7: Pavement Composition for service road	28
Table 6-8: Pavement Composition for Toll Plaza	28
Table 6-9: Pavement Design Thickness Vs Executed Crust Thickness	29
Table 7-1: Land use details along the project road.....	31
Table 7-2: Minor Intersections.....	34
Table 7-3: Details of Toll Plazas	36
Table 7-4 : List of Equipment at Toll Plaza and Control Room	37
Table 7-5: ATMS details	39
Table 7-6 : Status of traffic sign boards.....	40
Table 7-7: Status of Avenue and median plantation	41
Table 7-8: List of lighting fixtures	43
Table 7-9: Location of Rest Areas	44
Table 7-10: Status of Bus bays and shelters	44
Table 7-11: Summary of Structures	46
Table 7-12: Detailed Inventory and Condition of Structures.....	46
Table 7-13: Detailed Inventory and Condition of Box Culverts	48

Table 7-14: Inventory summary of RE walls.....	50
Table 9-1: Schedule of Payment Milestones	54
Table 9-2: Details of Annuity payments are as below.....	54
Table 10-1: Summary of Cost Estimate.....	57

LIST OF FIGURES

Figure 2.1: Project Location Map.....	11
Figure 2.2: Key Plan	11
Figure 6.1: Bar Chart showing Design thickness vs Executed thickness.....	29
Figure 6.2: Representative photos of core cutting samples.....	30
Figure 7.1: Status of Main Carriageway	33
Figure 7.2: Status of MCW Road.....	34
Figure 7.3: Photographs showing Minor Junctions.....	35
Figure 7.4: Status of Drains.....	35
Figure 7.5: Photographs showing the condition of Pavement.....	36
Figure 7.6: Photographs showing status of Toll Plaza	38
Figure 7.7: Sample Photographs Sign Boards	40
Figure 7.8: Photographs Gantry Sign Boards.....	41
Figure 7.9: Photographs showing status of Median Plantation	41
Figure 7.10: Photographs showing status of Pavement Marking.....	42
Figure 7.11: Photographs showing LED Blinkers.....	42
Figure 7.12: Photographs showing W Beam Crash Barrier.....	43
Figure 7.13: Photographs showing status of Highlighting.....	43
Figure 7.14: Photographs showing status of Bus Bay with shelters	45
Figure 7.15: Photographs showing condition of RE Wall.....	51

LIST OF ANNEXURES

Annexure-1: Inventory and condition of Pavement.....	59
Annexure-2: Inventory and condition of Project Facilities.....	112
Annexure-3: Inventory and Condition of Structures & Culverts.....	141
Annexure-4: Operation & Maintenance cost Estimate	145

ABREVIATIONS

Abbreviation	Meaning	Abbreviation	Meaning
3A/3D/3G	Stages of Land Acquisition	EPC	Engineering Procurement Construction
AADT	Annual Average Daily Traffic	ESAL	Equivalent Standard Axle Load
AASHTO	American Association of State Highway and Transportation Officials	ESMF	Environment and Social Management Framework
ADT	Average Daily Traffic	Exc	Excavation
ATMS	Advance Traffic Management System	FOB	Foot Over Bridge
BBD	Benkelman Beam Deflection	FWD	Falling weight Deflectometer
BC	Bituminous Concrete	GDP	Gross Domestic Product
BI	Bump Integrator- Roughness (mm/Km.)	GFC	Good For Construction
BM	Bituminous Macadam	GNP	Gross National Product
BOQ	Bill of Quantities	GOI	Government of India
BOT	Built Operate and Transfer	GSB	Granular Subbase
BPC	Bid Project cost	HAM	Hybrid Annuity Mode
C&G	Clearing and Grubbing	HFL	High Flood Level
C/s	Cross-section	HPC	Hume Pipe culvert
CA	Concession Agreement	HS	Hard Shoulder
CapEx	Capital Expenditure	Ht	Height
CBR	California Bearing Ratio	HTMS	Highway Traffic Management System
Ch	Chainage	IE	Independent Engineer
cm	Centimetre	IRC	Indian Roads Congress
COD	Commercial Operation date	IRI	International Roughness Index
Concessionaire	M/s Dodaballapur Hoskote Hghways Private Limited	IS	Indian Standard
Cos	Change of Scope	Kg	Kilogram
Cr.	Crores	Km.	Kilometre
cum	Cubic Meter	LHS	Left Hand Side
CV	Commercial Vehicles	Ltr	Litre
CVPD	Commercial Vehicles per Day	m (or) Mts	Metre/Meter
DBM	Dense Bituminous Macadam	M/s	M/s Dodaballapur Hoskote Hghways Private Limited
DFBOT	Design, Finance, Build, Operate and Transfer	MCW	Main Carriageway
DFO	District Forest Officer	MDD	Maximum Dry Density
Dia (or) *	Diameter	MDR	Major District Road
DLC	Dry Lean Concrete	Misc	Miscellaneous
DLP	Defect liability Period	MJB	Major Bridge
DPR	Detailed Project Report	mm	Millimetre
DTM	Digital Terrain Model	MM	Major Maintenance
EIA	Environment Impact Assessment	MNB	Minor Bridge
EIRR	Economic Internal Rate of Return	MORTH	Ministry of Road Transport & Highways
Emb	Embankment	MOU	Memoranda Of Understanding
EOT	Extension Of Time	MSA	Million Standard Axles

Abbreviation	Meaning
MT (or) T	Metric Tonne
NCR	Non-Conformance Report
NDT	Non-Destructive Test
NH	National Highway
NHAI	National Highway Authority of India
NHDP	National Highways Development Project
No. (or) Nos.	Numbers
NPV	Net Present value
NSDP	Net State Domestic Product
O&M	Operation and Maintenance
O-D	Origin and Destination
OpEx	Operative Expenditure
PCU	Passenger Car Unit
PIA	Project Influence Area
PIU	Project Implementation Unit
PM	Periodic Maintenance
PQC	Pavement Quality Concrete
PSC	Pre-stressed Concrete
RCC	Reinforced Cement Concrete
RE	Reinforced Earth

Abbreviation	Meaning
RHS	Right Hand Side
RoB	Road over Bridge
ROW	Right Of Way
RUB	Road Under bridge
RUKY	RUKY Projects Private Limited
SDBC	Semi Dense Bituminous Concrete
DHHPL	M/s Dodaballapur Hoskote Highways Private Limited
SF	Seasonal Factor
SH	State Highway
SPV	Special Purpose Vehicle
Sqm	Square Meter
SR	Service Road
TCS	Typical Cross Section
TDD	Technical Due Diligence
TOR	Terms of Reference
VDF	Vehicle Damage Factor
VOC	Vehicle Operating Costs
VOP	Vehicular Overpass
VUP	Vehicular Underpass
WMM	Wet Mix Macadam

CHAPTER 1. EXECUTIVE SUMMARY

1.1 Project Description

Project pertains to Four Laning of Dodaballapur Bypass to Hoskote section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) in the State of Karnataka under Public Private Partnership (PPP) on Hybrid Annuity Mode. Key Dates and Key features are given in tables below.

Table 1-1: Key Dates

S No	Description	Date/Period	Remarks
1	Date of LOA	26-08-2020	
2	Concession Agreement	29-10-2020	
3	Appointed date	22-02-2021	
4	Construction Period	730 days	From the Appointed date
5	Scheduled Construction End Date	21-02-2023	
6	Revised Schedule Construction End Date	28-07-2023	
7	Concession period	15 years	From COD
8	Schedule Concession End Date	21-02-2038	
9	Revised Concession End date	20-07-2038	15 years from COD
10	Date of issuance of Provisional Certificate	21-07-2023	For the Length of Km 37.60.
11	Completion Certificate (COD)		Applied for CC

Table 1-2: Key Features

S No	Particulars	As per CA	At site
1	Total Length of Four Lane (Flexible)	37.600 Km.	
2	Service road / Slip road	37.50 km	53.204 Km Including COS
3	No. of Bypasses	02 Nos	1.Devanhalli Bypass-10.200 Km.2.Hoskote Road-12.840 Km.
4	New Minor Bridge on MCW	12 Nos	
5	LVUP	8 Nos	
6	SVUP	2 Nos	3 Nos including COS
7	Elevated Corridor/Viaducts	2 Nos	
8	Reconstruction of existing Culverts	14 Nos	
9	Construction of New Culverts	36 Nos	
10	VUP	10 Nos	11 Nos including COS
11	VOP		1 No Including COS
12	Grade Separated structures	2 Nos	
13	ROBs	1 No	
14	Bus bays with bus shelter	28 Nos	
15	Toll Plaza	01 No	Ch.64+800

S No	Particulars	As per CA	At site
16	Rest areas	02 Nos	De - scoped
17	Traffic Aid Post	1 No	

1.2 Present status of the Project

Provisional COD is issued by the Independent Engineer and project is in O&M phase.

1.3 Critical Issues

PCOD was given for 37.60 km on 21-07-2023 are listed in Punch List A at the time of issuing the PCOD by the Independent Engineer. However, Punch list A items are now completed and Concessionaire have requested for Final COD.

1.4 Condition of Project Corridor

1.4.1. Pavement Condition

The overall visual condition of the pavement is found to be in good. Details are provided in Chapter-7.

1.4.2. Condition of Structures

Overall condition of the structures is Good.

1.4.3. Condition of Project Facilities

Project has one toll plaza, same is operational and in good condition. All signboards along the project road are in good reflective condition. Bus Bays are in good condition

1.5 O&M Cost Estimate

The summary of year wise O&M and any immediate cost estimate are given below.

Table 1-3: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2023-2024	-	1.33	3.74	5.07
2024-2025	-	2.07	4.74	6.81
2025-2026	1.84	2.52	5.00	9.36
2026-2027	1.39	2.81	5.28	9.48
2027-2028	0.68	2.90	5.50	9.08
2028-2029	0.75	2.98	5.73	9.47
2029-2030	42.46	3.75	5.98	52.20

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2030-2031	22.53	3.39	6.61	32.53
2031-2032	0.98	3.20	6.58	10.76
2032-2033	0.81	3.32	6.69	10.82
2033-2034	2.50	3.39	6.89	12.78
2034-2035	1.75	3.46	7.09	12.29
2035-2036	0.75	3.53	7.29	11.57
2036-2037	49.66	3.65	7.51	60.81
2037-2038	26.43	3.56	7.73	37.72
2038-2039	0.62	1.18	1.33	3.13
Total Expenditure in Cr. Rs	153.15	47.03	93.68	293.87

CHAPTER 2. INTRODUCTION

2.1 Project Background

The Ministry of Shipping, Road Transport & Highways, Government of India, through the National Highways Authority of India, has been contemplating enhancing the traffic capacity and safety of good and passenger traffic on selected, heavily trafficked corridors in India. They have identified one such stretch of road in Karnataka State i.e Four Laning of Dodaballapur Bypass to Hoskote section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) in the State of Karnataka under Public Private Partnership (PPP) on Hybrid Annuity Mode.

The project section of NH-648, spanning a total length of 38.00Km., connects through forest land, the package is sub divided and the current stretch starts from Dodaballapur Bypass and terminates at Hoskote section.

After evaluation of the bids received from prospective bidders, Authority had selected M/s Dilip Buildcon Limited and issued LOA vide letter: NHAI/KNT/NH-207/Dodaballapur Bypass/HAM/2018, dated 26-08-2020. Further the selected bidder formed an SPV in the name and style as M/s Dodaballapur Hoskote Highways Private Limited as per Companies Act, 2013 and Concession Agreement (CA) was executed between the Authority and the Concessionaire on 29-10-2020.

Subsequently, the Concessionaire appointed Dilip Buildcon Limited as EPC contractor for construction of afore said work NH-648 connects Krishnagiri, Bangalore urban and Hosur, Sarjapur, Hoskote, Devanhalli, Dodaballapur and Dabaspur. Project Location map is given at Figure 2.1.

Anantam Highways Trust appointed RUKY Projects Pvt. Ltd. As consultant for detailed Technical Due Diligence services of the above Road Project to know-how the present condition of Carriageway and Structures, estimate costs of Operations and Maintenance during balance Concession Period, additional road safety requirements if any and to review the annuity payments received and future schedule of annuity payments. etc. The Scope of Consultancy services is narrated under Chapter-3 of this report.

The data and observations provided in this report are based on the status of the project observed by the Consultant.

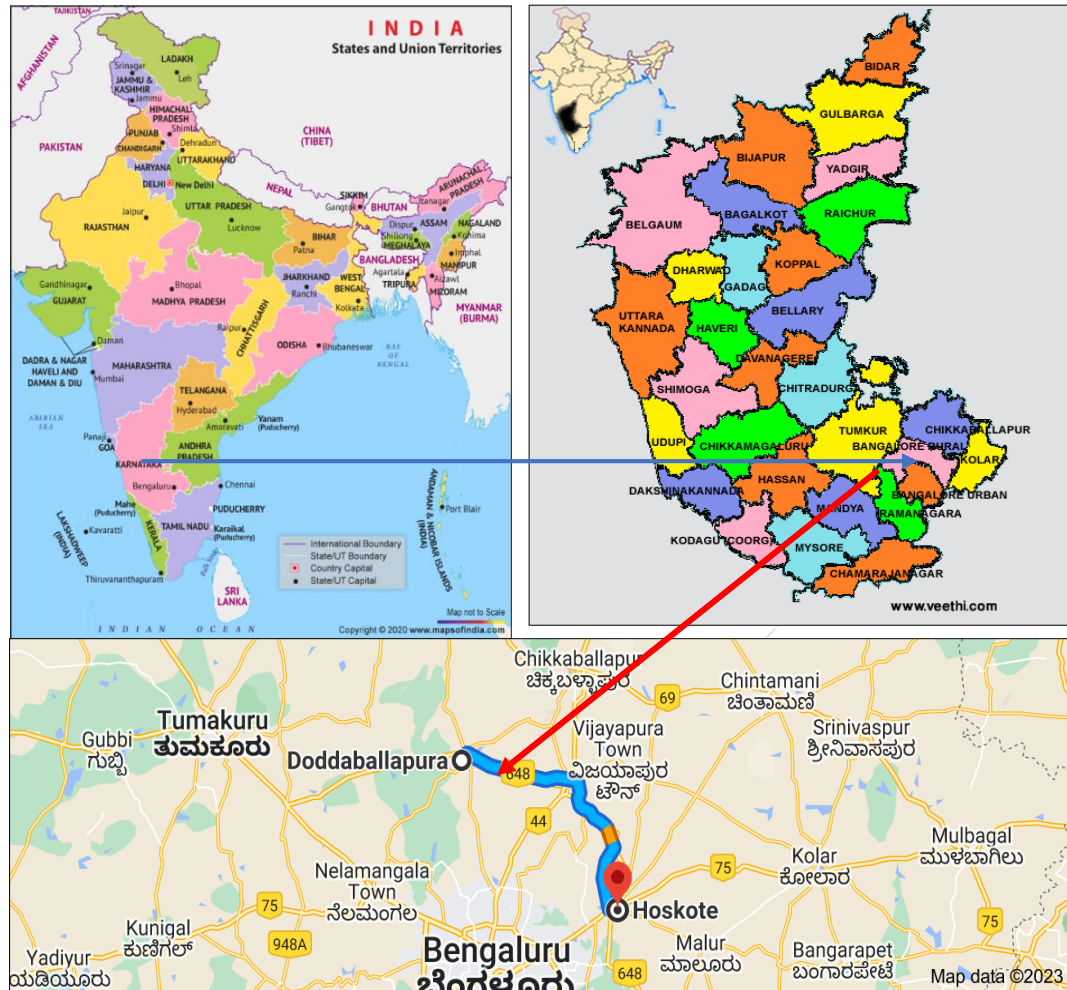


Figure 2.1: Project Location Map

This report is prepared based on documents made available, information shared by the Concessionaire, Client and observations made by the Consultants during the site visit

2.2 Key plan of the Project

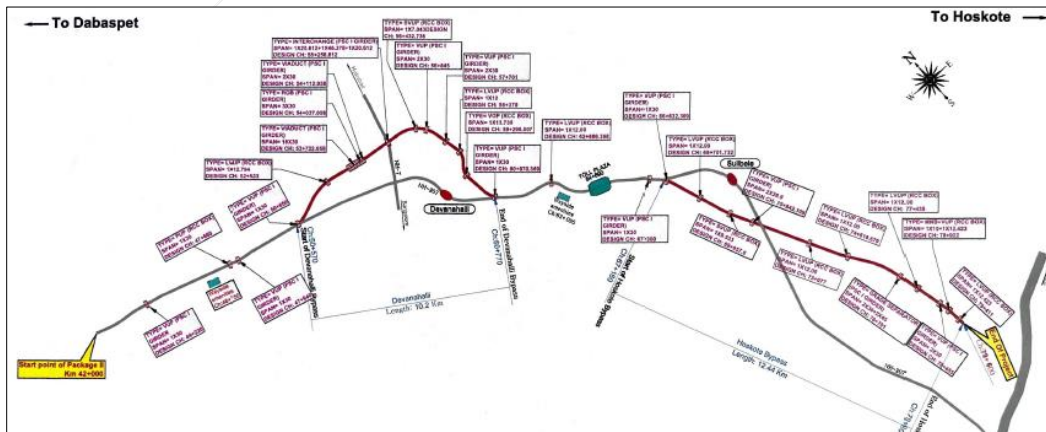


Figure 2.2: Key Plan

2.3 Project Geography

Climate: The Climate condition of the district is hot and partly cloudy and temperature ranges from 16°C to 34°C and is rarely below 13°C or above 37°C.

Terrain: The Project road passes through plain & rolling terrain. The land use by the side of this road includes agriculture, residential and commercial use.

Villages and Towns: The project road is passing through Krishnagiri, Bangalore Urban and Bangalore rural districts and important towns along the route are Hosur, Sajapur, Hoskote, Devanahalli, Dodaballapur and dabaspet.

2.4 Project Overview

2.4.1. Project pictorial over view is shown below:

Key features and timelines of the project are presented in the table below.

Table 2-1: Project Data

S. No.	Particulars	Details	Remarks
1	Name of the project	4 Laning from Km.42.000 to Km. 80.000 of Dodaballapur Bypass to Hoskote section of NH-207)	On Hybrid Annuity Mode under Bharatmala Pariyojna in the State of Karnataka (Package-II)
2	Road Type	National Highway	
3	Name of the Authority	National Highways Authority of India (NHAI)	
4	Name of the Bidder	M/s Dilip Buildcon Limited	
5	Name of the Concessionaire	M/s M/s Dodaballapur Hoskote Highways Private Limited	
6	EPC contractor	M/s Dilip Buildcon Limited	
7	Independent Engineer	M/s. L N Malaviya Infra Projects Pvt Ltd	
8	Project Length as per Schedule B of CA	38.00 Km.	
9	Project Lane Configuration	Four Lane	
10	Total Project Cost	Rs.1368.50 (Revised)	As per Settlement Agreement dated 20-07-2023.
11	Nature of contract	Hybrid Annuity Mode	
12	Letter of Award	26-08-2020	
13	Date of CA	29-10-2020	
14	Appointed date	22-02-2021	
15	Construction Period	730 days from Appointed date	

S. No.	Particulars	Details	Remarks
16	Scheduled Construction End Date	21-02-2023	
17	Revised Schedule Construction End Date	28-07-2023	Recommended by the PD of NHAI and approval from the Competent Authority awaited.
18	Date of issuance of Provisional Certificate	21-07-2023	Commercial Operation date
17	Concession Period	15 years commencing from Appointed date	
19	Schedule Concession End Date	21-02-2038	
20	Revised Concession End Date	20-07-2038	
22	Final Completion Certificate		Applied For CC

CHAPTER 3. SCOPE OF CONSULTANCY SERVICES

3.1 Scope of consultancy services

The consultant shall carry out the Technical Due Diligence services for the aforementioned asset and the scope of work for the same is as follows:

- Review of various contractual documents
- Carryout detailed assessment of pavement condition and propose maintenance plan along with BOQ.
- Carrying out inventory & condition survey of all elements of road like embankment slope, plantation, road furniture of the project.
- Carrying out inventory & condition survey of all structures (Major Bridges, Minor Bridges, ROB, RE Wall, Flyovers, VUPs, PUPs, Culverts etc.), suggest any rehabilitation & maintenance requirements along with BOQ.
- Carryout road safety audit on Project highway and provide suggestions for improvement.
- Assess and Provide BOQ and cost estimate for routine & periodic maintenance including O&M.
- Review of validity of insurance and statutory compliances related to Project.
- Review of correspondence exchanged between parties on contract related issues and claims etc. Submission of detailed report on technical due diligence of the project

CHAPTER 4. SALIENT FEATURES OF THE PROJECT

4.1 Salient Features of the Project

The salient features of the Project as per Schedule B and C of Concession Agreement (CA) are listed in the following Table.

Table 4-1: Salient Features of the Project

S No	Particulars	As per CA	At site
1	Total Length of Four Lane (Flexible)	37.600 Km.	
2	Service road / Slip road	37.50 km	53.204 Km Including COS
3	No. of Bypasses	02 Nos	1.Devanhalli Bypass-10.200 Km.2.Hoskote Road-12.840 Km.
4	New Minor Bridge on MCW	14 Nos	
5	LVUP	8 Nos	
6	SVUP	2 Nos	3 Nos including COS
7	Elevated Corridor/Viaducts	2 Nos	
8	Reconstruction of existing Culverts	14 Nos	
9	Construction of New Culverts	36 Nos	
10	VUP	10 Nos	11 Nos including COS
11	VOP		1 No Including COS
12	Grade Separated structures	2 Nos	
13	ROBs	1 No	
14	Bus bays with bus shelter	28 Nos	
15	Toll Plaza	01 No	Ch.64+800
16	Rest areas	02 Nos	De-scoped
17	Traffic Aid Post	1 No	

4.2 Typical Cross Section (TCS) Schedule

As per provisions of Schedule B of CA, there are 7 types of Typical Cross Sections (TCS) for the development of the Project Highway.

Based on the site conditions 7 Nos of TCS are developed in GFC drawings. and TCS summary as per CA is given below

Table 4-2:List of Cross Sections

S.no	Design Chainage		Design Length km	TCS Type
	From(km)	To(km)		
1	42+000	42+100	0.100	TCS 5C
2	42+100	43+700	1.600	TCS 5
3	43+700	44+740	1.040	TCS 7A
4	44+740	46+900	2.160	TCS 5
5	46+900	47+600	0.700	TCS 5C
6	47+600	48+300	0.700	TCS 7A
7	48+300	50+070	1.770	TCS 5
8	50+070	50+300	0.230	TCS 5C
9	50+300	51+100	0.800	TCS 7A
10	51+100	52+519	1.419	TCS 4
11	52+519	52+571	0.052	TCS 7
12	52+571	53+220	0.649	TCS 4
13	53+220	53+470	0.250	TCS 7
14	53+470	54+010	0.540	TCS 9
15	54+010	54+100	0.090	ROB
16	54+100	54+160	0.060	TCS 9
17	54+160	54+500	0.340	TCS 4
18	54+500	54+980	0.480	TCS 4C
19	54+980	55+220	0.240	TCS 7A
20	55+220	55+305	0.085	TCS 9
21	55+305	55+800	0.495	TCS 7A
22	55+800	56+290	0.490	TCS 4C
23	56+290	59+100	2.810	TCS 7A
24	59+100	60+200	1.100	TCS 4C
25	60+200	61+210	1.010	TCS 7A
26	61+210	61+400	0.190	TCS 4C
27	61+400	62+400	1.000	TCS 4
28	62+400	62+620	0.220	TCS 4C
29	62+620	63+100	0.480	TCS 7A
30	63+100	64+000	0.900	TCS 5C
31	64+000	64+450	0.450	TCS 4
32	64+450	65+150	0.700	Toll Plaza
33	65+150	65+800	0.650	TCS 4
34	65+800	66+200	0.400	TCS 5C
35	66+200	68+050	1.850	TCS 7A
36	68+050	68+689	0.639	TCS 4
37	68+689	68+741	0.052	TCS 7
38	68+741	70+300	1.559	TCS 4
39	70+300	71+400	1.100	TCS 7A
40	71+400	72+900	1.500	TCS 4
41	72+900	73+500	0.600	TCS 7A
42	73+500	74+604	1.104	TCS 4
43	74+604	74+656	0.052	TCS 7
44	74+656	76+150	1.494	TCS 4

S.no	Design Chainage		Design Length km	TCS Type
	From(km)	To(km)		
45	76+150	76+728	0.578	TCS 7A
46	76+728	76+803	0.075	TCS 9
47	76+803	78+445	1.642	TCS 7A
48	78+445	78+505	0.600	TCS 9
49	78+505	79+100	0.595	TCS 7A
50	79+100	79+419	0.139	TCS 4
51	79+419	79+471	0.052	TCS 7
52	79+471	80+000	0.529	TCS 4

Table 4-3: TCS Summary as per CA

TCS Type	Length (Km.)	TCS Length in %
ROB	0.090	0.24%
TCS4	11.472	30.51%
TCS4C	2.480	6.60%
TCS5	5.530	12.69%
TCS5C	2.330	6.20%
TCS7	0.458	1.22%
TCS7A	13.940	37.07%
TCS9	1.360	3.62%
Toll	0.700	1.86%
Total length	37.600	100.00 %

4.3 Bypass/Realignment

As per provisions of Schedule B of the Concession Agreement the details of realignment and Bypass are given in the table below.

Table 4-4: Details of Bypass

S. No.	Name of Bypass	Existing Chainage		Design Chainage		Length (Km.)
		From	To	From	To	
1	Devanhalli Bypass	88+785	80+745	50+570	60+770	10.200
2	Hoskote Bypass	74+270	58+300	67+160	80+000	12.840

4.4 Service Roads/Slip Roads

Following are the stretches where Service roads are provided on both sides of MCW along the project Road as per Schedule B of CA.

Table 4-5: Service Road locations as per Schedule B of CA

Chainage (Km)		Side	Length (km)
From	To		
42+000	42+100	Both	0.200
43+700	44+740	Both	2.080
46+900	48+300	Both	2.800
50+070	51+100	Both	2.060

Chainage (Km)		Side	Length (km)
From	To		
54+500	55+220	Both	1.440
55+305	61+400	Both	12.190
62+400	64+000	Both	3.200
65+800	68+050	Both	4.500
70+300	71+400	Both	2.200
72+900	73+500	Both	1.200
76+150	76+728	Both	1.156
76+803	78+445	Both	3.284
78+505	79+100	Both	1.190
			37.500

4.5 Drainage

As per provisions of Schedule B of the CA, drains are to be provided at specified locations of the Project Highway. The details are given in the following table based on the Typical Sections provided in Schedule B of the CA.

Table 4-6: Provision for Drains as per As built drawings

Chainage (Km)		Side	Length (km)
From	To		
42+000	42+100	Both	0.200
43+700	44+740	Both	2.080
46+900	48+300	Both	2.800
50+070	51+100	Both	2.060
54+500	55+220	Both	1.440
55+305	61+400	Both	12.190
62+400	62+874	Both	0.948
62+926	64+000	Both	2.148
64+450	65+150	Both	1.400
65+800	68+050	Both	4.500
70+300	71+400	Both	2.200
72+900	73+074	Both	0.348
73+126	73+500	Both	0.748
76+150	76+728	Both	1.156
76+803	78+445	Both	3.284
78+505	79+100	Both	1.190
			38.692

4.6 Summary of the Carriageway and Pavement Details

Table 4-7: Summary of the Carriageway and Pavement Details

S No.	Description	Carriageway Width (m)	Length (Km)	Pavement Type
1	Main Carriageway	Varies from 4 lane to 6 lane	37.60	Flexible
2	Service Road	7.0/7.5	37.50	Flexible

4.7 Summary of Structures

Summary of Structures as per provisions of schedule B of the CA is given in **Table 4.1**.

4.8 Project Facilities

As per Schedule C of CA, the following facilities shall be provided in the project highway

- One Toll Plaza has been constructed at Km.64+800 VMS 12 Nos. confirming to EN 12966
- Road side furniture shall be provided as per Relevant Clauses of Manual of Specifications and in Consultation with the Independent Engineer.
- Traffic signs and Pavement marking shall include road side signs, Overhead signs, curve mounted signs and road marking along the project highway. The locations for these provisions shall be finalized in consultation with Independent Engineer and with standards and specifications as provided by the Client
 - i. Traffic Safety Devices shall be provided wherever
 - ii. Boundary Stones for entire Project road
 - iii. Hectometer / Kilometer Stones for entire Project road
 - iv. Traffic Blinker Signal (LED) for Project road
- Pedestrian facilities, which include 150 m length of guard rail at each bus Shelter, Pedestrian walk way, lightings, Ramps and Pedestrian crossing facilities at Service roads.
- Landscaping and tree plantations include
 - (i) Median plantation where width is 4.5m and more
 - (ii) Landscaping at Service area, Inter changes and Toll Plaza
 - (iii) Avenue plantation
- No Rest areas as per CA
- No Truck Lay Bys as per CA
- Bus Shelters and Bus Bays at 2 x 12 locations on Both Sides
- Highway Patrol, Ambulances and Cranes Confirming to Specifications mentioned in Schedule-D of CA
- Advanced Traffic Management Systems (ATMS) confirming to Schedule-D of CA

The Concessionaire is required to design, install, Operate and Maintain Highway Traffic Management system (HTMS) / Advanced Traffic Management System (ATMS) as part of the Project facilities. Advanced Traffic Management System shall be Provided as Specified the manual.

Briefly, the ATMS components to be deployed shall inter alia include;

- (a) Video Surveillance System (CCTV PTZ Drome/Fixed Camera)
- (b) Video Incident Detection System
- (c) Vehicle Actuated Radar Speed Displays

- (d) Emergency Roadside Telephones
- (e) Fixed / Portable Variable Message Sign
- (f) Meteorological System
- (g) Portable Weigh in Motion
- (h) Automatic Traffic Counter Cum Classifier
- (i) The ATMS Control Centre including the equipment (Hardware, Software and Local Networking)
- (j) Communications System utilizing Optic Fiber, GSM/GPRS and Wi-Fi Communications linked to ATMS Control Centre

Power supplies for field equipment: working on Main power supported with back-up to facilitate 24 X 7 operations and for the ATMS Control Centre working on Main power supported by UPS and Diesel Generator set of adequate capacities to facilitate 24 X 7 operations.

- Street Lighting shall be provided in accordance standards and Specifications and as directed by Client
- Boundary and Hectometer stones shall be provided for the entire project Highway.

Review of status of Project facilities is discussed in detail under **Chapter-7**.

CHAPTER 5. REVIEW OF AGREEMENTS

5.1 Review of Concession Agreement

Commercial operations are commenced in the Project with effect from 21-07-2023 (PCOD Date). Currently the Project is under operation phase.

5.1.1. **Concession (Article 3)**

Subject to and in accordance with the provisions of this Agreement, the Applicable Laws and the Applicable Permits, the Authority hereby grants to the Concessionaire the concession set forth herein including the exclusive right, license and authority to construct, operate and maintain the Project (the "Concession") for a period of 15 (fifteen) years commencing from the COD.

In accordance with the provisions of the Concession Agreement Appointed date was declared as 22-02-2021. As per the above Clause, Concession Period end date is 20-07-2038.

5.1.2. **Provisional scenario in the project**

The Concession Agreement (CA) was executed on 29-10-2020. After fulfilling all the requirements as per Article 4 and 24 of CA, the Appointed date was fixed on 22-02-2021 and the development of the project Highway was commenced. Though, the Construction period for the project was fixed as 730 days as per Schedule G of CA from Appointed date. (Construction period end date is 21-02-2023) Commercial Operations were commenced from 21-07-2023 upon issuance of Provisional Certificate. Final COD was subsequently applied on August month 2024.

5.1.3. **Provisional Certificate (Article 14)**

According to Clause 14.3 of CA, the Independent Engineer may, at the request of the Concessionaire issue a Provisional Certificate of completion substantially if the Tests are successful duly appending the list of Outstanding items signed jointly by the Independent Engineer and the Concessionaire ("the Punch List"). All items of the Punch list shall be completed within 90 days of the date of issuance of the Provisional certificate.

The Provisional Certificate has been issued on 21-07-2023 for a length of 37.600 Km (Km.42.000 to Kms.79.60) with the Punch List items, status of the Punch List B is updated.

5.1.4. **Completion Certificate (Article 14)**

Upon completion of Punch list items within the specified date, the Independent Engineer shall issue Completion Certificate to the Concessionaire as per Clause 14.4.2 of CA.

Upon review of the documents it is observed that Completion Certificate was not yet issued. It is noticed that Concessionaire has submitted punch list A on 01-09-2023 vide letter No.DBL-SO/NHAI/KA/DBLDHHPL/23-24/PD/980 stating that all Punch List-A items.

The Concessionaire notified the IE via letter No. IE-LNM/DHHPL/NHAI/2023-24/978 dated 19-10-2023 that it has completed all the works in Punch List A within the timeframe set forth in Clause 14.4.1 of the Concession Agreement and Settlement Agreement, respectively. Final COD was subsequently applied on August month 2024.

5.1.5. O&M Obligations of the Concessionaire (Clause 17.1)

- Permitting safe, smooth and uninterrupted flow of traffic on the Project Road.
- Minimizing the disruption to traffic in the event of accidents or other incidents affecting safety. Providing Rapid and effective response and liaison with emergency services of the State.
- Carrying Periodic preventive maintenance of the Project Highway.
- Undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices.
- Undertaking major maintenance such as resurfacing of pavements, repairs and refurbishments of tolling system and other equipment
- Preventing any unauthorized use of the Project Road.
- Preventing encroachments on the Project Highway.
- Protection of environment and provision of equipment and materials
- Complying with safety Requirements in accordance with the provisions of the CA.
- O&M of all communications, control and administrative systems for efficient operation of Project Highway
- Maintain a Public relations unit.
- Complying with Safety requirements in accordance with Article 18.

Upon review of the documents no adversity of the correspondence was noticed.

5.1.6. Maintenance Requirements (Clause 17.2)

The Contractor shall procure that at all times during the Operations period; the project Road conforms to the maintenance requirements set forth in Schedule K of CA (The “**Maintenance Requirements**”).

Upon review of the documents, it is observed that the Concessionaire is fulfilling the Maintenance Requirements set forth in Schedule K of the CA. No adverse correspondence was noticed in this regard.

5.1.7. Maintenance Programme (Clause 17.4)

On or before COD and no later than 45 days prior to the beginning of each accounting year during the Operation Period as the case may be the Concessionaire shall provide to the Authority and Independent Engineer its proposed annual Program of preventive, urgent and the schedule maintenance.

During the site visit the Consultant had interaction with the site team and it was reported that the Concessionaire had submitted the Maintenance programme.

5.1.8. Maintenance Manual (Clause 17.3)

No later than 90 (ninety) days prior to the Completion Date, the Concessionaire shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual (the “**Maintenance Manual**”) for the regular and preventive maintenance of the Project in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years and the provisions of this Clause shall apply, mutatis mutandis, to such revision.

During the site visit the Consultant had interaction with the site team and it was reported that the Maintenance Manual was submitted to the Authority in accordance with the above Clause

Upon review of the documents shared with the Consultant, it is observed that Maintenance Manual was submitted by the Concessionaire as per above Clause.

5.1.9. Damages for Breach of Maintenance Obligations (Clause 17.8)

- In the event that the Concessionaire fails to repair or rectify any defect or deficiency set forth in the Maintenance Requirements within the period specified therein, it shall be deemed to be in breach of the Agreement and the Authority shall be entitled to recover Damages, to be calculated and paid for each day of delay until the breach is cured, at the higher of the following.
- 0.5% (Zero-point Five percent) of the Average daily fee and
- 0.1% (zero point one per cent) of the cost of such repair or rectification as estimated by the Independent Engineer.

As of now no damages have been imposed as per the above clause.

5.1.10. Monthly status reports (Clause 19.1)

During the Operation Period, the Contractor shall, no later than 7 (seven) days after the close of each month, furnish to the Concessionaire, the Authority and the Independent Engineer a monthly report stating in reasonable detail the condition of the Project including its compliance or otherwise with the Maintenance Requirements, Maintenance Manual, Maintenance Program and Safety Requirements, and shall promptly give such other relevant information as may be required by the Concessionaire, Independent Engineer or the Authority. In particular, such report shall separately identify and state in reasonable detail the defects and deficiencies that require rectification.

Upon reviewing the documents, it is observed that the Concessionaire started submitting Monthly Status Reports as per the above clause . PCOD was issued on 21-7-2023. There are no adverse findings in these reports.

5.1.11. IE O&M Inspection reports (Clause 19.2)

As per Clause 19.2 of CA the Independent Engineer shall inspect the Project Highway at least once in a month and make a report of such inspection (the "O&M Inspection Report") stating in reasonable detail, the defects or deficiencies, if any with particular reference to the Maintenance requirements, Maintenance manual, Maintenance Programme and Safety requirements. It shall send the Report to the Authority and Concessionaire within 7 days of such inspection. Upon receipt of such inspection report, the Concessionaire shall rectify or remedy the defects if any, stated in the report.

Upon review of the documents, it is observed that the Monthly Inspection Reports are being submitted regularly by the IE as per the above Clause and upon pursuing same, it is observed that there are no adverse comments from IE.

5.1.12. Tests During O&M Period (Clause 19.3)

For determining the project Highway conforms to the Maintenance Requirements, the Independent Engineer shall require the Concessionaire to carry out or cause to be carried out, tests specified by it in accordance with good industry practice. The Concessionaire carry out all such tests and furnish results of such tests forthwith to the Independent Engineer. One half of the costs of such tests to the extent certified by the IE as reasonable shall be reimbursed by the Authority.

Upon review of the documents, it is observed that no additional tests have been instructed by the IE as per the above Clause.

5.1.13. Appointment of Independent Engineer (Article 23)

The Authority shall appoint a consulting Engineer firm substantially in accordance with the selection criteria set forth in Schedule M, to be the Independent Engineer.

The appointment shall be made no later than 60 days from the date of this Agreement and shall be for a period of Construction period plus 6 months. On expiry or termination of the aforesaid appointment, the Authority shall appoint Independent Engineer for a further term of 3 years in accordance with the provisions of Schedule M of the CA.

One half of the remuneration cost and expenses incurred by the IE shall be reimbursed by the Concessionaire to the Authority pursuant to Clause 21.3 of the CA.

Upon review of the documents, M/s L N Malviya Infra Projects Pvt Ltd. was appointed as Independent Engineer vide Agreement dated 03-12-2020 and mobilized to site on 01-02-2021.

5.1.14. Insurance (Article 26)

As per Clause 26.1, Concessionaire shall effect and maintain at its own cost, during the construction period and operation period, such insurances for such maximum sums as may be

required under Financing Agreements and Applicable Laws. The details of insurance policies are given in the following table

Table 5-1: Insurance Details

S.No	Description of Insurance	Policy No	Name of Insurance Company
1	All Risk Equipment	45010044200300000000	The New India Assurance Company Limited

5.2 Review of Correspondence

The Concessionaire provided letters exchanged between Concessionaire, Employer and Independent Engineer. After review of the correspondence provided, the major observations dealt with are as follows:

Observation	Comments
Damages for failure in Maintenance requirements	No adverse comment
Report on quality control issues	No adverse comment
Non Conformance Reports	No pending NCRs
Safety issues and accident report	Regularly submitted in MPR
Weather report	Regularly submitted in MPR

CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS

6.1 Review of Pavement design report

The Concessionaire under the provisions of Article 10 submitted Pavement Design vide various letters given as under. Independent Engineer reviewed the submitted designs for its compliance under project specifications and standards and accorded their approval/consent. Reference correspondence related to submissions and approvals are given in the table below.

Table 6-1: Correspondence related to pavement design submission and approvals

S No.	Document Description	Report Reference
1	Pavement Design Report (Part I) For Main Carriageway	20048/RD/PS/PD/0001
2	Pavement Design Report (Part II) For Service Road	20048/RD/PS/PD/0002

The above pavement designs submitted and approved by the Independent Engineer were reviewed by the Consultant and is discussed in the following paragraphs.

6.1.1. *Flexible Pavement for main carriageway*

Traffic intensity in terms of commercial vehicles per day

The entire project road considered as single homogeneous section and Classified traffic count survey data has been considered from feasibility report which was carried out in the year 2021 for seven consecutive days and analysed for Average Daily Traffic (ADT) and Average Annual Daily Traffic (AADT). The summary of the AADT is presented below.

Table 6-2: Summary of AADT

Project	Location	LCV	Bus	2 AT	3AT	MAV	Total CVPD	Traffic Survey Period
Dodaballapur Bypass to Hoskote section of NH-648	Ch KM Ext. 64+000	143	410	1622	824	1900	4899	2020
	Ch KM Ext. 92+100	79	415	1588	924	1861	4867	2020

6.1.2. *Traffic growth rate*

The annual growth rates presented in pavement design report are given below

Table 6-3: Adopted traffic growth rates

Vehicle type	2020 -2024	2025-2029	2030-2034	Beyond 2034
BUS	6.19	5.81	5.42	5.03
LCV	5.00	5.00	5.00	5.00
2 Axle Truck	5.00	5.00	5.00	5.00
3 Axle Truck	5.10	5.05	5.00	5.00
Multi Axle Truck	5.00	5.00	5.00	5.00

6.1.3. Vehicle Damage Factor (VDF)

Axle load surveys were conducted by design consultant along the project road and VDF were estimated by analysing the axle load data. Summary of VDF as per pavement design report for each category of vehicles is given below.

Table 6-4: Summary of Vehicle Damage Factor

S.No	Location	Direction	Vehicle Type				
			LCV	2 Axle	3 Axle	MAV	Bus
1	Ext. Km 64+000	Dodaballapur - Hoskote	1.07	2.26	5.07	8.98	0.64
		Hoskote - Dodaballapur	1.01	1.71	4.03	7.40	0.69
2	Ext. Km 92+100	Dodaballapur - Hoskote	1.01	2.04	3.95	8.35	0.63
		Hoskote - Dodaballapur	1.09	2.04	10.13	6.61	0.60

6.1.4. Design Life

The concessionaire has been adopted design life of 20 years.

The design traffic calculations were reviewed as per corresponding lane distribution factors and design life of 20 years. The summary of MSA values based on above data is given below

Table 6-5: Estimated Design Traffic (Million Standard Axles-MSA)

Location	Direction	Design MSA		
		As per Schedule	As per Traffic Survey	Adopted Design Traffic
Ext. Km 64+000	Dodaballapur - Hoskote	150	135.58	150
	Hoskote - Dodaballapur		116.73	
Ext. Km 92+100	Dodaballapur - Hoskote		126.04	
	Hoskote - Dodaballapur		139.33	

As per traffic Survey, maximum design traffic for 20 years is coming out 139.33 MSA. However as per clause :5 of schedule B, "Notwithstanding anything to the contrary contained in this agreement or the IRC SP 84 2019, the concessionaire shall design the pavement of main carriageway as flexible for design traffic of 150 MSA".

6.1.5. Sub grade CBR

The concessionaire has been adopted 10 % CBR for Sub grade.

The pavement was designed by the design consultant based on homogeneous sections (HS) traffic and sub grade CBR as per pavement design report. The design traffic homogeneous sections wise summarized in the table below.

Table 6-6: Designed pavement crust summary as per pavement design report

Section	Design Traffic	Effective CBR %	BC (Modified Bitumen)	DBM	WMM	GSB	Subgrade
Entire Project main carriageway	150 MSA	10%	50	155	250	250	500

As per IRC:37-2018 the pavement crust proposed is satisfying the design traffic with 10% CBR. Hence flexible pavement design for MCW is in order based on traffic and as per schedule B requirement.

6.1.6. Flexible Pavement for Service Road

The project highway is having Service Roads at various locations of the project stretch. Service roads were designed for repetition of 10 million standard axles. The adopted pavement crust for Service Road / Slip Road along the Project corridor is as given below:

Table 6-7: Pavement Composition for service road

Section	Design Traffic	Design CBR	BC	DBM	Base (WMM)	Subbase (GSB)
Entire Section	10 MSA	10%	30 mm	50 mm	150 mm	170 mm

As per IRC:37-2018 the pavement crust proposed is satisfying the design traffic with 10% CBR. Hence flexible pavement design for service road is in order.

6.1.7. Rigid pavement for Toll Plaza

The rigid pavement shall be designed as per IRC 58-2015 with 10% CBR, as per pavement design report, the design calculations are found in order, and the adopted rigid pavement crust for toll plaza is given below.

Table 6-8: Pavement Composition for Toll Plaza

Description	
Designed CBR	10 %
Pavement Quality Concrete (PQC) - mm	310
A de-bonding interlayer of polythene sheet having minimum thickness of 125 micron is provided between DLC and PQC, as per Cl:5.7.5 of IRC:58-2015.	
Dry Lean Concrete (DLC) - mm	150
Drainage Layer (GSB) - (mm)	100
Diameter of Dowel Bar (mm)	36

Description	Rigid pavement
Length of Dowel Bar (mm)	500
Spacing of Dowel Bars (mm)	300
Diameter of Tie Bar (mm)	12 (Deformed)
Length of Tie Bar (mm)	640
Spacing of Tie Bars (mm)	570

6.1.8. Site Investigations

During site visit, core cutting test/ Trial pit test was conducted at some of the locations along the project stretch to compare the executed crust thickness with the design crust thickness and found that the crust thicknesses are in compliance with the design thickness. The representative photographs and test locations were given below.

Table 6-9: Pavement Design Thickness Vs Executed Crust Thickness

S. No	Test Location	Side	As per Design Report				As per site test pits	
			BC (mm)	DBM (mm)	WMM (mm)	GSB (mm)	BC+DBM	WMM+GSB
1	60+280	LHS	50	155	250	250	205	500
2	65+700	RHS	50	155	250	250	208	510
3	66+460	RHS	50	155	250	250	208	500

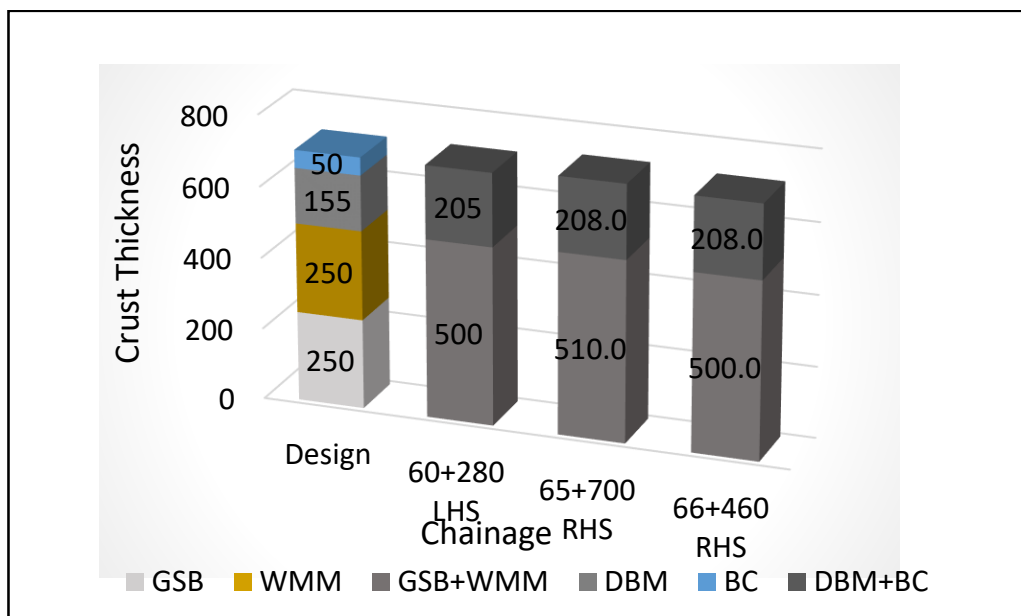


Figure 6.1: Bar Chart showing Design thickness vs Executed thickness



Figure 6.2: Representative photos of core cutting samples

CHAPTER 7. SITE APPRAISAL

7.1 General

The TDD Consultant team visited the site from 16-08-2024 to 19-08-2024 and has collected Road inventory besides examining the condition of pavement, structures and physical progress of site work.

7.2 Highways

7.2.1. Road Inventory

The objective of road inventory is to collect and compare information on all physical and visible features of the road with the GFC drawings, to assess progress of construction and to have visual quality inspection. All the details were recorded by actual measurements made at site, according to IRC-SP-19 format duly modified as per the project requirements The Road Inventory was recorded under the following sub-heads: -

- Type of Terrain - (Plain/ Rolling/Hilly)
- Land use - (Built-up/Agri. /Forest/ Industrial/ Barren)
- Name of Village/Town
- Carriageway and Shoulder - Type/ Width/ Condition
- Embankment Height
- Submergence / water logging Area – location if any
- Details of Crossroads - Location/Road Name. /Carriageway Width
- Roadside Drainage (Non-Existing, Partially Functional, Functional)

7.2.2. Type of terrain

The project road combination of plain and rolling terrain.

7.2.3. Land use

The project road passes through built up, barren and agriculture sections all along its length. The details are given below.

Table 7-1: Land use details along the project road

S.No.	From (Km.)	To (km.)	Length (Km)	Land use	Village
1	42+000	44+000	2.0	Agriculture	
2	44+000	44+200	0.2	Barren	Beerasamdra
3	44+200	44+800	0.6	Built-up	Chepparadakallu
4	44+800	45+000	0.2	Agriculture	
5	45+000	45+600	0.6	Barren	
6	45+600	46+400	0.8	Agriculture	Vishwanathapura
7	46+400	47+000	0.6	Barren	
8	47+000	47+800	0.8	Built-up	

S.No.	From (Km.)	To (km.)	Length (Km)	Land use	Village
9	47+800	49+200	1.4	Agriculture	Byadarahalli
10	49+200	49+400	0.2	Barren	
11	49+400	50+200	0.8	Agriculture	Settarahally
12	50+200	50+500	0.3	Barren	
13	50+500	55+900	5.4	Agriculture	
14	55+900	56+450	0.55	Barren	Binnamangala
15	56+450	58+400	1.95	Agriculture	
16	58+400	59+250	0.85	Built-up	
17	59+250	60+600	1.35	Agriculture	
18	60+600	61+000	0.4	Built-up	
19	61+000	61+700	0.7	Agriculture	Budihal
20	61+700	62+400	0.7	Barren	
21	62+400	63+600	1.2	Agriculture	
22	63+600	64+400	0.8	Barren	
23	64+400	67+100	2.7	Agriculture	
24	67+100	67+500	0.4	Barren	
25	67+500	69+400	1.9	Agriculture	
26	69+400	69+950	0.55	Barren	
27	69+950	71+200	1.25	Agriculture	Attibele
28	71+200	71+600	0.4	Barren	
29	71+600	72+000	0.4	Built-up	Sadappanahalli
30	72+000	72+600	0.6	Agriculture	
31	72+600	73+400	0.8	Barren	
32	73+400	74+000	0.6	Agriculture	
33	74+000	74+600	0.6	Built-up	
34	74+600	77+000	2.4	Agriculture	
35	77+000	77+800	0.8	Built-up	Chokkali
36	77+800	78+600	0.8	Agriculture	
37	78+600	79+000	0.4	Agriculture	
38	79+000	79+600	0.6	Agriculture	Dodahalluru

7.2.4. Villages/Towns along the Project

The villages/towns along the project are Beersandra, Chapparadakallu, Soluru, Nallur, Vishwanathapram, Balepura, Attibele, Devanhalli, Dodahalluru.

7.2.5. Main Carriageway – work status

The project road is Four lane divided carriageway with Rigid Pavement and Service / Slip Roads with Flexible Pavement. The survey on general pavement conditions was primarily a visual exercise undertaken by means of slow drive-over survey supplemented with measurements wherever necessary.

Overall assessment of pavement condition of the project road is good. The riding quality is observed to be good.

The project highway is 4 lanes with paved shoulder throughout the stretch, and Underpass Locations 6 Lane with Paved Shoulder.



Main carriage way view



Main carriage way View



Main Carriageway view

Figure 7.1: Status of Main Carriageway



Main carriageway View



Main carriageway View



Main carriageway View

Figure 7.2: Status of MCW Road

7.2.6. Cross road details

Development of Junctions is completed, and road furniture is also provided and condition is good.

Table 7-2: Minor Intersections

S.no	Chainage	Side	Category	Width
1	42.875	RHS	VR	3.75
2	43.630	LHS	VR	3.75
3	43.817	LHS	VR	3.75
4	44.555	RHS	MDR	3.75
5	44.605	RHS	VR	3.75
6	44.770	LHS	MDR	5.5
7	46.156	RHS	VR	3.75
8	46.987	RHS	VR	3.75
9	47+450	LHS	VR	3.75
10	47.670	BHS	VR	3.75
11	48.000	RHS	MDR	5.5
12	48.355	RHS	MDR	3.75
13	50.115	LHS	VR	3.75
14	50.492	RHS	VR	3.75
15	50.625	LHS	NH-207	10
16	52.545	BHS	VR	3.75
17	53.870	BHS	VR	3.75
18	55.265	BHS	NH-44	18.5
19	56.440	BHS	VR	3.75
20	56.855	BHS	SH-96	9
21	57.715	BHS	MDR	5.5
22	58.345	BHS	VR	3.75
23	59.305	BHS	VR	3.75
24	60.785	LHS	NH-207	10
25	61.655	RHS	SH-104	10
26	62.900	LHS	VR	3.75
27	63.665	RHS	VR	3.75
28	64.780	RHS	VR	3.75
29	65.860	RHS	MDR	5.5

S.no	Chainage	Side	Category	Width
30	66.645	LHS	MDR	5.5
31	66.785	RHS	VR	3.75
32	67.385	LHS	NH-207	10
33	68.715	BHS	VR	3.75
34	70.875	BHS	NH-207	10
35	73.100	BHS	VR	3.75
36	74.630	BHS	VR	3.75
37	76.765	BHS	SH-35	10
38	77.465	BHS	VR	3.75
39	78.010	BHS	VR	3.75
40	78.475	BHS	SH-82	9
41	79.445	BHS	VR	3.75
42	80.000	BHS	NH-75	18.5

Figure 7.3: Photographs showing Minor Junctions

7.2.7. Roadside Drainage

Total length of RCC drain provided is 38.692 km. The status of Lined drains with reference to locations proposed under GFC drawings is verified. Condition of Road Side Drainage is good. Some Representative photos are given below.



Km 44+600 RHS Drain

Figure 7.4: Status of Drains

7.2.8. Retaining/Breast wall

There is no provision for Retaining/Breast wall in project.

7.2.9. Kerb

Laying of kerb is completed throughout the project. The painting condition is Good along the Project.

7.2.10. GFC Vs Site Comparison

A sample measurement checks were conducted at site based on GFC drawings at ongoing and completed work sections. In general, all elements of works executed are matching with GFC drawings.

7.3 Pavement Condition

The survey on general pavement conditions was primarily a visual exercise undertaken by means of slow drive-over survey and supplemented with measurements wherever necessary. Visual assessment was carried out from a vehicle, with speed not exceeding 20 kmph and stopping at suitable intervals and wherever necessary.

The overall visual condition of the pavement is found to be Good in condition. The detailed condition of the pavement as Annexure-1 is enclosed herewith.

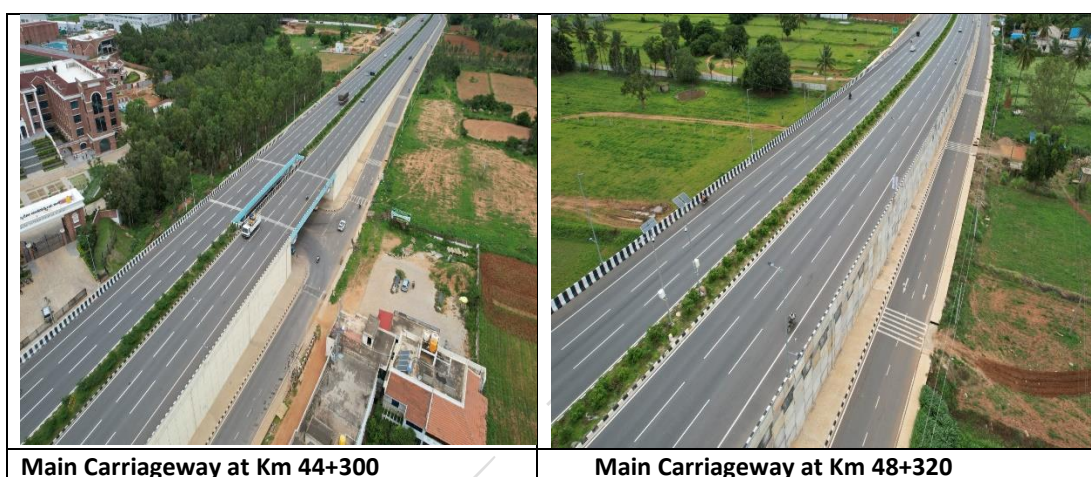


Figure 7.5: Photographs showing the condition of Pavement

7.4 Project Facilities

7.4.1. Toll Plaza

Concession Agreement under Schedule C provides construction of four toll Plazas on the project road and details are given in the following table. Each Toll Plaza has 8 lanes on each side of 3.5m width and one extra width lane. The inventory and condition of the Toll Plaza given in **Annexure-2**.

Table 7-3: Details of Toll Plazas

S.No	Toll plaza location	Village Name
1	64+800	NALLURU

Toll Plaza has been provided at 64+800 with 8+8 lane configuration . Facilities to be provided as per CA at toll plaza location are listed below:

- Traffic Aid Post
- Medical aid post
- Vehicle rescue post

- ATMS
- Crane

Automatic Toll collection system including dedicated and hybrid ETC lane. Weigh in motion and Static weigh bridge installations also completed .

List of equipment to be provided for Toll management system at toll plaza and control room is given below.

Table 7-4 : List of Equipment at Toll Plaza and Control Room

S.No.	Materials Description	Status
1	Toll Plaza Sky Walk	Completed
2	Toll Plaza Building	Completed
3	Land Scaping & Plantation	completed
4	Lane cameras	Completed
5	Booth Items	Completed
6	Server Room Items	Completed
7	Control Room Items	Completed
8	Ups Room Items	Completed
9	Lighting Arrangement	Completed
10	Sign Boards	Completed
11	Power Back Up Generators	Completed





Figure 7.6: Photographs showing status of Toll Plaza

7.4.2. Incident Management

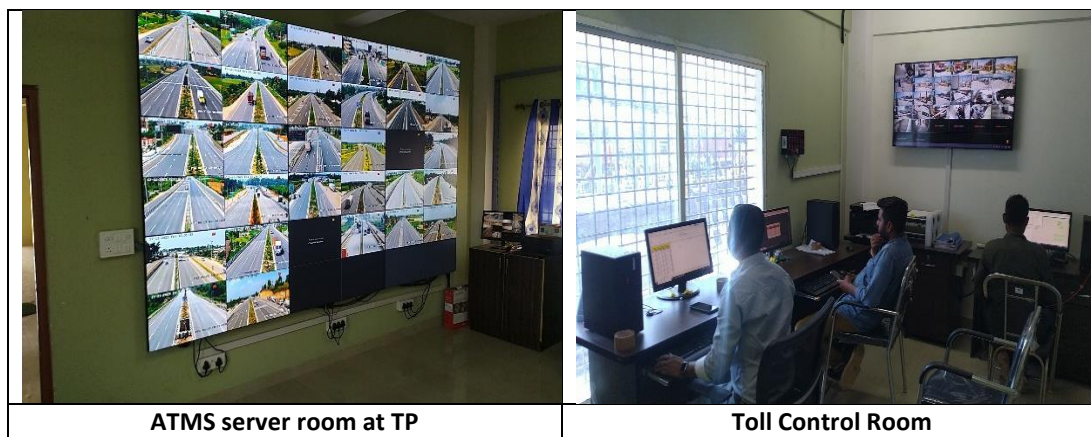
During the site visit the incident Management viz. Ambulance, Cranes, Patrolling Vans, Towing vehicle etc are in good condition and the same is enclosed as **Annexure-2**.

7.4.3. ATMS

During site visit it is reported that following items are provided under ATMS system. Item are verified at random locations and found functional. The Inventory and condition of ATMS is shown in **Annexure-2**.

Table 7-5: ATMS details

S. No	Item	Nos/Locations
1	Automatic traffic count and classification (ATCC)	02
2	Metrological data system (MDS)	01
3	Emergency Call box (ECB /SOS)	22
4	CCTV surveillance system	39
5	VMS	26
6	VIDS	07
7	VASD	07
8	Fixed Camera	01
9	Mobile radio communication system	-



7.4.4. Road Furniture

As per the provisions of CA Road Furniture shall be provided in accordance with the Manual of Specifications and standards for four laning of national highways through public private partnership published by the MORTH. The Concessionaire submitted the signage plan to the Independent Engineer and the same is approved.

As per provision of the CA and GFC signage plan status of traffic signs boards fixed along the project is given below.

Table 7-6 : Status of traffic sign boards

S. No.	Category	Minimum signs to be fixed (Nos)	Remarks
1	Mandatory	61	Provided
2	Warning	585	Provided
3	Informatory	81	Provided
4	Facility	43	Provided



Figure 7.7: Sample Photographs Sign Boards

7.4.5. Overhead Signs

As per the provision of CA, minimum 8 Nos. of gantry overhead signs (excluding toll plaza location) are to be erected in the project. During the site visit 8 Nos of Gantry overhead sign boards (excluding the boards located at Toll Plaza) were erected and Condition of Gantry Over sign good.



Km 42+330 Over head Gantry sign board

Km 65+900 Sign Boards



Figure 7.8: Photographs Gantry Sign Boards

7.4.6. Landscaping & Tree Plantation

As per the Schedule-C of CA and Code, Minimum Nos of Avenue and Median Plantation has been Provided at site. All existing plants are in good condition, and no fatalities of plants have been reported

Table 7-7: Status of Avenue and median plantation

S.No.	Item of work	Chainage		side	No	Scope as on PCOD	Remarks
		From	To				
1	Avenue Plantation	42+000	79+600	LHS			1935 No of tree plantation work is handed over to Forest dept.
2	Avenue Plantation	42+000	79+600	RHS			
3	Median Plantation	42+000	79+600	Both side	18,208	18208 Nos/34.600 km	Completed



Figure 7.9: Photographs showing status of Median Plantation

7.4.7. Pavement marking

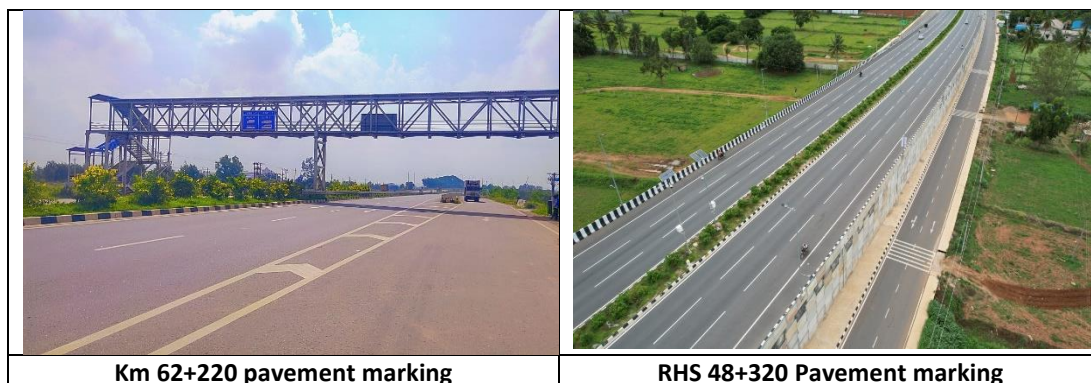


Figure 7.10: Photographs showing status of Pavement Marking

7.4.8. LED Blinkers

As per the provision of CA, LED blinker has to be fixed near pedestrian crossings, public gatherings, crossroads and median openings. All the blinkers are working .



Figure 7.11: Photographs showing LED Blinkers

7.4.9. Metal beam Crash Barrier

During site visit it is observed that metal beam crash barrier has been installed at Median openings, Median, High embankments in main carriage way and service roads on both sides. The condition of crash barrier is Good condition.



Figure 7.12: Photographs showing W Beam Crash Barrier

7.4.10. Hectometer/Km. stones

Kilometre stones shall be provided for entire project length as per Schedule C of the CA. Hectometre and. Kilometre stones are fixed and Condition is good.

7.4.11. Highway Lighting

Highway Lighting shall be provided at toll plaza, truck lay bye, bus shelters, MJBs, grade separators, built-up sections and junctions. The condition of the Highway Lighting and Inventory condition is shown in **Annexure-2**.

Table 7-8: List of lighting fixtures



Figure 7.13: Photographs showing status of Highlighting

7.4.12. Rest Areas

As per Schedule C, Rest areas shall be provided at following locations. The condition and inventory of the Rest Areas are shown in **Annexure-2**

Table 7-9: Location of Rest Areas

Chainage	Side	Remarks
Km.46+750	RHS	De scoped.
Km.63+095	RHS	De scoped.

7.4.13. **Bus Bay and Bus shelters**

As per the Provision of Schedule-C of CA, 28 Nos of passenger Bus shelters shall be provided in the project area. Details of de-scoped and deviated construction of bus shelter are given in below table. The condition and inventory of Bus Bays are shown in **Annexure-2**.

Table 7-10: Status of Bus bays and shelters

S.No.	Design Chainage	Side	Deviation	Type
1	43+600	LHS		Bus shelter
2	44+900	LHS		Bus shelter
3	46+400	LHS	Relocated from 46+085 to 46+400	Bus shelter
4	47+550	LHS		Bus shelter
5	48+400	LHS		Bus shelter
6	49+700	LHS	Relocated from 50+115 to 49+700	Bus shelter
7	56+000	LHS		Bus shelter
8	57+550	LHS		Bus shelter
9	61+300	LHS		Bus shelter
10	63+660	LHS	New Construction for Public Demand	Bus shelter
11	70+700	LHS		Bus shelter
12	76+530	LHS		Bus shelter
13	77+800	LHS		Bus shelter
14	42+800	RHS		Bus shelter
15	44+600	RHS	Relocated from 44+990 to 44+600	Bus shelter
16	45+450	RHS	Relocated from 46+050 to 45+450	Bus shelter
17	46+550	RHS		Bus shelter
18	48+200	RHS		Bus shelter
19	50+200	RHS		Bus shelter
20	56+000	RHS		Bus shelter
21	57+550	RHS		Bus shelter
22	61+400	RHS		Bus shelter
23	61+600	RHS	New Construction for Public Demand Near foot over Bridge	Bus shelter
24	65+900	RHS		Bus shelter
25	66+700	RHS		Bus shelter
26	71+300	RHS		Bus shelter
27	77+035	RHS		Bus shelter
28	79+200	RHS		Bus shelter



Figure 7.14: Photographs showing status of Bus Bay with shelters

7.4.14. Traffic Aid Post

Traffic Aid post shall be constructed at toll plaza as per schedule C, Traffic aid post building is completed at toll plaza and 2 No. of patrolling vehicles are arranged to carry out the obligations.

7.4.15. Medical Aid Post

Medical Aid post shall be constructed at toll plaza as per schedule C. Medical aid post building is completed at toll plaza and 2 No. of ambulance vehicle are arranged at each Toll Plaza.

7.4.16. Vehicle Rescue Posts

Vehicle rescue post shall be constructed at toll plaza as per schedule C, vehicle rescue post building is completed at toll plaza and 2 No. of cranes vehicle are arranged at every Toll Plaza to tow away the breakdown vehicles.

7.4.17. Operation and Maintenance (O&M) Centre

O&M center shall be constructed as per schedule C. Accordingly; O&M building is developed at each toll plaza.

7.4.18. Telecom System

The telecom communication system shall be provided as per schedule C. Accordingly ECB (Emergency Call Box or SOS) are installed at 22 locations for road users.

7.4.19. Advance Traffic Management System (ATMS)

ATMS shall be provided for convenience of users of Project Highway in accordance with IRC: SP:84. Details are given in 7.4.2.

7.4.20. Road Studs

As per the provision of CA, road studs shall be provided at Horizontal curves, Median openings, intersections, crossroads and built-up areas. Accordingly, road studs are fixed, and condition is good.

7.4.21. NCRs and its status

Upon review of the documents, it is observed that no NCRs are pending.

7.5 Structures

Detailed inventory and condition of structures on the project road were carried out during the site visit as per the guidelines provided in IRC: SP: 52-1999 & IRC: SP: 35-1990. The summary of structures on the project road is given below:

Table 7-11: Summary of Structures

S. No.	Type of Structure	As per schedule B	COS	Total	De Scope	Revised Scope	As per site	Remarks
1	MNBR/LVUP	01	0	01	-	-	01	
2	VUP	10	+1	11	-	-	10	01 Cos
3	LVUP	08	0	08	-	-	08	
4	SVUP	02	+1	03	-	-	03	01 Cos
5	GRADE SEPARATER	02	0	02	-	-	02	
6	FOB	0	+1	01	-	-	01	01 Cos
7	VOP	0	+1	01	-	-	01	01 Cos
8	PUP	0	+1	01	-	-	01	01 Cos
9	Box Culverts	50	-2	48	-	-	48	
10	Minor Bridges	13	-1	12	01	-	11	01 Minor Bridge de scoped
11	ROB/Viaduct	01	0	01	-	-	01	

For detailed inventory and condition survey of all ROB, Minor bridges, VUPs, PUP, LVUPs, SVUPs, Grade Separators, FOB, VOP, Viaduct, are given in **Annexure-3**.

For detailed inventory and condition survey of Pipe & Box Culverts are given in **Annexure-3**.

Table 7-12: Detailed Inventory and Condition of Structures

S.No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	42+444	4 x 5.00	20	Completed	Good
2	44+200	1 x 30.0	30	Completed	Good
3	46+219	2 x 5.00	10	Completed	Good
4	47+660	1 x 4.0	4	Completed	Good
5	47+879	3 x 4.0	12	Completed	Good
6	47+940	1 x 30.0	30	Completed	Good
7	49+621	2 x 5.00	10	Completed	Good

S.No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
8	50+625	1 x 30.0	30	Completed	Good
9	52+545	1 x 12.0	12	Completed	Good
10,	53+470 and 54+100	15 x 30 + 1 x 20 + 2 x 35	540	Completed	Good
11	55+625	2 x 20 + 1 x 45	85	Completed	Good
12	56+600	1 x 7.0	7	Completed	Good
13	56+855	2 x 30.0	60	Completed	Good
14	57+46	1 x 7.0	7	Completed	Good
15	57+715	1 x 30.0	30	Completed	Good
16	58+345	1 x 12.0	12	Completed	Good
17	59+298	2 x 13.730	27.46	Completed	Good
18	60+785	1 x 30.0	30	Completed	Good
19	62+400	2 x 23.10	46.2	Completed	Good
20	62+900	1 x 12.0	12	Completed	Good
21	66+645	1 x 30.0	30	Completed	Good
22	67+48	2 x 4.50	9	Completed	Good
23	67+645	1 x 30.0	30	Completed	Good
24	67+998	4 x 5.00	20	Completed	Good
25	68+715	1 x 12.0	12	Completed	Good
26	69+78	5 x 6.00	30	Completed	Good
27	69+957	1 x 7.00	7	Completed	Good
28	70+875	2 x 26.80	53.6	Completed	Good
29	71+461	2 x 5.00	10	Completed	Good
30	72+016	2 x 3.50	7	Completed	Good
31	73+100	1 x 12.0	12	Completed	Good
32	74+63	1 x 12.0	12	Completed	Good
33	74+65	2 x 5.00	10	Completed	Good
34	76+765	2 x 15 + 1 x 45	75	Completed	Good
35	77+465	1 x 12.0	12	Completed	Good
36	77+865	2 x 3.50	7	Completed	Good

S.No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
37	78+475	2 x 30.0	60	Completed	Good
38	78+900	1 x 12.0 + 1 x 10	22	Completed	Good
39	79+455	1 x 12.0	12	Completed	Good

7.5.1. Status of Construction

Construction of 1 ROB, 11 VUPs, 8 LVUPs, 03 SVUPs, 2 Grade Separators, 1 FOB, 1 VOP, 1 PUP, 12 Minor bridges and 2 Viaducts included in the stretch of ROB, are completed. Generalized list of balance works to be done in structures as on the date of site inspection are provided here under:

- Cleaning of drainage spouts required at few locations
- Down take pipes provided.

7.5.2. Culverts

7.5.2.1. Inventory

As per Schedule B of the CA, 50 box culverts are required to be constructed at site. It is noticed that 2 Box Culverts are converted into Minor Bridges. Nevertheless, 49 Box Culverts are found during the site visit. Detailed inventory and condition survey of Culverts is given in **Annexure-3**. Summary of inventory of Culverts is provided in table given below.

Table 7-13: Detailed Inventory and Condition of Box Culverts

S. No	Chainage	Type	Span Arrangement	Construction Status
1	43+679	RCC Box	1x3.0mx1.5m	Completed
2	44+264	RCC Box	1x4.0mx1.5m	Completed
3	47+967	RCC Box	1x2.0mx1.5m	Completed
4	50+730	RCC Box	1x5.0mx3m	Completed
5	50+888	RCC Box	1x2.0mx1.5m	Completed
6	51+583	RCC Box	1x2.0mx1.5m	Completed
7	52+687	RCC Box	1x2.0mx1.5m	Completed
8	53+073	RCC Box	1x2.0mx1.5m	Completed
9	53+020	RCC Box	1x2.0mx1.5m	Completed
10	54+365	RCC Box	1x6.0mx3.0m	Completed
11	55+180	RCC Box	1x2.0mx1.5m	Completed
12	55+410	RCC Box	1x2.0mx1.5m	Completed
13	57+190	RCC Box	1x2.0mx1.5m	Completed
14	57+463	RCC Box	1x2.0mx1.5m	Completed
15	57+850	RCC Box	1x2.0mx1.5m	Completed
16	54+780	RCC Box	1x2.0mx1.5m	Completed
17	58+270	RCC Box	1x2.0mx1.5m	Completed

S. No	Chainage	Type	Span Arrangement	Construction Status
18	58+350	RCC Box	1x2.0mx1.5m	Completed
19	58+680	RCC Box	1x2.0mx1.5m	Completed
20	58+871	RCC Box	1x2.0mx1.5m	Completed
21	79+425	RCC Box	1x2.0mx1.5m	Completed
22	59+990	RCC Box	1x2.0mx1.5m	Completed
23	60+214	RCC Box	1x2.0mx1.5m	Completed
24	60+500	RCC Box	1x2.0mx1.5m	Completed
25	61+574	RCC Box	1x1.5mx1.5m	Completed
26	61+592	RCC Box	1x1.5mx1.5m	Completed
27	61+767	RCC Box	1x1.5mx1.5m	Completed
28	62+405	RCC Box	1x1.5mx1.5m	Completed
29	63+355	RCC Box	1x1.5mx1.5m	Completed
30	63+485	RCC Box	1x1.5mx1.5m	Completed
31	64+159	RCC Box	1x2.0mx1.5m	Completed
32	64+795	RCC Box	1x1.5mx1.5m	Completed
33	65+532	RCC Box	1x1.5mx1.5m	Completed
34	65+543	RCC Box	1x1.5mx1.5m	Completed
35	66+644	RCC Box	1x1.5mx1.5m	Completed
36	56+730	RCC Box	1x2.0mx1.5m	Completed
37	68+220	RCC Box	1x2.0mx1.5m	Completed
38	69+118	RCC Box	1x2.0mx1.5m	Completed
39	69+379	RCC Box	1x2.0mx1.5m	Completed
40	70+390	RCC Box	1x2.0mx1.5m	Completed
41	71+210	RCC Box	1x2.0mx1.5m	Completed
42	77+600	RCC Box	1x5.0mx1.5m	Completed
43	73+005	RCC Box	1x2.0mx1.5m	Completed
44	77+730	RCC Box	1x2.0mx1.5m	Completed
45	74+840	RCC Box	1x2.0mx1.5m	Completed
46	76+580	RCC Box	1x2.0mx1.5m	Completed
47	77+100	RCC Box	1x2.0mx1.5m	Completed
48	62+860	RCC Box	1x2.0mx1.5m	Completed
49	75+840	RCC Box	1x2.0mx1.5m	Completed

7.5.3. RE walls


7.5.3.1. Inventory

As per schedule provisions of CA, RE Wall is constructed at all locations of underpass structures.

Table 7-14: Inventory summary of RE walls

S. No	Structure	Length (m)	Construction Status
1	VUP 70+842.109	1965	Completed
2	VUP 47+940.000	1279	Completed
3	LVUP 58+370.000	897	Completed
4	IC 55+258.812	1385	Completed
5	LVUP 73+077.888	953	Completed
6	LVUP 77+435.369	1514	Completed
7	LVUP 79+411.705	77	Completed
8	LVUP 68+701.732	1210	Completed
9	SVUP 69+957	758	Completed
10	VIA 54+112.058	54	Completed
11	VUP 44+220.369	1600	Completed
12	VUP 50+650.369	1289	Completed
13	VUP 56+845.000	2140	Completed
14	VUP 57+700.869 & SVUP 57+443.060	1653	Completed
15	VUP 60+670.369	1820	Completed
16	VUP 66+632.369	1040	Completed
17	VIA 53+722.058	511	Completed
18	VIA 76+701.744	1425	Completed
19	LVUP 52+533.132	1071	Completed
20	LVUP 62+886.368	826	Completed
20	VUP 67+300.369	1870	Completed
22	LVUP 74+618.679	806	Completed
23	VUP 78+455.000	1905	Completed

7.5.3.2. Condition of Re Wall

	
RE Wall at Km. 60+400 VUP	RE Wall at Km. 59+500 VUP



RE Wall at Km. 55+300

Figure 7.15: Photographs showing condition of RE Wall

7.5.3.3. Condition

In general, at the majority of locations RE wall is in good condition.

CHAPTER 8. REVIEW OF O&M AGREEMENT

The Operation and Maintenance agreement was signed between M/s M/s Dodaballapur Hoskote Hgihighways Private Limited Limited and Dilip Buildcon Limited .

We have reviewed the provisions under various clauses of this O&M Agreement and our specific comments are indicated below:

Sr No	Clause No	Description in brief
1	Senior Lenders	Means financial institutions, banks, funds or trusts who provide or refinance the debt component of the cost of the Project
2	Contract Period	Contract period for this agreement shall be equivalent to a period commencing from the date of the COD achieved by the Concessionaire in accordance with the Concession Agreement and expiring on the earlier of a) completion of the Operations Period; b) early termination of the Concession Agreement or c) Stake sale of the Concessionaire
3	Scope of Work	O&M Contractor's scope under this Agreement shall be completely and fully in line with the scope of works defined in relevant schedules of the Concession Agreement including and not limited to any remedial/rectification works Scope of work shall confirm to the provisions, specifications and standards design and drawings and other parameters stipulated in the Concession Agreement
4	Contract Price	In consideration of its obligations under this Agreement, during the Contract Period, the O&M Contractor shall be paid an aggregate lump sum fixed contract price for each financial year. It is clarified that the O&M Contractor shall not be entitled to any adjustment of the Contract Price as a result or in consequence of : i. Any escalation of price and / or inflation; and/ or ii. Any quantities of non – consumables, consumables, spares or equipment required for the execution of the Works
5	Payment Terms	O&M Contractor would raise bill half-yearly within 7 days of Annuity Payment Dates. Any shortfall in Annuity payments and/or O&M payments by authority would result in similar reduction in payment under the RA Bill, provided that it is demonstrated that such shortfall in release of the Annuity Payment and O&M Payment by the Authority to the Concessionaire has been solely due to default of the O&M Contractor under this agreement. Any defects found in O&M by Authority/ IE would be rectified by the O&M

Sr No	Clause No	Description in brief
		Contractor at its sole expense without recourse to the Concessionaire.
6	Assignment	Assignment by the Concessionaire: The Concessionaire may, subject to the provisions of the Concession Agreement, assign or transfer or enter into an agreement to assign or transfer this Agreement or the rights and benefits hereunder, in favour of or for the benefit of the Senior Lenders.
7	Termination	Concessionaire has rights to terminate the O&M agreement on account of O&M event of default and vice-versa

CHAPTER 9. SCHEDULE OF ANNUITY PAYMENTS

9.1 Hybrid Annuity Model (HAM)

Hybrid annuity model is the PPP model in which Authority makes payment of 40% of the Bid Project cost during construction period based on progress milestones set forth in Concession Agreement. Payment of the balance 60% of the Bid Project Cost is made in form of bi-annual annuities with interest during the operational phase of concession.

Table 9-1: Schedule of Payment Milestones

S. no	Payment Number	Milestone	Criteria for releasing the Payment
1	I		On Achievement of 5% of Physical Progress
2	II		On Achievement of 10% of Physical Progress
3	III		On Achievement of 20% of Physical Progress
4	IV		On Achievement of 30% of Physical Progress
5	V		On Achievement of 40% of Physical Progress
6	VI		On Achievement of 50% of Physical Progress
7	VII		On Achievement of 60% of Physical Progress
8	VIII		On Achievement of 70% of Physical Progress
9	IX		On Achievement of 80% of Physical Progress
10	X		On Achievement of 90% of Physical Progress

During the Operation Period following payment components are payable.

Annuity Payment as per the Annuity Payment Schedule provided in 23.6.3 of the Concession Agreement. Interest to be paid on the balance of completion cost at an interest rate equal to the applicable Bank Rate Plus 3%. O&M Payment as a lump sum amount as per Clause 23.7.1 of the Concession Agreement.

9.2 Schedule of Annuity Payments

Table 9-2: Details of Annuity payments are as below

Annuity	Percentage of BCC	Annuity Due Date
1	2.10 %	17-01-2024
2	2.17%	17-07-2024
3	2.24 %	17-01-2025
4	2.31%	17-07-2025
5	2.38 %	17-01-2026
6	2.45 %	17-07-2026
7	2.52 %	17-01-2027
8	2.60 %	17-07-2027
9	2.68 %	17-01-2028
10	2.76 %	17-07-2028
11	2.84 %	17-01-2029
12	2.93 %	17-07-2029
13	3.02 %	17-01-2030

Annuity	Percentage of BCC	Annuity Due Date
14	3.11%	17-07-2030
15	3.20 %	17-01-2031
16	3.30 %	17-07-2031
17	3.40 %	17-01-2032
18	3.50 %	17-07-2032
19	3.61 %	17-01-2033
20	3.72 %	17-07-2033
21	3.83 %	17-01-2034
22	3.94 %	17-07-2034
23	4.06 %	17-01-2035
24	4.18 %	17-07-2035
25	4.25 %	17-01-2036
26	4.25 %	17-07-2036
27	4.44 %	17-01-2037
28	4.71 %	17-07-2037
29	4.75 %	17-01-2038
30	4.75 %	17-07-2038

CHAPTER 10. COST ESTIMATES

10.1 Maintenance of Project Cost

The maintenance methodology and yearly maintenance program will guide the Maintenance team to undertake the routine & periodic maintenance works of the Project Facilities. This program is the basic indicator of the intended works to be carried out by the Maintenance Team over a period of one year

Road maintenance can be carried out in four ways as listed below.

- i. Preventive Maintenance
- ii. Routine Maintenance
- iii. Periodic Maintenance
- iv. Special repairs

- Preventive Maintenance:

Preventive maintenance is an organized, systematic process of applying a series of preventive treatments over the life of the pavement to minimize life cycle costs.

The strategy of applying periodic treatments at appropriate times in a pavement's life is economical than applying treatment at the end of pavement's life. Preventive maintenance is designed to retard pavement deterioration. Regular preventive maintenance will be carried out to ensure adherence to the Design Requirements and specifications throughout the Concession period.

The flexible pavement is in good condition and hence does not require any immediate or preventive interventions.

- Routine Maintenance:

Routine maintenance, which involves repairing of cracks, replacement of safety girders along the highway, clearance of debris following accidents, ensuring functionality of signposts, maintenance of a security set-up, and such other activities

- Periodic Maintenance

In contrast to preventive maintenance treatments, periodic maintenance treatments are ideally applied on pavements to improve surface integrity and waterproofing, or to improve skid resistance, without increasing the strength of the pavement significantly

Schedule of Periodic Maintenance	
Description	Scheduled Year
1 st Periodic Maintenance	FY 2031
2 nd Periodic Maintenance	FY 2038

- Special Repairs

The group of activities performed to restore the roadway following damage due to natural calamities such as heavy floods, sand storms, hurricanes, cyclones, earthquakes or landslides which shall be unpredictable. The affected Project Road shall be rectified, and the system shall be restored to function as per program prepared in consultation with Independent Engineer.

Typical activities include:

- Culvert and bridge repairs;
- Retaining wall repairs and construction;
- Construction of Diversions;
- Roadway repairs; and
- Flood damage restoration works, etc.

10.2 O&M Expense forecasts

The O&M costs were estimated based on various parameters of CA, and design reports. The cost summary is given below, and detailed cost estimations are given in ANNEXURE-4

Proposed Plan for Future Operation & Maintenance Costs (in Crores)

Table 10-1: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2023-2024	-	1.33	3.74	5.07
2024-2025	-	2.07	4.74	6.81
2025-2026	1.84	2.52	5.00	9.36
2026-2027	1.39	2.81	5.28	9.48
2027-2028	0.68	2.90	5.50	9.08
2028-2029	0.75	2.98	5.73	9.47
2029-2030	42.46	3.75	5.98	52.20
2030-2031	22.53	3.39	6.61	32.53
2031-2032	0.98	3.20	6.58	10.76
2032-2033	0.81	3.32	6.69	10.82
2033-2034	2.50	3.39	6.89	12.78
2034-2035	1.75	3.46	7.09	12.29
2035-2036	0.75	3.53	7.29	11.57
2036-2037	49.66	3.65	7.51	60.81
2037-2038	26.43	3.56	7.73	37.72
2038-2039	0.62	1.18	1.33	3.13
Total Expenditure in Cr. Rs	153.15	47.03	93.68	293.87

CHAPTER 11. CONCLUSION

Based on detailed site inspection, review of various documents and reports as described in the preceding chapters technical over view of the Project is provided below.

- **Pavement Condition**

The Pavement condition for the overall project is good. RCC drains are constructed in Built up locations and earthen drains in rural locations which facilitates effective drainage system along the project road. Shoulder condition is Good

- **Condition of Structures**

Condition of Bridges is good. No structural defects were noticed. The general condition of Culverts is good.

- **Toll Plaza**

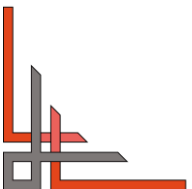
Toll Plaza is operational with ETC Toll collection system and connected by network system monitored in administrative building. Bus bays and truck Lay byes are in good condition. Medical Aid posts found functional. Avenue plantation and landscaping at Toll Plaza is provided and being maintained well. Highway lighting is provided at toll plaza, bus bay and truck lay bye locations and the same is found functional.

- **Road Safety**

Pavement marking is in good condition and number of sign boards are provided as per IRC SP 73-2007. The condition of sign boards & other road appurtenances like metal beam crash barriers is good.



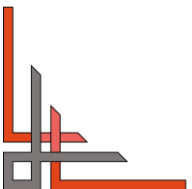
ANNEXURES






Annexure-1

Inventory & Condition of Pavement Condition



		Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:: approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.																
ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																		
Surveyed By :							Side : LHS	Carriage way : MCW					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
42+000	42+200	P	AG	BT	9	G		1	F	L	G							
42+200	42+400	P	AG	BT	9	G		2	F									
42+400	42+600	P	AG	BT	9	G		2	F									
42+600	42+800	P	AG	BT	9	G		2	F									
42+800	43+000	P	AG	BT	9	F		2	F									
43+000	43+200	P	AG	BT	9	G		2	F									
43+200	43+400	P	AG	BT	9	G		2	F									
43+400	43+600	R	AG	BT	9	G		2	F									
43+600	43+800	R	AG	BT	9	G		2	F						43+630	T	3.75	
43+800	44+000	P	AG	BT	9	G									43+817	T	5.5	
44+000	44+200	R	BA	BT	9	G												
44+200	44+400	R	BU	BT	9	G												
44+400	44+600	R	BU	BT	9	G												
44+600	44+800	P	BU	BT	9	G		2	F						44+770	T	5.5	
44+800	45+000	P	AG	BT	9	G		2	F									

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																		
Surveyed By :							Side : LHS	Carriage way : MCW					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND /BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
45+000	45+200	P	BA	BT	9	G		2	F									
45+200	45+400	P	BA	BT	9	G		2	F									
45+400	45+600	P	BA	BT	9	G		2	F									
45+600	45+800	P	AG	BT	9	G		2	F									
45+800	46+000	P	AG	BT	9	G		2	F									
46+000	46+200	R	AG	BT	9	G		2	F									
46+200	46+400	R	AG	BT	9	G		2	F									
46+400	46+600	P	BA	BT	9	G		2	F									
46+600	46+800	P	BA	BT	9	G		2	F									
46+800	47+000	P	BA	BT	9	G		2	F	L	G							
47+000	47+200	P	BU	BT	9	G		1	F									
47+200	47+400	R	BU	BT	9	G		1	F									
47+400	47+600	P	BU	BT	9	G		1	F									
47+600	47+800	R	BU	BT	9	G												
47+800	48+000	R	AG	BT	9	G												

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																		
Surveyed By :							Side : LHS	Carriage way : MCW					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
48+000	48+200	P	AG	BT	9	G												
48+200	48+400	P	AG	BT	9	G		2	F									
48+400	48+600	P	AG	BT	9	G		2	F									
48+600	48+800	P	AG	BT	9	G		2	F									
48+800	49+000	P	AG	BT	9	G		2	F									
49+000	49+200	P	AG	BT	9	G		2	F									
49+200	49+400	R	BA	BT	9	G		2	F									
49+400	49+600	P	AG	BT	9	G		2	F									
49+600	49+800	R	AG	BT	9	G		2	F									
49+800	50+000	P	AG	BT	9	G		2	F									
50+000	50+200	R	AG	BT	9	G		1	F	L	G							
50+200	50+400	R	BA	BT	9	G		1	F	L	G							
50+400	50+600	R	BA	BT	9	G		2	F									
50+600	50+800	P	AG	BT	9	G		2	F									
50+800	51+000	P	AG	BT	9	G		2	F									

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																		
Surveyed By :							Side : LHS	Carriage way : MCW					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
51+000	51+200	P	AG	BT	9	G		2	F	L	G							
51+200	51+400	P	AG	BT	9	G		2	F	L	G							
51+400	51+600	P	BU	BT	9	G		2	F	L	G							
51+600	51+800	R	BU	BT	9	G		2	F	L	G							
51+800	52+000	R	AG	BT	9	G		2	F	L	G							
52+000	52+200	R	AG	BT	9	G		2	F	L	G							
52+200	52+400	P	AG	BT	9	G		2	F									
52+400	52+600	P	AG	BT	9	G		2	F									
52+600	52+800	P	AG	BT	9	G		2	F									
52+800	53+000	R	AG	BT	9	G		2	F	L	G							
53+000	53+200	P	BU	BT	9	G		2	F	L	G							
53+200	53+400	P	BU	BT	9	G												
53+400	53+600	P	AG	BT	9	G						53+550						
53+600	53+800	R	AG	BT	9	G												
53+800	54+000	R	AG	BT	9	G												

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																		
Surveyed By :							Side : LHS	Carriage way : MCW					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
54+000	54+200	R	AG	BT	9	G												
54+200	54+400	R	AG	BT	9	G		2	F									
54+400	54+600	R	BA	BT	9	G		2	F									
54+600	54+800	P	BA	BT	9	G		1	F	L	G							
54+800	55+000	P	AG	BT	9	G		1	F									
55+000	55+200	P	AG	BT	9	G												
55+200	55+400	P	AG	BT	9	G												
55+400	55+600	P	AG	BT	9	G												
55+600	55+800	P	AG	BT	9	G												
55+800	56+000	P	AG	BT	9	G		1	F	L	G							
56+000	56+200	R	BA	BT	9	G		1	F	L	G							
56+200	56+400	R	BA	BT	9	G		1	F									
56+400	56+600	R	BA	BT	9	G												
56+600	56+800	R	AG	BT	9	G												
56+800	57+000	R	AG	BT	9	G												

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																		
Surveyed By :							Side : LHS	Carriage way : MCW					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
57+000	57+200	P	AG	BT	9	F												
57+200	57+400	P	AG	BT	9	G												
57+400	57+600	P	AG	BT	9	G												
57+600	57+800	P	AG	BT	9	G												
57+800	58+000	P	AG	BT	9	G												
58+000	58+200	R	AG	BT	9	G												
58+200	58+400	R	AG	BT	9	G												
58+400	58+600	P	BA	BT	9	G												
58+600	58+800	P	BA	BT	9	G												
58+800	59+000	P	BA	BT	9	G												
59+000	59+200	R	BA	BT	9	F		1	F	L	G							
59+200	59+400	R	BA	BT	9	G		1	F	L	G							
59+400	59+600	R	AG	BT	9	G		1	F	L	G							
59+600	59+800	P	AG	BT	9	G		1	F	L	G							
59+800	60+000	P	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																		
Surveyed By :							Side : LHS	Carriage way : MCW					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
60+000	60+200	P	AG	BT	9	G		1	F	L	G							
60+200	60+400	P	AG	BT	9	G		1	F	L	G							
60+400	60+600	P	AG	BT	9	G		1	F	L	G							
60+600	60+800	R	BA	BT	9	G		1	F	L	G							
60+800	61+000	R	BA	BT	9	G		1	F	L	G							
61+000	61+200	P	AG	BT	9	G		1	F	L	G							
61+200	61+400	P	AG	BT	9	G		1	F	L	G							
61+400	61+600	R	AG	BT	9	G		2	F	L	G							
61+600	61+800	R	AG	BT	9	G		2	F	L	G							
61+800	62+000	P	BA	BT	9	G		2	F	L	G							
62+000	62+200	P	BA	BT	9	G		2	F	L	G							
62+200	62+400	P	BA	BT	9	G		2	F	L	G							
62+400	62+600	R	AG	BT	9	G		1	F	L	G							
62+600	62+800	R	AG	BT	9	G		2	F	L	G							
62+800	63+000	P	AG	BT	9	G		3	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :		Side : LHS						Carriage way : MCW				Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
63+000	63+200	P	AG	BT	9	G		1	F	L	G							
63+200	63+400	R	AG	BT	9	G		1	F	L	G							
63+400	63+600	P	AG	BT	9	G		1	F	L	G							
63+600	63+800	R	BA	BT	9	G		1	F	L	G							
63+800	64+000	P	BA	BT	9	G		1	F	L	G							
64+000	64+200	P	BA	BT	9	G		1	F	L	G							
64+200	64+400	P	BA	BT	9	G		1	F	L	L							
64+400	64+600	P	AG	BT	9	G		1	F	L	L							
64+600	64+800	R	AG	BT	9	G		1	F	L	L							
64+800	65+000	P	AG	BT	9	G		1	F	L	L							
65+000	65+200	R	AG	BT	9	G		1	F	L	G							
65+200	65+400	R	AG	BT	9	G		2	F	L	G							
65+400	65+600	P	AG	BT	9	G		2	F	L	G							
65+600	65+800	P	AG	BT	9	G		2	F	L	G							
65+800	66+000	P	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																		
Surveyed By :							Side : LHS	Carriage way : MCW					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
66+000	66+200	P	AG	BT	9	G		1	F	L	G							
66+200	66+400	R	AG	BT	9	G		1	F	L	G							
66+400	66+600	R	BA	BT	9	G		1	F	L	G							
66+600	66+800	P	AG	BT	9	G		1	F	L	G							
66+800	67+000	P	AG	BT	9	G		1	F	L	G							
67+000	67+200	P	BA	BT	9	G		1	F	L	G							
67+200	67+400	P	BA	BT	9	G		1	F	L	G							
67+400	67+600	R	AG	BT	9	G		1	F	L	G							
67+600	67+800	P	AG	BT	9	G		1	F	L	G							
67+800	68+000	P	AG	BT	9	G		1	F	L	G							
68+000	68+200	P	AG	BT	9	G		1	F	L	G							
68+200	68+400	P	AG	BT	9	F		1	F	L	G							
68+400	68+600	P	AG	BT	9	G		1	F	L	G							
68+600	68+800	P	AG	BT	9	G		1	F	L	G							
68+800	69+000	P	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																			
Surveyed By :								Side : LHS	Carriage way : MCW					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
69+000	69+200	P	AG	BT	9	G		1	F	L	G								
69+200	69+400	P	AG	BT	9	G		1	F	L	G								
69+400	69+600	P	BA	BT	9	G		1	F	L	G								
69+600	69+800	R	BA	BT	9	G		1	F	L	G								
69+800	70+000	R	AG	BT	9	G		1	F	L	G								
70+000	70+200	R	AG	BT	9	G		1	F	L	G								
70+200	70+400	R	AG	BT	9	G		1	F	L	G								
70+400	70+600	P	AG	BT	9	G		1	F	L	G								
70+600	70+800	P	AG	BT	9	G		1	F	L	G								
70+800	71+000	P	AG	BT	9	G		1	F	L	G								
71+000	71+200	P	AG	BT	9	G		1	F	L	G								
71+200	71+400	P	BA	BT	9	G		1	F	L	G								
71+400	71+600	P	BA	BT	9	G		1	F	L	G								
71+600	71+800	R	BU	BT	9	F		1	F	L	G								
71+800	72+000	R	BU	BT	9	G		1	F	L	G								


ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :								Side : LHS		Carriage way : MCW					Date :							Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND /BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads							
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)					
72+000	72+200	P	AG	BT	9	G		1	F	L	G											
72+200	72+400	P	AG	BT	9	G		1	F	L	G											
72+400	72+600	P	AG	BT	9	G		1	F	L	G											
72+600	72+800	R	BA	BT	9	G		1	F	L	G											
72+800	73+000	R	BA	BT	9	G		1	F	L	G											
73+000	73+200	P	BA	BT	9	G		1		L	G											
73+200	73+400	P	BA	BT	9	G		1		L	G											
73+400	73+600	R	AG	BT	9	G		1	F	L	G											
73+600	73+800	R	AG	BT	9	G		1	F	L	G											
73+800	74+000	P	AG	BT	9	F		1	F	L	G											
74+000	74+200	P	BU	BT	9	G		1	F	L	G											
74+200	74+400	P	BU	BT	9	G		1	F	L	G											
74+400	74+600	R	BU	BT	9	G		1	F	L	G											
74+600	74+800	P	AG	BT	9	G		1	F	L	G											
74+800	75+000	R	AG	BT	9	G		1	F	L	G											

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :		Side : LHS						Carriage way : MCW						Date :				
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
75+000	75+200	P	AG	BT	9	G		1	F	L	G							
75+200	75+400	P	AG	BT	9	G		1	F	L	G							
75+400	75+600	P	AG	BT	9	G		1	F	L	G							
75+600	75+800	R	BA	BT	9	G		1	F	L	G							
75+800	76+000	R	BA	BT	9	G		1	F	L	G							
76+000	76+200	R	AG	BT	9	G		1	F	L	G							
76+200	76+400	P	AG	BT	9	G		1	F	L	G							
76+400	76+600	P	AG	BT	9	G		1	F	L	G							
76+600	76+800	P	AG	BT	9	G		1	F	L	G							
76+800	77+000	P	AG	BT	9	G		1	F	L	G							
77+000	77+200	R	BU	BT	9	G		1	F	L	G							
77+200	77+400	R	BU	BT	9	G		1	F	L	G							
77+400	77+600	R	BU	BT	9	G		1	F	L	G							
77+600	77+800	P	BU	BT	9	G		1	F	L	G							
77+800	78+000	P	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																		
Surveyed By :		Side : LHS						Carriage way : MCW				Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
78+000	78+200	P	AG	BT	9	G		1	F	L	G							
78+200	78+400	P	AG	BT	9	G		1	F	L	G							
78+400	78+600	R	AG	BT	9	G		1	F	L	G							
78+600	78+800	R	BA	BT	9	G		1	F	L	G							
78+800	79+000	P	BA	BT	9	G		1	F	L	G							
79+000	79+200	R	AG	BT	9	G		1	F	L	G							
79+200	79+400	R	AG	BT	9	G		1	F									
79+400	79+600	P	AG	BT	9	G		1	F									

				Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.																	
ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																					
Surveyed By :								Side : RHS				Carriage way : MCW				Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)				
42+000	42+200	P	AG	BT	9	G		1	F	L	G										
42+200	42+400	P	AG	BT	9	G		1	F	L	G										
42+400	42+600	P	AG	BT	9	G		1	F	L	G										
42+600	42+800	P	AG	BT	9	G		1	F	L	G										
42+800	43+000	P	AG	BT	9	G		1	F	L	G				42+875	T	3.75				
43+000	43+200	P	AG	BT	9	G		1	F	L	G										
43+200	43+400	P	AG	BT	9	G		1	F	L	G										
43+400	43+600	R	AG	BT	9	G		1	F	L	G										
43+600	43+800	R	AG	BT	9	G		1	F	L	G										
43+800	44+000	P	AG	BT	9	G		1	F	L	G										
44+000	44+200	R	BA	BT	9	G		1	F	L	G										
44+200	44+400	R	BU	BT	9	G		1	F	L	G										
44+400	44+600	R	BU	BT	9	G		1	F	L	G										
44+600	44+800	P	BU	BT	9	G		1	F	L	G										
44+800	45+000	P	AG	BT	9	G		1	F	L	G										

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :					Side : RHS		Carriage way : MCW					Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
45+000	45+200	P	BA	BT	9	G		1	F	L	G							
45+200	45+400	P	BA	BT	9	G		1	F	L	G							
45+400	45+600	P	BA	BT	9	F		1	F	L	G							
45+600	45+800	P	AG	BT	9	G		1	F	L	G							
45+800	46+000	P	AG	BT	9	G		1	F	L	G							
46+000	46+200	R	AG	BT	9	G		1	F	L	G							
46+200	46+400	R	AG	BT	9	G		1	F	L	G							
46+400	46+600	P	BA	BT	9	G		1	F	L	G							
46+600	46+800	P	AG	BT	9	G		1	F	L	G							
46+800	47+000	P	BA	BT	9	G		1	F	L	G							
47+000	47+200	P	AG	BT	9	G		1	F	L	G							
47+200	47+400	R	BU	BT	9	G		1	F	L	G							
47+400	47+600	P	BU	BT	9	G		1	F	L	G							
47+600	47+800	R	BU	BT	9	G		1	F	L	G							
47+800	48+000	R	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :					Side : RHS		Carriage way : MCW					Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
48+000	48+200	P	AG	BT	9	G		1	F	L	G							
48+200	48+400	P	AG	BT	9	G		1	F	L	G							
48+400	48+600	P	AG	BT	9	F		1	F	L	G							
48+600	48+800	P	AG	BT	9	G		1	F	L	G							
48+800	49+000	P	AG	BT	9	G		1	F	L	G							
49+000	49+200	P	AG	BT	9	G		1	F	L	G							
49+200	49+400	R	BA	BT	9	G		1	F	L	G							
49+400	49+600	P	AG	BT	9	G		1	F	L	G							
49+600	49+800	R	AG	BT	9	G		1	F	L	G							
49+800	50+000	P	AG	BT	9	G		1	F	L	G							
50+000	50+200	R	AG	BT	9	G		1	F	L	G							
50+200	50+400	R	BA	BT	9	G		1	F	L	G							
50+400	50+600	R	BA	BT	9	G		1	F	L	G							
50+600	50+800	P	AG	BT	9	G		1	F	L	G							
50+800	51+000	P	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :					Side : RHS		Carriage way : MCW					Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
51+000	51+200	P	AG	BT	9	G		1	F	L	G							
51+200	51+400	P	AG	BT	9	G		1	F	L	G							
51+400	51+600	P	BU	BT	9	G		1	F	L	G							
51+600	51+800	R	BU	BT	9	G		1	F	L	G							
51+800	52+000	R	AG	BT	9	G		1	F	L	G							
52+000	52+200	R	AG	BT	9	G		1	F	L	G							
52+200	52+400	P	AG	BT	9	G		1	F	L	G							
52+400	52+600	P	AG	BT	9	G		1	F	L	G							
52+600	52+800	P	AG	BT	9	G		1	F	L	G							
52+800	53+000	R	AG	BT	9	G		1	F	L	G							
53+000	53+200	P	BU	BT	9	G		1	F	L	G							
53+200	53+400	P	BU	BT	9	G		1	F	L	G							
53+400	53+600	P	AG	BT	9	G		1	F	L	G							
53+600	53+800	R	AG	BT	9	G		1	F	L	G							
53+800	54+000	R	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :					Side : RHS		Carriage way : MCW					Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
54+000	54+200	R	AG	BT	9	G		1	F	L	G							
54+200	54+400	R	AG	BT	9	G		1	F	L	G							
54+400	54+600	R	BA	BT	9	G		1	F	L	G							
54+600	54+800	P	BA	BT	9	G		1	F	L	G							
54+800	55+000	P	AG	BT	9	G		1	F	L	G							
55+000	55+200	P	AG	BT	9	G		1	F	L	G							
55+200	55+400	P	AG	BT	9	G		1	F	L	G							
55+400	55+600	P	AG	BT	9	G		1	F	L	G							
55+600	55+800	P	AG	BT	9	G		1	F	L	G							
55+800	56+000	P	AG	BT	9	G		1	F	L	G							
56+000	56+200	R	BA	BT	9	G		1	F	L	G							
56+200	56+400	R	BA	BT	9	G		1	F	L	G							
56+400	56+600	R	BA	BT	9	G			F	L	G							
56+600	56+800	R	AG	BT	9	G			F	L	G							
56+800	57+000	R	AG	BT	9	G			F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :					Side : RHS		Carriage way : MCW					Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
57+000	57+200	P	AG	BT	9	G			F	L	G							
57+200	57+400	P	AG	BT	9	G			F	L	G							
57+400	57+600	P	AG	BT	9	G			F	L	G							
57+600	57+800	P	AG	BT	9	G			F	L	G							
57+800	58+000	P	AG	BT	9	G			F	L	G							
58+000	58+200	R	AG	BT	9	G			F	L	G							
58+200	58+400	R	AG	BT	9	G			F	L	G							
58+400	58+600	P	BA	BT	9	G			F	L	G							
58+600	58+800	P	BA	BT	9	G			F	L	G							
58+800	59+000	P	BA	BT	9	G			F	L	G							
59+000	59+200	R	BA	BT	9	G		1	F	L	G							
59+200	59+400	R	BA	BT	9	G		1	F	L	G							
59+400	59+600	R	AG	BT	9	G		1	F	L	G							
59+600	59+800	P	AG	BT	9	G		1	F	L	G							
59+800	60+000	P	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :				Side : RHS		Carriage way : MCW				Date :								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
60+000	60+200	P	AG	BT	9	G		1	F	L	G							
60+200	60+400	P	AG	BT	9	G		1	F	L	G							
60+400	60+600	P	AG	BT	9	G		1	F	L	G							
60+600	60+800	R	BA	BT	9	G		1	F	L	G							
60+800	61+000	R	BA	BT	9	G		1	F	L	G							
61+000	61+200	P	AG	BT	9	G		1	F	L	G							
61+200	61+400	P	AG	BT	9	G		1	F	L	G							
61+400	61+600	R	AG	BT	9	G		2	F	L	G							
61+600	61+800	R	AG	BT	9	G		2	F	L	G				61+655	Y	7	
61+800	62+000	P	BA	BT	9	G		2	F	L	G							
62+000	62+200	P	BA	BT	9	G		2	F	L	G							
62+200	62+400	P	BA	BT	9	G		2	F	L	G							
62+400	62+600	R	AG	BT	9	G		1	F	L	G							
62+600	62+800	R	AG	BT	9	G			F	L	G							
62+800	63+000	P	AG	BT	9	G			F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :				Side : RHS		Carriage way : MCW				Date :								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
63+000	63+200	P	AG	BT	9	G		1	F	L	G							
63+200	63+400	R	AG	BT	9	G		1	F	L	G							
63+400	63+600	P	AG	BT	9	G		1	F	L	G							
63+600	63+800	R	BA	BT	9	G		1	F	L	G							
63+800	64+000	P	BA	BT	9	G		1	F	L	G							
64+000	64+200	P	BA	BT	9	G		1	F	L	G							
64+200	64+400	P	BA	BT	9	G		1	F	L	G							
64+400	64+600	P	AG	BT	9	G		1	F	L	G							
64+600	64+800	R	AG	BT	9	G		1	F	L	G							
64+800	65+000	P	AG	BT	9	G		1	F	L	G							
65+000	65+200	R	AG	BT	9	G		1	F	L	G							
65+200	65+400	R	AG	BT	9	G		1	F	L	G							
65+400	65+600	P	AG	BT	9	G		1	F	L	G							
65+600	65+800	P	AG	BT	9	G		1	F	L	G							
65+800	66+000	P	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :					Side : RHS		Carriage way : MCW					Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
66+000	66+200	P	AG	BT	9	G		1	F	L	G							
66+200	66+400	R	AG	BT	9	G		1	F	L	G							
66+400	66+600	R	BA	BT	9	G		1	F	L	G							
66+600	66+800	P	AG	BT	9	G		1	F	L	G							
66+800	67+000	P	AG	BT	9	G		1	F	L	G							
67+000	67+200	P	BA	BT	9	G		1	F	L	G							
67+200	67+400	P	BA	BT	9	G		1	F	L	G							
67+400	67+600	R	AG	BT	9	G		1	F	L	G							
67+600	67+800	P	AG	BT	9	G		1	F	L	G							
67+800	68+000	P	AG	BT	9	G		1	F	L	G							
68+000	68+200	P	AG	BT	9	G		1	F	L	G							
68+200	68+400	P	AG	BT	9	G		1	F	L	G							
68+400	68+600	P	AG	BT	9	G		1	F	L	G							
68+600	68+800	P	AG	BT	9	G		1	F	L	G							
68+800	69+000	P	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :					Side : RHS		Carriage way : MCW					Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
69+000	69+200	P	AG	BT	9	G		1	F	L	G							
69+200	69+400	P	AG	BT	9	G		1	F	L	G							
69+400	69+600	P	BA	BT	9	G		1	F	L	G							
69+600	69+800	R	BA	BT	9	G		1	F	L	G							
69+800	70+000	R	AG	BT	9	G		1	F	L	G							
70+000	70+200	R	AG	BT	9	G		1	F	L	G							
70+200	70+400	R	AG	BT	9	G		1	F	L	G							
70+400	70+600	P	AG	BT	9	G		1	F	L	G							
70+600	70+800	P	AG	BT	9	G		1	F	L	G							
70+800	71+000	P	AG	BT	9	G		1	F	L	G							
71+000	71+200	P	AG	BT	9	G		1	F	L	G							
71+200	71+400	P	BA	BT	9	G		1	F	L	G							
71+400	71+600	P	BA	BT	9	G		1	F	L	G							
71+600	71+800	R	BU	BT	9	G		1	F	L	G							
71+800	72+000	R	BU	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)


Surveyed By :				Side : RHS		Carriage way : MCW				Date :								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
72+000	72+200	P	AG	BT	9	G		1	F	L	G							
72+200	72+400	P	AG	BT	9	G		1	F	L	G							
72+400	72+600	P	AG	BT	9	G		1	F	L	G							
72+600	72+800	R	BA	BT	9	G		1	F	L	G							
72+800	73+000	R	BA	BT	9	G		1	F	L	G							
73+000	73+200	P	BA	BT	9	G		1	F	L	G							
73+200	73+400	P	BA	BT	9	G		1	F	L	G							
73+400	73+600	R	AG	BT	9	G		1	F	L	G							
73+600	73+800	R	AG	BT	9	G		1	F	L	G							
73+800	74+000	P	AG	BT	9	G		1	F	L	G							
74+000	74+200	P	BU	BT	9	G		1	F	L	G							
74+200	74+400	P	BU	BT	9	G		1	F	L	G							
74+400	74+600	R	BU	BT	9	G		1	F	L	G							
74+600	74+800	P	AG	BT	9	G		1	F	L	G							
74+800	75+000	R	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :					Side : RHS		Carriage way : MCW					Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
75+000	75+200	P	AG	BT	9	G		1	F	L	G							
75+200	75+400	P	AG	BT	9	G		1	F	L	G							
75+400	75+600	P	AG	BT	9	G		1	F	L	G							
75+600	75+800	R	BA	BT	9	G		1	F	L	G							
75+800	76+000	R	BA	BT	9	G		1	F	L	G							
76+000	76+200	R	AG	BT	9	G		1	F	L	G							
76+200	76+400	P	AG	BT	9	G		1	F	L	G							
76+400	76+600	P	AG	BT	9	G		1	F	L	G							
76+600	76+800	P	AG	BT	9	G		1	F	L	G							
76+800	77+000	P	AG	BT	9	G		1	F	L	G							
77+000	77+200	R	BU	BT	9	G		1	F	L	G							
77+200	77+400	R	BU	BT	9	G		1	F	L	G							
77+400	77+600	R	BU	BT	9	G		1	F	L	G							
77+600	77+800	P	BU	BT	9	G		1	F	L	G							
77+800	78+000	P	AG	BT	9	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :					Side : RHS		Carriage way : MCW					Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
78+000	78+200	P	AG	BT	9	G		1	F	L	G							
78+200	78+400	P	AG	BT	9	G		1	F	L	G							
78+400	78+600	R	AG	BT	9	G		1	F	L	G							
78+600	78+800	R	BA	BT	9	G		1	F	L	G							
78+800	79+000	P	BA	BT	9	G		1	F	L	G							
79+000	79+200	R	AG	BT	9	G		1	F	L	G							
79+200	79+400	R	AG	BT	9	G		1	F									
79+400	79+600	P	AG	BT	9	G		1	F									

 Four Lining section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.																		
ROAD INVENTORY AND CONDITION SURVEY FORMAT																		
Surveyed By :				Side : LHS		Carriage way : SR						Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
42+000	42+200	P	AG	BT	7	G		1	F	L	G							
42+200	42+400	P	AG	BT	7	G		1	F	L	G							
42+400	42+600	P	AG	BT	7	G		1	F	L	G							
42+600	42+800	P	AG	BT	7	G		1	F	L	G							
42+800	43+000	P	AG	BT	7	G		1	F	L	G							
43+000	43+200	P	AG	BT	7	G		1	F	L	G							
43+200	43+400	P	AG	BT	7	G		1	F	L	G							
43+400	43+600	R	AG	BT	7	G		1	F	L	G							
43+600	43+800	R	AG	BT	7	G		1	F	L	G							
43+800	44+000	P	AG	BT	7	G		1	F	L	G							
44+000	44+200	R	BA	BT	7	G		1	F	L	G							
44+200	44+400	R	BU	BT	7	G		1	F	L	G							
44+400	44+600	R	BU	BT	7	G		1	F	L	G							
44+600	44+800	P	BU	BT	7	G		1	F	L	G							
44+800	45+000	P	AG	BT	7	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT																		
Surveyed By :					Side : LHS		Carriage way : SR					Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
45+000	45+200	P	BA	BT	7	G		1	F	L	G							
45+200	45+400	P	BA	BT	7	G		1	F	L	G							
45+400	45+600	P	BA	BT	7	G		1	F	L	G							
45+600	45+800	P	AG	BT	7	G		1	F	L	G							
45+800	46+000	P	AG	BT	7	G		1	F	L	G							
46+000	46+200	R	AG	BT	7	G		1	F	L	G				46+000	T	3.5	
46+200	46+400	R	AG	BT	7	G		1	F	L	G							
46+400	46+600	P	BA	BT	7	G		1	F	L	G				46+450	T	3.75	
46+600	46+800	P	AG	BT	7	G		1	F	L	G				47+670	+	3.75	
46+800	47+000	P	BA	BT	7	G		1	F	L	G							
47+000	47+200	P	AG	BT	7	G		1	F	L	G							
47+200	47+400	R	BU	BT	7	G		1	F	L	G							
47+400	47+600	P	BU	BT	7	G		1	F	L	G							
47+600	47+800	R	BU	BT	7.5	G		1	F	L	G							
47+800	48+000	R	AG	BT	7.5	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT																		
Surveyed By :							Side : LHS		Carriage way : SR				Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
48+000	48+200	P	AG	BT	7.5	G		1	F	L	G							
48+200	48+400	P	AG	BT	7.5	G		1	F	L	G							
48+400	48+600	P	AG	BT	7.5	G		1	F	L	G				48+400	T	3.75	
48+600	48+800	P	AG	BT	7.5	G		1	F	L	G							
48+800	49+000	P	AG	BT	7.5	G		1	F	L	G							
49+000	49+200	P	AG	BT	7.5	G		1	F	L	G							
49+200	49+400	R	BA	BT	7.5	G		1	F	L	G							
49+400	49+600	P	AG	BT	7.5	G		1	F	L	G							
49+600	49+800	R	AG	BT	7.5	G		1	F	L	G							
49+800	50+000	P	AG	BT	7.5	G		1	F	L	G							
50+000	50+200	R	AG	BT	7	G		1	F	L	G				50+115	T	3.75	
50+200	50+400	R	BA	BT	7	G		1	F	L	G							
50+400	50+600	R	BA	BT	7.5	G		1	F	L	G							
50+600	50+800	P	AG	BT	7.5	G		1	F	L	G				50+625	Y	7	
50+800	51+000	P	AG	BT	7.5	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT																					
Surveyed By :							Side : LHS					Carriage way : SR					Date :				
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
51+000	51+200	P	AG	BT	7.5	G		1	F	L	G										
51+200	51+400	P	AG	BT	5.5	G		1	F	L	G										
51+400	51+600	P	BU	BT	5.5	G		1	F	L	G										
51+600	51+800	R	BU	BT	5.5	G		1	F	L	G										
51+800	52+000	R	AG	BT	5.5	G		1	F	L	G										
52+000	52+200	R	AG	BT	5.5	G		1	F	L	G										
52+200	52+400	P	AG	BT	5.5	G		1	F	L	G										
52+400	52+600	P	AG	BT	5.5	G		1	F	L	G				52+545	+	3.75				
52+600	52+800	P	AG	BT	5.5	F		1	F	L	G										
52+800	53+000	R	AG	BT	5.5	G		1	F	L	G										
53+000	53+200	P	BU	BT	5.5	G		1	F	L	G										
53+200	53+400	P	BU	BT	5.5	G		1	F	L	G										
53+400	53+600	P	AG	BT	5.5	G		1	F	L	G										
53+600	53+800	R	AG	BT	5.5	G		1	F	L	G										
53+800	54+000	R	AG	BT	5.5	G		1	F	L	G				53+870	+	3.75				

ROAD INVENTORY AND CONDITION SURVEY FORMAT																		
Surveyed By :							Side : LHS		Carriage way : SR				Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
54+000	54+200	R	AG	BT	5.5	G		1	F	L	G							
54+200	54+400	R	AG	BT	5.5	G		1	F	L	G							
54+400	54+600	R	BA	BT	5.5	G		1	F	L	G							
54+600	54+800	P	BA	BT	7	G		1	F	L	G							
54+800	55+000	P	AG	BT	7	G		1	F	L	G							
55+000	55+200	P	AG	BT	7.5	G		1	F	L	G							
55+200	55+400	P	AG	BT	7.5	G		1	F	L	G				55+265	+	3.75	
55+400	55+600	P	AG	BT	7.5	G		1	F	L	G							
55+600	55+800	P	AG	BT	7.5	G		1	F	L	G							
55+800	56+000	P	AG	BT	7	G		1	F	L	G							
56+000	56+200	R	BA	BT	7	G		1	F	L	G							
56+200	56+400	R	BA	BT	7.5	G		1	F	L	G							
56+400	56+600	R	BA	BT	7.5	G		1	F	L	G				56+440	+	3.75	
56+600	56+800	R	AG	BT	7.5	G		1	F	L	G							
56+800	57+000	R	AG	BT	7.5	G		1	F	L	G				56+855	+	7	

ROAD INVENTORY AND CONDITION SURVEY FORMAT																						
Surveyed By :							Side : LHS					Carriage way : SR					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)					
57+000	57+200	P	AG	BT	7.5	G		1	F	L	G											
57+200	57+400	P	AG	BT	7.5	G		1	F	L	G											
57+400	57+600	P	AG	BT	7.5	G		1	F	L	G				57+400	+	5.5					
57+600	57+800	P	AG	BT	7.5	G		1	F	L	G											
57+800	58+000	P	AG	BT	7.5	G		1	F	L	G											
58+000	58+200	R	AG	BT	7.5	G		1	F	L	G											
58+200	58+400	R	AG	BT	7.5	G		1	F	L	G				58+345	+	3.75					
58+400	58+600	P	BA	BT	7.5	G		1	F	L	G											
58+600	58+800	P	BA	BT	7.5	G		1	F	L	G											
58+800	59+000	P	BA	BT	7.5	G		1	F	L	G											
59+000	59+200	R	BA	BT	5.5	F		1	F	L	G											
59+200	59+400	R	BA	BT	5.5	G		1	F	L	G				59+305	+	3.75					
59+400	59+600	R	AG	BT	5.5	G		1	F	L	G											
59+600	59+800	P	AG	BT	5.5	G		1	F	L	G											
59+800	60+000	P	AG	BT	5.5	G		1	F	L	G											

ROAD INVENTORY AND CONDITION SURVEY FORMAT																		
Surveyed By :							Side : LHS		Carriage way : SR				Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
60+000	60+200	P	AG	BT	5.5	G		1	F	L	G							
60+200	60+400	P	AG	BT	7.5	G		1	F	L	G							
60+400	60+600	P	AG	BT	7.5	G		1	F	L	G							
60+600	60+800	R	BA	BT	7.5	G		1	F	L	G				60+785	Y	7	
60+800	61+000	R	BA	BT	7.5	G		1	F	L	G							
61+000	61+200	P	AG	BT	7.5	G		1	F	L	G							
61+200	61+400	P	AG	BT	7	G		1	F	L	G							
61+400	61+600	R	AG	BT	7	G		1	F	L	G							
61+600	61+800	R	AG	BT	7	G		1	F	L	G							
61+800	62+000	P	BA	BT	7	G		1	F	L	G							
62+000	62+200	P	BA	BT	7	G		1	F	L	G							
62+200	62+400	P	BA	BT	7	G		1	F	L	G							
62+400	62+600	R	AG	BT	7	G		1	F	L	G							
62+600	62+800	R	AG	BT	7.5	G		1	F	L	G							
62+800	63+000	P	AG	BT	7.5	G		1	F	L	G				62+900	Y	3.75	

ROAD INVENTORY AND CONDITION SURVEY FORMAT																		
Surveyed By :							Side : LHS		Carriage way : SR					Date :				
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
63+000	63+200	P	AG	BT	7.5	G		1	F	L	G							
63+200	63+400	R	AG	BT	7	G		1	F	L	G							
63+400	63+600	P	AG	BT	7	G		1	F	L	G							
63+600	63+800	R	BA	BT	7	G		1	F	L	G							
63+800	64+000	P	BA	BT	7	G		1	F	L	G							
64+000	64+200	P	BA	BT	7	G		1	F	L	G							
64+200	64+400	P	BA	BT	7	G		1	F	L	G							
64+400	64+600	P	AG	BT	7	G		1	F	L	G							
64+600	64+800	R	AG	BT	7	G		1	F	L	G							
64+800	65+000	P	AG	BT	7	G		1	F	L	G							
65+000	65+200	R	AG	BT	7	G		1	F	L	G							
65+200	65+400	R	AG	BT	7	G		1	F	L	G							
65+400	65+600	P	AG	BT	7	G		1	F	L	G							
65+600	65+800	P	AG	BT	7	G		1	F	L	G							
65+800	66+000	P	AG	BT	7	G		1	F	L	G							


ROAD INVENTORY AND CONDITION SURVEY FORMAT																		
Surveyed By :							Side : LHS		Carriage way : SR				Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
66+000	66+200	P	AG	BT	7	G		1	F	L	G							
66+200	66+400	R	AG	BT	7.5	G		1	F	L	G							
66+400	66+600	R	BA	BT	7.5	G		1	F	L	G							
66+600	66+800	P	AG	BT	7.5	G		1	F	L	G				66+645	T	5.5	
66+800	67+000	P	AG	BT	7.5	G		1	F	L	G							
67+000	67+200	P	BA	BT	7.5	G		1	F	L	G							
67+200	67+400	P	BA	BT	7.5	G		1	F	L	G				67+385	Y	7	
67+400	67+600	R	AG	BT	7.5	G		1	F	L	G							
67+600	67+800	P	AG	BT	7.5	G		1	F	L	G							
67+800	68+000	P	AG	BT	7.5	G		1	F	L	G							
68+000	68+200	P	AG	BT	5.5	G		1	F	L	G							
68+200	68+400	P	AG	BT	5.5	G		1	F	L	G							
68+400	68+600	P	AG	BT	5.5	G		1	F	L	G							
68+600	68+800	P	AG	BT	5.5	G		1	F	L	G				68+715	X	3.75	
68+800	69+000	P	AG	BT	5.5	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT																		
Surveyed By :							Side : LHS		Carriage way : SR				Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
69+000	69+200	P	AG	BT	5.5	G		1	F	L	G							
69+200	69+400	P	AG	BT	5.5	G		1	F	L	G							
69+400	69+600	P	BA	BT	5.5	G		1	F	L	G							
69+600	69+800	R	BA	BT	5.5	F		1	F	L	G							
69+800	70+000	R	AG	BT	5.5	G		1	F	L	G							
70+000	70+200	R	AG	BT	5.5	G		1	F	L	G							
70+200	70+400	R	AG	BT	7.5	G		1	F	L	G							
70+400	70+600	P	AG	BT	7.5	G		1	F	L	G							
70+600	70+800	P	AG	BT	7.5	G		1	F	L	G							
70+800	71+000	P	AG	BT	7.5	G		1	F	L	G				70+875	X	7	
71+000	71+200	P	AG	BT	7.5	G		1	F	L	G							
71+200	71+400	P	BA	BT	7.5	G		1	F	L	G							
71+400	71+600	P	BA	BT	5.5	G		1	F	L	G							
71+600	71+800	R	BU	BT	5.5	G		1	F	L	G							
71+800	72+000	R	BU	BT	5.5	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT																		
Surveyed By :							Side : LHS		Carriage way : SR				Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
72+000	72+200	P	AG	BT	5.5	G		1	F	L	G							
72+200	72+400	P	AG	BT	5.5	G		1	F	L	G							
72+400	72+600	P	AG	BT	5.5	G		1	F	L	G							
72+600	72+800	R	BA	BT	5.5	G		1	F	L	G							
72+800	73+000	R	BA	BT	7.5	G		1	F	L	G							
73+000	73+200	P	BA	BT	7.5	G		1	F	L	G				73+100	+	3.75	
73+200	73+400	P	BA	BT	7.5	G		1	F	L	G							
73+400	73+600	R	AG	BT	7.5	G		1	F	L	G							
73+600	73+800	R	AG	BT	5.5	G		1	F	L	G							
73+800	74+000	P	AG	BT	5.5	G		1	F	L	G							
74+000	74+200	P	BU	BT	5.5	F		1	F	L	G							
74+200	74+400	P	BU	BT	5.5	G		1	F	L	G							
74+400	74+600	R	BU	BT	5.5	G		1	F	L	G							
74+600	74+800	P	AG	BT	5.5	G		1	F	L	G				74.63	X	3.75	
74+800	75+000	R	AG	BT	5.5	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT																		
Surveyed By :							Side : LHS		Carriage way : SR				Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
75+000	75+200	P	AG	BT	5.5	G		1	F	L	G							
75+200	75+400	P	AG	BT	5.5	G		1	F	L	G							
75+400	75+600	P	AG	BT	5.5	G		1	F	L	G							
75+600	75+800	R	BA	BT	5.5	G		1	F	L	G							
75+800	76+000	R	BA	BT	5.5	G		1	F	L	G							
76+000	76+200	R	AG	BT	5.5	G		1	F	L	G							
76+200	76+400	P	AG	BT	7.5	G		1	F	L	G							
76+400	76+600	P	AG	BT	7.5	G		1	F	L	G							
76+600	76+800	P	AG	BT	7.5	G		1	F	L	G				76+765	X	7	
76+800	77+000	P	AG	BT	7.5	G		1	F	L	G							
77+000	77+200	R	BU	BT	7.5	G		1	F	L	G							
77+200	77+400	R	BU	BT	7.5	G		1	F	L	G							
77+400	77+600	R	BU	BT	7.5	G		1	F	L	G				77+465	X	3.75	
77+600	77+800	P	BU	BT	7.5	G		1	F	L	G							
77+800	78+000	P	AG	BT	7.5	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT																		
Surveyed By :							Side : LHS		Carriage way : SR				Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain SR		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)	Type	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
78+000	78+200	P	AG	BT	7.5	G		1	F	L	G				78+000	+	3.75	
78+200	78+400	P	AG	BT	7.5	G		1	F	L	G							
78+400	78+600	R	AG	BT	7.5	G		1	F	L	G				78+475	X	7	
78+600	78+800	R	BA	BT	7.5	G		1	F	L	G							
78+800	79+000	P	BA	BT	7.5	G		1	F	L	G							
79+000	79+200	R	AG	BT	7.5	G		1	F	L	G							
79+200	79+400	R	AG	BT				1	F	L	G							
79+400	79+600	P	AG	BT				1	F						79+445	+	3.75	

				Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.																	
ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)																					
Surveyed By :								Side : RHS				Carriage way : SR				Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)				
42+000	42+200	P	AG	BT	7	G		1	F	L	G										
42+200	42+400	P	AG	BT	7	G		1	F	L	G										
42+400	42+600	P	AG	BT	7	G		1	F	L	G										
42+600	42+800	P	AG	BT	7	G		1	F	L	G										
42+800	43+000	P	AG	BT	7	G		1	F	L	G										
43+000	43+200	P	AG	BT	7	G		1	F	L	G										
43+200	43+400	P	AG	BT	7	G		1	F	L	G										
43+400	43+600	R	AG	BT	7	G		1	F	L	G										
43+600	43+800	R	AG	BT	7.5	G		1	F	L	G										
43+800	44+000	P	AG	BT	7.5	G		1	F	L	G										
44+000	44+200	R	BA	BT	7.5	G		1	F	L	G										
44+200	44+400	R	BU	BT	7.5	G		1	F	L	G										
44+400	44+600	R	BU	BT	7.5	G		1	F	L	G				44+555	T	3.75				
44+600	44+800	P	BU	BT	7.5	G		1	F	L	G				44+605	T	3.75				
44+800	45+000	P	AG	BT	7.5	G		1	F	L	G										

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :							Side : RHS					Carriage way : SR					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/ND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)					
45+000	45+200	P	BA	BT	7.5	G		1	F	L	G											
45+200	45+400	P	BA	BT	7.5	G		1	F	L	G											
45+400	45+600	P	BA	BT	7.5	G		1	F	L	G											
45+600	45+800	P	AG	BT	7.5	G		1	F	L	G											
45+800	46+000	P	AG	BT	7.5	G		1	F	L	G											
46+000	46+200	R	AG	BT	7.5	G		1	F	L	G				46+156	T	3.75					
46+200	46+400	R	AG	BT	7.5	G		1	F	L	G											
46+400	46+600	P	BA	BT	7.5	G		1	F	L	G											
46+600	46+800	P	AG	BT	7.5	G		1	F	L	G											
46+800	47+000	P	BA	BT	7	G		1	F	L	G				46+987	T	3.75					
47+000	47+200	P	AG	BT	7	G		1	F	L	G											
47+200	47+400	R	BU	BT	7	G		1	F	L	G											
47+400	47+600	P	BU	BT	7	G		1	F	L	G											
47+600	47+800	R	BU	BT	7.5	G		1	F	L	G				47+670	+	3.75					
47+800	48+000	R	AG	BT	7.5	G		1	F	L	G											

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :							Side : RHS					Carriage way : SR					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/ND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)					
48+000	48+200	P	AG	BT	7.5	G		1	F	L	G				48+000	T	5.5					
48+200	48+400	P	AG	BT	7.5	G		1	F	L	G											
48+400	48+600	P	AG	BT	7.5	G		1	F	L	G											
48+600	48+800	P	AG	BT	7.5	G		1	F	L	G											
48+800	49+000	P	AG	BT	7.5	G		1	F	L	G											
49+000	49+200	P	AG	BT	7.5	G		1	F	L	G											
49+200	49+400	R	BA	BT	7.5	G		1	F	L	G											
49+400	49+600	P	AG	BT	7.5	G		1	F	L	G											
49+600	49+800	R	AG	BT	7.5	G		1	F	L	G											
49+800	50+000	P	AG	BT	7.5	G		1	F	L	G											
50+000	50+200	R	AG	BT	7	G		1	F	L	G											
50+200	50+400	R	BA	BT	7	G		1	F	L	G											
50+400	50+600	R	BA	BT	7.5	G		1	F	L	G				50+492	T	3.75					
50+600	50+800	P	AG	BT	7.5	G		1	F	L	G											
50+800	51+000	P	AG	BT	7.5	G		1	F	L	G											

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :							Side : RHS					Carriage way : SR					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/ND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)					
51+000	51+200	P	AG	BT	7.5	G		1	F	L	G											
51+200	51+400	P	AG	BT	5.5	G		1	F	L	G											
51+400	51+600	P	BU	BT	5.5	G		1	F	L	G											
51+600	51+800	R	BU	BT	5.5	G		1	F	L	G											
51+800	52+000	R	AG	BT	5.5	G		1	F	L	G											
52+000	52+200	R	AG	BT	5.5	G		1	F	L	G											
52+200	52+400	P	AG	BT	5.5	G		1	F	L	G											
52+400	52+600	P	AG	BT	5.5	G		1	F	L	G				52+545	+	3.75					
52+600	52+800	P	AG	BT	5.5	G		1	F	L	G											
52+800	53+000	R	AG	BT	5.5	G		1	F	L	G											
53+000	53+200	P	BU	BT	5.5	G		1	F	L	G											
53+200	53+400	P	BU	BT	5.5	G		1	F	L	G											
53+400	53+600	P	AG	BT	5.5	G		1	F	L	G											
53+600	53+800	R	AG	BT	5.5	G		1	F	L	G											
53+800	54+000	R	AG	BT	5.5	G		1	F	L	G				53.87	+	3.75					

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :							Side : RHS		Carriage way : SR				Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/ND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)		
54+000	54+200	R	AG	BT	5.5	G		1	F	L	G								
54+200	54+400	R	AG	BT	5.5	G		1	F	L	G								
54+400	54+600	R	BA	BT	7	G		1	F	L	G								
54+600	54+800	P	BA	BT	7	G		1	F	L	G								
54+800	55+000	P	AG	BT	7	G		1	F	L	G								
55+000	55+200	P	AG	BT	7.5	G		1	F	L	G								
55+200	55+400	P	AG	BT	7.5	G		1	F	L	G				55.265	+	3.75		
55+400	55+600	P	AG	BT	7.5	G		1	F	L	G								
55+600	55+800	P	AG	BT	7.5	G		1	F	L	G								
55+800	56+000	P	AG	BT	7	G		1	F	L	G								
56+000	56+200	R	BA	BT	7	G		1	F	L	G								
56+200	56+400	R	BA	BT	7.5	G		1	F	L	G								
56+400	56+600	R	BA	BT	7.5	G		1	F	L	G				56+440	+	3.75		
56+600	56+800	R	AG	BT	7.5	G		1	F	L	G								
56+800	57+000	R	AG	BT	7.5	G		1	F	L	G				56+855	+	7		

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :							Side : RHS		Carriage way : SR					Date :				
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/ND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
57+000	57+200	P	AG	BT	7.5	G		1	F	L	G							
57+200	57+400	P	AG	BT	7.5	G		1	F	L	G							
57+400	57+600	P	AG	BT	7.5	G		1	F	L	G							
57+600	57+800	P	AG	BT	7.5	G		1	F	L	G				57+715	+	5.5	
57+800	58+000	P	AG	BT	7.5	G		1	F	L	G							
58+000	58+200	R	AG	BT	7.5	G		1	F	L	G							
58+200	58+400	R	AG	BT	7.5	G		1	F	L	G				58+345	+	3.75	
58+400	58+600	P	BA	BT	7.5	G		1	F	L	G							
58+600	58+800	P	BA	BT	7.5	G		1	F	L	G							
58+800	59+000	P	BA	BT	7.5	G		1	F	L	G							
59+000	59+200	R	BA	BT	5.5	G		1	F	L	G							
59+200	59+400	R	BA	BT	5.5	G		1	F	L	G				59+305	+	3.75	
59+400	59+600	R	AG	BT	5.5	G		1	F	L	G							
59+600	59+800	P	AG	BT	5.5	G		1	F	L	G							
59+800	60+000	P	AG	BT	5.5	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :							Side : RHS					Carriage way : SR					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/ND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)					
60+000	60+200	P	AG	BT	5.5	G		1	F	L	G											
60+200	60+400	P	AG	BT	7.5	G		1	F	L	G											
60+400	60+600	P	AG	BT	7.5	G		1	F	L	G											
60+600	60+800	R	BA	BT	7.5	G		1	F	L	G											
60+800	61+000	R	BA	BT	7.5	G		1	F	L	G											
61+000	61+200	P	AG	BT	7.5	G		1	F	L	G											
61+200	61+400	P	AG	BT	7	G		1	F	L	G											
61+400	61+600	R	AG	BT	7	G		1	F	L	G											
61+600	61+800	R	AG	BT	7	G		1	F	L	G											
61+800	62+000	P	BA	BT	7	G		1	F	L	G											
62+000	62+200	P	BA	BT	7	G		1	F	L	G											
62+200	62+400	P	BA	BT	7	G		1	F	L	G											
62+400	62+600	R	AG	BT	7	G		1	F	L	G											
62+600	62+800	R	AG	BT	7.5	G		1	F	L	G											
62+800	63+000	P	AG	BT	7.5	G		1	F	L	G											

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :							Side : RHS					Carriage way : SR					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/ND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)					
63+000	63+200	P	AG	BT	7.5	G		1	F	L	G											
63+200	63+400	R	AG	BT	7	G		1	F	L	G											
63+400	63+600	P	AG	BT	7	G		1	F	L	G											
63+600	63+800	R	BA	BT	7	G		1	F	L	G				63+665	Y	3.75					
63+800	64+000	P	BA	BT	7	G		1	F	L	G											
64+000	64+200	P	BA	BT	7	G		1	F	L	G											
64+200	64+400	P	BA	BT	7	G		1	F	L	G											
64+400	64+600	P	AG	BT	7	G		1	F	L	G											
64+600	64+800	R	AG	BT	7	G		1	F	L	G				64.78	T	3.75					
64+800	65+000	P	AG	BT	7	G		1	F	L	G											
65+000	65+200	R	AG	BT	7	G		1	F	L	G											
65+200	65+400	R	AG	BT	7	G		1	F	L	G											
65+400	65+600	P	AG	BT	7	G		1	F	L	G											
65+600	65+800	P	AG	BT	7	G		1	F	L	G											
65+800	66+000	P	AG	BT	7	G		1	F	L	G				65+860	T	5.5					

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :							Side : RHS					Carriage way : SR					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/ND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)					
66+000	66+200	P	AG	BT	7	G		1	F	L	G											
66+200	66+400	R	AG	BT	7.5	G		1	F	L	G											
66+400	66+600	R	BA	BT	7.5	G		1	F	L	G											
66+600	66+800	P	AG	BT	7.5	G		1	F	L	G				66+785	T	3.75					
66+800	67+000	P	AG	BT	7.5	G		1	F	L	G											
67+000	67+200	P	BA	BT	7.5	G		1	F	L	G											
67+200	67+400	P	BA	BT	7.5	G		1	F	L	G											
67+400	67+600	R	AG	BT	7.5	G		1	F	L	G											
67+600	67+800	P	AG	BT	7.5	G		1	F	L	G											
67+800	68+000	P	AG	BT	7.5	G		1	F	L	G											
68+000	68+200	P	AG	BT	5.5	G		1	F	L	G											
68+200	68+400	P	AG	BT	5.5	G		1	F	L	G											
68+400	68+600	P	AG	BT	5.5	G		1	F	L	G											
68+600	68+800	P	AG	BT	5.5	G		1	F	L	G				68+715	+	3.75					
68+800	69+000	P	AG	BT	5.5	G		1	F	L	G											

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :				Side : RHS		Carriage way : SR				Date :								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
69+000	69+200	P	AG	BT	5.5	G		1	F	L	G							
69+200	69+400	P	AG	BT	5.5	G		1	F	L	G							
69+400	69+600	P	BA	BT	5.5	G		1	F	L	G							
69+600	69+800	R	BA	BT	5.5	G		1	F	L	G							
69+800	70+000	R	AG	BT	5.5	G		1	F	L	G							
70+000	70+200	R	AG	BT	5.5	G		1	F	L	G							
70+200	70+400	R	AG	BT	7.5	G		1	F	L	G							
70+400	70+600	P	AG	BT	7.5	G		1	F	L	G							
70+600	70+800	P	AG	BT	7.5	G		1	F	L	G							
70+800	71+000	P	AG	BT	7.5	G		1	F	L	G				70+875	X	7	
71+000	71+200	P	AG	BT	7.5	G		1	F	L	G							
71+200	71+400	P	BA	BT	7.5	G		1	F	L	G							
71+400	71+600	P	BA	BT	5.5	G		1	F	L	G							
71+600	71+800	R	BU	BT	5.5	G		1	F	L	G							
71+800	72+000	R	BU	BT	5.5	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :				Side : RHS		Carriage way : SR				Date :								
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)	
72+000	72+200	P	AG	BT	5.5	G		1	F	L	G							
72+200	72+400	P	AG	BT	5.5	G		1	F	L	G							
72+400	72+600	P	AG	BT	5.5	G		1	F	L	G							
72+600	72+800	R	BA	BT	5.5	G		1	F	L	G							
72+800	73+000	R	BA	BT	7.5	G		1	F	L	G							
73+000	73+200	P	BA	BT	7.5	G		1	F	L	G				73+100	+	3.75	
73+200	73+400	P	BA	BT	7.5	G		1	F	L	G							
73+400	73+600	R	AG	BT	7.5	G		1	F	L	G							
73+600	73+800	R	AG	BT	5.5	G		1	F	L	G							
73+800	74+000	P	AG	BT	5.5	G		1	F	L	G							
74+000	74+200	P	BU	BT	5.5	G		1	F	L	G							
74+200	74+400	P	BU	BT	5.5	G		1	F	L	G							
74+400	74+600	R	BU	BT	5.5	G		1	F	L	G							
74+600	74+800	P	AG	BT	5.5	G		1	F	L	G				74+630	X	3.75	
74+800	75+000	R	AG	BT	5.5	G		1	F	L	G							

ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)

Surveyed By :							Side : RHS					Carriage way : SR					Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/ND/BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)					
75+000	75+200	P	AG	BT	5.5	G		1	F	L	G											
75+200	75+400	P	AG	BT	5.5	G		1	F	L	G											
75+400	75+600	P	AG	BT	5.5	G		1	F	L	G											
75+600	75+800	R	BA	BT	5.5	G		1	F	L	G											
75+800	76+000	R	BA	BT	5.5	G		1	F	L	G											
76+000	76+200	R	AG	BT	5.5	G		1	F	L	G											
76+200	76+400	P	AG	BT	7.5	G		1	F	L	G											
76+400	76+600	P	AG	BT	7.5	G		1	F	L	G											
76+600	76+800	P	AG	BT	7.5	G		1	F	L	G				76+765	X	7					
76+800	77+000	P	AG	BT	7.5	G		1	F	L	G											
77+000	77+200	R	BU	BT	7.5	G		1	F	L	G											
77+200	77+400	R	BU	BT	7.5	G		1	F	L	G											
77+400	77+600	R	BU	BT	7.5	G		1	F	L	G				77+465	X	3.75					
77+600	77+800	P	BU	BT	7.5	G		1	F	L	G											
77+800	78+000	P	AG	BT	7.5	G		1	F	L	G											

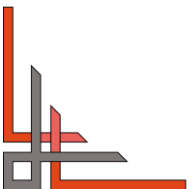
ROAD INVENTORY AND CONDITION SURVEY FORMAT (Dodaballapur - Haskote)


Surveyed By :							Side : RHS		Carriage way : SR				Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND /BA)	Carriageway				Earthen Shoulder		Drain MCW		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)		Width (m)	Condition (G/F/P/VP)	Type	Condition				Location	Type (CC/BT/ER)	Width (m)		
78+000	78+200	P	AG	BT	7.5	G		1	F	L	G				78+000	+	3.75		
78+200	78+400	P	AG	BT	7.5	G		1	F	L	G								
78+400	78+600	R	AG	BT	7.5	G		1	F	L	G				78+475	X	7		
78+600	78+800	R	BA	BT	7.5	G		1	F	L	G								
78+800	79+000	P	BA	BT	7.5	G		1	F	L	G								
79+000	79+200	R	AG	BT	7.5	G		1	F	L	G								
79+200	79+400	R	AG	BT				1	F	L	G								
79+400	79+600	P	AG	BT				1	F						79+445	+	3.75		





Annexure-2

Inventory & Condition of Project Facilities



	Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.				
TOLL PLAZA - INVENTORY & CONDITION					
Sno.	Description	TP1		TP2	
		Inventory	Condition	Inventory	Condition
1	Location Chainage (@km)	64+700			
2	Location Name (Village)	NALLURU			
3	Canopy	NA	Not Applicable	Yes / No / NA	Good / Fair / Poor / Not Applicable
4	Solar Pannels over Canopy	NA	Not Applicable	Yes / No / NA	Good / Fair / Poor / Not Applicable
5	Tunnel / Sky walk	Sky walk	Good	Yes / No / NA	Good / Fair / Poor / Not Applicable
6	Administration Building Constructed?	Yes	Good	Yes / No / NA	Good / Fair / Poor / Not Applicable
7	Medical Aid post Building	Yes	Good	Yes / No / NA	Good / Fair / Poor / Not Applicable
8	Traffic Aid post Building	Yes	Good	Yes / No / NA	Good / Fair / Poor / Not Applicable
9	Total No. Of Toll Lanes	7+1,7+1	Working	Yes / No / NA	Working / Partially Working / Not Working / NA
9.1	No. of ETC/Hybrid ETC Lanes	7+1,7+1	Working		Working / Partially Working / Not Working / NA
9.2	No. of Non ETC Lanes	-	Working		Working / Partially Working / Not Working / NA
9.3	Reversible Lanes (if any)	2	Working		Working / Partially Working / Not Working / NA
10	No. of Lanes WIM installed ?	7+1,7+1	Working		Working / Partially Working / Not Working / NA
11	No. of Static Weigh Bridges installed?	2	Working		Working / Partially Working / Not Working / NA
16	TMS System software Installed?	Yes	Working	Yes / No / NA	Working / Partially Working / Not Working / NA
17	TMS software installed by / Make	DEAV ADITYA	Working	Yes / No / NA	Working / Partially Working / Not Working / NA
18	ETC System installed by / Make	ZEBRA	Working	Yes / No / NA	Working / Partially Working / Not Working / NA
19	Diesel Generator KVA	125	Working	Yes / No / NA	Working / Not-Working / NA
20	Diesel Generator KVA			Yes / No / NA	Working / Not-Working / NA
21	Diesel Generator KVA			Yes / No / NA	Working / Not-Working / NA
22	Inverter KVA	4	Working	Yes / No / NA	Working / Not-Working / NA
23	Fire fighting System	Yes	Working	Yes / No / NA	Working / Not-Working / NA
24	Testing Laboratory	Yes	Working	Yes / No / NA	Working / Not-Working / NA
25	Swachabhart Toilets	Yes	Working	Yes / No / NA	Working / Not-Working / NA
26	Helipad	No	Not Applicable	Yes / No / NA	Working / Not-Working / NA
27	Remarks / Observations				

	
TP1 Toll Plaza @ Km 64+700	TP1 Administrative Building @ Km. 64+700

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available,

Four Lining section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.											
HIGHWAY LIGHTING - INVENTORY & CONDITION DATA											
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition(G/F/P/VP)	Remarks
1	42000	42200	NA	NA	NA			NA			
2	42200	42400	NA	NA	NA			NA			
3	42400	42600	NA	NA	NA			NA			
4	42600	42800	BHS	Med	DA	25	4	LED		G	
5	42800	43000	NA	NA	NA			NA			
6	43000	43200	NA	NA	NA			NA			
7	43200	43400	NA	NA	NA			NA			
8	43400	43600	NA	NA	NA			NA			
9	43600	43800	NA	NA	NA			NA			
10	43800	44000	BHS	MCW Edge	DA	25	12	LED		G	
11	44000	44200	BHS	Med / MCW Edge	DA	30	12	LED		G	
12	44200	44400	BHS	Med / MCW Edge	DA	30	12	LED		G	
13	44400	44600	BHS	Med / MCW Edge	DA	30	12	LED		G	
14	44600	44800	BHS	Med / MCW Edge	DA	30	10	LED		G	
15	44800	45000	NA	NA	NA			NA			
16	45000	45200	NA	NA	NA			NA			
17	45200	45400	NA	NA	NA			NA			
18	45400	45600	NA	NA	NA			NA			
19	45600	45800	NA	NA	NA			NA			
20	45800	46000	NA	NA	NA			NA			
21	46000	46200	NA	NA	NA			NA			
22	46200	46400	NA	NA	NA			NA			
23	46400	46600	NA	NA	NA			NA			
24	46600	46800	NA	NA	NA			NA			
25	46800	47000	NA	NA	NA			NA			
26	47000	47200	NA	NA	NA			NA			
27	47200	47400	BHS	MCW Edge	DA	30	12	LED		G	
28	47400	47600	BHS	MCW Edge	DA	30	12	LED		G	
29	47600	47800	BHS	MCW Edge	DA	30	12	LED		G	
30	47800	48000	BHS	MCW Edge	DA	30	12	LED		G	
31	48000	48200	BHS	MCW Edge	DA	30	12	LED		G	
32	48200	48400	BHS	MCW Edge	DA	30	12	LED		G	
33	48400	48600	NA	NA	NA			NA			
34	48600	48800	NA	NA	NA			NA			
35	48800	49000	NA	NA	NA			NA			





Four Lining section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.											
HIGHWAY LIGHTING - INVENTORY & CONDITION DATA											
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition(G/F/P/VP)	Remarks
36	49000	49200	NA	NA	NA			NA			
37	49200	49400	NA	NA	NA			NA			
38	49400	49600	NA	NA	NA			NA			
39	49600	49800	NA	NA	NA			NA			
40	49800	50000	NA	NA	NA			NA			
41	50000	50200	NA	NA	NA			NA			
42	50200	50400	BHS	MCW Edge	DA	30	12	LED		G	
43	50400	50600	BHS	MCW Edge	DA	30	12	LED		G	
44	50600	50800	BHS	MCW Edge	DA	30	12	LED		G	
45	50800	51000	BHS	MCW Edge	DA	30	6	LED		G	
46	51000	51200	BHS	MCW Edge	DA	30	12	LED		G	
47	51200	51400	BHS	MCW Edge	DA	30	2	LED		G	
48	51400	51600	NA	NA	NA			NA			
49	51600	51800	NA	NA	NA			NA			
50	51800	52000	NA	NA	NA			NA			
51	52000	52200	NA	MCW Edge	DA	30	10	LED		G	
52	52200	52400	BHS	MCW Edge	DA	30	12	LED		G	
53	52400	52600	BHS	MCW Edge	DA	30	12	LED		G	
54	52600	52800	BHS	Med / MCW Edge	DA	30	14	LED		G	
55	52800	53000	BHS	MCW Edge	DA	30	12	LED		G	
56	53000	53200	BHS	MCW Edge	SA	30	12	LED		G	
57	53200	53400	BHS	MCW Edge	SA	30	12	LED		G	
58	53400	53600	BHS	MCW Edge	SA	25	16	LED		G	
59	53600	53800	BHS	MCW Edge	DA	30	12	LED		G	
60	53800	54000	BHS	MCW Edge	DA	30	4	LED		G	
61	54000	54200	BHS	MCW Edge	SA	30	10	LED		G	
62	54200	54400	NA	NA	NA			NA			
63	54400	54600	NA	NA	NA			NA			
64	54600	54800	NA	NA	NA			NA			
65	54800	55000	BHS	MCW Edge	DA	30	6	LED		G	
66	55000	55200	BHS	MCW Edge	DA	30	10	LED		G	
67	55200	55400	BHS	MCW Edge	DA	30	10	LED		G	
68	55400	55600	BHS	MCW Edge	DA	30	10	LED		G	
69	55600	55800	BHS	MCW Edge	DA	30	10	LED		G	
70	55800	56000	BHS	MCW Edge	DA	30	10	LED		G	

Four Lining section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.											
HIGHWAY LIGHTING - INVENTORY & CONDITION DATA											
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition(G/F/P/VP)	Remarks
71	56000	56200	BHS	MCW Edge	DA	30	10	LED		G	
72	56200	56400	BHS	MCW Edge	DA	30	10	LED		G	
73	56400	56600	BHS	MCW Edge	DA	30	10	LED		G	
74	56600	56800	BHS	MCW Edge	DA	30	12	LED		G	
75	56800	57000	BHS	MCW Edge	DA	30	12	LED		G	
76	57000	57200	BHS	MCW Edge	DA	30	12	LED		G	
77	57200	57400	BHS	MCW Edge	DA	30	14	LED		G	
78	57400	57600	BHS	MCW Edge	DA	30	14	LED		G	
79	57600	57800	BHS	MCW Edge	DA	30	12	LED		G	
80	57800	58000	BHS	MCW Edge	DA	30	12	LED		G	
81	58000	58200	BHS	MCW Edge	DA	30	12	LED		G	
82	58200	58400	BHS	MCW Edge	DA	30	14	LED		G	
83	58400	58600	BHS	MCW Edge	DA	30	12	LED		G	
84	58600	58800	BHS	MCW Edge	DA	30	14	LED		G	
85	58800	59000	BHS	MCW Edge	DA	30	12	LED		G	
86	59000	59200	BHS	MCW Edge	DA	25	14	LED		G	
87	59200	59400	BHS	MCW Edge	DA	25	14	LED		G	
88	59400	59600	BHS	MCW Edge	DA	25	14	LED		G	
89	59600	59800	BHS	MCW Edge	DA	25	14	LED		G	
90	59800	60000	BHS	MCW Edge	DA	25	14	LED		G	
91	60000	60200	BHS	MCW Edge	DA	30	6	LED		G	
92	60200	60400	BHS	MCW Edge	DA	30	12	LED		G	
93	60400	60600	BHS	MCW Edge	DA	30	12	LED		G	
94	60600	60800	BHS	MCW Edge	DA	30	12	LED		G	
95	60800	61000	BHS	MCW Edge	DA	30	6	LED		G	
96	61000	61200	BHS	MCW Edge	DA	30	12	LED		G	
97	61200	61400	NA	NA	NA			NA			
98	61400	61600	NA	NA	NA			NA			
99	61600	61800	NA	NA	NA			NA			
100	61800	62000	NA	NA	NA			NA			
101	62000	62200	NA	NA	NA			NA			
102	62200	62400	BHS	MCW Edge	DA	30	12	LED		G	
103	62400	62600	BHS	MCW Edge	DA	30	12	LED		G	
104	62600	62800	BHS	MCW Edge	DA	30	2	LED		G	
105	62800	63000	NA	NA	NA			NA			





Four Lining section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.											
HIGHWAY LIGHTING - INVENTORY & CONDITION DATA											
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition(G/F/P/VP)	Remarks
106	63000	63200	BHS	MCW Edge	DA	30	6	LED		G	
107	63200	63400	NA	NA	NA			NA			
108	63400	63600	NA	NA	NA			NA			
109	63600	63800	NA	NA	NA			NA			
110	63800	64000	NA	NA	NA			NA			
111	64000	64200	BHS	MCW Edge	HM		2	LED		G	TOLL PLAZA
112	64200	64400	BHS	MCW Edge	SA		3	LED		G	
113	64400	64600	BHS	MCW Edge	SA		3	LED		G	
114	64600	64800	BHS	MCW Edge	SA		4	LED		G	
115	64800	65000	BHS	MCW Edge	HM		2	LED		G	
116	65000	65200	BHS	MCW Edge	DA	30	4	LED		G	
117	65200	65400	NA	NA	NA			NA			
118	65400	65600	NA	NA	NA			NA			
119	65600	65800	NA	NA	NA			NA			
120	65800	66000	NA	NA	NA			NA			
121	66000	66200	BHS	MCW Edge	DA	30	10	LED		G	
122	66200	66400	BHS	MCW Edge	DA	30	10	LED		G	
123	66400	66600	BHS	MCW Edge	DA	30	12	LED		G	
124	66600	66800	BHS	MCW Edge	DA	30	12	LED		G	
125	66800	67000	BHS	MCW Edge	DA	30	10	LED		G	
126	67000	67200	BHS	MCW Edge	DA	30	12	LED		G	
127	67200	67400	BHS	MCW Edge	DA	30	12	LED		G	
128	67400	67600	BHS	MCW Edge	DA	30	12	LED		G	
129	67600	67800	BHS	MCW Edge	DA	30	12	LED		G	
130	67800	68000	BHS	MCW Edge	DA	30	12	LED		G	
131	68000	68200	BHS	MCW Edge	DA	30	12	LED		G	
132	68200	68400	BHS	MCW Edge	DA	30	12	LED		G	
133	68400	68600	BHS	MCW Edge	DA	30	12	LED		G	
134	68600	68800	BHS	MCW Edge	DA	30	8	LED		G	
135	68800	69000	BHS	MCW Edge	DA	30	8	LED		G	
136	69000	69200	BHS	Med / MCW Edge	DA	30	12	LED		G	
137	69200	69400	NA	NA	NA			NA			
138	69400	69600	NA	NA	NA			NA			
139	69600	69800	BHS	MCW Edge	DA	30	12	LED		G	
140	69800	70000	BHS	MCW Edge	DA	30	12	LED		G	

Four Lining section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.											
HIGHWAY LIGHTING - INVENTORY & CONDITION DATA											
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition(G/F/P/VP)	Remarks
141	70000	70200	BHS	MCW Edge	DA	30	10	LED		G	
142	70200	70400	BHS	MCW Edge	DA	30	10	LED		G	
143	70400	70600	BHS	MCW Edge	DA	30	10	LED		G	
144	70600	70800	BHS	MCW Edge	DA	30	12	LED		G	
145	70800	71000	BHS	MCW Edge	DA	30	12	LED		G	
146	71000	71200	BHS	MCW Edge	DA	30	12	LED		G	
147	71200	71400	BHS	MCW Edge	DA	30	12	LED		G	
148	71400	71600	NA	NA	NA			NA			
149	71600	71800	NA	NA	NA			NA			
150	71800	72000	NA	NA	NA			NA			
151	72000	72200	NA	NA	NA			NA			
152	72200	72400	NA	NA	NA			NA			
153	72400	72600	NA	NA	NA			NA			
154	72600	72800	NA	NA	NA			NA			
155	72800	73000	BHS	MCW Edge	DA	30	4	LED		G	
156	73000	73200	BHS	MCW Edge	DA	30	12	LED		G	
157	73200	73400	BHS	MCW Edge	DA	30	12	LED		G	
158	73400	73600	BHS	MCW Edge	DA	30	12	LED		G	
159	73600	73800	NA	NA	NA			NA			
160	73800	74000	NA	NA	NA			NA			
161	74000	74200	NA	NA	NA			NA			
162	74200	74400	NA	NA	NA			NA			
163	74400	74600	BHS	MCW Edge	DA	30	12	LED		G	
164	74600	74800	BHS	MCW Edge	DA	30	12	LED		G	
165	74800	75000	BHS	MCW Edge	DA	30	12	LED		G	
166	75000	75200	NA	NA	NA			NA			
167	75200	75400	NA	NA	NA			NA			
168	75400	75600	NA	NA	NA			NA			
169	75600	75800	NA	NA	NA			NA			
170	75800	76000	NA	NA	NA			NA			
171	76000	76200	NA	NA	NA			NA			
172	76200	76400	BHS	MCW Edge	DA	30	12	LED		G	
173	76400	76600	BHS	MCW Edge	DA	30	12	LED		G	
174	76600	76800	BHS	MCW Edge	DA	30	12	LED		G	
175	76800	77000	BHS	MCW Edge	DA	30	12	LED		G	





Four Lining section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.											
HIGHWAY LIGHTING - INVENTORY & CONDITION DATA											
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition(G/F/P/VP)	Remarks
176	77000	77200	BHS	MCW Edge	DA	30	12	LED		G	
177	77200	77400	BHS	MCW Edge	DA	30	14	LED		G	
178	77400	77600	BHS	MCW Edge	DA	30	14	LED		G	
179	77600	77800	BHS	MCW Edge	DA	30	12	LED		G	
180	77800	78000	BHS	MCW Edge	DA	30	14	LED		G	
181	78000	78200	BHS	MCW Edge	DA	30	12	LED		G	
182	78200	78400	BHS	MCW Edge	DA	30	14	LED		G	
183	78400	78600	BHS	MCW Edge	DA	30	14	LED		G	
184	78600	78800	BHS	MCW Edge	DA	30	12	LED		G	
185	78800	79000	BHS	MCW Edge	DA	30	14	LED		G	
186	79000	79200	NA	NA	NA			NA			
187	79200	79400	NA	NA	NA			NA			
188	79400	79600	NA	NA	NA			NA			
189	79600	79800	NA	NA	NA			NA			
190	79800	80000	NA	NA	NA			NA			

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.					
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - RHS			
		@ Km. 42+800	@ Km. 44+600	@ Km. 45+450	@ Km. 46+550
1	PASSANGER SHELTER	DUDDANAHALLI	KUNDANA	SEEKAYANAHALLKI	VISHWANATHAPURA
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Not Prov	Not Prov	Not Prov	Not Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Fair	Fair	Fair	Fair
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	NA	NA	NA	NA
2.6	Layout dimensions as per GFC?	NA	NA	NA	NA
2.7	Remarks / Observations on Busbay	NA	NA	NA	NA
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	Yes	Yes	Yes	No
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	No	No	No	No
3.6	Remarks / Observations on facilities				
					
BUS BAY @ 42+800		BUS BAY @ 44+600			
					
BUS BAY @ 45+450		BUS BAY @ 46+550			

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.					
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - RHS			
		@ Km. 48+200	@ Km. 50+200	@ Km. 56+000	@ Km. 57+550
1	PASSANGER SHELTER	SOLURU	SHETTARAHALLI	BHINNAMANGALA	GOKERE TOLA
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Not Prov	Not Prov	Not Prov	Not Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Fair	Fair	Fair	Fair
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	NA	NA	NA	NA
2.6	Layout dimensions as per GFC?	NA	NA	NA	NA
2.7	Remarks / Observations on Busbay	NA	NA	NA	NA
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	Yes	No	Yes	Yes
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	No	No	No	No
3.6	Remarks / Observations on facilities				
					
BUS BAY @ 48+200		BUS BAY @ 50+200			
					
BUS BAY @ 56+000		BUS BAY @ 57+550			

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.					
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - RHS			
		@ Km. 61+400	@ Km. 61+600	@ Km. 65+900	@ Km. 66+700
1	PASSANGER SHELTER	CHANNAHALI GATE	NEAR FOOT OVERBRIDGE	NALLURU	BALEPURA
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Fair
1.5	Flooring condition	Good	Good	Good	Fair
1.6	Ramp for disabled persons	Not Prov	Not Prov	Not Prov	Not Prov
1.7	Guard Rails	Prov	Prov	Prov	Not Prov
1.8	Guard Rails condition	Good	Good	Good	NA
1.9	Cleanliness	Fair	Fair	Fair	Fair
1.10	Over all condition of Bus shelter	Good	Good	Good	Fair
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	NA	NA	NA	NA
2.6	Layout dimensions as per GFC?	NA	NA	NA	NA
2.7	Remarks / Observations on Busbay	NA	NA	NA	NA
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	Yes	No	Yes	Yes
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	No	No	No	No
3.6	Remarks / Observations on facilities				
					
BUS BAY @ 61+400		BUS BAY @ 61+600			
					
BUS BAY @ 65+900		BUS BAY @ 66+700			

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - RHS			
		@ Km. 71+300	@ Km. 77+035	@ Km. 79+200	@ Km.
1	PASSANGER SHELTER	SADHAPPANAHALLI	CHOKKAHALLI	DODDAHULLURU	
1.1	Shelter Type	RCC	RCC	RCC	Steel/ RCC/ Mas/ NA
1.2	Condition of Shelter	Good	Good	Good	Good / Fair / Poor / NA
1.3	Passenger seating	Prov	Prov	Prov	Prov / Not Prov / NA
1.4	Condition of Passenger seating	Good	Good	Good	Good / Fair / Poor / NA
1.5	Flooring condition	Good	Good	Good	Good / Fair / Poor / NA
1.6	Ramp for disabled persons	Not Prov	Not Prov	Not Prov	Prov / Not Prov / NA
1.7	Guard Rails	Prov	Prov	Prov	Prov / Not Prov / NA
1.8	Guard Rails condition	Good	Good	Good	Good / Fair / Poor / NA
1.9	Cleanliness	Fair	Fair	Fair	Good / Fair / Poor / NA
1.10	Over all condition of Bus shelter	Good	Good	Good	Good / Fair / Poor / NA
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Prov / Not Prov / NA
2.2	Pavement type of Bus bay	NA	NA	NA	Flexi / Rigid / P. Block / NA
2.3	Island type	NA	NA	NA	Kerbed / Ghost / NA
2.4	Road Marking	NA	NA	NA	Yes / No / NA
2.5	Drainage condition	NA	NA	NA	Good / Fair / Poor / NA
2.6	Layout dimensions as per GFC?	NA	NA	NA	Yes / No / NA
2.7	Remarks / Observations on Busbay	NA	NA	NA	Good / Fair / Poor / NA
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	Yes / No / NA
3.2	Lighting	No	No	No	Yes / No / NA
3.3	Sign Board	No	Yes	Yes	Yes / No / NA
3.4	Landscaping and plantaion near Bus Bay	No	No	NA	Yes / No / NA
3.5	Others.....	No	No	NA	Yes / No / NA
3.6	Remarks / Observations on facilities				
					
BUS BAY @ 71+300		BUS BAY @ 77+035			
					
BUS BAY @ 79+200					

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - LHS			
		@ Km. 43+600	@ Km. 44+900	@ Km. 46+400	@ Km. 47+550
1	PASSANGER SHELTER	BEEMASANDRA	CHAPPARADAKALLU	GOVT. SCHOOL VISHWANATHAPURA	VISHWANATHAPURA
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Not Prov	Not Prov	Not Prov	Not Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Fair	Fair	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	NA	NA	NA	NA
2.6	Layout dimensions as per GFC?	NA	NA	NA	NA
2.7	Remarks / Observations on Busbay	NA	NA	NA	NA
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	Yes	No	Yes	Yes
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	No	No	No	No
3.6	Remarks / Observations on facilities				

	
BUS BAY @ 43+600	BUS BAY @ 44+900
	
BUS BAY @ 46+400	BUS BAY @ 47+550





Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.

BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - LHS			
		@ Km. 48+400	@ Km. 49+700	@ Km. 56+000	@ Km. 57+550
1	PASSANGER SHELTER	BYADARAHALLI	SHETTARAHALLI	BINNAMANGALA	GOKERE TOLA
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Not Prov	Not Prov	Not Prov	Not Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Good	Fair	Good	Fair
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	NA	NA	NA	NA
2.6	Layout dimensions as per GFC?	NA	NA	NA	NA
2.7	Remarks / Observations on Busbay	NA	NA	NA	NA
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	Yes	No	Yes	Yes
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	No	No	No	No
3.6	Remarks / Observations on facilities				



Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.					
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - LHS			
		BUS BAY @ 61+300	BUS BAY @ 63+660	BUS BAY @ 70+700	BUS BAY @ 76+530
1	PASSANGER SHELTER	NOT MENTIONED			
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Fair
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Fair	Good	Good	Fair
1.5	Flooring condition	Fair	Fair	Fair	Fair
1.6	Ramp for disabled persons	Not Prov	Not Prov	Not Prov	Not Prov
1.7	Guard Rails	Prov	Prov	Not Prov	Prov
1.8	Guard Rails condition	Good	Good	Not Applicable	Not Applicable
1.9	Cleanliness	Fair	Fair	Fair	Fair
1.10	Over all condition of Bus shelter	Fair	Good	Fair	Fair
2	BUSBAY				
2.1	Bus bay	Not Prov	Not Prov	Not Prov	Not Prov
2.2	Pavement type of Bus bay	NA	NA	NA	NA
2.3	Island type	NA	NA	NA	NA
2.4	Road Marking	NA	NA	NA	NA
2.5	Drainage condition	NA	NA	NA	NA
2.6	Layout dimensions as per GFC?	NA	NA	NA	NA
2.7	Remarks / Observations on Busbay	NA	NA	NA	NA
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	No	No	No	No
3.3	Sign Board	No	No	Yes	Yes
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	No	No	No	No
3.6	Remarks / Observations on facilities				
					
BUS BAY @ 61+300		BUS BAY @ 63+660			
					
BUS BAY @ 70+700		BUS BAY @ 76+530			

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.					
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage - LHS			
		@ Km. 77+800	@ Km.	@ Km.	@ Km.
1	PASSANGER SHELTER	NOT MENTIONED			
1.1	Shelter Type	RCC	Steel/ RCC/ Mas/ NA	Steel/ RCC/ Mas/ NA	Steel/ RCC/ Mas/ NA
1.2	Condition of Shelter	Fair	Good / Fair / Poor / NA	Good / Fair / Poor / NA	Good / Fair / Poor / NA
1.3	Passenger seating	Prov	Prov / Not Prov / NA	Prov / Not Prov / NA	Prov / Not Prov / NA
1.4	Condition of Passenger seating	Fair	Good / Fair / Poor / NA	Good / Fair / Poor / NA	Good / Fair / Poor / NA
1.5	Flooring condition	Fair	Good / Fair / Poor / NA	Good / Fair / Poor / NA	Good / Fair / Poor / NA
1.6	Ramp for disabled persons	Not Prov	Prov / Not Prov / NA	Prov / Not Prov / NA	Prov / Not Prov / NA
1.7	Guard Rails	Not Prov	Prov / Not Prov / NA	Prov / Not Prov / NA	Prov / Not Prov / NA
1.8	Guard Rails condition	Not Applicable	Good / Fair / Poor / NA	Good / Fair / Poor / NA	Good / Fair / Poor / NA
1.9	Cleanliness	Fair	Good / Fair / Poor / NA	Good / Fair / Poor / NA	Good / Fair / Poor / NA
1.10	Over all condition of Bus shelter	Fair	Good / Fair / Poor / NA	Good / Fair / Poor / NA	Good / Fair / Poor / NA
2	BUSBAY				
2.1	Bus bay	Not Prov	Prov / Not Prov / NA	Prov / Not Prov / NA	Prov / Not Prov / NA
2.2	Pavement type of Bus bay	NA	Flexi / Rigid / P. Block / NA	Flexi / Rigid / P. Block / NA	Flexi / Rigid / P. Block / NA
2.3	Island type	NA	Kerbed / Ghost / NA	Kerbed / Ghost / NA	Kerbed / Ghost / NA
2.4	Road Marking	NA	Yes / No / NA	Yes / No / NA	Yes / No / NA
2.5	Drainage condition	NA	Good / Fair / Poor / NA	Good / Fair / Poor / NA	Good / Fair / Poor / NA
2.6	Layout dimensions as per GFC?	NA	Yes / No / NA	Yes / No / NA	Yes / No / NA
2.7	Remarks / Observations on Busbay	NA	Good / Fair / Poor / NA	Good / Fair / Poor / NA	Good / Fair / Poor / NA
3	FACILITIES				
3.1	Drinking Water Facility	No	Yes / No / NA	Yes / No / NA	Yes / No / NA
3.2	Lighting	No	Yes / No / NA	Yes / No / NA	Yes / No / NA
3.3	Sign Board	No	Yes / No / NA	Yes / No / NA	Yes / No / NA
3.4	Landscaping and plantaion near Bus Bay	No	Yes / No / NA	Yes / No / NA	Yes / No / NA
3.5	Others.....	No	Yes / No / NA	Yes / No / NA	Yes / No / NA
3.6	Remarks / Observations on facilities				

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition(G/F/P/VP)	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
1	42000	42200	BHS	Med	WBCB	200*2	G	No	Available	Available	Available	
2	42200	42400	NA	NA	NA			No	NA	NA	NA	
3	42400	42600	BHS	Med / MCW Edge	WBCB	150*4	G	No	Available	Available	Available	
4	42600	42800	NA	NA	NA			No	NA	NA	NA	
5	42800	43000	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
6	43000	43200	NA	NA	NA			No	NA	NA	NA	
7	43200	43400	NA	NA	NA			No	NA	NA	NA	
8	43400	43600	BHS	MCW Edge	NJCB	200*4	G	No	NA	Available	Available	
9	43600	43800	BHS	MCW Edge	NJCB	200*4	G	No	NA	Available	Available	
10	43800	44000	BHS	MCW Edge	NJCB	200*4	G	No	NA	Available	Available	
11	44000	44200	BHS	MCW Edge	NJCB	200*4	G	No	NA	Available	Available	
12	44200	44400	BHS	MCW Edge	NJCB	200*4	G	No	NA	Available	Available	
13	44400	44600	BHS	MCW Edge	NJCB	200*4	G	No	NA	Available	Available	
14	44600	44800	BHS	MCW Edge	NJCB	200*4	G	No	NA	Available	Available	
15	44800	45000	NA	NA	NA			No	NA	NA	NA	
16	45000	45200	RHS	MCW Edge	WBCB	20*2	G	No	NA	NA	Available	
17	45200	45400	NA	NA	NA			No	NA	NA	NA	
18	45400	45600	NA	NA	NA			No	NA	NA	NA	
19	45600	45800	NA	NA	NA			No	NA	NA	NA	
20	45800	46000	NA	NA	NA			No	NA	NA	NA	
21	46000	46200	NA	NA	NA			No	NA	NA	NA	

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition(G/F/ P/VP)	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
22	46200	46400	NA	NA	NA			No	NA	NA	NA	
23	46400	46600	BHS	Med / MCW Edge	WBCB	150*4	G	No	Available	Available	Available	
24	46600	46800	NA	NA	NA			No	NA	NA	NA	
25	46800	47000	BHS	Med / MCW Edge	NJCB	100*4	G	No	Available	Available	Available	
26	47000	47200	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
27	47200	47400	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
28	47400	47600	BHS	MCW Edge	NJCB	200*2	G	No	Available	Available	Available	
29	47600	47800	BHS	MCW Edge	NJCB	200*2	G	No	NA	Available	Available	
30	47800	48000	BHS	MCW Edge	NJCB	20*2	G	No	NA	Available	Available	
31	48000	48200	BHS	MCW Edge	NJCB	200*2	G	No	NA	Available	Available	
32	48200	48400	BHS	MCW Edge	NJCB	150*2	G	No	NA	Available	Available	
33	48400	48600	NA	NA	NA			No	NA	NA	NA	
34	48600	48800	NA	NA	NA			No	NA	NA	NA	
35	48800	49000	NA	NA	NA			No	NA	NA	NA	
36	49000	49200	NA	NA	NA			No	NA	NA	NA	
37	49200	49400	NA	NA	NA			No	NA	NA	NA	
38	49400	49600	NA	NA	NA			No	NA	NA	NA	
39	49600	49800	BHS	Med / MCW Edge	WBCB	150*2	G	No	Available	Available	Available	
40	49800	50000	NA	NA	NA			No	NA	NA	NA	
41	50000	50200	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	NA	Available	
42	50200	50400	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition(G/F/ P/VP)	With Antiglare sheeting	Reflective sticking	Hazard marker at start and end	End Terminal	Remarks
43	50400	50600	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
44	50600	50800	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	NA	Available	Available	
45	50800	51000	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	NA	Available	NA	
46	51000	51200	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
47	51200	51400	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
48	51400	51600	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
49	51600	51800	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
50	51800	52000	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
51	52000	52200	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
52	52200	52400	BHS	Med / MCW Edge	WBCB	200*4	G	No	NA	Available	Available	
53	52400	52600	BHS	MCW Edge	NJCB	200*2	G	No	NA	Available	Available	
54	52600	52800	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	NA	Available	Available	
55	52800	53000	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	P	No	Available	Available	Available	
56	53000	53200	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
57	53200	53400	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
58	53400	53600	BHS	Med / MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
59	53600	53800	BHS	Med / MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
60	53800	54000	BHS	Med / MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
61	54000	54200	BHS	Med / MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
62	54200	54400	LHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
63	54400	54600	LHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition(G/F/P/VP)	With Antiglare sheeting	Reflective sticking	Hazard marker at start and end	End Terminal	Remarks
64	54600	54800	BHS	MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
65	54800	55000	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
66	55000	55200	BHS	Med / MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
67	55200	55400	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
68	55400	55600	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
69	55600	55800	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
70	55800	56000	BHS	MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
71	56000	56200	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
72	56200	56400	BHS	Med / MCW Edge	WBCB / NJCB	100*2 , 100*2	G	No	NA	Available	NA	
73	56400	56600	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
74	56600	56800	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
75	56800	57000	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
76	57000	57200	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
77	57200	57400	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
78	57400	57600	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
79	57600	57800	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
80	57800	58000	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
81	58000	58200	BHS	MCW Edge	NJCB	200*2	G	No	Available	NA	NA	
82	58200	58400	BHS	MCW Edge	NJCB	200*2	G	No	Available	NA	NA	
83	58400	58600	BHS	MCW Edge	NJCB	200*2	G	No	Available	NA	NA	
84	58600	58800	BHS	MCW Edge	WBCB / NJCB	100*2 , 100*2	G	No	Available	NA	Available	

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length-: approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition(G/F/P/VP)	With Antiglare sheeting	Reflective sticking	Hazard marker at start and end	End Terminal	Remarks
85	58800	59000	BHS	MCW Edge	WBCB / NJCB	200*2	G	No	Available	Available	Available	
86	59000	59200	LHS / RHS	Med	NJCB	200*2	G	Yes	NA	NA	NA	
87	59200	59400	LHS / RHS	Med	NJCB	200*2	G	Yes	Available	NA	NA	
88	59400	59600	LHS / RHS	Med	NJCB	200*2	G	Yes	Available	NA	NA	
89	59600	59800	LHS / RHS	Med	NJCB	200*2	G	Yes	Available	NA	NA	
90	59800	60000	LHS / RHS	Med	NJCB	200*2	G	Yes	Available	NA	NA	
91	60000	60200	BHS	MCW Edge	NJCB	200*2	G	Yes	Available	NA	NA	
92	60200	60400	BHS	MCW Edge	NJCB	200*2	G	Yes	Available	NA	NA	
93	60400	60600	BHS	MCW Edge	NJCB	200*2	G	Yes	Available	NA	NA	
94	60600	60800	BHS	MCW Edge	NJCB	200*2	G	Yes	Available	NA	NA	
95	60800	61000	BHS	MCW Edge	NJCB	200*2	G	Yes	Available	NA	NA	
96	61000	61200	BHS	MCW Edge	NJCB	200*2	G	Yes	Available	NA	NA	
97	61200	61400	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
98	61400	61600	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
99	61600	61800	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
100	61800	62000	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
101	62000	62200	NA	NA	NA			No	NA	NA	NA	
102	62200	62400	NA	NA	NA			No	NA	NA	NA	
103	62400	62600	NA	NA	NA			No	NA	NA	NA	
104	62600	62800	BHS	Med / MCW Edge	WBCB / NJCB	100*2 , 100*2	G	No	Available	Available	Available	
105	62800	63000	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	


Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition(G/F/P/VP)	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
106	63000	63200	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
107	63200	63400	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
108	63400	63600	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
109	63600	63800	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
110	63800	64000	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	P	No	Available	Available	Available	
111	64000	64200	RHS	MCW Edge	WBCB	200*2	G	No	Available	Available	Available	
112	64200	64400	RHS	MCW Edge	WBCB	100*2	G	No	Available	Available	Available	
113	64400	64600	NA	NA	NA			No	NA	NA	NA	
114	64600	64800	NA	NA	NA			No	NA	NA	NA	
115	64800	65000	NA	NA	NA			No	NA	NA	NA	
116	65000	65200	NA	NA	NA			No	NA	NA	NA	
117	65200	65400	NA	NA	NA			No	NA	NA	NA	
118	65400	65600	NA	NA	NA			No	NA	NA	NA	
119	65600	65800	NA	NA	NA			No	NA	NA	NA	
120	65800	66000	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
121	66000	66200	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
122	66200	66400	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
123	66400	66600	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
124	66600	66800	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
125	66800	67000	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
126	67000	67200	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition(G/F/P/VP)	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
127	67200	67400	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
128	67400	67600	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
129	67600	67800	BHS	MCW Edge	WBCB	200*2	G	No	Available	Available	Available	
130	67800	68000	BHS	MCW Edge	WBCB	200*2	G	No	Available	Available	Available	
131	68000	68200	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
132	68200	68400	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
133	68400	68600	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
134	68600	68800	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
135	68800	69000	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
136	69000	69200	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
137	69200	69400	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
138	69400	69600	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
139	69600	69800	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
140	69800	70000	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
141	70000	70200	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
142	70200	70400	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
143	70400	70600	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
144	70600	70800	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
145	70800	71000	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
146	71000	71200	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
147	71200	71400	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition(G/F/ P/VP)	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
148	71400	71600	BHS	MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
149	71600	71800	BHS	MCW Edge	WBCB	200*2	G	No	Available	Available	Available	
150	71800	72000	NA	NA	NA			No	NA	NA	NA	
151	72000	72200	BHS	MCW Edge	WBCB	200*2	G	No	Available	Available	Available	
152	72200	72400	BHS	MCW Edge	WBCB	200*2	G	No	Available	Available	Available	
153	72400	72600	BHS	MCW Edge	WBCB	200*2	G	No	Available	Available	Available	
154	72600	72800	BHS	MCW Edge	WBCB	200*2	G	No	Available	Available	Available	
155	72800	73000	NA	NA	NA			No	NA	NA	NA	
156	73000	73200	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
157	73200	73400	BHS	MCW Edge	NJCB	200*2	G	No	NA	NA	NA	
158	73400	73600	BHS	MCW Edge	WBCB / NJCB	100*2 , 100*2	G	No	Available	Available	Available	
159	73600	73800	BHS	MCW Edge	WBCB	200*2	G	No	Available	Available	Available	
160	73800	74000	BHS	MCW Edge	WBCB	200*2	P	No	Available	Available	Available	
161	74000	74200	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
162	74200	74400	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
163	74400	74600	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
164	74600	74800	BHS	Med / MCW Edge	WBCB / NJCB	200*2 , 200*2	G	No	Available	Available	Available	
165	74800	75000	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
166	75000	75200	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
167	75200	75400	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
168	75400	75600	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition(G/F/P/VP)	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
169	75600	75800	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
170	75800	76000	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
171	76000	76200	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
172	76200	76400	BHS	Med / MCW Edge	WBCB	200*4	G	No	Available	Available	Available	
173	76400	76600	NA	NA	NA			No	NA	NA	NA	
174	76600	76800	NA	NA	NA			No	NA	NA	NA	
175	76800	77000	NA	NA	NA			No	NA	NA	NA	
176	77000	77200	NA	NA	NA			No	NA	NA	NA	
177	77200	77400	NA	NA	NA			No	NA	NA	NA	
178	77400	77600	NA	NA	NA			No	NA	NA	NA	
179	77600	77800	NA	NA	NA			No	NA	NA	NA	
180	77800	78000	NA	NA	NA			No	NA	NA	NA	
181	78000	78200	NA	NA	NA			No	NA	NA	NA	
182	78200	78400	NA	NA	NA			No	NA	NA	NA	
183	78400	78600	NA	NA	NA			No	NA	NA	NA	
184	78600	78800	NA	NA	NA			No	NA	NA	NA	
185	78800	79000	NA	NA	NA			No	NA	NA	NA	
186	79000	79200	NA	NA	NA			No	NA	NA	NA	
187	79200	79400	NA	NA	NA			No	NA	NA	NA	
188	79400	79600	NA	NA	NA			No	NA	NA	NA	
189	79600	79800	NA	NA	NA			No	NA	NA	NA	

Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition(G/F/P/VP)	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
190	79800	80000	NA	NA	NA			No	NA	NA	NA	

	<p>Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.</p>	
---	---	--

INCIDENT MANAGEMENT SYSTEM - INVENTORY & CONDITION

Sno.	Description		Vehicle 1		Vehicle 2		Remarks
			Inventory	Condition	Inventory	Condition	
1	AMBULANCE						
1.1	Vehicle	Parking Location @ Km.	64+700		64+700		
1.2		Vehicle Reg. No.	KA42B4798	Working	KA42B4797	Working	
1.3		Fitted with GPS ?	Yes	Working	Yes	Working	
1.4	Equipment	First Aid Kit	Yes	Good	Yes	Good	
1.5		Oxygen Cylinder	Yes	Good	Yes	Good	
1.6		Stretcher	Yes	Good	Yes	Good	
1.7	Manpower	No. Of shifts	2		2		
1.8		Driver	Yes		Yes		
1.9		Paramedical Staff	Yes		Yes		
2	Route Petroling Vehicle						
2.1	Vehicle	Parking Location @ Km.	64+700		64+700		
2.2		Vehicle Reg. No.	AP31TN4119	Working	AP03TE9615	Working	
2.3		Fitted with GPS ?	Yes	Working	Yes	Working	
2.4	Equipment	Safety Helmets	Yes	Good	Yes	Good	
2.5		Flags & Caution Tap	Yes	Good	Yes	Good	
2.6		Safety Cones	Yes	Good	Yes	Good	
2.7	Manpower	No. Of shifts	2		2		
2.8		Driver	Yes		Yes		
2.9		Helpers	Yes		Yes		
3	Crane / Towing Vehicle						
3.1	Vehicle	Parking Location @ Km.	64+700		64+700		
3.2		Vehicle Reg. No.	PB13BD7817	Working	PB13BF6341	Working	
3.3		Fitted with GPS ?	Yes	Working	Yes	Working	
3.4		Capacity In Mt	10 Mt	As per CA	10 Mt	As per CA	
3.5	Equipment	Tool Kit	Yes	Good	Yes	Good	
3.6		Belt/Rope/Chain	CHAIN	Good	CHAIN	Good	
3.7		Safety Cones	Yes	Good	Yes	Good	
3.8	Manpower	No. Of shifts	2		2		
3.9		Driver	Yes		Yes		
3.10		Helpers	Yes		Yes		
4	Remarks / Observations						



Ambulance




Route Petroling Vehicle



Crane



	Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.				
ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS) - INVENTORY & CONDITION					
Sno.	Description	Inventory	Quantity	Condition	Remarks
1	OUT-DOOR EQUIPMENT				
1.1	Emergency Call Box (ECB)	Yes	22	Working	
1.2	Variable Message system (VMS)	Yes	26	Working	
1.3	Meteorological Data System (MDS)	Yes	1	Working	
1.4	Automatic Traffic counting and classification (ATCC)	Yes	2	Working	
1.5	Vehicle Speed Enforcement System cameras	Yes	6	Working	
1.6	CCTV Surveillance system	Yes	39	Working	
1.7	Video Incident Detection system	Yes	7	Working	
1.8	Visibility Sensors	Yes	1	Working	
1.9	Mobile Radio Communication System	Yes		Working	
2	IN-DOOR EQUIPMENT				
2.1	Central ATMS Server	Yes	3	Working	
2.2	Network Management System	Yes		Working	
2.3	Traffic Controller Operator	Yes	1	Working	
2.4	Video Display	Yes	1	Working	
2.5	Network Video Recording and Management system	Yes	2	Working	
2.6	Emergency Call Management Center	Yes		Working	
2.7	Video Incident Detection central System	Yes		Working	
3	Remarks / Observations				



Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available,

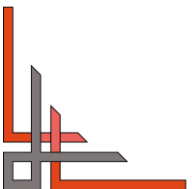
Four Laning section of NH-648 (Old NH-207) from km.42+000 to km 80+000 (length:- approx.38.000 Km design length) including section from Dodaballpur Bypass to Hoskote in the State of Karnataka on design, built, operate and transfer on Hybrid Annuity mode.					
REST AREA - INVENTORY & CONDITION DATA					
Sno.	Description	Rest Area @ Km46+750		Rest Area @ Km63+095	
		Inventory	Condition	Inventory	Condition
1	Area of Development in Ha		Not Applicable		Not Applicable
2	FACILITIES IN REST AREA				
2.1	Cafeteria (50 Nos seating)	NA	Not Applicable	NA	Not Applicable
2.2	Toilets for Gents	Not Prov	Not Applicable	Not Prov	Not Applicable
2.3	Toilets for ladies	Not Prov	Not Applicable	Not Prov	Not Applicable
2.4	Min. 5 Nos WC Provided?	Not Prov	Not Applicable	Not Prov	Not Applicable
2.5	Min. 10 Nos urinals Provided?	Not Prov	Not Applicable	Not Prov	Not Applicable
2.6	Dormitory With 20 Beds	Not Prov	Not Applicable	Not Prov	Not Applicable
2.7	Telephone with STD/ISD Facility	Not Prov	Not Applicable	Not Prov	Not Applicable
2.8	Drinking Water Facility	Not Prov	Not Applicable	Not Prov	Not Applicable
2.9	Shops for travel Need	Not Prov	Not Applicable	Not Prov	Not Applicable
2.10	First Aid Facility	Not Prov	Not Applicable	Not Prov	Not Applicable
2.11	Parking For 100 Trucks	NA	Not Applicable	NA	Not Applicable
2.12	Parking For 50 Cars	NA	Not Applicable	NA	Not Applicable
2.13	Parking Pavement type	Prov	Flexi	Prov	Flexi
2.14	Lighting as per mannual	Not Prov	Not Applicable	Not Prov	Not Applicable
2.14	Compound Wall	Not Prov	Not Applicable	Not Prov	Not Applicable
2.15	Land Scaping	Prov	Fair	Prov	Fair
2.15	Informatory sign Boards	Not Prov	Not Applicable	Not Prov	Not Applicable
2.16	Additional Facilities if any				
a	Fuel station				
b					
2.17	Does Rest Area In Operation?	No	Not Applicable	No	Not Applicable
2.18	If 'Yes", Name and contact details of agency operating the facilities				
2.19	Remarks / Observations				

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided,



Annexure-3

Inventory & Condition of Structures



Four laning of Doda allapur B pass to Hosote section of NH 648 (Old NH 20) from Km.42 000 to Km.80 000 (Package II) in the state of Karnataka (Package II) through Public Private Partnership (PPP) on Hybrid Annuity Mode.

BOX culvert

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	43.679	1x3x1.5	Completed	Good	
2	44.264	1x4x1.5	Completed	Good	
3	47.967	1x2x1.5	Completed	Good	
4	50.664	1x5x3.0	Completed	Good	
5	50.894	1x2x1.5	Completed	Good	
6	51.589	1x2x1.5	Completed	Good	
7	52.694	1x2x1.5	Completed	Good	
8	53.024	1x2x1.5	Completed	Good	
9	53.079	1x2x1.5	Completed	Good	
10	54.589	1x6x3.0	Completed	Good	
11	55.239	1x2x1.5	Completed	Good	
12	55.604	1x2x1.5	Completed	Good	
13	57.010	1x2x1.5	Completed	Good	
14	57.467	1x2x1.5	Completed	Good	
15	57.732	1x2x1.5	Completed	Good	
16	57.882	1x2x1.5	Completed	Good	
17	58.258	1x2x1.5	Completed	Good	
18	58.334	1x2x1.5	Completed	Good	
19	58.518	1x2x1.5	Completed	Good	
20	58.882	1x2x1.5	Completed	Good	
21	59.474	1x2x1.5	Completed	Good	
22	60.213	1x2x1.5	Completed	Good	
23	60.396	1x2x1.5	Completed	Good	
24	60.659	1x2x1.5	Completed	Good	
25	61.587	1x1.5x1.5	Completed	Good	
26	61.605	1x1.5x1.5	Completed	Good	
27	61.782	1x1.5x1.5	Completed	Good	
28	62.420	1x1.5x1.5	Completed	Good	
29	62.860	1x1.5x1.5	Completed	Good	
30	63.367	1x1.5x1.5	Completed	Good	
31	63.496	1x1.5x1.5	Completed	Good	
32	64.174	1x2x1.5	Completed	Good	
33	64.810	1x1.5x1.5	Completed	Good	
34	65.548	1x1.5x1.5	Completed	Good	
35	65.558	1x1.5x1.5	Completed	Good	
36	66.660	1x1.5x1.5	Completed	Good	
37	67.402	1x2x1.5	Completed	Good	
38	68.198	1x2x1.5	Completed	Good	
39	69.143	1x2x1.5	Completed	Good	
40	69.398	1x2x1.5	Completed	Good	
41	70.851	1x2x1.5	Completed	Good	
42	70.916	1x2x1.5	Completed	Good	
43	73.081	1x2x1.5	Completed	Good	

Four laning of Doda allapur B pass to Hosote section of NH 648 (Old NH 20) from Km.42 000 to Km.80 000 (Package II) in the state of Karnataka (Package II) through Public Private Partnership (PPP) on Hybrid Annuity Mode.

44	75.005	1x2x1.5	Completed	Good	
45	76.724	1x2x1.5	Completed	Good	
46	77.484	1x2x1.5	Completed	Good	
47	77.535	1x5x1.5	Completed	Good	
48	77.754	1x2x1.5	Completed	Good	
49	79.466	1x2x1.5	Completed	Good	

MNB

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	42.444	4 x 5.00	Completed	Good	
2	46.219	2 x 5.00	Completed	Good	
3	47.879	3 x 4.0	Completed	Good	
4	49.621	2 x 5.00	Completed	Good	
5	67.480	2 x 4.50	Completed	Good	
6	67.998	4 x 5.00	Completed	Good	
7	69.780	5 x 6.00	Completed	Good	
8	71.461	2 x 5.00	Completed	Good	
9	72.016	2 x 3.50	Completed	Good	
10	74.650	2 x 5.00	Completed	Good	
11	77.865	2 x 3.50	Completed	Good	
12	78.900	1 x 12.0 + 1 x 10	Completed	Good	MN / VUP

VUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	44.200	1 x 30.0	Completed	Good	
2	47.940	1 x 30.0	Completed	Good	
3	50.625	1 x 30.0	Completed	Good	
4	56.855	2 x 30.0	Completed	Good	
5	57.715	1 x 30.0	Completed	Good	
6	60.785	1 x 30.0	Completed	Good	
7	66.645	1 x 30.0	Completed	Good	
8	67.645	1 x 30.0	Completed	Good	
9	70.875	2 x 26.80	Completed	Good	
10	78.475	2 x 30.0	Completed	Good	

LVUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	52.545	1X12	Completed	Good	
2	58.345	1X12	Completed	Good	
3	62.900	1X12	Completed	Good	
4	68.715	1X12	Completed	Good	
5	73.100	1X12	Completed	Good	
6	74.630	1X12	Completed	Good	
7	77.465	1X12	Completed	Good	

Four laning of Doda allapur B pass to Hos ote section of NH 648 (Old NH 20) from Km.42 000 to Km.80 000 (Pac age II) in the tate of Karnata a (Pac age II) through Pu lic Private Partnership (PPP) on H rid Annuit Mode.

8	79.445	1X12	Completed	Good	
---	--------	------	-----------	------	--

PUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	47.660	1X4	Completed	Good	

VUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	56.600	1 x 7.0	Completed	Good	
2	57.460	1 x 7.0	Completed	Good	
3	69.957	1 x 7.0	Completed	Good	

VOP RADE EPARATER FOB

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	55.265	2 x 20 + 1 x 45	Completed	Good	GRAD S PARA R
2	59.298	2 x 13.730	Completed	Good	VOP
3	76.765	2 x 15 + 1 x 45	Completed	Good	GRAD S PARA R
4	62.400	2 x 23.10	Completed	Good	O

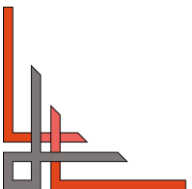
Viaduct


S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	53.470	15 x 30 + 1 x 20 + 2 x 35	Completed	Good	




Annexure-4

Operation & Maintenance cost Estimate



	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ANNEXURE: ABSTRACT COST
---	---	------------------------------------

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2023-2024	-	1.33	3.74	5.07	
2024-2025	-	2.07	4.74	6.81	
2025-2026	1.84	2.52	5.00	9.36	
2026-2027	1.39	2.81	5.28	9.48	
2027-2028	0.68	2.90	5.50	9.08	
2028-2029	0.75	2.98	5.73	9.47	
2029-2030	42.46	3.75	5.98	52.20	
2030-2031	22.53	3.39	6.61	32.53	
2031-2032	0.98	3.20	6.58	10.76	
2032-2033	0.81	3.32	6.69	10.82	
2033-2034	2.50	3.39	6.89	12.78	
2034-2035	1.75	3.46	7.09	12.29	
2035-2036	0.75	3.53	7.29	11.57	
2036-2037	49.66	3.65	7.51	60.81	
2037-2038	26.43	3.56	7.73	37.72	
2038-2039	0.62	1.18	1.33	3.13	
Total Expenditure in Cr. Rs	153.15	47.03	93.68	293.87	

	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ANNEXURE: MMR
---	---	----------------------

FY	6. MMR (Rs in Cr)			Total Expenditure till the end of Concession Period
	MMR Highway	MMR Structure	MMR Toll Plaza	
2023-2024	-	-	-	-
2023-2024	-	-	-	-
2024-2025	-	-	-	-
2025-2026	1.84	-	-	1.84
2026-2027	1.39	-	-	1.39
2027-2028	0.68	-	-	0.68
2028-2029	0.28	-	0.48	0.75
2029-2030	42.46	-	-	42.46
2030-2031	22.53	-	-	22.53
2031-2032	0.98	-	-	0.98
2032-2033	0.81	-	-	0.81
2033-2034	-	2.50	-	2.50
2034-2035	1.75	-	-	1.75
2035-2036	-	-	0.75	0.75
2036-2037	46.10	-	3.56	49.66
2037-2038	26.43	-	-	26.43
2038-2039	0.62	-	-	0.62
Total Expenditure in Cr. Rs	145.86	2.50	4.79	153.15



4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA PACKAGE-II)

MMR-Highway


S.No	FY	Description	CODE	Unit	% of Treatment	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalation (%)	Year	Amount in INR after Escalation
6	2026	Filling of Earthen Shoulder	MCW-SF	Cum	31%	76000	1.5		35,032.46	485.00	1,69,90,741	4.0%	2	1,83,50,000
	TOTAL AMOUNT										1,69,90,741			1,83,50,000
6	2027	Filling of Earthen Shoulder	MCW-SF	Cum	22%	76000	1.5		25,625.92	485.00	1,24,28,571	4.0%	3	1,39,20,000
	TOTAL AMOUNT										1,24,28,571			1,39,20,000
1	2028	Milling	MCW-Mill	Sqm	4%	76000	10.525		35,645.61	90.00	32,08,105	3.0%	4	35,93,078
4	2028	TC for BC	MCW-TC BC	Sqm	1%	76000			760.00	13.00	9,880	3.0%	4	11,066
5	2028	BC Overlay	MCW-BC	Cum	1%	76000	10.525	0.04	319.96	8,834.40	28,26,658	3.0%	4	31,65,857
	TOTAL AMOUNT										60,44,643			67,70,000
1	2029	Milling	MCW-Mill	Sqm	1%	76000	10.525		7,999.01	90.00	7,19,911	3.0%	5	8,27,897
4	2029	TC for BC	MCW-TC BC	Sqm	1%	76000			760.00	13.00	9,880	3.0%	5	11,362
5	2029	BC Overlay	MCW-BC	Cum	1%	76000	10.525	0.04	189.55	8,834.40	16,74,590	3.0%	5	19,25,778
	TOTAL AMOUNT										24,04,380			27,65,038
4	2030	TC for BC	MCW-TC BC	Sqm	100%	76000	10.525		7,99,900.87	13.00	1,03,98,711	3.0%	6	1,22,70,479
5	2030	BC Overlay	MCW-BC	Cum	100%	76000	10.525	0.05	39,557.38	8,834.40	34,94,65,695	3.0%	6	41,23,69,521
	TOTAL AMOUNT										35,98,64,407			42,46,40,000
1	2031	TC for BC	SR-TC	Sqm	100%	53604	7.5		4,02,030.00	13.00	52,26,390	3.0%	7	63,23,932
2	2031	BC Overlay	SR-BC	Cum	100%	53604	7.50	0.05	18,895.27	8,834.40	16,69,28,366	3.0%	7	20,19,83,323
3	2031	Road Marking - MCW	RM MCW	Sqm	100%	177333.333	0.15		26,600.00	400.00	1,06,40,000	3.0%	7	1,28,74,400
5	2031	Studs	STUD	Nos	100%	15546			15,546.00	220.00	34,20,120	3.0%	7	41,38,345
	TOTAL AMOUNT										18,62,14,876			22,53,20,000
4	2032	Road Marking - SR	RM SR	Sqm	100%	125076	0.16		19,758.06	400.00	79,03,226	3.0%	8	98,00,000
	TOTAL AMOUNT										79,03,226			98,00,000
2	2033	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	11%	24305		0.3	798.05	1,785.00	14,24,516	2.0%	9	16,80,929
3	2033	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	13%	24305		0.3	911.42	5,950.00	54,22,942	2.0%	9	63,99,071
	TOTAL AMOUNT										68,47,458			80,80,000



4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA PACKAGE-II)


MMR-Highway

S.No	FY	Description	CODE	Unit	% of Treatment	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalation (%)	Year	Amount in INR after Escalation
6	2035	Filling of Earthen Shoulder	MCW-SF	Cum	10%	76000	1.5		11,952.76	485.00	57,97,090	2.0%	11	70,72,450
1	2035	Replacement of Joint Sealent	TP-JS	Rm	100%	14722			14,722.10	85.00	12,51,379	2.0%	11	15,26,682
4	2035	Diamond Grinding	TP-GRIN	Sqm	100%	24305			24,304.50	100.00	24,30,450	2.0%	11	29,65,149
3	2035	Microsurfacing	SR-MS	Sqm	50%	53604			26,802.00	180.00	48,24,360	2.0%	11	58,85,719
	TOTAL AMOUNT										1,43,03,279			1,74,50,000
4	2037	TC for BC	MCW-TC BC	Sqm	100%	76000	10.525011		7,99,900.87	13.00	1,03,98,711	2.0%	13	1,31,02,376
5	2037	BC Overlay	MCW-BC	Cum	100%	76000	10.525011	0.05	40,234.50	8,834.40	35,54,47,650	2.0%	13	44,78,64,039
	TOTAL AMOUNT										36,58,46,361			46,09,66,415
1	2038	TC for BC	SR-TC	Sqm	100%	53604	7.5		4,02,030.00	13.00	52,26,390	2.0%	14	66,89,779
2	2038	BC Overlay	SR-BC	Cum	100%	53604	7.5	0.05	20,341.95	8,834.40	17,97,08,930	2.0%	14	23,00,27,430
3	2038	Road Marking - MCW	RM MCW	Sqm	100%	177333.333	0.15		26,600.00	400.00	1,06,40,000	2.0%	14	1,36,19,200
4	2038	Road Marking - SR	RM SR	Sqm	100%	125076	0.15		18,761.40	400.00	75,04,560	2.0%	14	96,05,837
5	2038	Studs	STUD	Nos	100%	15546			15,546.00	220.00	34,20,120	2.0%	14	43,77,754
	TOTAL AMOUNT										20,65,00,000			26,43,20,000
2	2039	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	10%	24305		0.3	740.41	1,785.00	13,21,625	2.0%	15	17,18,113
3	2039	Replacement of Panels @ 2% area	TP-CC PAN	Cum	8%	24305		0.3	583.31	5,950.00	34,70,683	2.0%	15	45,11,887
	TOTAL AMOUNT										47,92,308			62,30,000

	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ANNEXURE: ABSTRACT OF MMR STRUCTURE
--	---	--


2. Structure

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
2.01	2034	18-07-2033	1738889	20866667	10	2.0%	25040000	2.50	GST 0% considered

	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ABSTRACT OF MMR STRUCTURE
---	---	--


Structure - MMR Base

Sr. No.	Item	Unit	Quantity	% of Extant to be Treated	Rate (Rs)	Amount (Rs)
1	Strip Seal Joint sealent	Rmt	1418	50.00%	1350	9,56,880
3	Crash Barrier on Structures	Rmt	33760	1.00%	3562	12,02,547
4	Painting of Crash Barrier	Sqm	37812	20.00%	80	6,04,987
5	Wearing Coat over Deck Slab	Sqm	48999	98.51%	325	1,56,87,636
6	Repalcement old Damaged Drainage Spoutes	Nos	582	20.00%	3562	4,14,617
10	Repair of RE Wall	Ls				20,00,000
Total Structure MMR Cost						2,08,66,667


	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ANNEXURE: Abstract of MMR TOLL PLAZA
--	---	---

3. Toll Plaza

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
3.01	2029	19-07-2028	344563	4134750	5	3.0%	4754963	0.48	GST 0% considered
3.02	2036	18-07-2035	503360	6040323	12	2.0%	7490000	0.75	GST 0% considered
3.02	2037	17-07-2036	2355396	28264750	13	2.0%	35613585	3.56	GST 0% considered

	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF	ANNEXURE: Routine Maintenance
---	--	--


FY	1. RM Costs (Rs in Cr) with Inflation				Total Expenditure till the end of Concession Period
	Highway Routine Maintenance Cost	Structure Routine Maintenance Cost	Route Maintenance Manpower Cost	Route Maintenance Vehicle & Equipment Cost	
Base Cost 2023-2024	0.33	0.11	0.46	0.43	1.33
2024-2025	0.52	0.17	0.72	0.67	2.07
2025-2026	0.63	0.20	0.88	0.81	2.52
2026-2027	0.70	0.23	0.98	0.90	2.81
2027-2028	0.72	0.23	1.01	0.93	2.90
2028-2029	0.75	0.24	1.04	0.96	2.98
2029-2030	0.94	0.30	1.30	1.21	3.75
2030-2031	0.85	0.27	1.18	1.09	3.39
2031-2032	0.80	0.26	1.11	1.03	3.20
2032-2033	0.83	0.27	1.15	1.07	3.32
2033-2034	0.85	0.27	1.18	1.09	3.39
2034-2035	0.86	0.28	1.20	1.11	3.46
2035-2036	0.88	0.29	1.23	1.13	3.53
2036-2037	0.91	0.29	1.27	1.17	3.65
2037-2038	0.89	0.29	1.24	1.14	3.56
2038-2039	0.29	0.10	0.41	0.38	1.18
Total Expenditure in Cr. Rs	11.75	3.80	16.35	15.13	47.03

	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-Base Cost
---	---	--

Base Cost

Routine Maintenance Cost


Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1	HIGHWAY								
1.1	FLEXIBLE PAVEMENT, MEDIAN & SHOULDERS								
1.1.1.3	Filling discrete cracks with slow curing bitumen emulsion as per Technical Specification Clause 3004.3.3	Rm	1069	2%	4	356	4,275		
1.1.2	Treatment of Bleeding Surface								
1.1.2.1	Providing treatment to bleeding bituminous surface at scattered locations - Main carriageway	Sqm	6413	1%	2	989	11,863		
1.1.3	Treatment of Rutting Surface								
1.1.3.1	Providing localised repair to rutted portion and edge breaking of bituminous surface - Main carriageway	Cum	38	0%	8834	28,325	3,39,904		
1.1.4	Pothole Repair								
1.1.4.1	Providing treatment and repair to pot-holes and patch work - MCW	Sqm	962	0%	385	30,860	3,70,323		
1.1.4.2	Providing treatment and repair to pot-holes and patch work - Service/Slip Road	Sqm	563	0%	385	18,058	2,16,694		
1.1.7	Shoulder Maintenance	Sqm	2138	1%	85	15,141	1,81,688		
1.2	DRAINAGE & PROTECTION								
1.2.3	RCC drain Repair/Restoring	Rm	387	1%	500	16,122	1,93,460		
1.2.4	Earthen drain Repair/Restoring	Rm	326	1%	100	2,713	32,558		
1.2.5	Repair/Restoring of Drain Slabs	Rm	387	1%	600	19,346	2,32,152		
1.2.6	Repair/Restoration of Turfing on embankment slopes and at all other Project Facilities	Sqm	713	1%	46	2,708	32,490		
1.2.7	Rain Cuts Maintenance: Restoration of rain cuts soil, moorum, gravel or a combination of these	Sqm	2672	1%	46	10,242	1,22,907		
1.2.8	Providing and laying Stone pitching on slopes of road embankment	Cum	428	1%	1221	43,498	5,21,979		
1.2.10	Repair of Chutes in High Embankment	Rm	1425	1%	100	11,875	1,42,500		
1.3	PROJECT FACILITIES								
1.3.1	Gantry Sign Boards								
1.3.1.1	Overhead/ Gantry Sign boards	Nos	0	5%	10000	83	1,000		
1.3.1.2	Cantilever Gantry Sign boards	Nos	0	5%	10000	167	2,000		
1.3.2	Other Sign Boards	Nos	19	2.5%	4739	7,602	91,226		

	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-Base Cost
---	---	--

Base Cost

Routine Maintenance Cost


Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1.3.2.16	Painting to Sign Board pole	Nos	85	10%	75	529	6,353		
1.3.3	Cats Eyes/Raised pavement marker (NMC Nails Less)	Nos	233	1.5%	220	4,275	51,302		
1.3.4	Distance Measurement Stones								
1.3.4.1	Painting								
1.3.4.1.1	Hectometer stones	Nos	75	25%	30	187	2,249		
1.3.4.1.2	5 Kilometer Stone	Nos	4	25%	350	117	1,400		
1.3.4.1.3	Kilometer stone	Nos	15	25%	183	228	2,739		
1.3.4.1.4	Boundary stone	Nos	38	5%	143	447	5,361		
1.3.4.1.5	Boundary Wall	Sqm	0	5%	121	-	-		
1.3.4.2	Fixing/Replacing/Restoring								
1.3.4.2.1	Hectometer stones	Nos	45	15%	599	2,246	26,955		
1.3.4.2.2	5 Kilometer Stone	Nos	1	5%	3471	231	2,777		
1.3.4.2.3	Kilometer stone	Nos	6	10%	2033	1,017	12,198		
1.3.4.2.4	Boundary stone	Nos	8	1%	625	392	4,700		
1.3.4.2.5	Boundary Wall	Cum	20	1%	4369	7,200	86,398		
1.3.6	Pavement Markings								
1.3.6.1	Lane / Centre Line / Edge Line	Sqm	429	1%	400	14,312	1,71,739		
1.3.7	Barriers								
1.3.7.1	Repair/Replace MBCB/W-beam Crash barrier	Rm	41	0%	2422	8,273	99,278		
1.3.8	Plantation								
1.3.8.1	Maintenance of Median Plantation	Km	0	1%	288463	8,564	1,02,765		
1.3.8.2	Avenue Plantation	Nos	19	1%	1184	1,909	22,910		
1.3.9	Miscellaneous								
1.3.9.2	Providing/Repair of Rumble Strips	Rm	11	3%	378	336	4,035		
1.3.9.4	Solar Blinker	Nos	1	10%	4500	300	3,600		
1.3.9.5	Delinaters	Nos	74	15%	1029	6,303	75,632		
1.3.10	Bus Shelter								
1.3.10.1	Bus Shelter Damaged	Nos	0.28	1%	100000	2,333	28,000		
1.3.10.2	Bus Shelter Roof Damaged	Sqm	140	20%	250	2,917	35,000		
1.3.10.3	Bus Shelter Painting	Nos	2	8%	10000	1,750	21,000		

	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-Base Cost
---	---	--

Base Cost

Routine Maintenance Cost


Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1.4	RIGID PAVEMENT								
1.4.10	Removal of Sealent & Replacement with Appoxy Sealent	Lm	147	1%	85	1,043	12,514		
1.4.11	Replacement of Panels	Nos	1	0.05%	26240	1,688	20,257		
1.4.12	Texturing/Raveling of panel	Sqm	243	1%	100	2,025	24,305	33,20,484	0 Service Charge Considered

	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE-Base Cost
---	---	--

Base Cost

Routine Maintenance Cost


Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2	STRUCTURES								
2.01	Providing and laying of wearing course with 25 mm thick mastic asphalt laid over 40 mm thick bituminous concrete including correction of existing profile with bituminous concrete as per drawings and Technical Specifications clause 2700 (item rate includes cost of BC and profile correction course)	Sqm	48999	0%	750	3,062	36,749		
2.02	Structure Repair Works	LS							
2.03	Expansion Joint Repair	Rm	1418	1.00%	12000	14,176	1,70,112		
2.04	Providing Reinforced cement concrete crash barrier at the edges of the bridge structures constructed with M-40 grade concrete with HYSD-Fe 500 TMT reinforcement concrete per Rmt conforming to IRC:21 and fixing with dowel bars 16 mm dia to old concrete using epoxy grout as per drawing and Technical Specifications and as directed by the Engineer.	Rmt	33760	0.10%	6500	18,287	2,19,443		
2.05	Painting of Concrete Crash Barrier	Sqm	38628	5%	121	19,475	2,33,702		
2.06	Providing and fixing 50mm NB MS pipe rail on crash barrier with MS base plate and vertical stiffener fixed with anchor bolts complete including providing three or more coats of epoxy paint of approved colour, make and quality over a coat of epoxy primer complete as per drawings and Technical Specifications Sections 1900 & 2703.	Rmt	33760	0.10%	150	422	5,064		
2.07	Removal of earth, debris and vegetation from waterway of culverts and bridges by manual means through unskilled labor, and disposal of removed material within all lead as directed by Engineer. (Before and after Monsoon)	LS	50	50%	5000	10,417	1,25,000		
2.08	Providing Boulder apron on U/S and D/S sides, 1000 mm thick, including relaying / removing existing damaged boulders as per Technical Specification Sections 2500 and direction of Engineers.	Cum	722	5%	1500	4,513	54,160		
2.09	Providing and laying Stone pitching on slopes upto 0.5m height over H.F.L and for bed where specified, using hard variety stone of 200 mm nominal size, the joints being filled with spalls and pointed with 1:4 cement mortar as per technical specification	Cum	1225	1.5%	1221	1,870	22,436		
2.10	Providing and laying Plain/Reinforced Cement Concrete in Rigid Apron excluding reinforcement complete as per Drawing and Technical Specifications.Ref. to Technical specification 1500,1700 & 2100 .	Cum	3247	1%	4369	11,823	1,41,876		
2.12	Providing gratings to the existing drainage spouts as per technical specification Clause 2705 & Additional Technical Specification	Nos	582	10%	500	2,425	29,100		
2.13	Repair/Replacement of Drainage Spoutes	Nos	582	5%	1254	3,041	36,491	10,74,133	0 Service Charge Considered

	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE
--	---	--

Base Cost


3. Route Maintenance Manpower Cost

Sr. No.	Position	Unit	Nos	Shift	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
3.03	Maintenance Engineer	Nos	1	1	1	25000	25000	300000		
3.04	Maintenance Supervisor	Nos	1	1	1	25000	25000	300000		
3.06	System Engineer (TMS)	Nos	1	1	1	35000	35000	420000		
3.07	System Engineer (HTMS)	Nos	1	1	1	30000	30000	360000		
3.08	Labour for RRM (Male)	Nos	4	1	4	22495	89980	1079766		
3.09	Labour for RRM (Female)	Nos	4	1	4	22495	89980	1079766		
3.10	Labour for Misc. works	Nos	2	1	2	22495	44990	539883		
3.11	Grass cutting operator	Nos	2	1	2	22495	44990	539883		
3.13	Others	Nos	0	1	0	23653	0	0	46,19,298	Service Charge @ 0%
					16		384941			

	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE
--	---	--

4. Route Maintenance Vehicle & Equipment Cost

Sr. No.	Description	Unit	Nos	Shift	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
4.02	Water tanker 20 KL	Nos	1	1	1	98999	98999	890993		
4.03	Pickup /Campher	Nos	1	1	1	54115	54115	649380		
4.06	Water tanker 5 KL	Nos	1	1	1	50250	50250	452247		
4.07	Grass Cutter	Nos	2	1	2	8900	17800	213597		
4.08	Man Basket for Elec.	Days/Month	1	1	1	80000	80000	960000		
4.09	JCB	Days/Month	1	1	1	80000	80000	960000		
4.11	Bikes for Supervisor	Nos	1	1	1	4787	4787	57444		
4.12	PPE/Uniform for staff	Nos	5	1	5	525	2625	31500		Considering Rs. 350/- per pair & 2 pairs per each (75% of the Staff)
4.14	Tools & tackles	Nos	1	1	1	5000	5000	60000		
4.18	Others	Nos	0	1	0		0	0	42,75,161	Service Charge @ 0%
							393576		19713	Rs. Per Month per Km

	4-LANE FROM KM 42.000 TO KM 80.00 OF DODABALLAPUR BYPASS TO HOSKOTE SECTION OF NH-648 (OLD NH-207) ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PACKAGE-II)	ANNEXURE: Operations
---	---	---------------------------------

Year	Operation Cost in Cr. Rs				Total Expenditure till the end of Concession Period
	SPV Cost	Manpower	Operating Expenses (IMV)	Electricity	
2023-2024	0.69	1.42	0.45	1.18	3.74
2024-2025	0.86	1.84	0.56	1.47	4.74
2025-2026	0.89	1.99	0.59	1.53	5.00
2026-2027	0.93	2.15	0.61	1.59	5.28
2027-2028	0.95	2.28	0.63	1.64	5.50
2028-2029	0.98	2.42	0.65	1.69	5.73
2029-2030	1.01	2.56	0.67	1.74	5.98
2030-2031	1.04	2.72	1.06	1.79	6.61
2031-2032	1.07	2.88	0.79	1.84	6.58
2032-2033	1.09	3.00	0.72	1.88	6.69
2033-2034	1.12	3.11	0.74	1.92	6.89
2034-2035	1.14	3.24	0.75	1.96	7.09
2035-2036	1.16	3.37	0.77	2.00	7.29
2036-2037	1.18	3.50	0.78	2.04	7.51
2037-2038	1.21	3.64	0.80	2.08	7.73
2038-2039	0.21	0.63	0.14	0.35	1.33

ANANTHAM HIGHWAYS TRUST

Four Laning of Dhrol – Bhadra Patiya Section of NH-151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of NH-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

(FINAL REPORT)



FEBRUARY, 2025



**RUKY Projects Private Limited
Hyderabad**

contact@rukypjrojects.com | www.rukypjrojects.com | 040 4855 7777



BLANK PAGE



Four Laning of Dhrol – Bhadra Patiya Section of NH-151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

REVISION RECORD

This document has been issued and amended as follows:

Document No.	Issue	Date	Description
RU-337/AHT/ TDD/DBHPL	R0	15-02-2025	Final Report



DISCLAIMER AND CONSENT FOR USE

This report has been prepared for the benefit of Anantam Highways Trust for and in connection with initial offer of units representing an undivided beneficial interest in the Trust. In Preparing this report, RUKY Projects Pvt Ltd has relied, in whole or in part, on data and information provided by Anantam Highways Trust and M/s Dhrol Bhadra Highways Private Limited which RUKY Project Pvt Ltd has assumed to be accurate, complete, reliable and correct.

This report may be reproduced and included in the preliminary placement memorandum, placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust and may be made available for inspection in the manner specified therein. In connection with the report, the following details in relation to the Technical Consultant may be included in preliminary placement memorandum and the placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust

Technical Consultant:

RUKY PROJECTS PRIVATE LIMITED
Flat No. 1403A, 14th Floor,
Manjeera Trinity Corporate,
JNTU-Hitech City Road, Kukatpally,
Hyderabad – 500072
www.rukyprojects.com
contact@rukypjrojects.com
+91 40 4855 7777

Table of Contents

CHAPTER 1EXECUTIVE SUMMARY	11
1.1 Project Description	11
1.2 Present status of the Project	11
1.3 Condition of Project Corridor	11
1.3.1. Pavement Condition	11
1.3.2. Condition of Structures	12
1.3.3. Condition of Project Facilities	12
1.4 Critical issues	12
1.5 O&M Cost Estimate	12
CHAPTER 2INTRODUCTION	14
2.1 Project Background	14
2.2 Project Geography and Climate.....	15
2.3 Project Overview	15
CHAPTER 3SCOPE OF CONSULTANCY SERVICES	17
3.1 Scope of consultancy services.	17
CHAPTER 4SALIENT FEATURES OF THE PROJECT	18
4.1 Salient Features of the Project	18
4.2 Typical Cross section (TCS) Schedule.....	18
4.3 Service Roads/Slip Roads.....	19
4.4 Summary of the Carriageway and Pavement Details	19
4.5 Summary of Structures.....	19
4.6 Project Facilities.....	19
CHAPTER 5REVIEW OF Agreements.....	21
5.1 Review of Concession Agreement.....	21
5.1.1. Concession (Article 3)	21
5.1.2. Pre-PCOD scenario in the project	21
5.1.3. Provisional Completion Certificate (Article 14)	21
5.1.4. O&M Obligations of the Concessionaire (Clause 17.1).....	21
5.1.5. Maintenance Requirements (Clause 17.2)	22
5.1.6. Maintenance Manual (Clause 17.3).....	22
5.1.7. Maintenance Programme (Clause 17.4)	22
5.1.8. Damages for Breach of Maintenance Obligations (Clause 17.8)	22
5.1.9. Tests During O&M Period (Clause 19.3)	23

5.1.10. Appointment of Independent Engineer (Article 21).....	23
5.2 Review of Correspondence.....	23
5.3 Non-performance of the O&M Operations:.....	24
CHAPTER 6 REVIEW OF REPORTS AND DOCUMENTS.....	25
6.1 Insurance	25
6.2 Monthly status reports (Clause 19.1)	25
6.3 IE O&M Inspection reports (Clause 19.2)	25
6.4 Review of Pavement design report	26
6.4.1. Rigid Pavement for Main carriageway & Toll Plaza Section	26
6.4.2. Flexible pavement for Service Road.....	26
6.4.3. Site Investigations	27
CHAPTER 7 SITE APPRAISAL	29
7.1 General	29
7.2 Road Inventory.....	29
7.2.1. Type of terrain	29
7.2.2. Villages/Towns along the Project	29
7.2.3. Main Carriageway Status and Condition	29
7.3 Status of Punch List B	30
7.4 Cross Road details	32
7.4.1. Road Side Drainage	33
7.4.2. Kerb.....	33
7.5 Structures	33
7.5.1. Culverts	35
7.5.2. RE walls	37
7.6 Toll Plaza	38
7.7 Road Furniture	44
7.7.1. Traffic signs.....	44
7.7.2. Overhead signs	46
7.7.3. Pavement Marking	46
7.7.4. LED Blinker	47
7.7.5. Metallic Crash Barrier.....	48
7.7.6. Road Studs	49
7.7.7. Delineators	50
7.7.8. Hectometre (HM) / Kilometres (KM) Stones	52
7.8 Bus bays and Bus Shelters	52

7.9 Landscaping & Tree Plantation.....	53
7.10 Advance Traffic Management System (ATMS)	54
CHAPTER 8 REVIEW OF o&m AGREEMENT.....	55
CHAPTER 9 SCHEDULE OF ANNUITY PAYMENTS	57
9.1 Hybrid Annuity Model (HAM).....	57
9.2 Schedule of Annuity Payments.....	57
CHAPTER 10 COST ESTIMATES.....	59
10.1 Maintenance of Project Cost	59
10.2 O&M Expense forecasts	60
CHAPTER 11 Conclusion.....	62

List of Tables

Table 1-1: Key Dates	11
Table 1-2: Key Features.....	11
Table 1-3: Summary of Cost Estimate.....	12
Table 2-1: Project Data	15
Table 4-1: Salient Features of the Project.....	18
Table 4-2: TCS Summary as per CA	18
Table 4-3: Service Road locations as per Schedule B of CA	19
Table 4-4: Summary of the Carriageway and Pavement Details	19
Table 6-1: Insurance Details.....	25
Table 6-2: Correspondence related to pavement design submission and approvals.....	26
Table 6-3: Pavement Composition for Main Carriageway & Toll Plaza	26
Table 6-4: Designed pavement crust summary as per pavement design report.....	27
Table 6-5: Pavement Design Thickness Vs Executed Crust Thickness	27
Table 7-1: List of Junctions / Cross Roads.....	32
Table 7-2: Summary of Structures	33
Table 7-3: Detailed Inventory and Condition of Structures as on date	34
Table 7-4: Inventory of Culverts.....	35
Table 7-5: Inventory Summary of RE walls	37
Table 7-6: Toll Plaza – Inventory & Condition.....	39
Table 7-7 :List of System-Inventory & condition	41
Table 7-8 :List of Advanced Traffic Management System-Inventory & Condition	42
Table 7-9 :List of Advanced Traffic Management System-Inventory & Condition	43
Table 7-10:List of Sign Board	44
Table 7-11: Status of Overhead Sign Boards.....	46
Table 7-12:Status of Solar Blinkers	48
Table 7-13: Status of Bus Shelters	52
Table 7-14: Status of Avenue and Median Plantation	54
Table 9-1: Schedule of Payment Milestones.....	57
Table 9-2:Schedule of Annuity Payments	57
Table 10-1: Summary of Cost Estimate.....	60

List of Figures

Figure 2.1: Project Location Map.....	15
Figure 6.1: Bar Chart showing Design thickness vs Executed thickness	27
Figure 7.1: Status of Main Carriageway Road WorkMCW	31
Figure 7.2: Photographs showing Status of Service Road works	31
Figure 7.3: Photographs showing Status of Major/Minor Junctions roads	33
Figure.7.4: Photographs showing the status of RE Wall.....	38
Figure 7.5: Photographs showing the Status of Metallic Beam Crash Barrier	48

List of Annexures

Annexure-1: Inventory and condition of Pavement.....	63
Annexure-2. Inventory and Condition of Project Facilities.....	92
Annexure-3: Inventory and Condition of Structures.....	108
Annexure-4: Operation & Maintenance cost Estimate	113

ABBREVIATIONS

Abbreviation	Meaning	Abbreviation	Meaning
3A/3D/3G	Stages of Land Acquisition	EPC	Engineering Procurement Construction
AADT	Annual Average Daily Traffic	ESAL	Equivalent Standard Axle Load
AASHTO	American Association of State Highway and Transportation Officials	ESMF	Environment and Social Management Framework
ADT	Average Daily Traffic	Exc	Excavation
ATMS	Advance Traffic Management System	FOB	Foot Over Bridge
BBD	Benkelman Beam Deflection	FWD	Falling weight Deflectometer
BC	Bituminous Concrete	GDP	Gross Domestic Product
BI	Bump Integrator- Roughness (mm/Km.)	GFC	Good For Construction
BM	Bituminous Macadam	GNP	Gross National Product
BOQ	Bill of Quantities	GOI	Government of India
BOT	Built Operate and Transfer	GSB	Granular Sub Base
BPC	Bid Project cost	HAM	Hybrid Annuity Mode
C&G	Clearing and Grubbing	HFL	High Flood Level
C/s	Cross-section	HPC	Hume Pipe culvert
CA	Concession Agreement	HS	Hard Shoulder
CapEx	Capital Expenditure	Ht	Height
CBR	California Bearing Ratio	HTMS	Highway Traffic Management System
Ch	Chainage	IE	Independent Engineer
cm	Centimetre	IRC	Indian Roads Congress
COD	Commercial Operation date	IRI	International Roughness Index
Concessionaire /DBHPL	M/s Dhrol Bhadra Highways Private Limited	IS	Indian Standard
Cos	Change of Scope	Kg	Kilogram
Cr.	Crores	Km.	Kilometre
cum	Cubic Meter	LHS	Left Hand Side
CV	Commercial Vehicles	Ltr	Litre
CVPD	Commercial Vehicles per Day	m (or) Mts	Metre/Meter
DBM	Dense Bituminous Macadam	M/s	Messers
DFBOT	Design, Finance, Build, Operate and Transfer	MCW	Main Carriageway
DFO	District Forest Officer	MDD	Maximum Dry Density
Dia (or) *	Diameter	MDR	Major District Road
DLC	Dry Lean Concrete	Misc	Miscellaneous
DLP	Defect liability Period	MJB	Major Bridge
DPR	Detailed Project Report	mm	Millimetre
DTM	Digital Terrain Model	MM	Major Maintenance
EIA	Environment Impact Assessment	MNB	Minor Bridge
EIRR	Economic Internal Rate of Return	MORTH	Ministry of Road Transport & Highways
Emb	Embankment	MOU	Memoranda Of Understanding
EOT	Extension Of Time	MSA	Million Standard Axles

Abbreviation	Meaning
MT (or) T	Metric Tonne
NCR	Non-Conformance Report
NDT	Non-Destructive Test
NH	National Highway
NHAI	National Highway Authority of India
NHDP	National Highways Development Project
No. (or) Nos.	Numbers
NPV	Net Present value
NSDP	Net State Domestic Product
O&M	Operation and Maintenance
O-D	Origin and Destination
OpEx	Operative Expenditure
PCU	Passenger Car Unit
PIA	Project Influence Area
PIU	Project Implementation Unit
PM	Periodic Maintenance
PQC	Pavement Quality Concrete
PSC	Pre-stressed Concrete
RCC	Reinforced Cement Concrete
RE	Reinforced Earth

Abbreviation	Meaning
RHS	Right Hand Side
RoB	Road over Bridge
ROW	Right Of Way
RUB	Road Under bridge
RUKY	RUKY Projects Private Limited
SDBC	Semi Dense Bituminous Concrete
SF	Seasonal Factor
SH	State Highway
SPV	Special Purpose Vehicle
Sqm	Square Meter
SR	Service Road
TCS	Typical Cross Section
TDD	Technical Due Diligence
TOR	Terms of Reference
VDF	Vehicle Damage Factor
VOC	Vehicle Operating Costs
VOP	Vehicular Overpass
VUP	Vehicular Underpass
WMM	Wet Mix Macadam

CHAPTER 1 EXECUTIVE SUMMARY

1.1 Project Description

Project pertains Four laning of Dhrol- Bhadra section of NH-151A from km. 6+000 to km 62+716 km (length: 50.416 km) in the State of Gujarat under Public Private Partnership (PPP) on Hybrid Annuity Mode. Key Dates and Key features are given in tables below.

Table 1-1: Key Dates

Sl.No.	Description	Description
1	Appointed Date	28-10-2021
2	Scheduled Construction End Date	27-10-2023
3	Concession Period	15 years commencing from COD
4	Schedule Concession End Date	27-10-2038
5	Commercial Operation Date	25-09-2023 for 45.823 Km
6	Date of Completion Certificate	Applied for CC

Table 1-2: Key Features

S No	Particulars	As per CA	At Site
1	Total Length of Four Lane (Rigid)	50.416 Km.	50.416 Km.
2	Length of Service/Slip Roads	10.84 Km.	10.84 Km.
4	Major Junctions	Nil.	Nil
5	Minor Junctions	6 Nos.	6 Nos.
6	Major Bridges	4 Nos.	5 Nos.
7	Minor Bridges	28 Nos.	29 Nos. (Incl.CoS)
8	Box/Slab/Pipe Culverts	79 Nos.	80 Nos.
9	LVUP	8 Nos.	8 Nos.
10	VUP	2 Nos.	2 Nos.
11	PUP	NIL	2 Nos.(Incl.CoS)
12	Bus Bays with Bus Shelter	24 Nos.	15 Nos.
13	Toll Plaza	1 Nos.	1 Nos.
14	Rest Areas	Nil	Nil
15	Truck Lay-Byes	Nil	Nil

1.2 Present status of the Project

P- COD is issued by the Independent Engineer and project is in O&M phase.

1.3 Condition of Project Corridor

1.3.1. Pavement Condition

Overall assessment of Pavement Condition of the project road is in Good Condition. Details are provided at **Chapter 7**.

1.3.2. Condition of Structures

Overall condition of the structures is Good.

1.3.3. Condition of Project Facilities

Project has one toll plaza, same is operational and in good condition. All signboards along the project road are in good reflective condition. Bus Bays are in good condition

1.4 Critical issues

- (i) P-COD was given for 45.823 km. out of 50.416 km on 25/09/2023, the remaining length are listed in Punch List B at the time of issuing the COD by the Independent Engineer. However, Punch list items are now completed, and Concessionaire have requested for Final COD.

1.5 O&M Cost Estimate

The summary of year wise O&M and any immediate cost estimate are given below.

Table 1-3: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2023-2024	-	1.08	2.92	4.00
2024-2025	-	2.24	4.61	6.84
2025-2026	2.41	2.67	4.84	9.92
2026-2027	2.90	3.11	5.10	11.10
2027-2028	0.87	3.13	5.30	9.30
2028-2029	0.89	3.27	5.50	9.66
2029-2030	13.27	3.36	5.72	22.35
2030-2031	13.97	3.27	6.16	23.41
2031-2032	1.23	3.45	6.30	10.97
2032-2033	0.99	3.64	6.35	10.99
2033-2034	3.56	3.67	6.52	13.76
2034-2035	3.56	3.82	6.70	14.09
2035-2036	0.99	3.86	6.88	11.73

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2036-2037	15.54	3.89	7.07	26.49
2037-2038	16.28	3.91	7.26	27.45
2038-2039	0.96	1.95	2.49	5.40
Total Expenditure in Cr. Rs	77.41	50.32	89.72	217.45

CHAPTER 2 INTRODUCTION

2.1 Project Background

The Ministry of Shipping, Road Transport & Highways, Government of India, through the National Highways Authority of India, has been contemplating enhancing the traffic capacity and safety of goods and passenger traffic on selected, heavily trafficked corridors in India. They have identified one such stretch of road in Gujarat State, i.e., the four-laning of the Dhrol-Bhadra Patiya section of NH-151A (between Existing Km. 5+700 to Km. 13+600 of SH-25) and the Bhadra Patiya–Papaliya section of NH-151A (between Existing Km. 73+000 to Km. 44+800 and Existing Km. 38+350 to Km. 24+000 of CSH-6) in Gujarat through Public-Private Partnership (PPP) on the Hybrid Annuity Mode

The project section of NH-151A, spanning a total length of 50.416 Km., connects various cities and towns in the Jamnagar district of the State of Gujarat. The project corridor commences from Dhrol and terminates at Pipaliya.

After evaluation of the bids received from prospective bidders, Authority had selected M/s Dilip Buildcon Limited and issued LOA vide letter: NHAI/Guj/Dhrol-Patiya/Pkg-II/Proc/2020/151, dated 14-12-2020. Further the selected bidder formed an SPV in the name and style as M/s Dhrol Bhadra Highways Private Limited as per Companies Act, 2013 and Concession Agreement (CA) was executed between the Authority and the Concessionaire on 29-07-2021.

Subsequently, the Concessionaire appointed Dilip Buildcon Limited as EPC contractor for construction of afore said work. NH151A connects Dwarka, Khambaliya, Jamnagar, Dhrol, Amran and Maliya in the state of Gujarat. Project Location map is given at Figure 2.1.

Anantam Highways Trust appointed RUKY Projects Pvt. Ltd. as consultant for detailed Technical Due Diligence services of the above Road Project to know-how the present condition of Carriageway and Structures, estimate costs of Operations and Maintenance during balance Concession Period, additional road safety requirements if any and to review the annuity payments received and future schedule of annuity payments. etc. The Scope of Consultancy services is narrated under Chapter-3 of this report.

The data and observations provided in this report are based on the status of the project observed by the Consultant .



Figure 2.1: Project Location Map

This report is prepared based on documents made available, information shared by the Concessionaire, Client and observations made by the Consultants during the site

2.2 Project Geography and Climate

Climate: The Climate Condition of the district is generally hoe and dry and temperature ranges between 29.0°C to 34.1°C during April to June and in Winters, temperature remains in the comfortable range between 21.4°C to 27.8°C during November to March.

Terrain: The alignment traverses through the rich Horticultural Fields for all of the Project Length.

Villages and Towns: The Villages/Towns along the Project starts at Dhrol, Lakhtar, Bhadra, Keshiya, Tarana, Dudhai, Amran, Hajnali, Virpanda and ends at Pipaliya.

2.3 Project Overview

Key features and timelines of the project are presented in the table below

Table 2-1: Project Data

S. No.	Particulars	Details
1	Name of the Project	Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.
2	Road Type	National Highway
3	Name of the Authority	National Highways Authority of India (NHAI)
4	Name of the Bidder	Dilip Buildcon Limited
5	Name of the Concessionaire	M/s Dhrol Bhadra Highways Private Limited
6	EPC Contractor	M/s. Dilip Buildcon Limited
7	Independent Engineer	M/s LEA Associates South Asia Pvt Ltd

S. No.	Particulars	Details
8	Project Length as per Schedule B of CA	50.416 Km.
9	Project Lane Configuration	Four Lane
10	Manual Specifications and Standards	Manual of Specifications and Standards for 4-Laning of NH through PPP of IRC: SP:84:-2019 .
11	Total Project Cost	Rs. 882.00 Cr.
12	Nature of Contract	Hybrid Annuity Mode
13	Toll Collected by	Authority
14	Letter of Award	14-12-2020
15	Date of CA	29-07-2021
16	Appointed Date	28-10--2021
17	Construction Period	730 days from Appointed Date
18	Scheduled Construction End Date	27-10-2023
19	Commercial Operation Date	25-09-2023
20	Concession Period	15 years commencing from COD
21	Schedule Concession End Date	25-09-2038
22	Date of Completion Certificate	Applied for CC

CHAPTER 3 SCOPE OF CONSULTANCY SERVICES**3.1 Scope of consultancy services.**

The consultant shall carry out the Technical Due Diligence services for the afore mentioned asset and the scope of work for the same is as follows

- Review of various contractual documents
- Carryout detailed assessment of pavement condition and propose maintenance plan along with BOQ.
- Carrying out inventory & condition survey of all elements of road like embankment slope, plantation, road furniture of the project.
- Carrying out inventory & condition survey of all structures (Major Bridges, Minor Bridges, ROB, RE Wall, Flyovers, VUPs, PUPs, Culverts etc.), suggest any rehabilitation & maintenance requirements along with BOQ.
- Carryout road safety audit on Project highway and provide suggestions for improvement.
- Assess and Provide BOQ and cost estimate for routine & periodic maintenance including O&M.
- Review of validity of insurance and statutory compliances related to Project.
- Review of correspondence exchanged between parties on contract related issues and claims etc. Submission of detailed report on technical due diligence of the project

CHAPTER 4 SALIENT FEATURES OF THE PROJECT

4.1 Salient Features of the Project

The salient features of the Project as per Schedule B and C of Concession Agreement (CA) are listed in the following Table.

Table 4-1: Salient Features of the Project

S No	Particulars	As per CA	At Site
1	Total Length of Four Lane (Rigid)	50.416 Km.	50.416 Km.
2	Length of Service/Slip Roads	10.84 Km.	10.84 Km.
4	Major Junctions	Nil.	Nil
5	Minor Junctions	6 Nos.	8 Nos.
6	Major Bridges	5 Nos.	5 Nos.
7	Minor Bridges	28 Nos.	29 Nos. (Incl.CoS)
8	Box/Slab/Pipe Culverts	79 Nos.	79 Nos.
9	LVUP	8 Nos.	8 Nos.
10	VUP	2 Nos.	2 Nos.
11	PUP	NIL	2 Nos.(Incl.CoS)
12	Bus Bays with Bus Shelter	24 Nos.	15 Nos.
13	Toll Plaza	1 Nos.	1 Nos.
14	Rest Areas	Nil	Nil
15	Truck Lay-Byes	Nil	Nil

4.2 Typical Cross section (TCS) Schedule

As per provisions of Schedule B of CA, there are 7 types of Typical Cross Sections (TCS) for the development of the Project Highway. Based on the site conditions 7 Nos of TCS are developed in GFC drawings. and TCS summary as per CA is given below

Table 4-2: TCS Summary as per CA

TCS Type	Length (Km.)	TCS Length in %
A	6.150	12.20
B	30.726	60.94
B1	0.000	0
C	2.700	5.36
F	0.900	1.79
G	9.940	19.72
GN 1	0.000	0
Total	50.416	100

4.3 Service Roads/Slip Roads

Following are the stretches where Service roads are provided on both sides of MCW along the project Road as per Schedule B of CA.

Table 4-3: Service Road locations as per Schedule B of CA

S. No.	Proposed Chainage (Km)		Proposed Chainage (Km.)		width (m)	Length	Side
	From	To	From	To			
1	9+400	10+440	9+400	10+440	7.00	1.040	Both
2	13+300	14+400	13+300	14+400	7.00	1.100	Both
3	18+700	19+700	18+700	19+700	7.00	1.000	Both
4	23+000	23+900	23+050	23+950	7.00	0.900	Both
5	27+300	28+300	27+380	28+080	7.00	1.000	Both
6	29+900	30+900	29+950	31+250	7.00	1.000	Both
7	37+100	39+000	37+300	39+200	7.00	1.900	Both
8	51+900	52+900	51+900	52+900	7.00	1.000	Both
9	54+500	55+500	54+580	55+580	7.00	1.000	Both
10	58+800	59+700	58+620	59+520	7.00	0.900	Both
	Total Length					10.840	

4.4 Summary of the Carriageway and Pavement Details

Table 4-4: Summary of the Carriageway and Pavement Details

S No.	Description	Carriageway Width (m)	Length (Km)	Pavement Type
1	Main Carriageway	2 x 9.00	50.416	Rigid
2	Service Road	7.00	10.840	Flexible

4.5 Summary of Structures

Summary of Structures as per provisions of schedule B of the CA is given in **Table 4.1**.

4.6 Project Facilities

As per Schedule C of CA, the following facilities shall be provided in the project highway

- One Toll Plaza at Km. 32+425 (Design Chainage).
- Road side furniture shall be provided as per Relevant Clauses of Manual of Specifications and in Consultation with the Independent Engineer.
- Traffic signs and Pavement marking shall include road side signs, Overhead signs, curve mounted signs and road marking along the project highway. The locations for these provisions shall be finalized in consultation with Independent Engineer and with standards and specifications as provided by the Client

- i. Traffic Safety Devices shall be provided wherever
- ii. Boundary Stones for entire Project road
- iii. Hectometer / Kilometer Stones for entire Project road
- iv. Traffic Blinker Signal (LED) for Project road
- Pedestrian facilities, which include 150 m length of guard rail at each bus Shelter, Pedestrian walk way, lightings, Ramps and Pedestrian crossing facilities at Service roads.
- Landscaping and tree plantations include
 - (i) Median plantation where width is 4.5m and more
 - (ii) Landscaping at Service area, Inter changes and Toll Plaza
 - (iii) Avenue plantation
- No Rest areas as per CA
- No Truck Lay Bys as per CA
- Bus Shelters and Bus Bays at 2 x 12 locations on Both Sides
- Highway Patrol, Ambulances and Cranes Confirming to Specifications mentioned in Schedule-D of CA
- Advanced Traffic Management Systems (ATMS) confirming to Schedule-D of CA

The Concessionaire is required to design, install, Operate and Maintain Highway Traffic Management system (HTMS) / Advanced Traffic Management System (ATMS) as part of the Project facilities. Advanced Traffic Management System shall be Provided as Specified the manual.

Briefly, the ATMS components to be deployed shall inter alia include;

- (a) Video Surveillance System (CCTV PTZ Drome/Fixed Camera)
- (b) Video Incident Detection System
- (c) Vehicle Actuated Radar Speed Displays
- (d) Emergency Roadside Telephones
- (e) Fixed / Portable Variable Message Sign
- (f) Meteorological System
- (g) Portable Weigh in Motion
- (h) Automatic Traffic Counter Cum Classifier
- (i) The ATMS Control Centre including the equipment (Hardware, Software and Local Networking)
- (j) Communications System utilizing Optic Fiber, GSM/GPRS and Wi-Fi Communications linked to ATMS Control Centre

Power supplies for field equipment: working on Main power supported with back-up to facilitate 24 X 7 operations and for the ATMS Control Centre working on Main power supported by UPS and Diesel Generator set of adequate capacities to facilitate 24 X 7 operations.

- Street Lighting shall be provided in accordance standards and Specifications and directed by Client
- Boundary and Hectometer stones shall be provided for the entire project Highway.
- Review of Project facilities is done in detail under **Chapter-7.**

CHAPTER 5 REVIEW OF AGREEMENTS

5.1 Review of Concession Agreement

Commercial operations are commenced in the Project with effect from 25-09-2023 (PCOD Date). Currently the Project is under operation phase.

5.1.1. Concession (Article 3)

Subject to and in accordance with the provisions of this Agreement, the Applicable Laws and the Applicable Permits, the Authority hereby grants to the Concessionaire the concession set forth herein including the exclusive right, license and authority to construct, operate and maintain the Project (the “Concession”) for a period of 730 days for Construction from the commencing of Appointed Date and 15 (Fifteen) years from commencing of Commercial Operations.

In accordance with the provisions of the Concession Agreement Appointed date was declared as 28-10-2021. As per the above Clause, schedule Concession Period end date is 24-09-2038.

5.1.2. Pre-PCOD scenario in the project

The Concession Agreement (CA) was executed on 29-07-2021. After fulfilling all the requirements as per Article 4 and 24 of CA, the Appointed Date was fixed on 28-10-2021 and the development of the project Highway was commenced. Though the Construction period for the project was fixed as 730 days as per Schedule G of CA from Appointed Date (Construction Period End date is 27-10-2023). Commercial Operations were commenced from 25-09-2023 upon issuance of Provisional Completion Certificate.

5.1.3. Provisional Completion Certificate (Article 14)

According to Clause 14.3 of CA, the Independent Engineer may, at the request of the Concessionaire issue a Provisional Certificate completion substantially in the form set forth in Schedule J if the Tests as are successful, duly appending the list of Outstanding items signed jointly by the Independent Engineer and the Concessionaire (“the Punch List”). All items of the Punch List shall be completed within 90 days of the date of issuance of the Provisional Completion Certificate

Provisional Completion Certificate was issued on 25-09-2023 for the length of 45.823 km with the Punch List items, status of the Punch List B is Completed as per MPR May 2024

5.1.4. O&M Obligations of the Concessionaire (Clause 17.1)

- Permitting safe, smooth and uninterrupted flow of traffic on the Project Road.
- Minimizing the disruption to traffic in the event of accidents or other incidents affecting safety. Providing Rapid and effective response and liaison with emergency services of the State
- Carrying Periodic preventive maintenance of the Project Highway
- Undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices
- Undertaking major maintenance such as resurfacing of pavements, repairs and refurbishments of tolling system and other equipment

- Preventing any unauthorized use of the Project Road.
- Preventing encroachments on the Project Highway
- Protection of environment and provision of equipment and materials
- Complying with safety Requirements in accordance with the provisions of the CA
- O&M of all communications, control and administrative systems for efficient operation of Project Highway
- Maintain a Public relations unit
- Complying with Safety requirements in accordance with Article 18

Upon review of the documents no adversity of the correspondence was noticed.

5.1.5. Maintenance Requirements (Clause 17.2)

The Contractor shall procure that at all times during the Operations period; the project Road conforms to the maintenance requirements set forth in Schedule K of CA (The “**Maintenance Requirements**”).

Upon review of the documents, it is observed that the Concessionaire is fulfilling the Maintenance Requirements set forth in Schedule K of the CA. No adverse correspondence was noticed in this regard.

5.1.6. Maintenance Manual (Clause 17.3)

No later than 90 (ninety) days prior to the Completion Date, the Concessionaire shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual (the “**Maintenance Manual**”) for the regular and preventive maintenance of the Project in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years and the provisions of this Clause shall apply, mutatis mutandis, to such revision.

Upon review of the documents shared with the Consultant, it is observed that Maintenance Manual was submitted by the Concessionaire vide Letter DBL/DBHL-SO/NHAI/Dhrol-Bhadra/2023/1018 dated 07-06-2023 and approved by Independent Engineer vide Letter No LASA/DHROL/IE/DBL-73777/2023-24/80 dated 13-06-2023.

5.1.7. Maintenance Programme (Clause 17.4)

On or before COD and no later than 45 days prior to the beginning of each accounting year during the Operation Period as the case may be the Concessionaire shall provide to the Authority and Independent Engineer its proposed annual Program of preventive, urgent and the schedule maintenance.

Upon review of the documents shared with the Consultant, it is observed that Maintenance Programme is submitted by the Concessionaire.

5.1.8. Damages for Breach of Maintenance Obligations (Clause 17.8)

- In the event that the Concessionaire fails to repair or rectify any defect or deficiency set forth in the Maintenance Requirements within the period specified therein, it shall be deemed to be in breach of the Agreement and the Authority shall be entitled to recover Damages, to be calculated and paid for each day of delay until the breach is cured, at the higher of the following.
- 2% (Two percent) of the Performance Security and
- 0.1% (zero point one per cent) of the cost of such repair or rectification as estimated by the Independent Engineer.

Upon review of the documents, no adverse correspondence was noticed in this regard

5.1.9. Tests During O&M Period (Clause 19.3)

For determining the project Highway conforms to the Maintenance Requirements, the Independent Engineer shall require the Concessionaire to carry out or cause to be carried out, tests specified by it in accordance with good industry practice. The Concessionaire carry out all such tests and furnish results of such tests forthwith to the Independent Engineer. One half of the costs of such tests to the extent certified by the Independent Engineer as reasonable shall be reimbursed by the Authority.

Upon review of the documents it is observed that no additional tests have been instructed by the Independent Engineer as per the above Clause.

5.1.10. Appointment of Independent Engineer (Article 21)

The Authority shall appoint a Consulting Engineer firm substantially in accordance with the selection criteria set forth in Schedule M, to be the Independent Engineer.

The appointment shall be made no later than 60 days from the date of this Agreement and shall be for a period of Construction period plus 6 months. On expiry or termination of the aforesaid appointment, the Authority shall appoint Independent Engineer for a further term of 3 years in accordance with the provisions of Schedule M of the CA.

One half of the remuneration cost and expenses incurred by the Independent Engineer shall be reimbursed by the Concessionaire to the Authority pursuant to Clause 21.3 of the CA.

Upon review of the documents, M/s LEA Associates South Asia Pvt Ltd was appointed as Independent Engineer.

5.2 Review of Correspondence

The Concessionaire provided letters exchanged between Concessionaire, EPC Contractor and Independent Engineer. After review of the correspondence provided, the major issues dealt with are as follows:

Observation	Comment
Damages for failure in Maintenance requirements.	No adverse comment
Report on quality control issues	No adverse comment
Non-Confirmation Reports.	No Pending NCR
Safety issues and accident report	Regularly submitted in MPR
Weather Report	Regularly submitted in MPR

5.3 Non-performance of the O&M Operations:

Upon review of the Monthly Progress Reports, IE inspection and site visit along with the Concessionaire, no defects were identified during the joint inspection

Upon review of the documents, no adverse correspondence was noticed in this regard.

CHAPTER 6 REVIEW OF REPORTS AND DOCUMENTS

6.1 Insurance

As per Clause 26.1, Concessionaire shall effect and maintain at its own cost, during the construction period and operation period, such insurances for such maximum sums as may be required under Financing Agreements and Applicable Laws. The details of insurance policies are given in the following table

Table 6-1: Insurance Details

S. No	Description of Insurance	Policy No	Name of Insurance Company
1	INDUSTRIAL ALL RISK INSURANCE POLICY	D125061195	Go Digit General Insurance Ltd

6.2 Monthly status reports (Clause 19.1)

During the Operation Period, the Concessionaire shall, no later than 7 (seven) days after the close of each month, furnish to the Authority and the Independent Engineer a monthly report stating in reasonable detail the condition of the Project including its compliance or otherwise with the Maintenance Requirements, Maintenance Manual, Maintenance Program and Safety Requirements, and shall promptly give such other relevant information as may be required by the Independent Engineer or the Authority. In particular, such report shall separately identify and state in reasonable detail the defects and deficiencies that require rectification.

Upon reviewing the documents, it is observed that the Concessionaire started submitting Monthly Status Reports as per the above clause. PCOD was issued on 25-09-2013. There are no adverse findings in these reports.

6.3 IE O&M Inspection reports (Clause 19.2)

As per Clause 19.2 of CA the Independent Engineer shall inspect the Project Highway at least once in a month and make a report of such inspection (the “O&M Inspection Report”) stating in reasonable detail, the defects or deficiencies, if any with particular reference to the Maintenance Requirements, Maintenance Manual, Maintenance Programme and Safety Requirements, it shall send the Report to the Authority and Concessionaire within 7 days of such inspection. Upon receipt of such inspection report, the Concessionaire shall rectify or remedy the defects if any, stated in the report.

Upon review of the documents, it is observed that the Monthly Inspection Reports are being submitted regularly by the IE as per the above Clause and upon pursuing same, it is observed that there are no adverse comments from IE.

6.4 Review of Pavement design report

The Concessionaire under the provisions of Article 10 submitted Pavement Design vide various letters given as under. Independent Engineer reviewed the submitted designs for its compliance under project specifications and standards and accorded their approval/consent. Reference correspondence related to submissions and approvals are given in the table below.

Table 6-2: Correspondence related to pavement design submission and approvals

S No.	Document Description	Report Reference
1	Pavement Design Report (Part I) For Main Carriageway	20047/RD/PS/PD/0001
2	Pavement Design Report (Part II) For Service Road	20047/RD/PS/PD/0002

The above pavement designs submitted and approved by the Independent Engineer were reviewed by the Consultant and is discussed in the following paragraphs.

6.4.1. Rigid Pavement for Main carriageway & Toll Plaza Section

Sub grade CBR

The concessionaire has been adopted 7 % CBR for Sub grade.

The rigid pavement shall be designed as per IRC 58-2015 with 7% CBR, as per pavement design report, the design calculations are found in order, and the adopted rigid pavement crust for Main carriageway and toll plaza is given below.

Table 6-3: Pavement Composition for Main Carriageway & Toll Plaza

Description	Rigid pavement
Designed CBR	7 %
Pavement Quality Concrete (PQC) - mm	300
A de-bonding interlayer of polythene sheet having minimum thickness of 125 micron is provided between DLC and PQC, as per Cl:5.7.5 of IRC:58-2015.	
Dry Lean Concrete (DLC) – mm	150
Drainage Layer (GSB) - (mm)	150
Diameter of Dowel Bar (mm)	36
Length of Dowel Bar (mm)	500
Spacing of Dowel Bars (mm)	300
Diameter of Tie Bar (mm)	12 (Deformed)
Length of Tie Bar (mm)	640
Spacing of Tie Bars (mm)	520

6.4.2. Flexible pavement for Service Road

Design traffic

As per Pavement design report “The Flexible Pavement for Service road shall be designed for a minimum design traffic of 10 MSA and 7 % CBR, hence flexible pavement design for Service roads is in order based on traffic and as per schedule B requirement.

Table 6-4: Designed pavement crust summary as per pavement design report

Section	Design Traffic	Effective CBR %	BC	DBM	WMM	GSB
Service Road	10 MSA	7 %	40	60	250	200

6.4.3. Site Investigations

Table 6-5:Pavement Design Thickness Vs Executed Crust Thickness

S. No	Test Location	Side	As per Design Report				As per site test pits			Remarks
			PQC (mm)	DLC (mm)	GSB (mm)	Subgrade (mm)	PQC (mm)	DLC (mm)	GSB (mm)	
1	6+450	RHS	300	150	150	500	301	150	149	Acceptable levels
2	11+000	LHS	300	150	150	500	300	150	149	Acceptable levels
3	16+003	RHS	300	150	150	500	302	150	150	Acceptable levels
4	28+400	LHS	300	150	150	500	300	150	150	Acceptable levels
5	37+020	LHS	300	150	150	500	300	150	150	Acceptable levels

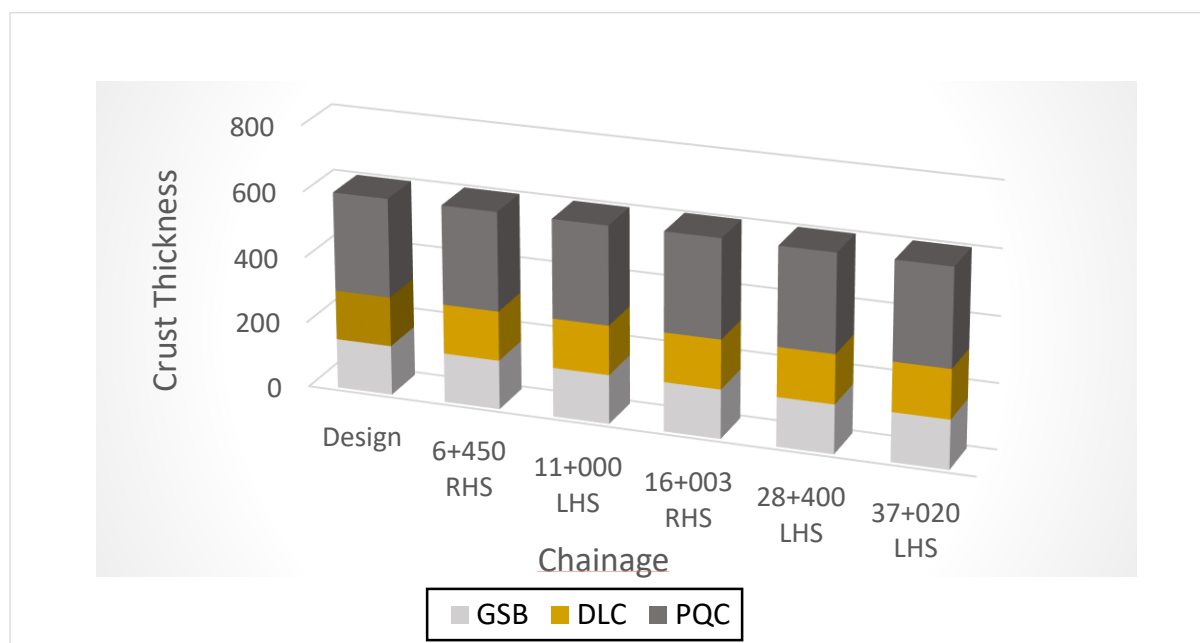


Figure 6.1: Bar Chart showing Design thickness vs Executed thickness

During site visit, core cutting test/ Trial pit test was conducted at some of the locations along the project stretch to compare the executed crust thickness with the design crust thickness and found that the crust thicknesses are in compliance with the design thickness.



CHAPTER 7 SITE APPRAISAL

7.1 General

The Consultant team visited the site from 07-01-2025 to 09-01-2025 the Consultant has collected Road Inventory, Pavement Condition, and Structures Inventory and Condition details besides physical progress of site work.

7.2 Road Inventory

The objective of road inventory is to collect and compare information on all physical and visible features of the road with the GFC drawings, to assess the progress of construction and to have the visual quality inspection. All the details were recorded by actual measurements made at the site, according to IRC: SP-19 format duly modified as per the project requirements The Road Inventory was recorded under the following sub-heads and details are given in Annexure-1.

- Type of Terrain - (Plain / Rolling / Hilly)
- Land use - (Built up / Agri. /Forest / Industrial / Barren)
- Name of Village / Town
- Carriageway and Shoulder – Type / Width / Condition
- Embankment Height
- Submergence / water logging Area – location if any.
- Details of Crossroads - Location/Road Name/ Carriageway Width
- Road Side Drainage Non-Existing, Partially Functional, Functional)

7.2.1. Type of terrain

The project road passes through the rich Horticultural Fields for all of the Project length.

7.2.2. Villages/Towns along the Project

The Villages / Towns along the Project start at Dhrol, Lakhtar, Bhadra, Keshiya, Tarana, Dudhai, Amran, Hajnali, Virpanda and end its at Pipaliya.

7.2.3. Main Carriageway Status and Condition

The project road is Four lane divided carriageway with Rigid Pavement and Service / Slip Roads with Flexible Pavement. The survey on general pavement conditions was primarily a visual exercise undertaken by means of slow drive-over survey supplemented with measurements wherever necessary. The detailed condition of pavement is enclosed herewith as Annexure-1.

Overall assessment of pavement condition of the project road is good. The riding quality is observed to be good.

The following observations made during site visit over MCW are provided below

- Six Emergency Median Openings are Constructed at Km 15+218, Km 26+450, Km 40+710, Km 41+600, Km 51+150, Km 57+825

- Studs / Cat Eyes are fixed through out of Project length where ever required as per IRC codes.
- 9 Nos Bus Shelters are not Constructed due LA. Details are provided **Chapter 9**
- Toll Plaza Construction Completed and Toll Collection started on PCOD
- Extra width provided as per Cross section in MCW at Curve portions
- Median earth filling and plantation completed
- Project facilities have been completed as per approved Plans except some locations. Details are provided in **Chapter 9**
- Metal Beam Crash Works completed. Details are provided in **Chapter 9**
- Road Sign Boards Condition is good. Details are provided in **Chapter 9**

7.3 Status of Punch List B

Punch List items are completed

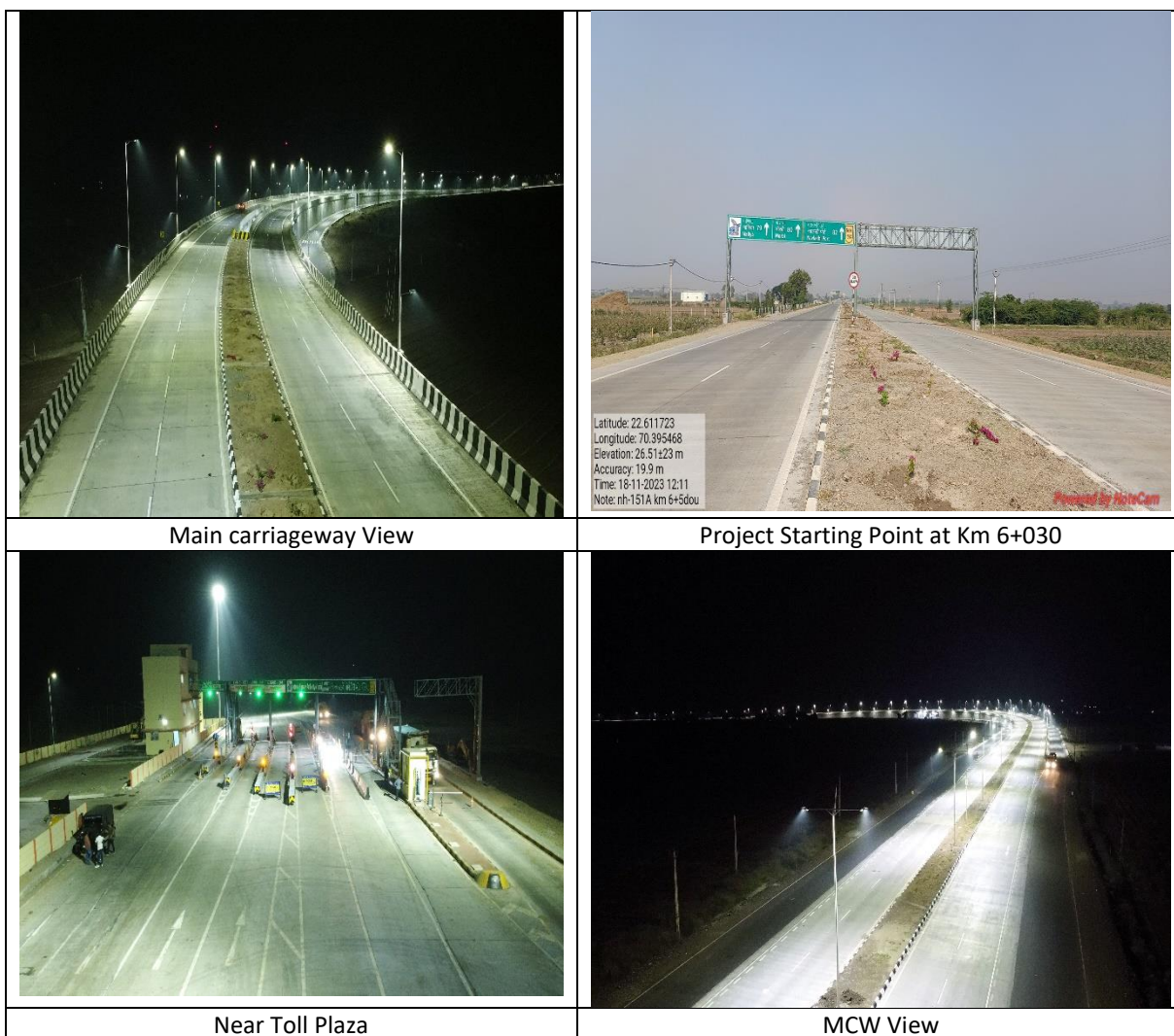




Figure 7.1: Status of Main Carriageway Road Work



Figure 7.2: Photographs showing Status of Service Road works

7.4 Cross Road details

Development of Junctions and providing of Road Furniture completed. The Junctions / Cross Roads list based on Site Inventory is given below.

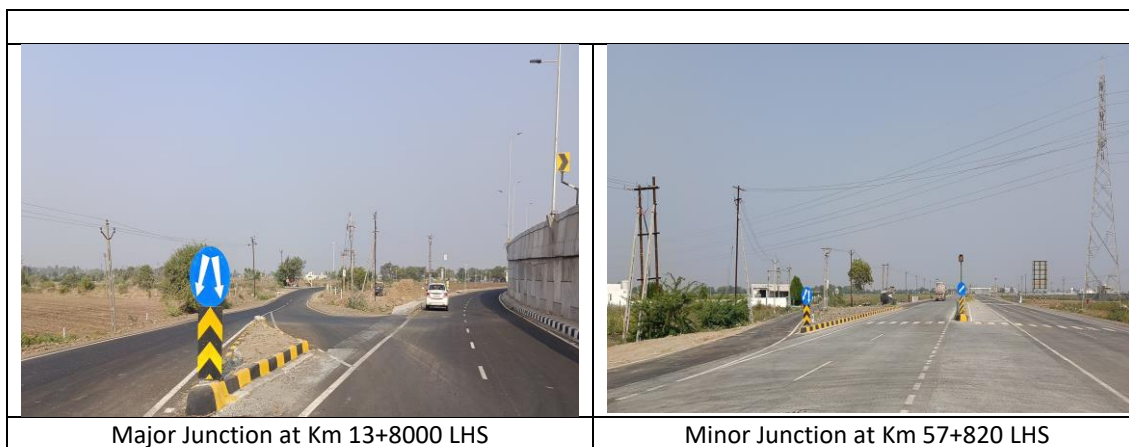
Table 7-1: List of Junctions / Cross Roads

Major Intersections

S.No.	Design Chainage	Side	Type of Junction	Status
1	09+879	BHS	X	Completed
2	13+800	BHS	Y	Completed
3	19+230	BHS	Y	Completed
4	23+431	BHS	X	Completed
5	27+740	BHS	T	Completed
6	30+408	BHS	X	Completed
7	37+887	BHS	X	Completed
8	52+357	BHS	T	Completed
9	55+060	BHS	X	Completed
10	59+258	BHS	X	Completed

Minor Junctions

Sr.No.	Design Chainage	Side	Type of Junction	Status
1	15+215	RHS	Y	Completed
2	26+450	LHS	Y	Completed
3	40+710	RHS	T	Completed
4	41+602	RHS	T	Completed
5	51+155	BHS	X	Completed
6	57+825	LHS	Y	Completed



Major Junction at Km 13+8000 LHS

Minor Junction at Km 57+820 LHS



Minor Junction at Km 51+155 LHS

Figure 7.3: Photographs showing Status of Major/Minor Junctions roads .

Note: All the above developed junctions have been developed up to pavement level.

7.4.1. Road Side Drainage

As per schedule provisions of CA, Drain is to be constructed at all locations of TCS E, TCS F and TCS G. The total length of drain is 10.84 Km and the Condition of same is good.

7.4.2. Kerb

Entire length of Kerb stone amounting to 50.416 kms is complete and in good condition.

7.5 Structures

Detailed inventory and condition of structures on the project road were carried out during the site visit as per the guide lines provided in IRC: SP: 52-1999 & IRC: SP: 35-1990. The summary of structures on the project road is given below:

Table 7-2: Summary of Structures

S. No.	Type of Structure	As per Schedule B	COS	Total	Revised Scope	As per Site	Status
1	Major Bridges	5	0	5	5	5	Completed
2	Minor Bridges	28	1	29	29	29	Completed
3	VUP	2	0	2	2	2	Completed
4	LVUP	8	0	8	8	8	Completed
5	PUP	0	2	0	2	2	Completed
6	Pipe culverts	49	0	49	49	49	Completed
7	Box Culverts	30	0	30	30	30	Completed

Condition survey and remedial measures are given in the Table. 7.8.

Detailed inventory and condition survey of all Major Bridges, Minor Bridges, VUPs and LVUPs are given in **Annexure-3**.

For detailed inventory and condition survey of Culverts are given in **Annexure-3**.

Table 7-3: Detailed Inventory and Condition of Structures as on date .

S.No	Chainage	Span	Total length of Bridge	Status of Construction	Condition of Structure
1	6+190	3 x 5.00	15	Completed	Good
2	7+200	2 x 22.50	45	Completed	Good
3	9+860	1 x12.00	12	Completed	Good
4	13+800	15+30+15	60	Completed	Good
5	15+715	4x7.65	30.6	Completed	Good
6	16+415	1x10.00	10	Completed	Good
7	16+850	2x17.50	35	Completed	Good
8	17+100	1x8.0	8	Completed	Good
9	17+522	1x8.00	8	Completed	Good
10	18+670	2x4.00	8	Completed	Good
11	19+220	1x12.00	12	Completed	Good
12	20+800	2x7.00	14	Completed	Good
13	22+720	4x32.60	130.4	Completed	Good
14	23+450	1x12.00	12	Completed	Good
15	26+200	2x6.00	12	Completed	Good
16	26+960	1x6.00	6	Completed	Good
17	26+995	4x8.25	33	Completed	Good
18	27+025	1x6.00	6	Completed	Good
19	27+135	2x3.50	7	Completed	Good
20	27+590	2x3.00	6	Completed	Good
21	27+750	1x12.00	12	Completed	Good
22	28+980	6x32.60	195.6	Completed	Good
23	29+700	2x20.40	40.8	Completed	Good
24	30+220	1x7.0	7	Completed	Good
25	30+400	1x20.0	20	Completed	Good
26	30+505	1x7.0	7	Completed	Good
27	31+660	1x18.00	18	Completed	Good
28	32+570	1x10.00	10	Completed	Good
29	32+610	1x10.00	10	Completed	Good
30	32+650	1x10.00	10	Completed	Good
31	33+340	1x18.00	18	Completed	Good
32	36+975	1x6.50	6.5	Completed	Good
33	37+810	2x3.25	7.5	Completed	Good
34	37+900	1x12.00	12	Completed	Good
35	41+520	4x4.00	16	Completed	Good
36	41+870	3x28.35	85.05	Completed	Good
37	42+085	1x10.00	10	Completed	Good
38	49+835	4x7.00	28	Completed	Good
39	50+710	4x7.00	28	Completed	Good

S.No	Chainage	Span	Total length of Bridge	Status of Construction	Condition of Structure
40	52+370	1x12.00	12	Completed	Good
41	54+330	3x24.00	72	Completed	Good
42	55+060	1x12.00	12	Completed	Good
43	59+270	1x12.00	12	Completed	Good
44	59+815	3x32.60	97.8	Completed	Good
45	60+068	1x6.50	6.5	Completed	Good
46	60+545	4x5.625	22.5	Completed	Good

7.5.1. Culverts

7.5.1.1. Inventory

There are 30 Box and 49 Pipe Culverts in the project stretch. Detailed inventory and condition survey of Culverts is given in **Annexure-3**. Summary of inventory of Culverts is provided in table given below.

Table 7-4: Inventory of Culverts

S. No	Design Chainage	Type of structure	Span Arrangement	Status of Construction
1	6+592	Pipe	2x1.2	Completed
2	8+400	Pipe	1x1.2	Completed
3	9+290	Pipe	2x1.2	Completed
4	9+730	Pipe	1x1.2	Completed
5	10+120	Pipe	2x1.2	Completed
6	10+595	Pipe	2x1.2	Completed
7	10+680	Pipe	2x1.2	Completed
8	10+750	Box	1x5.0	Completed
9	11+930	Box	1x1.5	Completed
10	12+490	Pipe	2x1.2	Completed
11	12+520	Pipe	2x1.2	Completed
12	13+040	Box	1x3.0	Completed
13	13+380	Pipe	2x1.2	Completed
14	13+750	Pipe	2x1.2	Completed
15	13+830	Pipe	1x1.2	Completed
16	14+130	Pipe	1x1.2	Completed
17	14+466	Pipe	1x1.2	Completed
18	15+190	Box	1x3.0	Completed
19	17+221	Box	1x2.0	Completed
20	17+393	Pipe	2x1.2	Completed
21	17+785	Box	1x4.5	Completed
22	18+120	Pipe	1x1.2	Completed
23	19+020	Box	2x2.6	Completed
24	19+640	Box	1x3.0	Completed

Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

S. No	Design Chainage	Type of structure	Span Arrangement	Status of Construction
25	21+280	Pipe	1x1.2	Completed
26	21+630	Pipe	1x1.2	Completed
27	21+880	Box	1x4.4	Completed
28	22+085	Pipe	2x1.2	Completed
29	22+390	Box	1x5.5	Completed
30	23+440	Pipe	2x1.2	Completed
31	24+970	Pipe	1x1.2	Completed
32	25+255	Pipe	1x1.2	Completed
33	25+544	Pipe	2x1.2	Completed
34	26+510	Pipe	1x1.2	Completed
35	27+122	Box	1x5.5	Completed
36	27+545	Box	2x2.75	Completed
37	28+040	Box	1x1.5	Completed
38	28+440	Pipe	1x1.2	Completed
39	29+455	Pipe	1x1.2	Completed
40	29+770	Pipe	2x1.2	Completed
41	30+075	Pipe	1x1.2	Completed
42	30+196	Pipe	1x1.2	Completed
43	31+070	Box	1x1.5	Completed
44	31+100	Box	2x2.25	Completed
45	31+800	Box	1x4.0	Completed
46	32+932	Box	1x3.0	Completed
47	33+894	Pipe	2x1.2	Completed
48	34+410	Box	1x4.5	Completed
49	35+156	Box	2x2.9	Completed
50	35+920	Pipe	1x1.2	Completed
51	36+220	Box	2x2.9	Completed
52	36+710	Pipe	1x1.2	Completed
53	37+646	Pipe	1x1.2	Completed
54	38+300	Pipe	2x1.2	Completed
55	38+800	Pipe	1x1.2	Completed
56	39+560	Box	1x3.0	Completed
57	40+090	Pipe	1x1.2	Completed
58	41+032	Box	1x1.5	Completed
59	41+065	Box	1x1.5	Completed
60	41+497	Pipe	1x1.2	Completed
61	41+590	Pipe	1x1.2	Completed
62	48+790	Pipe	2x1.2	Completed
63	49+160	Pipe	2x1.2	Completed
64	50+315	Pipe	1x1.2	Completed
65	51+700	Pipe	1x1.2	Completed

S. No	Design Chainage	Type of structure	Span Arrangement	Status of Construction
66	52+120	Pipe	1x1.2	Completed
67	53+280	Pipe	1x1.2	Completed
68	53+850	Pipe	1x1.2	Completed
69	54+830	Pipe	2x1.2	Completed
70	55+250	Pipe	2x1.2	Completed
71	56+320	Box	1x1.5	Completed
72	56+713	Pipe	1x1.2	Completed
73	57+160	Box	1x2.0	Completed
74	57+910	Box	1x1.5	Completed
75	58+590	Box	1x1.5	Completed
76	58+926	Pipe	2x1.2	Completed
77	61+060	Box	1x1.5	Completed
78	61+434	Box	1x3.1	Completed
79	62+280	Box	1x2.0	Completed

7.5.1.2. Status of Construction

All the Culverts were constructed, and condition of the culverts are in good condition.

Structure wise condition of Culverts are given in detail in **Annexure-3**. all Culverts are in good condition.

7.5.2. RE walls

7.5.2.1. Inventory

As per schedule provisions of CA, RE Wall is to be constructed at all locations of TCS G and TCS GN1. Inventory of RE walls in the project stretch with detailed locations is below.

Table 7-5: Inventory Summary of RE walls

S. No	From	To	Length
1	9+570	10+360	790
2	13+340	14+290	950
3	18+790	19+540	750
4	23+100	23+790	690
5	27+430	28+040	610
6	29+980	31+170	1190
7	37+470	38+300	830
8	52+020	52+680	660
9	54+690	55+400	710
10	58+750	59+480	730

7.5.2.2. Status of Construction

All the requisite RE walls are constructed



Figure.7.4: Photographs showing the status of RE Wall

7.5.2.3. Condition

All the RE walls are in good condition.

7.6 Toll Plaza

Concession Agreement provides construction of one Toll Plaza on the project road at Km 32+425 with 4+1 toll lanes in each direction. The facilities to be provided as per CA at Toll Plaza location are listed below:

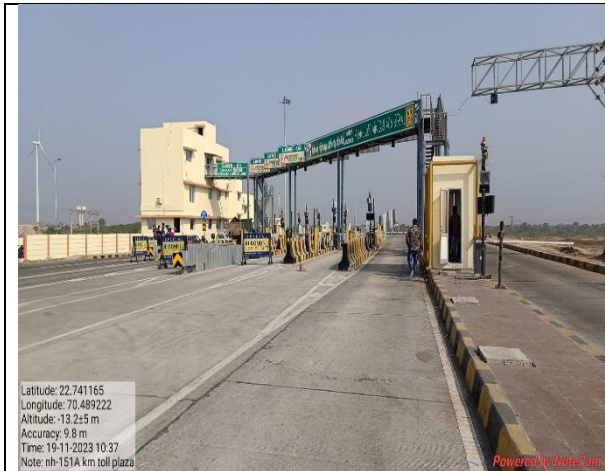
- All toll lanes to be equipped with ETC equipment
- Toilet facility for road users near the Toll Plaza
- Weigh- in -Motion (WIM) to be provided in all lanes
- One Static Weigh bridge in each direction

- Point of sale
- Administrative Building connecting all toll cabins with tunnel etc.
- Operation and maintenance centre
- ATMS Control centre

List of equipment provided at the Toll Plaza and control room is given below. The condition of Toll Plaza as Annexure-2.

Table 7-6: Toll Plaza – Inventory & Condition

S No.	Description	Toll Plaza at 32+100	
		Inventory	Condition
1	Location Chainage (at km)	Km 32+100	
2	Location Name (Village)	Tarana	
3	FOB	Yes	Good
4	Administration Building Constructed?	Yes	Good
5	Medical Aid Post Building / First Aid Room	Yes	Good
6	Traffic Aid Post Building	Yes	Good
7	Total No. of Toll Lanes	2 x (4 lanes)	Good
8.1	No. of ETC / Hybrid ETC Lanes	2 x (4 lanes)	Good
8.2	No. of Non ETC Lanes	0	-
8.3	Reversible Lanes (if any)	2	-
9	No. of Lanes WIM Installed?	2 x (4+1 Lanes)	Good
10	No. of Static Weigh Bridges installed?	2	Good
11	TMS System Software Installed?	Devaditya	Good
12	TMS Software Installed by / Make	Devaditya	Good
13	ETC System installed by / Make	Devaditya	Good
14	Diesel Generator 125 KVA	1	Good
15	Inverter230..... V(10kv)	3	Good
16	Fire Fighting System	Yes	Good
17	Testing Laboratory	Yes	Good
18	Remarks / Observations		



Toll Plaza at Km 32+100



Toll Plaza at Km 32+100



Medical & Traffic Aid Post Building at Toll Plaza Km 32+100



Admin Building at Toll Plaza at Km 32+100



Control Room at Toll Plaza at Km 32+100



FOB at Toll Plaza at Km 32+100








 <p>Latitude: 22.742036 Longitude: 70.488505 Elevation: 40.0614 m Accuracy: 67.5 m Time: 19-11-2023 11:05 Note: nh-151A km toll plaza/ ambulance</p>	 <p>Latitude: 22.741551 Longitude: 70.488373 Elevation: 40.0613 m Accuracy: 18.9 m Time: 19-11-2023 11:09 Note: nh-151A km toll plaza crane</p>
<p>Ambulance at Toll Plaza Km 32+100</p>	<p>Crane / Towing Vehicle at Toll Plaza Km 32+100</p>
 <p>Latitude: 22.741062 Longitude: 70.489533 Elevation: 40.07101 m Accuracy: 9.7 m Time: 19-11-2023 10:56 Note: nh-151A km toll plaza mds</p>	 <p>Latitude: 22.741855 Longitude: 70.488578 Elevation: 39.7618 m Accuracy: 56.4 m Time: 19-11-2023 11:02 Note: nh-151A km toll plaza control room</p>
<p>Metrological Data Collection at Toll Plaza Km 32+100</p>	<p>Toll Plaza Control Room at Km 32+100</p>
 <p>Latitude: 22.74294 Longitude: 70.489111 Elevation: 39.76133 m Accuracy: 7.9 m Time: 19-11-2023 11:19 Note: nh-151A km toll plaza WB lhs</p>	 <p>Latitude: 22.740385 Longitude: 70.488343 Elevation: 40.0619 m Accuracy: 10.6 m Time: 19-11-2023 10:34 Note: nh-151A km toll plaza weighing R</p>
<p>Weight Bridge at Toll Plaza Km 32+100 (LHS)</p>	<p>Weight Bridge at Toll Plaza Km 32+100 (RHS)</p>
	
<p>Control Room at Toll Plaza at Km 32+100</p>	

Table 7-7 :List of System-Inventory & condition

The condition of the Incident Management is enclosed as **Annexure-2**.

S.No.	Description		Vehicle	
			Inventory	Condition
1	AMBULANCE with two Patient Life Supporting System		Force Motors Ltd	
1.1	Vehicle	Parking Location at Km.	Toll Plaza Km 32+100 LHS	Good
1.2		Vehicle Reg. No.	TR	Good
1.3		Fitted with GPS ?	Yes	working
1.4	Equipment	First Aid Kit	Yes	Good
1.5		Oxygen Cylinder	Yes	Good
1.6		Stretcher	Yes	Good
1.7	Manpower	No. Of shifts	3	
1.8		Driver	3	
1.9		Paramedical Staff	3	
2	Route Patrolling Vehicle			
2.1	Vehicle	Parking Location at Km.	Toll Plaza Km 32+100 LHS	Good
2.2		Vehicle Reg. No.	RJ20GC0688	Good
2.3		Fitted with GPS ?	Yes	Working
2.4	Equipment	Safety Helmets	No	Good
2.5		Flags & Caution Tap	No	Good
2.6		Safety Cones	No	Good
2.7	Manpower	No. Of shifts	3	
2.8		Driver	3	
2.9		Helpers	3	
3	Crane / Towing Vehicle			
3.1	Vehicle	Parking Location at Km.	Toll Plaza Km 32+100 LHS	
3.2		Vehicle Reg. No.	PB13KB3092	Good
3.3		Fitted with GPS ?	Yes	working
3.4		Capacity In Mt	25	Yes
3.5	Equipment	Tool Kit	Yes	Good
3.6		Belt / Rope / Chain	Yes	Good
3.7		Safety Cones	Yes	Good
3.8	Manpower	No. Of shifts	3	
3.9		Driver	3	

The condition of the Incident Management is enclosed as **Annexure-2**.

Table 7-8 :List of Advanced Traffic Management System-Inventory & Condition

S No.	Description	Inventory	Quantity	Condition
1	OUT-DOOR EQUIPMENT			
1.1	Emergency Call Box (ECB)	Yes	50	working
1.2	Variable Message System (VMS)	Yes	7	Working

S No.	Description	Inventory	Quantity	Condition
1.3	Meteorological Data System (MDS)	Yes	1	Working
1.4	Automatic Traffic Counting and Classification (ATCC)	Yes	2	Working
1.5	Vehicle Speed Enforcement System Cameras	Yes	4	Working
1.6	CCTV Surveillance System	Yes	26	Working
1.7	Video Incident Detection system	Yes	21	Working
1.8	Mobile Radio Communication System	Yes	10	Working
2.0	IN-DOOR EQUIPMENT			
2.1	Central ATMS Server	Installed	1	Working
2.2	Network Management System	Installed	1	Working
2.3	Traffic Controller Operator	Installed	1	Working
2.4	Video Display	Installed	1	Working
2.5	Network Video Recording and Management System	Installed	1	Working
2.6	Emergency Call Management Center	Installed	1	Working
2.7	Video Incident Detection Central System	Installed	1	Working

Table 7-9 :List of Advanced Traffic Management System-Inventory & Condition

 <p>Latitude: 22.742036 Longitude: 70.488505 Elevation: 40.06±4 m Accuracy: 67.5 m Time: 19-11-2023 11:05 Note: nh-151A km toll plaza ambulance</p>	 <p>Latitude: 22.854367 Longitude: 70.604734 Elevation: 14.73±100 m Accuracy: 12.9 m Time: 20-11-2023 12:02 Note: nh-151A km r.p.v</p>
Ambulance at Toll Plaza Km 32+100	Route Petrol Vehicle at Toll Plaza Km 32+100
 <p>Latitude: 22.741551 Longitude: 70.488373 Elevation: 40.06±3 m Accuracy: 18.9 m Time: 19-11-2023 11:09 Note: nh-151A km toll plaza crane</p>	 <p>Latitude: 22.742093 Longitude: 70.488437 Elevation: 39.76±100 m Accuracy: 86.9 m Time: 19-11-2023 10:41 Note: nh-151A km toll plaza generator</p>
Crane at Toll Plaza Km 32+100	Generator at Toll Plaza Km 32+100

 <p>Latitude: 22.74294 Longitude: 70.489111 Elevation: 39.76133 m Accuracy: 7.9 m Time: 19-11-2023 11:19 Note: nh-151A km toll plaza WB l/s</p>	 <p>Latitude: 22.74088 Longitude: 70.48946 Elevation: 40.06431 m Accuracy: 18.1 m Time: 19-11-2023 11:07 Note: nh-151A km toll plaza WB l/s</p>
<p>Static Weigh Bridge at Toll Plaza Km 32+100 (Bhadra Side)</p>	<p>Ambulance in Side View</p>

The Condition of the ATMs is enclosed as **Annexure-2**

7.7 Road Furniture

7.7.1. Traffic signs

All the requisite traffic sign boards are installed along the project highways and are in good condition

Table 7-10:List of Sign Board

S no	Name of Board	Unit	As built Qty	Present Availability Qty during this month
1	Single post Sign Boards in MCW	No	808	808
2	Hazard Markers	No	151	151
3	Delineators	No	340	340
4	Raised Pavement markers (Road studs)	No	18856	18856
5	VMS Gantry	No	7	7
6	Variable Message Sign Boards	No	7	7
7	Emergency Call Box	No	50	50
8	Video Cameras	No	26	26



Road Sign Boards at Toll Plaza Km 32+100 LHS



Road Sign Board at Km 26+300



SOS Box at Km 6+000 on LHS



Road Sign Board at Km 57+800



Chevron Markers at Km 61+250 on RHS



Hazard Marker at Km 13+050



7.7.2. Overhead signs

As per the provision of CA, 04 Nos. of gantry overhead signs is to be erected in the project. It is observed that 04 no's Overhead Sign Boards are erected at site accordingly and are in good condition

Table 7-11: Status of Overhead Sign Boards



7.7.3. Pavement Marking

Road marking is done along the project stretch and is found adequate and in good condition

Road Marking at Km 6+800	Road Marking at Km 9+250

	
Road Marking at Km 26+300	Road Marking at Km 6+800
	
Road Marking at Km 14+300	Road Marking at Km 15+940
	
Road Marking at Bus Bay Km 13+800	Road Marking at Km 13+600 (SR-LHS)

7.7.4. LED Blinker

CA stipulates fixing of LED blinkers near Median Openings. Concessionaire has provided requisite 76 blinkers along the project stretch and same are found in satisfactory conditions

Table 7-12:Status of Solar Blinkers

	
LED Blinker at Km 6+800	LED Blinker at Km 57+800

7.7.5. Metallic Crash Barrier

There is total 19.213 km of Metal Crash Barrier installed along the project stretch and same are found to be of good condition

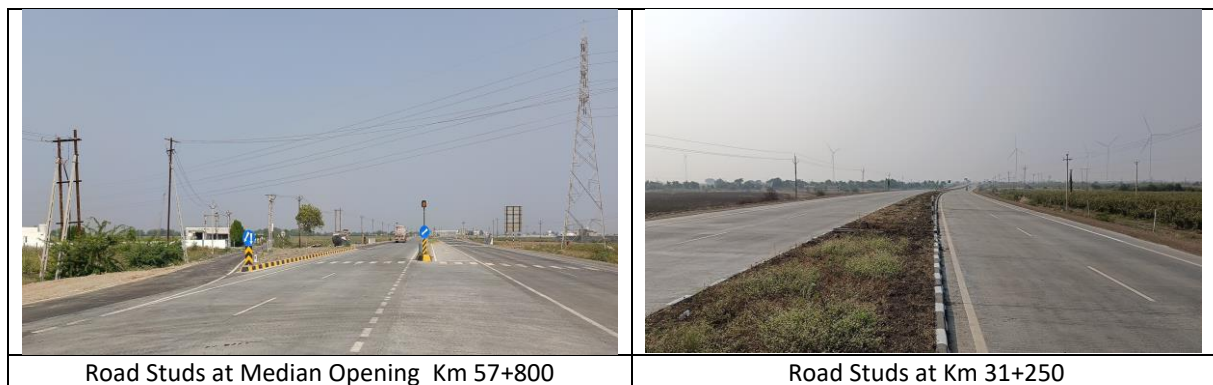
	
Metal Beam Crash Barrier at Km 24+800 LHS	Metal Beam Crash Barrier at Km 18+800 BHS

Figure 7.5: Photographs showing the Status of Metallic Beam Crash Barrier



7.7.6. Road Studs

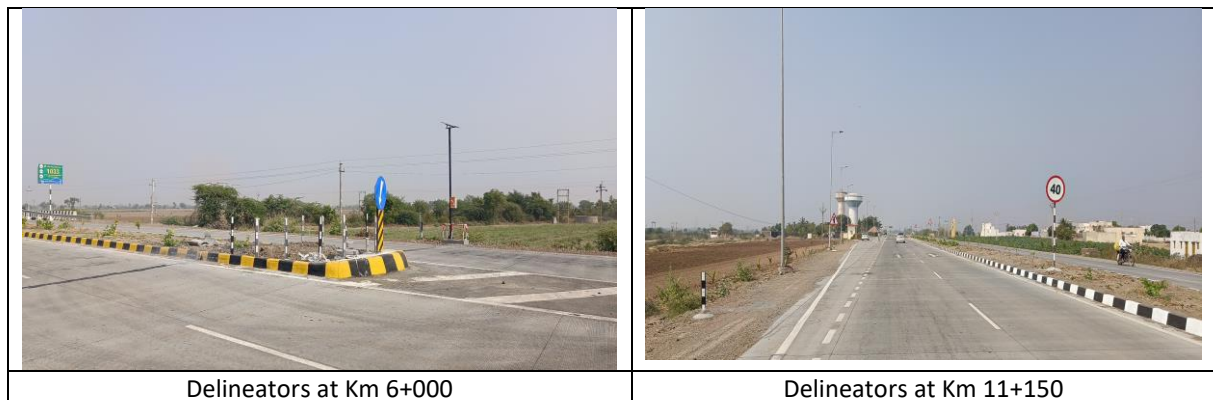
Road Studs are provided at Horizontal Curves, Median Openings, Intersections, Cross Roads and Built-Up Areas, as per the provisions of the CA





7.7.7. Delineators

Delineators are provided for the entire project length and are in good condition.





Delineators at Km 31+250



Delineators at Km 31+250

9.2.2 Pedestrian Guard Rail

Pedestrian Guard Rail installed at both Weigh Bridge locations and some Bus Shelters locations.



Pedestrian Guard Rail at Km 11+150



Pedestrian Guard Rail at Km 9+940 (RHS)



Pedestrian Guard Rail Toll Plaza at Km 32+100 LHS



Pedestrian Guard Rail Toll Plaza at Km 32+100 LHS

7.7.8. Hectometre (HM) / Kilometres (KM) Stones

Hectometer and Kilometer Stones are provided for the entire project length, and are found in good condition.



7.8 Bus bays and Bus Shelters

As per the Provision of Schedule C of CA, 24 locations of Bus Shelters with 15 m Length of Pedestrian guard rails shall be provided on Service Road on both sides.

Status of the Bus Shelters work as on date of inspection is provided in the table below. The condition of the Bus bays is enclosed herewith as **Annexure-2**.

Table 7-13: Status of Bus Shelters

S. No	Location	Side	Status	Village	Remarks
1	9+550	LHS	Constructed	Lakhtar	Completed
2	11+310	LHS	Constructed	Majoth	Completed
3	14+950	LHS	Constructed	Bhadra Patiya Jn	Completed

S. No	Location	Side	Status	Village	Remarks
4	19+315	LHS	Constructed	Keshiya	Completed
5	23+378	LHS	Constructed	Hajamchoda	Completed
6	27+530	LHS	Constructed	Meghpar	Completed
7	30+700	LHS	Constructed	Taranadhar	Completed
8	38+260	LHS	Constructed	Jam Dudhai	Completed
9	38+880	LHS	Constructed	Jam Dudhai	Completed
10	52+210	LHS	Constructed	Kharachiya	Completed
11	55+300	LHS	Constructed	Amba Nagar	Completed
12	59+400	LHS	Constructed	Modpar	Completed
13	9+934	RHS	Constructed	Lakhtar	Complete
14	11+650	RHS	Constructed	Majoth	Complete
15	15+450	RHS	Constructed	Bhadra Patiya Jn	Complete
16	19+450	RHS	Constructed	Keshiya	Completed
17	23+230	RHS	Constructed	Hajamchoda	Completed
18	27+940	RHS	Constructed	Meghpar	Completed
19	30+650	RHS	Constructed	Taranadhar	Completed
20	37+420	RHS	Constructed	Jam Dudhai	Completed
21	38+440	RHS	Constructed	Jam Dudhai	Completed
22	52+700	RHS	Constructed	Kharachiya	Completed
23	54+595	RHS	Constructed	Amba Nagar	Completed
24	59+070	RHS	Constructed	Modpar	Completed



Bus Shelters at Km 11+310 (LHS)



Bus Shelters at Km 9+934 (RHS)

7.9 Landscaping & Tree Plantation

Landscaping, Median and Avenue Plantation work Completed .

- Median Plantation: Completed .
- Landscaping: at Toll-plaza, Underpasses
- Avenue Plantation as per IRC:SP-21. Completed

Table 7-14: Status of Avenue and Median Plantation

S. No	Description	Side	Total (Km)	Completed (Km)	Balance (Km)	Percentage Completed
1	Avenue plantation	LHS	Avenue Plantation completed			
2	Avenue Plantation	RHS				

S. No	Description	Side	Total (Km)	Completed (Km)	Balance (Km)	Percentage Completed
1	Median Plantation		50.416	50.416	-	100%



7.10 Advance Traffic Management System (ATMS)

ATMS shall be provided for convenience of users of Project Highway in accordance with IRC: SP:87-2019. During the site visit it is noticed that ATMS are provided entire project length. Variable Message Sign (VMS) Panels shall have minimum dimensions of 3.0m X 1.8m X 0.2m and shall be provided at the 4 locations and shall conform to EN12966.

During the site visit it is noticed that 7 VMS provided entire project.

CHAPTER 8 REVIEW OF O&M AGREEMENT

The Operation and Maintenance agreement was signed between M/s Dhrol Bhadra Highways Private Limited and Dilip Buildcon Limited .

We have reviewed the provisions under various clauses of this O&M Agreement and our specific comments are indicated below:

Sr No	Clause No	Description in brief
1	Senior Lenders	Means financial institutions, banks, funds or trusts who provide or refinance the debt component of the cost of the Project
2	Contract Period	Contract period for this agreement shall be equivalent to a period commencing from the date of the COD achieved by the Concessionaire in accordance with the Concession Agreement and expiring on the earlier of a) completion of the Operations Period; b) early termination of the Concession Agreement or c) Stake sale of the Concessionaire
3	Scope of Work	O&M Contractor's scope under this Agreement shall be completely and fully in line with the scope of works defined in relevant schedules of the Concession Agreement including and not limited to any remedial/rectification works Scope of work shall confirm to the provisions, specifications and standards design and drawings and other parameters stipulated in the Concession Agreement
4	Contract Price	In consideration of its obligations under this Agreement, during the Contract Period, the O&M Contractor shall be paid an aggregate lump sum fixed contract price for each financial year. It is clarified that the O&M Contractor shall not be entitled to any adjustment of the Contract Price as a result or in consequence of : i. Any escalation of price and / or inflation; and/ or ii. Any quantities of non – consumables, consumables, spares or equipment required for the execution of the Works
5	Payment Terms	O&M Contractor would raise bill half-yearly within 7 days of Annuity Payment Dates. Any shortfall in Annuity payments and/or O&M payments by authority would result in similar reduction in payment under the RA Bill, provided that it is demonstrated that such shortfall in release of the

		Annuity Payment and O&M Payment by the Authority to the Concessionaire has been solely due to default of the O&M Contractor under this agreement. Any defects found in O&M by Authority/ IE would be rectified by the O&M Contractor at its sole expense without recourse to the Concessionaire.
6	Assignment	<p>Assignment by the Concessionaire:</p> <p>The Concessionaire may, subject to the provisions of the Concession Agreement, assign or transfer or enter into an agreement to assign or transfer this Agreement or the rights and benefits hereunder, in favour of or for the benefit of the Senior Lenders.</p>
7	Termination	Concessionaire has rights to terminate the O&M agreement on account of O&M event of default and vice-versa

CHAPTER 9 SCHEDULE OF ANNUITY PAYMENTS

9.1 Hybrid Annuity Model (HAM)

Hybrid annuity model is the PPP model in which Authority makes payment of 40% of the Bid Project cost during construction period based on progress milestones set forth in Concession Agreement. Payment of the balance 60% of the Bid Project Cost is made in form of bi-annual annuities with interest during the operational phase of concession.

Table 9-1: Schedule of Payment Milestones

S. no	Payment Milestone Number	Criteria for releasing the Payment
1	I	On Achievement of 5% of Physical Progress
2	II	On Achievement of 10% of Physical Progress
3	III	On Achievement of 20% of Physical Progress
4	IV	On Achievement of 30% of Physical Progress
5	V	On Achievement of 40% of Physical Progress
6	VI	On Achievement of 50% of Physical Progress
7	VII	On Achievement of 60% of Physical Progress
8	VIII	On Achievement of 70% of Physical Progress
9	IX	On Achievement of 80% of Physical Progress
10	X	On Achievement of 90% of Physical Progress

During the Operation Period following payment components are payable.

Annuity Payment as per the Annuity Payment Schedule provided in 23.6.3 of the Concession Agreement. Interest to be paid on the balance of completion cost at an interest rate equal to the applicable Bank Rate Plus 3%. O&M Payment as a lump sum amount as per Clause 23.7.1 of the Concession Agreement.

9.2 Schedule of Annuity Payments

Details of Annuity payments are as below

Table 9-2: Schedule of Annuity Payments

S No	Annuity	Percentage of BCC	Annuity Due Date
1	1	2.10 %	23-03-2024
2	2	2.17%	23-09-2024
3	3	2.24 %	23-03-2025
4	4	2.31%	23-09-2025
5	5	2.38 %	23-03-2026
6	6	2.45 %	23-09-2026
7	7	2.52 %	23-03-2027
8	8	2.60 %	23-09-2027
9	9	2.68 %	23-03-2028
10	10	2.76 %	23-09-2028
11	11	2.84 %	23-03-2029

S No	Annuity	Percentage of BCC	Annuity Due Date
12	12	2.93 %	23-09-2029
13	13	3.02 %	23-03-2030
14	14	3.11%	23-09-2030
15	15	3.20 %	23-03-2031
16	16	3.30 %	23-09-2031
17	17	3.40 %	23-03-2032
18	18	3.50 %	23-09-2032
19	19	3.61 %	23-03-2033
20	20	3.72 %	23-09-2033
21	21	3.83 %	23-03-2034
22	22	3.94 %	23-09-2034
23	23	4.06 %	23-03-2035
24	24	4.18 %	23-09-2035
25	25	4.25 %	23-03-2036
26	26	4.25 %	23-09-2036
27	27	4.44 %	23-03-2037
28	28	4.71 %	23-09-2037
29	29	4.75 %	23-03-2038
30	30	4.75 %	23-09-2038

CHAPTER 10 COST ESTIMATES

10.1 Maintenance of Project Cost

The maintenance methodology and yearly maintenance program will guide the Maintenance team to undertake the routine & periodic maintenance works of the Project Facilities. This program is the basic indicator of the intended works to be carried out by the Maintenance Team over a period of one year

Road maintenance can be carried out in four ways as listed below.

- i. Preventive Maintenance
- ii. Routine Maintenance
- iii. Periodic Maintenance
- iv. Special repairs

- Preventive Maintenance:

Preventive maintenance is an organized, systematic process of applying a series of preventive treatments over the life of the pavement to minimize life cycle costs.

The strategy of applying periodic treatments at appropriate times in a pavement's life is economical than applying treatment at the end of pavement's life. Preventive maintenance is designed to retard pavement deterioration. Regular preventive maintenance will be carried out to ensure adherence to the Design Requirements and specifications throughout the Concession period.

The flexible pavement is in good condition and hence does not require any immediate or preventive interventions.

- Routine Maintenance:

Routine maintenance, which involves repairing of cracks, replacement of safety girders along the highway, clearance of debris following accidents, ensuring functionality of signposts, maintenance of a security set-up, and such other activities

- Periodic Maintenance

In contrast to preventive maintenance treatments, periodic maintenance treatments are ideally applied on pavements to improve surface integrity and waterproofing, or to improve skid resistance, without increasing the strength of the pavement significantly

Schedule of Periodic Maintenance	
Description	Scheduled Year
1 st Periodic Maintenance	FY 2031
2 nd Periodic Maintenance	FY 2038

- Special Repairs

The group of activities performed to restore the roadway following damage due to natural calamities such as heavy floods, sand storms, hurricanes, cyclones, earthquakes or landslides which shall be unpredictable. The affected Project Road shall be rectified, and the system shall be restored to function as per program prepared in consultation with Independent Engineer.

Typical activities include:

- Culvert and bridge repairs;
- Retaining wall repairs and construction;
- Construction of Diversions;
- Roadway repairs; and
- Flood damage restoration works, etc.

10.2 O&M Expense forecasts

The O&M costs were estimated based on various parameters of CA, and design reports. The cost summary is given below, and detailed cost estimations are given in ANNEXURE-4

Proposed Plan for Future Operation & Maintenance Costs (in Crores)

Table 10-1: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2023-2024	-	1.08	2.92	4.00
2024-2025	-	2.24	4.61	6.84
2025-2026	2.41	2.67	4.84	9.92
2026-2027	2.90	3.11	5.10	11.10
2027-2028	0.87	3.13	5.30	9.30
2028-2029	0.89	3.27	5.50	9.66
2029-2030	13.27	3.36	5.72	22.35
2030-2031	13.97	3.27	6.16	23.41
2031-2032	1.23	3.45	6.30	10.97
2032-2033	0.99	3.64	6.35	10.99
2033-2034	3.56	3.67	6.52	13.76
2034-2035	3.56	3.82	6.70	14.09
2035-2036	0.99	3.86	6.88	11.73

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2036-2037	15.54	3.89	7.07	26.49
2037-2038	16.28	3.91	7.26	27.45
2038-2039	0.96	1.95	2.49	5.40
Total Expenditure in Cr. Rs	77.41	50.32	89.72	217.45

CHAPTER 11 CONCLUSION

Based on detailed site inspection, review of various documents and reports as described in the preceding chapters technical over view of the Project is provided below.

- **Pavement Condition**

The Pavement condition for the overall project is good. RCC drains are constructed in Built up locations and earthen drains in rural locations which facilitates effective drainage system along the project road. Shoulder condition is good.

- **Condition of Structures**

Condition of Bridges is good. No structural defects were noticed. The general condition of Culverts is good.

- **Toll Plaza**

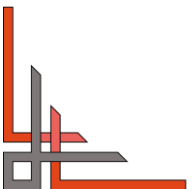
Toll Plaza is operational with ETC Toll collection system and connected by network system monitored in administrative building. Bus bays and truck Lay byes are in good condition. Medical Aid posts found functional. Avenue plantation and landscaping at Toll Plaza is provided and being maintained well. Highway lighting is provided at toll plaza, bus bay and truck lay bye locations and the same is found functional.

- **Road Safety**

Pavement marking is in good condition and number of sign boards are provided as per IRC SP 73-2007. The condition of sign boards & other road appurtenances like metal beam crash barriers is good.



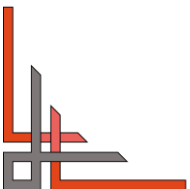
ANNEXURES





Annexure-1

Inventory & Condition of Pavement Condition





Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)

Surveyed By :							Side : LHS	Carriage way : MCW			Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
6+000	6+200	P	Bu	CC	9	G	Work Completed	2	G							
6+200	6+400	P	Bu	CC	9	G	Work Completed	2	G							
6+400	6+600	P	Bu	CC	9	G	Work Completed	2	G							
6+600	6+800	P	Bu	CC	9	G	Work Completed	2	G							
6+800	7+000	P	Bu	CC	9	G	Work Completed	2	G							
7+000	7+200	P	Bu	CC	9	G	Work Completed	2	G							
7+200	7+400	P	Bu	CC	9	G	Work Completed	2	G							
7+400	7+600	P	Bu	CC	9	G	Work Completed	2	G							
7+600	7+800	P	Bu	CC	9	G	Work Completed	2	G							
7+800	8+000	P	Bu	CC	9	G	Work Completed	2	G							
8+000	8+200	P	Bu	CC	9	G	Work Completed	2	G							
8+200	8+400	P	Bu	CC	9	G	Work Completed	2	G							
8+400	8+600	P	Bu	CC	9	G	Work Completed	2	G							
8+600	8+800	P	Bu	CC	9	G	Work Completed	2	G							
8+800	9+000	P	Bu	CC	9	G	Work Completed	2	G							
9+000	9+200	P	Bu	CC	9	G	Work Completed	2	G							
9+200	9+400	P	Bu	CC	9	G	Work Completed	2	G							
9+400	9+600	P	Bu	CC	9	G	Work Completed	2	G							
9+600	9+800	P	Bu	CC	9	G	Work Completed	2	G							
9+800	10+000	P	Bu	CC	9	G	Work Completed	2	G							
10+000	10+200	P	Bu	CC	9	G	Work Completed	2	G							
10+200	10+400	P	Bu	CC	9	G	Work Completed	2	G							
10+400	10+600	P	Bu	CC	9	G	Work Completed	2	G							
10+600	10+800	P	Bu	CC	9	G	Work Completed	2	G							
10+800	11+000	P	Bu	CC	9	G	Work Completed	2	G							
11+000	11+200	P	Bu	CC	9	G	Work Completed	2	G							
11+200	11+400	P	Bu	CC	9	G	Work Completed	2	G							



Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)

Surveyed By :							Side : LHS	Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
11+400	11+600	P	Bu	CC	9	G	Work Completed	2	G								
11+600	11+800	P	Bu	CC	9	G	Work Completed	2	G								
11+800	12+000	P	Bu	CC	9	G	Work Completed	2	G								
12+000	12+200	P	Bu	CC	9	G	Work Completed	2	G								
12+200	12+400	P	Bu	CC	9	G	Work Completed	2	G								
12+400	12+600	P	Bu	CC	9	G	Work Completed	2	G								
12+600	12+800	P	Bu	CC	9	G	Work Completed	2	G								
12+800	13+000	P	Bu	CC	9	G	Work Completed	2	G								
13+000	13+200	P	Bu	CC	9	G	Work Completed	2	G								
13+200	13+400	P	Bu	CC	9	G	Work Completed	2	G								
13+400	13+600	P	Bu	CC	9	G	Work Completed	2	G								
13+600	13+800	P	Bu	CC	9	G	Work Completed	2	G								
13+800	14+000	P	Bu	CC	9	G	Work Completed	2	G								
14+000	14+200	P	Bu	CC	9	G	Work Completed	2	G								
14+200	14+400	P	Bu	CC	9	G	Work Completed	2	G								
14+400	14+600	P	Bu	CC	9	G	Work Completed	2	G								
14+600	14+800	P	Bu	CC	9	G	Work Completed	2	G								
14+800	15+000	P	Bu	CC	9	G	Work Completed	2	G								
15+000	15+200	P	Bu	CC	9	G	Work Completed	2	G								
15+200	15+400	P	Bu	CC	9	G	Work Completed	2	G								
15+400	15+600	P	Bu	CC	9	G	Work Completed	2	G								
15+600	15+800	P	Bu	CC	9	G	Work Completed	2	G								
15+800	16+000	P	Bu	CC	9	G	Work Completed	2	G								
16+000	16+200	P	Bu	CC	9	G	Work Completed	2	G								
16+200	16+400	P	Bu	CC	9	G	Work Completed	2	G								
16+400	16+600	P	Bu	CC	9	G	Work Completed	2	G								
16+600	16+800	P	Bu	CC	9	G	Work Completed	2	G								



Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)

Surveyed By :							Side : LHS	Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
16+800	17+000	P	Bu	CC	9	G	Work Completed	2	G								
17+000	17+200	P	Bu	CC	9	G	Work Completed	2	G								
17+200	17+400	P	Bu	CC	9	G	Work Completed	2	G								
17+400	17+600	P	Bu	CC	9	G	Work Completed	2	G								
17+600	17+800	P	Bu	CC	9	G	Work Completed	2	G								
17+800	18+000	P	Bu	CC	9	G	Work Completed	2	G								
18+000	18+200	P	Bu	CC	9	G	Work Completed	2	G								
18+200	18+400	P	Bu	CC	9	G	Work Completed	2	G								
18+400	18+600	P	Bu	CC	9	G	Work Completed	2	G								
18+600	18+800	P	Bu	CC	9	G	Work Completed	2	G								
18+800	19+000	P	Bu	CC	9	G	Work Completed	2	G								
19+000	19+200	P	Bu	CC	9	G	Work Completed	2	G								
19+200	19+400	P	Bu	CC	9	G	Work Completed	2	G								
19+400	19+600	P	Bu	CC	9	G	Work Completed	2	G								
19+600	19+800	P	Bu	CC	9	G	Work Completed	2	G								
19+800	20+000	P	Bu	CC	9	G	Work Completed	2	G								
20+000	20+200	P	Bu	CC	9	G	Work Completed	2	G								
20+200	20+400	P	Bu	CC	9	G	Work Completed	2	G								
20+400	20+600	P	Bu	CC	9	G	Work Completed	2	G								
20+600	20+800	P	Bu	CC	9	G	Work Completed	2	G								
20+800	21+000	P	Bu	CC	9	G	Work Completed	2	G								
21+000	21+200	P	Bu	CC	9	G	Work Completed	2	G								
21+200	21+400	P	Bu	CC	9	G	Work Completed	2	G								
21+400	21+600	P	Bu	CC	9	G	Work Completed	2	G								
21+600	21+800	P	Bu	CC	9	G	Work Completed	2	G								
21+800	22+000	P	Bu	CC	9	G	Work Completed	2	G								
22+000	22+200	P	Bu	CC	9	G	Work Completed	2	G								



Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)

Surveyed By :							Side : LHS	Carriage way : MCW			Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
22+200	22+400	P	Bu	CC	9	G	Work Completed	2	G							
22+400	22+600	P	Bu	CC	9	G	Work Completed	2	G							
22+600	22+800	P	Bu	CC	9	G	Work Completed	2	G							
22+800	23+000	P	Bu	CC	9	G	Work Completed	2	G							
23+000	23+200	P	Bu	CC	9	G	Work Completed	2	G							
23+200	23+400	P	Bu	CC	9	G	Work Completed	2	G							
23+400	23+600	P	Bu	CC	9	G	Work Completed	2	G							
23+600	23+800	P	Bu	CC	9	G	Work Completed	2	G							
23+800	24+000	P	Bu	CC	9	G	Work Completed	2	G							
24+000	24+200	P	Bu	CC	9	G	Work Completed	2	G							
24+200	24+400	P	Bu	CC	9	G	Work Completed	2	G							
24+400	24+600	P	Bu	CC	9	G	Work Completed	2	G							
24+600	24+800	P	Bu	CC	9	G	Work Completed	2	G							
24+800	25+000	P	Bu	CC	9	G	Work Completed	2	G							
25+000	25+200	P	Bu	CC	9	G	Work Completed	2	G							
25+200	25+400	P	Bu	CC	9	G	Work Completed	2	G							
25+400	25+600	P	Bu	CC	9	G	Work Completed	2	G							
25+600	25+800	P	Bu	CC	9	G	Work Completed	2	G							
25+800	26+000	P	Bu	CC	9	G	Work Completed	2	G							
26+000	26+200	P	Bu	CC	9	G	Work Completed	2	G							
26+200	26+400	P	Bu	CC	9	G	Work Completed	2	G							
26+400	26+600	P	Bu	CC	9	G	Work Completed	2	G				26450	BT	3.75	Work completed
26+600	26+800	P	Bu	CC	9	G	Work Completed	2	G							
26+800	27+000	P	Bu	CC	9	G	Work Completed	2	G							
27+000	27+200	P	Bu	CC	9	G	Work Completed	2	G							
27+200	27+400	P	Bu	CC	9	G	Work Completed	2	G							
27+400	27+600	P	Bu	CC	9	G	Work Completed	2	G							



Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)

Surveyed By :		Side : LHS						Carriage way : MCW			Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
27+600	27+800	P	Bu	CC	9	F	Work Completed	2	G							
27+800	28+000	P	Bu	CC	9	F	Work Completed	2	G							
28+000	28+200	P	Bu	CC	9	F	Work Completed	2	G							
28+200	28+400	P	Bu	CC	9	G	Work Completed	2	G							
28+400	28+600	P	Bu	CC	9	G	Work Completed	2	G							
28+600	28+800	P	Bu	CC	9	F	Work Completed	2	G							
28+800	29+000	P	Bu	CC	9	F	Work Completed	2	G							
29+000	29+200	P	Bu	CC	9	F	Work Completed	2	G							
29+200	29+400	P	Bu	CC	9	F	Work Completed	2	G							
29+400	29+600	P	Bu	CC	9	F	Work Completed	2	G							
29+600	29+800	P	Bu	CC	9	F	Work Completed	2	G							
29+800	30+000	P	Bu	CC	9	F	Work Completed	2	G							
30+000	30+200	P	Bu	CC	9	F	Work Completed	2	G							
30+200	30+400	P	Bu	CC	9	G	Work Completed	2	G							
30+400	30+600	P	Bu	CC	9	G	Work Completed	2	G							
30+600	30+800	P	Bu	CC	9	G	Work Completed	2	G							
30+800	31+000	P	Bu	CC	9	G	Work Completed	2	G							
31+000	31+200	P	Bu	CC	9	G	Work Completed	2	G							
31+200	31+400	P	Bu	CC	9	G	Work Completed	2	G							
31+400	31+600	P	Bu	CC	9	G	Work Completed	2	G							
31+600	31+800	P	Bu	CC	9	G	Work Completed	2	G							
31+800	32+000	P	Bu	CC			Toll Plaza	2	G							
32+000	32+200	P	Bu	CC			Toll Plaza	2	G							
32+200	32+400	P	Bu	CC			Toll Plaza	2	G							
32+400	32+600	P	Bu	CC			Toll Plaza	2	G							
32+600	32+800	P	Bu	CC	9	G	Work Completed	2	G							
32+800	33+000	P	Bu	CC	9	G	Work Completed	2	G							



Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)

Surveyed By :							Side : LHS	Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
33+000	33+200	P	Bu	CC	9	G	Work Completed	2	G								
33+200	33+400	P	Bu	CC	9	G	Work Completed	2	G								
33+400	33+600	P	Bu	CC	9	G	Work Completed	2	G								
33+600	33+800	P	Bu	CC	9	G	Work Completed	2	G								
33+800	34+000	P	Bu	CC	9	G	Work Completed	2	G								
34+000	34+200	P	Bu	CC	9	G	Work Completed	2	G								
34+200	34+400	P	Bu	CC	9	G	Work Completed	2	G								
34+400	34+600	P	Bu	CC	9	G	Work Completed	2	G								
34+600	34+800	P	Bu	CC	9	G	Work Completed	2	G								
34+800	35+000	P	Bu	CC	9	G	Work Completed	2	G								
35+000	35+200	P	Bu	CC	9	G	Work Completed	2	G								
35+200	35+400	P	Bu	CC	9	G	Work Completed	2	G								
35+400	35+600	P	Bu	CC	9	G	Work Completed	2	G								
35+600	35+800	P	Bu	CC	9	G	Work Completed	2	G								
35+800	36+000	P	Bu	CC	9	G	Work Completed	2	G								
36+000	36+200	P	Bu	CC	9	G	Work Completed	2	G								
36+200	36+400	P	Bu	CC	9	G	Work Completed	2	G								
36+400	36+600	P	Bu	CC	9	G	Work Completed	2	G								
36+600	36+800	P	Bu	CC	9	G	Work Completed	2	G								
36+800	37+000	P	Bu	CC	9	G	Work Completed	2	G								
37+000	37+200	P	Bu	CC	9	G	Work Completed	2	G								
37+200	37+400	P	Bu	CC	9	G	Work Completed	2	G								
37+400	37+600	P	Bu	CC	9	G	Work Completed	2	G								
37+600	37+800	P	Bu	CC	9	G	Work Completed	2	G								
37+800	38+000	P	Bu	CC	9	G	Work Completed	2	G								
38+000	38+200	P	Bu	CC	9	G	Work Completed	2	G								
38+200	38+400	P	Bu	CC	9	G	Work Completed	2	G								



Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)

Surveyed By :							Side : LHS	Carriage way : MCW			Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
38+400	38+600	P	Bu	CC	9	G	Work Completed	2	G							
38+600	38+800	P	Bu	CC	9	G	Work Completed	2	G							
38+800	39+000	P	Bu	CC	9	G	Work Completed	2	G							
39+000	39+200	P	Bu	CC	9	G	Work Completed	2	G							
39+200	39+400	P	Bu	CC	9	G	Work Completed	2	G							
39+400	39+600	P	Bu	CC	9	G	Work Completed	2	G							
39+600	39+800	P	Bu	CC	9	G	Work Completed	2	G							
39+800	40+000	P	Bu	CC	9	G	Work Completed	2	G							
40+000	40+200	P	Bu	CC	9	G	Work Completed	2	G							
40+200	40+400	P	Bu	CC	9	G	Work Completed	2	G							
40+400	40+600	P	Bu	CC	9	G	Work Completed	2	G							
40+600	40+800	P	Bu	CC	9	G	Work Completed	2	G							
40+800	41+000	P	Bu	CC	9	G	Work Completed	2	G							
41+000	41+200	P	Bu	CC	9	G	Work Completed	2	G							
41+200	41+400	P	Bu	CC	9	G	Work Completed	2	G							
41+400	41+600	P	Bu	CC	9	G	Work Completed	2	G							
41+600	41+800	P	Bu	CC	9	G	Work Completed	2	G							
41+800	42+000	P	Bu	CC	9	F	Work in progress	2	G							
42+000	42+200	P	Bu	CC	9	F	Work in progress	2	G							
42+200	42+400	P	Bu	CC	9	G	Work Completed	2	G							
42+400	42+600	P	Bu	CC	9	G	Work Completed	2	G							
42+600	42+800	P	Bu	CC	9	G	Work Completed	2	G							
42+800	43+000	P	Bu	CC	9	G	Work Completed	2	G							
43+000	43+200	P	Bu	CC	9	G	Work Completed	2	G							
43+200	43+400	P	Bu	CC	9	G	Work Completed	2	G							
43+400	43+600	P	Bu	CC	9	G	Work Completed	2	G							
43+600	43+800	P	Bu	CC	9	G	Work Completed	2	G							



Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)

Surveyed By :		Side : LHS						Carriage way : MCW			Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
43+800	44+000	P	Bu	CC	9	G	Work Completed	2	G							
44+000	44+200	P	Bu	CC	9	G	Work Completed	2	G							
44+200	44+400	P	Bu	CC	9	G	Work Completed	2	G							
44+400	44+600	P	Bu	CC	9	G	Work Completed	2	G							
44+600	44+800	P	Bu	CC	9	G	Work Completed	2	G							
44+800	45+000	P	Bu	CC	9	G	Work Completed	2	G							
45+000	45+200	P	Bu	CC	9	G	Work Completed	2	G							
45+200	45+400	P	Bu	CC	9	G	Work Completed	2	G							
45+400	45+600	P	Bu	CC	9	G	Work Completed	2	G							
45+600	45+800	P	Bu	CC	9	G	Work Completed	2	G							
45+800	46+000	P	Bu	CC	9	G	Work Completed	2	G							
46+000	46+200	P	Bu	CC	9	G	Work Completed	2	G							
46+200	46+400	P	Bu	CC	9	G	Work Completed	2	G							
46+400	46+600	P	Bu	CC	9	G	Work Completed	2	G							
46+600	46+800	P	Bu	CC	9	G	Work Completed	2	G							
46+800	47+000	P	Bu	CC	9	G	Work Completed	2	G							
47+000	47+200	P	Bu	CC	9	G	Work Completed	2	G							
47+200	47+400	P	Bu	CC	9	G	Work Completed	2	G							
47+400	47+600	P	Bu	CC	9	G	Work Completed	2	G							
47+600	47+800	P	Bu	CC	9	G	Work Completed	2	G							
47+800	48+000	P	Bu	CC	9	G	Work Completed	2	G							
48+000	48+200	P	Bu	CC	9	G	Work Completed	2	G							
48+200	48+400	P	Bu	CC	9	G	Work Completed	2	G							
48+400	48+600	P	Bu	CC	9	G	Work Completed	2	G							
48+600	48+800	P	Bu	CC	9	G	Work Completed	2	G							
48+800	49+000	P	Bu	CC	9	G	Work Completed	2	G							
49+000	49+200	P	Bu	CC	9	G	Work Completed	2	G							



Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)


Surveyed By :							Side : LHS	Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
49+200	49+400	P	Bu	CC	9	G	Work Completed	2	G								
49+400	49+600	P	Bu	CC	9	G	Work Completed	2	G								
49+600	49+800	P	Bu	CC	9	G	Work Completed	2	G								
49+800	50+000	P	Bu	CC	9	G	Work Completed	2	G								
50+000	50+200	P	Bu	CC	9	G	Work Completed	2	G								
50+200	50+400	P	Bu	CC	9	G	Work Completed	2	G								
50+400	50+600	P	Bu	CC	9	G	Work Completed	2	G								
50+600	50+800	P	Bu	CC	9	G	Work Completed	2	G								
50+800	51+000	P	Bu	CC	9	G	Work Completed	2	G								
51+000	51+200	P	Bu	CC	9	G	Work Completed	2	G								
51+200	51+400	P	Bu	CC	9	G	Work Completed	2	G								
51+400	51+600	P	Bu	CC	9	G	Work Completed	2	G								
51+600	51+800	P	Bu	CC	9	G	Work Completed	2	G								
51+800	52+000	P	Bu	CC	9	G	Work Completed	2	G								
52+000	52+200	P	Bu	CC	9	G	Work Completed	2	G								
52+200	52+400	P	Bu	CC	9	G	Work Completed	2	G								
52+400	52+600	P	Bu	CC	9	G	Work Completed	2	G								
52+600	52+800	P	Bu	CC	9	G	Work Completed	2	G								
52+800	53+000	P	Bu	CC	9	G	Work Completed	2	G								
53+000	53+200	P	Bu	CC	9	G	Work Completed	2	G								
53+200	53+400	P	Bu	CC	9	G	Work Completed	2	G								
53+400	53+600	P	Bu	CC	9	G	Work Completed	2	G								
53+600	53+800	P	Bu	CC	9	G	Work Completed	2	G								
53+800	54+000	P	Bu	CC	9	G	Work Completed	2	G								
54+000	54+200	P	Bu	CC	9	G	Work Completed	2	G								
54+200	54+400	P	Bu	CC	9	G	Work Completed	2	G								
54+400	54+600	P	Bu	CC	9	G	Work Completed	2	G								





Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.


ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)

Surveyed By :							Side : LHS	Carriage way : MCW			Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
54+600	54+800	P	Bu	CC	9	G	Work Completed	2	G							
54+800	55+000	P	Bu	CC	9	G	Work Completed	2	G							
55+000	55+200	P	Bu	CC	9	G	Work Completed	2	G							
55+200	55+400	P	Bu	CC	9	G	Work Completed	2	G							
55+400	55+600	P	Bu	CC	9	G	Work Completed	2	G							
55+600	55+800	P	Bu	CC	9	G	Work Completed	2	G							
55+800	56+000	P	Bu	CC	9	G	Work Completed	2	G							
56+000	56+200	P	Bu	CC	9	G	Work Completed	2	G							
56+200	56+400	P	Bu	CC	9	G	Work Completed	2	G							
56+400	56+600	P	Bu	CC	9	G	Work Completed	2	G							
56+600	56+800	P	Bu	CC	9	G	Work Completed	2	G							
56+800	57+000	P	Bu	CC	9	G	Work Completed	2	G							
57+000	57+200	P	Bu	CC	9	G	Work Completed	2	G							
57+200	57+400	P	Bu	CC	9	G	Work Completed	2	G							
57+400	57+600	P	Bu	CC	9	G	Work Completed	2	G							
57+600	57+800	P	Bu	CC	9	G	Work Completed	2	G							
57+800	58+000	P	Bu	CC	9	G	Work Completed	2	G				57825	BT	3.75	Work completed
58+000	58+200	P	Bu	CC	9	G	Work Completed	2	G							
58+200	58+400	P	Bu	CC	9	G	Work Completed	2	G							
58+400	58+600	P	Bu	CC	9	G	Work Completed	2	G							
58+600	58+800	P	Bu	CC	9	G	Work Completed	2	G							
58+800	59+000	P	Bu	CC	9	G	Work Completed	2	G							
59+000	59+200	P	Bu	CC	9	G	Work Completed	2	G							
59+200	59+400	P	Bu	CC	9	G	Work Completed	2	G							
59+400	59+600	P	Bu	CC	9	G	Work Completed	2	G							
59+600	59+800	P	Bu	CC	9	G	Work Completed	2	G							
59+800	60+000	P	Bu	CC	9	F	Tranverse Cracks	2	G							

		Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.																	
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																			
Surveyed By :								Side : LHS		Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
60+000	60+200	P	Bu	CC	9	G	Work Completed	2	G										
60+200	60+400	P	Bu	CC	9	G	Work Completed	2	G										
60+400	60+600	P	Bu	CC	9	G	Work Completed	2	G										
60+600	60+800	P	Bu	CC	9	G	Work Completed	2	G										
60+800	61+000	P	Bu	CC	9	G	Work Completed	2	G										
61+000	61+200	P	Bu	CC	9	G	Work Completed	2	G										
61+200	61+400	P	Bu	CC	9	G	Work Completed	2	G										
61+400	61+600	P	Bu	CC	9	G	Work Completed	2	G										
61+600	61+800	P	Bu	CC	9	G	Work Completed	2	G										
61+800	62+000	P	Bu	CC	9	G	Work Completed	2	G										
62+000	62+200	P	Bu	CC	9	G	Work Completed	2	G										
62+200	62+400	P	Bu	CC	9	G	Work Completed	2	G										
62+400	62+600	P	Bu	CC	9	G	Work Completed	2	G										
62+600	62+800	P	Bu	CC	9	G	Work Completed	2	G										
62+800	63+000	P	Bu	CC	9	G	Work Completed	2	G										

		Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.																	
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																			
Surveyed By :								Side : RHS		Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
63+000	62+800	P	Bu	CC	9	G	Work Completed	2	G										
62+800	62+600	P	Bu	CC	9	G	Work Completed	2	G										
62+600	62+400	P	Bu	CC	9	G	Work Completed	2	G										
62+400	62+200	P	Bu	CC	9	G	Work Completed	2	G										
62+200	62+000	P	Bu	CC	9	G	Work Completed	2	G										
62+000	61+800	P	Bu	CC	9	G	Work Completed	2	G										
61+800	61+600	P	Bu	CC	9	G	Work completed	2	G										
61+600	61+400	P	Bu	CC	9	G	Work completed	2	G										
61+400	61+200	P	Bu	CC	9	G	Work completed	2	G										
61+200	61+000	P	Bu	CC	9	G	Work completed	2	G										
61+000	60+800	P	Bu	CC	9	G	Work completed	2	G										
60+800	60+600	P	Bu	CC	9	G	Work completed	2	G										
60+600	60+400	P	Bu	CC	9	G	Work completed	2	G										
60+400	60+200	P	Bu	CC	9	G	Work completed	2	G										
60+200	60+000	P	Bu	CC	9	G	Work completed	2	G										
60+000	59+800	P	Bu	CC	9	G	Work completed	2	G										
59+800	59+600	P	Bu	CC	9	G	Work completed	2	G										
59+600	59+400	P	Bu	CC	9	G	Work completed	2	G										
59+400	59+200	P	Bu	CC	9	G	Work completed	2	G										
59+200	59+000	P	Bu	CC	9	G	Work completed	2	G										
59+000	58+800	P	Bu	CC	9	G	Work completed	2	G										
58+800	58+600	P	Bu	CC	9	G	Work completed	2	G										
58+600	58+400	P	Bu	CC	9	G	Work completed	2	G										
58+400	58+200	P	Bu	CC	9	G	Work completed	2	G										
58+200	58+000	P	Bu	CC	9	G	Work completed	2	G										
58+000	57+800	P	Bu	CC	9	G	Work completed	2	G										
57+800	57+600	P	Bu	CC	9	G	Work completed	2	G										

				Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.															
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																			
Surveyed By :								Side : RHS		Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
57+600	57+400	P	Bu	CC	9	G	Work completed	2	G										
57+400	57+200	P	Bu	CC	9	G	Work completed	2	G										
57+200	57+000	P	Bu	CC	9	G	Work completed	2	G										
57+000	56+800	P	Bu	CC	9	G	Work completed	2	G										
56+800	56+600	P	Bu	CC	9	G	Work completed	2	G										
56+600	56+400	P	Bu	CC	9	G	Work completed	2	G										
56+400	56+200	P	Bu	CC	9	G	Work completed	2	G										
56+200	56+000	P	Bu	CC	9	G	Work completed	2	G										
56+000	55+800	P	Bu	CC	9	G	Work completed	2	G										
55+800	55+600	P	Bu	CC	9	G	Work completed	2	G										
55+600	55+400	P	Bu	CC	9	G	Work completed	2	G										
55+400	55+200	P	Bu	CC	9	G	Work completed	2	G										
55+200	55+000	P	Bu	CC	9	G	Work completed	2	G										
55+000	54+800	P	Bu	CC	9	G	Work completed	2	G										
54+800	54+600	P	Bu	CC	9	G	Work completed	2	G										
54+600	54+400	P	Bu	CC	9	G	Work completed	2	G										
54+400	54+200	P	Bu	CC	9	G	Work completed	2	G										
54+200	54+000	P	Bu	CC	9	G	Work completed	2	G										
54+000	53+800	P	Bu	CC	9	G	Work completed	2	G										
53+800	53+600	P	Bu	CC	9	G	Work completed	2	G										
53+600	53+400	P	Bu	CC	9	G	Work completed	2	G										
53+400	53+200	P	Bu	CC	9	G	Work completed	2	G										
53+200	53+000	P	Bu	CC	9	G	Work completed	2	G										
53+000	52+800	P	Bu	CC	9	G	Work completed	2	G										
52+800	52+600	P	Bu	CC	9	G	Work completed	2	G										
52+600	52+400	P	Bu	CC	9	G	Work completed	2	G										
52+400	52+200	P	Bu	CC	9	G	Work completed	2	G										

				Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.															
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																			
Surveyed By :								Side : RHS		Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
52+200	52+000	P	Bu	CC	9	G	Work completed	2	G										
52+000	51+800	P	Bu	CC	9	G	Work completed	2	G										
51+800	51+600	P	Bu	CC	9	G	Work completed	2	G										
51+600	51+400	P	Bu	CC	9	G	Work completed	2	G										
51+400	51+200	P	Bu	CC	9	G	Work completed	2	G										
51+200	51+000	P	Bu	CC	9	G	Work completed	2	G				51155	BT	3.75	Work completed			
51+000	50+800	P	Bu	CC	9	G	Work completed	2	G										
50+800	50+600	P	Bu	CC	9	G	Work completed	2	G										
50+600	50+400	P	Bu	CC	9	G	Work completed	2	G										
50+400	50+200	P	Bu	CC	9	G	Work completed	2	G										
50+200	50+000	P	Bu	CC	9	G	Work completed	2	G										
50+000	49+800	P	Bu	CC	9	G	Work completed	2	G										
49+800	49+600	P	Bu	CC	9	G	Work completed	2	G										
49+600	49+400	P	Bu	CC	9	G	Work completed	2	G										
49+400	49+200	P	Bu	CC	9	G	Work completed	2	G										
49+200	49+000	P	Bu	CC	9	G	Work completed	2	G										
49+000	48+800	P	Bu	CC	9	G	Work completed	2	G										
48+800	48+600	P	Bu	CC	9	G	Work completed	2	G										
48+600	48+400	P	Bu	CC	9	G	Work completed	2	G										
48+400	48+200	P	Bu	CC	9	G	Work completed	2	G										
48+200	48+000	P	Bu	CC	9	G	Work completed	2	G										
48+000	47+800	P	Bu	CC	9	G	Work completed	2	G										
47+800	47+600	P	Bu	CC	9	G	Work completed	2	G										
47+600	47+400	P	Bu	CC	9	G	Work completed	2	G										
47+400	47+200	P	Bu	CC	9	G	Work completed	2	G										
47+200	47+000	P	Bu	CC	9	G	Work completed	2	G										
47+000	46+800	P	Bu	CC	9	G	Work completed	2	G										

				Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.															
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																			
Surveyed By :								Side : RHS		Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
46+800	46+600	P	Bu	CC	9	G	Work completed	2	G										
46+600	46+400	P	Bu	CC	9	G	Work completed	2	G										
46+400	46+200	P	Bu	CC	9	G	Work completed	2	G										
46+200	46+000	P	Bu	CC	9	G	Work completed	2	G										
46+000	45+800	P	Bu	CC	9	G	Work completed	2	G										
45+800	45+600	P	Bu	CC	9	G	Work completed	2	G										
45+600	45+400	P	Bu	CC	9	G	Work completed	2	G										
45+400	45+200	P	Bu	CC	9	G	Work completed	2	G										
45+200	45+000	P	Bu	CC	9	G	Work completed	2	G										
45+000	44+800	P	Bu	CC	9	G	Work completed	2	G										
44+800	44+600	P	Bu	CC	9	G	Work completed	2	G										
44+600	44+400	P	Bu	CC	9	G	Work completed	2	G										
44+400	44+200	P	Bu	CC	9	G	Work completed	2	G										
44+200	44+000	P	Bu	CC	9	G	Work completed	2	G										
44+000	43+800	P	Bu	CC	9	G	Work completed	2	G										
43+800	43+600	P	Bu	CC	9	G	Work completed	2	G										
43+600	43+400	P	Bu	CC	9	G	Work completed	2	G										
43+400	43+200	P	Bu	CC	9	G	Work completed	2	G										
43+200	43+000	P	Bu	CC	9	G	Work completed	2	G										
43+000	42+800	P	Bu	CC	9	G	Work completed	2	G										
42+800	42+600	P	Bu	CC	9	G	Work completed	2	G										
42+600	42+400	P	Bu	CC	9	G	Work completed	2	G										
42+400	42+200	P	Bu	CC	9	G	Work completed	2	G										
42+200	42+000	P	Bu	CC	9	F	Work in progress	2	G										
42+000	41+800	P	Bu	CC	9	F	Work in progress	2	G										
41+800	41+600	P	Bu	CC	9	G	Work completed	2	G										
41+600	41+400	P	Bu	CC	9	G	Work completed	2	G										



Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)

Surveyed By :							Side : RHS	Carriage way : MCW			Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)	
41+400	41+200	P	Bu	CC	9	G	Work completed	2	G							
41+200	41+000	P	Bu	CC	9	G	Work completed	2	G							
41+000	40+800	P	Bu	CC	9	G	Work completed	2	G							
40+800	40+600	P	Bu	CC	9	G	Work completed	2	G							
40+600	40+400	P	Bu	CC	9	G	Work completed	2	G							
40+400	40+200	P	Bu	CC	9	G	Work completed	2	G							
40+200	40+000	P	Bu	CC	9	G	Work completed	2	G							
40+000	39+800	P	Bu	CC	9	G	Work completed	2	G							
39+800	39+600	P	Bu	CC	9	G	Work completed	2	G							
39+600	39+400	P	Bu	CC	9	G	Work completed	2	G							
39+400	39+200	P	Bu	CC	9	G	Work completed	2	G							
39+200	39+000	P	Bu	CC	9	G	Work completed	2	G							
39+000	38+800	P	Bu	CC	9	G	Work completed	2	G							
38+800	38+600	P	Bu	CC	9	G	Work completed	2	G							
38+600	38+400	P	Bu	CC	9	F	Work completed	2	G							
38+400	38+200	P	Bu	CC	9	F	Work completed	2	G							
38+200	38+000	P	Bu	CC	9	F	Work completed	2	G							
38+000	37+800	P	Bu	CC	9	F	Work completed	2	G							
37+800	37+600	P	Bu	CC	9	F	Work completed	2	G							
37+600	37+400	P	Bu	CC	9	F	Work completed	2	G							
37+400	37+200	P	Bu	CC	9	F	Work completed	2	G							
37+200	37+000	P	Bu	CC	9	G	Work completed	2	G							
37+000	36+800	P	Bu	CC	9	G	Work completed	2	G							
36+800	36+600	P	Bu	CC	9	G	Work completed	2	G							
36+600	36+400	P	Bu	CC	9	G	Work completed	2	G							
36+400	36+200	P	Bu	CC	9	G	Work completed	2	G							
36+200	36+000	P	Bu	CC	9	G	Work completed	2	G							


		Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.																
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																		
Surveyed By :								Side : RHS		Carriage way : MCW			Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
36+000	35+800	P	Bu	CC	9	G	Work completed	2	G									
35+800	35+600	P	Bu	CC	9	G	Work completed	2	G									
35+600	35+400	P	Bu	CC	9	G	Work completed	2	G									
35+400	35+200	P	Bu	CC	9	G	Work completed	2	G									
35+200	35+000	P	Bu	CC	9	G	Work completed	2	G									
35+000	34+800	P	Bu	CC	9	G	Work completed	2	G									
34+800	34+600	P	Bu	CC	9	G	Work completed	2	G									
34+600	34+400	P	Bu	CC	9	G	Work completed	2	G									
34+400	34+200	P	Bu	CC	9	G	Work completed	2	G									
34+200	34+000	P	Bu	CC	9	G	Work completed	2	G									
34+000	33+800	P	Bu	CC	9	G	Work completed	2	G									
33+800	33+600	P	Bu	CC	9	G	Work completed	2	G									
33+600	33+400	P	Bu	CC	9	G	Work completed	2	G									
33+400	33+200	P	Bu	CC	9	G	Work completed	2	G									
33+200	33+000	P	Bu	CC	9	G	Work completed	2	G									
33+000	32+800	P	Bu	CC	9	G	Work completed	2	G									
32+800	32+600	P	Bu	CC	9	G	Work completed	2	G									
32+600	32+400	P	Bu	CC	9	G	Toll Plaza	2	G									
32+400	32+200	P	Bu	CC	9	G	Toll Plaza	2	G									
32+200	32+000	P	Bu	CC	9	G	Toll Plaza	2	G									
32+000	31+800	P	Bu	CC	9	G	Toll Plaza	2	G									
31+800	31+600	P	Bu	CC	9	G	Work completed	2	G									
31+600	31+400	P	Bu	CC	9	G	Work completed	2	G									
31+400	31+200	P	Bu	CC	9	F	Work completed	2	G									
31+200	31+000	P	Bu	CC	9	F	Work completed	2	G									
31+000	30+800	P	Bu	CC	9	F	Work completed	2	G									
30+800	30+600	P	Bu	CC	9	F	Work completed	2	G									



Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.

ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)

Surveyed By :							Side : RHS	Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
30+600	30+400	P	Bu	CC	9	F	Work completed	2	G								
30+400	30+200	P	Bu	CC	9	F	Work completed	2	G								
30+200	30+000	P	Bu	CC	9	F	Work completed	2	G								
30+000	29+800	P	Bu	CC	9	F	Work completed	2	G								
29+800	29+600	P	Bu	CC	9	F	Work completed	2	G								
29+600	29+400	P	Bu	CC	9	F	Work completed	2	G								
29+400	29+200	P	Bu	CC	9	F	Work completed	2	G								
29+200	29+000	P	Bu	CC	9	F	Work completed	2	G								
29+000	28+800	P	Bu	CC	9	F	Work completed	2	G								
28+800	28+600	P	Bu	CC	9	F	Work completed	2	G								
28+600	28+400	P	Bu	CC	9	G	Work completed	2	G								
28+400	28+200	P	Bu	CC	9	F	Work completed	2	G								
28+200	28+000	P	Bu	CC	9	F	Work completed	2	G								
28+000	27+800	P	Bu	CC	9	F	Work completed	2	G								
27+800	27+600	P	Bu	CC	9	F	Work completed	2	G								
27+600	27+400	P	Bu	CC	9	G	Work completed	2	G								
27+400	27+200	P	Bu	CC	9	G	Work completed	2	G								
27+200	27+000	P	Bu	CC	9	G	Work completed	2	G								
27+000	26+800	P	Bu	CC	9	G	Work completed	2	G								
26+800	26+600	P	Bu	CC	9	G	Work completed	2	G								
26+600	26+400	P	Bu	CC	9	G	Work completed	2	G				26450	BT	3.75	Work completed	
26+400	26+200	P	Bu	CC	9	G	Work completed	2	G								
26+200	26+000	P	Bu	CC	9	G	Work completed	2	G								
26+000	25+800	P	Bu	CC	9	G	Work completed	2	G								
25+800	25+600	P	Bu	CC	9	G	Work completed	2	G								
25+600	25+400	P	Bu	CC	9	G	Work completed	2	G								
25+400	25+200	P	Bu	CC	9	G	Work completed	2	G								


				Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.															
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																			
Surveyed By :								Side : RHS		Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
25+200	25+000	P	Bu	CC	9	G	Work completed	2	G										
25+000	24+800	P	Bu	CC	9	G	Work completed	2	G										
24+800	24+600	P	Bu	CC	9	G	Work completed	2	G										
24+600	24+400	P	Bu	CC	9	G	Work completed	2	G										
24+400	24+200	P	Bu	CC	9	G	Work completed	2	G										
24+200	24+000	P	Bu	CC	9	G	Work completed	2	G										
24+000	23+800	P	Bu	CC	9	G	Work completed	2	G										
23+800	23+600	P	Bu	CC	9	G	Work completed	2	G										
23+600	23+400	P	Bu	CC	9	G	Work completed	2	G										
23+400	23+200	P	Bu	CC	9	G	Work completed	2	G										
23+200	23+000	P	Bu	CC	9	G	Work completed	2	G										
23+000	22+800	P	Bu	CC	9	G	Work completed	2	G										
22+800	22+600	P	Bu	CC	9	G	Work completed	2	G										
22+600	22+400	P	Bu	CC	9	G	Work completed	2	G										
22+400	22+200	P	Bu	CC	9	G	Work completed	2	G										
22+200	22+000	P	Bu	CC	9	G	Work completed	2	G										
22+000	21+800	P	Bu	CC	9	G	Work completed	2	G										
21+800	21+600	P	Bu	CC	9	G	Work completed	2	G										
21+600	21+400	P	Bu	CC	9	G	Work completed	2	G										
21+400	21+200	P	Bu	CC	9	G	Work completed	2	G										
21+200	21+000	P	Bu	CC	9	G	Work completed	2	G										
21+000	20+800	P	Bu	CC	9	G	Work completed	2	G										
20+800	20+600	P	Bu	CC	9	G	Work completed	2	G										
20+600	20+400	P	Bu	CC	9	G	Work completed	2	G										
20+400	20+200	P	Bu	CC	9	G	Work completed	2	G										
20+200	20+000	P	Bu	CC	9	G	Work completed	2	G										
20+000	19+800	P	Bu	CC	9	G	Work completed	2	G										





Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.


ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)


Surveyed By :							Side : RHS	Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks	
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
19+800	19+600	P	Bu	CC	9	G	Work completed	2	G								
19+600	19+400	P	Bu	CC	9	G	Work completed	2	G								
19+400	19+200	P	Bu	CC	9	G	Work completed	2	G								
19+200	19+000	P	Bu	CC	9	G	Work completed	2	G								
19+000	18+800	P	Bu	CC	9	G	Work completed	2	G								
18+800	18+600	P	Bu	CC	9	G	Work completed	2	G								
18+600	18+400	P	Bu	CC	9	G	Work completed	2	G								
18+400	18+200	P	Bu	CC	9	G	Work completed	2	G								
18+200	18+000	P	Bu	CC	9	G	Work completed	2	G								
18+000	17+800	P	Bu	CC	9	G	Work completed	2	G								
17+800	17+600	P	Bu	CC	9	G	Work completed	2	G								
17+600	17+400	P	Bu	CC	9	G	Work completed	2	G								
17+400	17+200	P	Bu	CC	9	G	Work completed	2	G								
17+200	17+000	P	Bu	CC	9	G	Work completed	2	G								
17+000	16+800	P	Bu	CC	9	G	Work completed	2	G								
16+800	16+600	P	Bu	CC	9	G	Work completed	2	G								
16+600	16+400	P	Bu	CC	9	G	Work completed	2	G								
16+400	16+200	P	Bu	CC	9	G	Work completed	2	G								
16+200	16+000	P	Bu	CC	9	G	Work completed	2	G								
16+000	15+800	P	Bu	CC	9	G	Work completed	2	G								
15+800	15+600	P	Bu	CC	9	G	Work completed	2	G								
15+600	15+400	P	Bu	CC	9	G	Work completed	2	G								
15+400	15+200	P	Bu	CC	9	G	Work completed	2	G				15215	BT	3.75	Work completed	
15+200	15+000	P	Bu	CC	9	G	Work completed	2	G								
15+000	14+800	P	Bu	CC	9	G	Work completed	2	G								
14+800	14+600	P	Bu	CC	9	G	Work completed	2	G								
14+600	14+400	P	Bu	CC	9	G	Work completed	2	G								


				Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.															
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																			
Surveyed By :								Side : RHS		Carriage way : MCW			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
14+400	14+200	P	Bu	CC	9	G	Work completed	2	G										
14+200	14+000	P	Bu	CC	9	G	Work completed	2	G										
14+000	13+800	P	Bu	CC	9	G	Work completed	2	G										
13+800	13+600	P	Bu	CC	9	G	Work completed	2	G										
13+600	13+400	P	Bu	CC	9	G	Work completed	2	G										
13+400	13+200	P	Bu	CC	9	G	Work completed	2	G										
13+200	13+000	P	Bu	CC	9	G	Work completed	2	G										
13+000	12+800	P	Bu	CC	9	G	Work completed	2	G										
12+800	12+600	P	Bu	CC	9	G	Work completed	2	G										
12+600	12+400	P	Bu	CC	9	G	Work completed	2	G										
12+400	12+200	P	Bu	CC	9	G	Work completed	2	G										
12+200	12+000	P	Bu	CC	9	G	Work completed	2	G										
12+000	11+800	P	Bu	CC	9	G	Work completed	2	G										
11+800	11+600	P	Bu	CC	9	G	Work completed	2	G										
11+600	11+400	P	Bu	CC	9	G	Work completed	2	G										
11+400	11+200	P	Bu	CC	9	G	Work completed	2	G										
11+200	11+000	P	Bu	CC	9	G	Work completed	2	G										
11+000	10+800	P	Bu	CC	9	G	Work completed	2	G										
10+800	10+600	P	Bu	CC	9	G	Work completed	2	G										
10+600	10+400	P	Bu	CC	9	G	Work completed	2	G										
10+400	10+200	P	Bu	CC	9	G	Work completed	2	G										
10+200	10+000	P	Bu	CC	9	G	Work completed	2	G										
10+000	9+800	P	Bu	CC	9	G	Work completed	2	G										
9+800	9+600	P	Bu	CC	9	G	Work completed	2	G										
9+600	9+400	P	Bu	CC	9	G	Work completed	2	G										
9+400	9+200	P	Bu	CC	9	G	Work completed	2	G										
9+200	9+000	P	Bu	CC	9	G	Work completed	2	G										


		Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.																
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																		
Surveyed By :								Side : RHS		Carriage way : MCW			Date :					
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
9+000	8+800	P	Bu	CC	9	G	Work completed	2	G									
8+800	8+600	P	Bu	CC	9	G	Work completed	2	G									
8+600	8+400	P	Bu	CC	9	G	Work completed	2	G									
8+400	8+200	P	Bu	CC	9	G	Work completed	2	G									
8+200	8+000	P	Bu	CC	9	G	Work completed	2	G									
8+000	7+800	P	Bu	CC	9	G	Work completed	2	G									
7+800	7+600	P	Bu	CC	9	G	Work completed	2	G									
7+600	7+400	P	Bu	CC	9	G	Work completed	2	G									
7+400	7+200	P	Bu	CC	9	G	Work completed	2	G									
7+200	7+000	P	Bu	CC	9	G	Work completed	2	G									
7+000	6+800	P	Bu	CC	9	G	Work completed	2	G									
6+800	6+600	P	Bu	CC	9	G	Work completed	2	G									
6+600	6+400	P	Bu	CC	9	G	Work completed	2	G									
6+400	6+200	P	Bu	CC	9	G	Work completed	2	G									
6+200	6+000	P	Bu	CC	9	G	Work completed	2	G									


		Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.																	
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																			
Surveyed By :							LHS		Carriage way : SR			Date :							
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
9+400	9+600	P	BU	BT	7	G	Work Completed	2	G										
9+600	9+800	P	BU	BT	7	G	Work Completed	2	G										
9+800	10+000	P	BU	BT	7	G	Work Completed	2	G				9879	BT	3.75	Work completed			
10+000	10+200	P	BU	BT	7	G	Work Completed	2	G										
10+200	10+440	P	BU	BT	7	G	Work Completed	2	G										
13+300	13+500	P	BU	BT	7	G	Work Completed	2	G										
13+500	13+700	P	BU	BT	7	G	Work Completed	2	G										
13+700	13+900	P	BU	BT	7	G	Work Completed	2	G				13800	BT	3.75	Work completed			
13+900	14+100	P	BU	BT	7	G	Work Completed	2	G										
14+100	14+300	P	BU	BT	7	G	Work Completed	2	G										
14+300	14+400	P	BU	BT	7	G	Work Completed	2	G										
18+700	18+940	P	BU	BT	7	G	Work Completed	2	G										
18+940	19+140	P	BU	BT	7	G	Work Completed	2	G										
19+140	19+340	P	BU	BT	7	G	Work Completed	2	G				19230	BT	3.75	Work completed			
19+340	19+540	P	BU	BT	7	G	Work Completed	2	G										
19+540	19+740	P	BU	BT	7	G	Work Completed	2	G										
19+740	19+970	P	BU	BT	7	G	Work Completed	2	G										
23+050	23+290	P	BU	BT	7	G	Work Completed	2	G										
23+290	23+490	P	BU	BT	7	G	Work Completed	2	G				23431	BT	3.75	Work completed			
23+490	23+690	P	BU	BT	7	G	Work Completed	2	G										
23+690	23+890	P	BU	BT	7	G	Work Completed	2	G										
23+890	23+950	P	BU	BT	7	G	Work Completed	2	G										
27+380	27+600	P	BU	BT	7	G	Work Completed	2	G										
27+600	27+800	P	BU	BT	7	G	Work Completed	2	G				27740						
27+800	28+080	P	BU	BT	7	G	Work Completed	2	G										
29+950	30+150	P	BU	BT	7	F	Work Completed	2	G										
30+150	30+350	P	BU	BT	7	F	Work Completed	2	G										

		Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.																	
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																			
Surveyed By :							LHS		Carriage way : SR			Date :							
Chainage (Km)		Terrain (P /R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks			
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)				
30+350	30+550	P	BU	BT	7	F	Work Completed	2	G					30408					
30+550	30+750	P	BU	BT	7	F	Work Completed	2	G										
30+750	30+950	P	BU	BT	7	F	Work Completed	2	G										
30+950	31+150	P	BU	BT	7	F	Work Completed	2	G										
31+150	31+250	P	BU	BT	7	F	Work Completed	2	G										
37+300	37+500	P	BU	BT	7	F	Work Completed	2	G										
37+500	37+700	P	BU	BT	7	F	Work Completed	2	G										
37+700	37+900	P	BU	BT	7	F	Work Completed	2	G					37887					
37+900	38+100	P	BU	BT	7	F	Work Completed	2	G										
38+100	38+300	P	BU	BT	7	F	Work Completed	2	G										
38+300	38+500	P	BU	BT	7	F	Work Completed	2	G										
38+500	38+700	P	BU	BT	7	F	Work Completed	2	G										
38+700	38+900	P	BU	BT	7	F	Work Completed	2	G										
38+900	39+100	P	BU	BT	7	F	Work Completed	2	G										
39+100	39+200	P	BU	BT	7	F	Work in Progress	2	G										
51+900	52+100	P	BU	BT	7	G	Work Completed	2	G										
52+100	52+300	P	BU	BT	7	G	Work Completed	2	G										
52+300	52+500	P	BU	BT	7	G	Work Completed	2	G					52357	BT	3.75	Work completed		
52+500	52+700	P	BU	BT	7	G	Work Completed	2	G										
52+700	52+900	P	BU	BT	7	G	Work Completed	2	G										
54+580	54+780	P	BU	BT	7	G	Work Completed	2	G										
54+780	54+980	P	BU	BT	7	G	Work Completed	2	G										
54+980	55+180	P	BU	BT	7	G	Work Completed	2	G					55060	BT	3.75	Work completed		
55+180	55+380	P	BU	BT	7	G	Work Completed	2	G										
55+380	55+580	P	BU	BT	7	G	Work Completed	2	G										
58+620	58+820	P	BU	BT	7	G	Work Completed	2	G										

		Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.																
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																		
Surveyed By :								LHS		Carriage way : SR			Date :					Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IND/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads					
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
58+820	59+020	P	BU	BT	7	G	Work Completed	2	G									
59+020	59+220	P	BU	BT	7	G	Work Completed	2	G									
59+220	59+420	P	BU	BT	7	G	Work Completed	2	G				59258	BT	3.75		Work completed	
59+420	59+520	P	BU	BT	7	G	Work Completed	2	G									

		Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.																
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																		
Surveyed By :							Side : RHS		Carriage way : SR			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
59+520	59+320	P	BU	BT	7	G	Work Completed	2	G									
59+320	59+120	P	BU	BT	7	G	Work Completed	2	G				59258	BT	3.75	Work completed		
59+120	58+920	P	BU	BT	7	G	Work Completed	2	G									
58+920	58+720	P	BU	BT	7	G	Work Completed	2	G									
58+720	58+620	P	BU	BT	7	G	Work Completed	2	G									
55+580	55+380	P	BU	BT	7	G	Work Completed	2	G									
55+380	55+180	P	BU	BT	7	G	Work Completed	2	G									
55+180	54+980	P	BU	BT	7	G	Work Completed	2	G				55060	BT	3.75	Work completed		
54+980	54+880	P	BU	BT	7	G	Work Completed	2	G									
52+900	52+700	P	BU	BT	7	G	Work Completed	2	G									
52+700	52+500	P	BU	BT	7	G	Work Completed	2	G									
52+500	52+300	P	BU	BT	7	G	Work Completed	2	G				52357	BT	3.75	Work completed		
52+300	52+100	P	BU	BT	7	G	Work Completed	2	G									
52+100	51+900	P	BU	BT	7	G	Work Completed	2	G									
39+200	39+000	P	BU	BT	7	F	Work Completed	2	G									
39+000	38+800	P	BU	BT	7	F	Work Completed	2	G									
38+800	38+600	P	BU	BT	7	F	Work Completed	2	G									
38+600	38+500	P	BU	BT	7	F	Work Completed	2	G									
38+500	38+300	P	BU	BT	7	F	Work Completed	2	G									
38+300	38+100	P	BU	BT	7	F	Work Completed	2	G									
38+100	37+900	P	BU	BT	7	F	Work Completed	2	G									
37+900	37+700	P	BU	BT	7	F	Work Completed	2	G									
37+700	37+500	P	BU	BT	7	F	Work Completed	2	G									
37+500	37+300	P	BU	BT	7	F	Work Completed	2	G									
31+250	31+050	P	BU	BT	7	F	Work Completed	2	G									
31+050	30+850	P	BU	BT	7	F	Work Completed	2	G									
30+850	30+650	P	BU	BT	7	F	Work Completed	2	G									

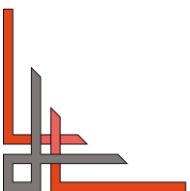
		Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.															
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																	
Surveyed By :							Side : RHS		Carriage way : SR			Date :					Remarks
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads				
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)		
30+650	30+450			P	BU	BT	7	F	Work Completed				2	G			
30+450	30+250	P	BU	BT	7	F	Work Completed	2	G								
30+250	30+050	P	BU	BT	7	F	Work Completed	2	G								
30+050	30+850	P	BU	BT	7	F	Work Completed	2	G								
30+850	30+650	P	BU	BT	7	G	Work Completed	2	G								
30+650	30+450	P	BU	BT	7	G	Work Completed	2	G								
30+450	30+250	P	BU	BT	7	G	Work Completed	2	G								
30+250	30+050	P	BU	BT	7	G	Work Completed	2	G								
30+050	29+950	P	BU	BT	7	G	Work Completed	2	G								
28+080	27+880	P	BU	BT	7	G	Work Completed	2	G								
27+880	27+680	P	BU	BT	7	G	Work Completed	2	G				27740				
27+680	27+480	P	BU	BT	7	G	Work Completed	2	G								
27+480	27+380	P	BU	BT	7	G	Work Completed	2	G								
23+950	23+750	P	BU	BT	7	G	Work Completed	2	G								
23+750	23+550	P	BU	BT	7	G	Work Completed	2	G								
23+550	23+350	P	BU	BT	7	G	Work Completed	2	G				23431	BT	3.75	Work completed	
23+350	23+150	P	BU	BT	7	G	Work Completed	2	G								
23+150	23+050	P	BU	BT	7	G	Work Completed	2	G								
19+700	19+500	P	BU	BT	7	G	Work Completed	2	G								
19+500	19+300	P	BU	BT	7	G	Work Completed	2	G								
19+300	19+100	P	BU	BT	7	G	Work Completed	2	G				19230			Work in completed	
19+100	18+900	P	BU	BT	7	G	Work Completed	2	G								
18+900	18+700	P	BU	BT	7	G	Work Completed	2	G								
14+400	14+200	P	BU	BT	7	G	Work Completed	2	G								
14+200	14+000	P	BU	BT	7	G	Work Completed	2	G								
14+000	13+800	P	BU	BT	7	G	Work Completed	2	G								
13+800	13+600	P	BU	BT	7	G	Work Completed	2	G				13800	BT	3.75	Work completed	


		Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.																
ROAD INVENTORY AND CONDITION SURVEY FORMAT (DHROL BHADRA HIGHWAYS LIMITED)																		
Surveyed By :							Side : RHS		Carriage way : SR			Date :						
Chainage (Km)		Terrain (P/R/H)	Land Use (BU/AG/FO/IN D/BA)	Carriageway				Earthen Shoulder		Submergence / Water Bodies	Encroachments	Embankment Height (m)	Details of Cross Roads			Remarks		
From	To			Type (CC / BT)	Width (m)	Condition (G/F/P/VP)	Describe type of Distress	Width (m)	Condition (G/F/P/VP)				Location	Type (CC/BT/ER)	Width (m)			
13+600	13+400	P	BU	BT	7	G	Work Completed	2	G									
13+400	13+300	P	BU	BT	7	G	Work Completed	2	G									
10+440	10+240	P	BU	BT	7	G	Work Completed	2	G									
10+240	10+040	P	BU	BT	7	G	Work Completed	2	G									
10+040	9+840	P	BU	BT	7	G	Work Completed	2	G				9879	BT	3.75	Work completed		
9+840	9+640	P	BU	BT	7	G	Work Completed	2	G									
9+640	9+400	P	BU	BT	7	G	Work Completed	2	G									







Annexure-2

Inventory & Condition of Project Facilities






	Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.				
TOLL PLAZA - INVENTORY & CONDITION					
Sno.	Description	TP1			
		Inventory	Condition	Inventory	Condition
1	Location Chainage (@km)	Km 32100.000	Good	-	
2	Location Name (Village)	Tarana		-	
3	Canopy	No	Not Applicable	NA	Not Applicable
4	Solar Pannels over Canopy	No	Not Applicable	NA	Not Applicable
5	Sky walk	Yes	Good	NA	Not Applicable
6	Administration Building Constructed?	Yes	Good	NA	Not Applicable
7	Medical Aid post Building	Yes	Good	NA	Not Applicable
8	Traffic Aid post Building	Yes	Good	NA	Not Applicable
9	Total No. Of Toll Lanes	2 x (4+1 Lanes)	Working	NA	NA
9.1	No. of ETC/Hybrid ETC Lanes	2 x (4 Lanes)	Working		NA
9.2	No. of Non ETC Lanes	0	NA		NA
9.3	Reversible Lanes (if any)	2	Working		NA
10	No. of Lanes WIM installed ?	2 x (4+1 Lanes)	Working		NA
11	No. of Static Weigh Bridges installed?	2	Working		NA
16	TMS System software Installed?	Devadatta	Working	NA	NA
17	TMS software installed by / Make	Devadatta	Working	NA	NA
18	ETC System installed by / Make	Devadatta	Working	NA	NA
19	Diesel Generator125 KVA	1	Working	NA	Not Applicable
20	Diesel Generator KVA	No	Not Applicable	NA	Not Applicable
21	Diesel Generator KVA	No	Not Applicable	NA	Not Applicable
22	Inverter230V..... (10KV)	3	Working	NA	Not Applicable
23	Fire fighting System	Yes	Working	NA	Not Applicable
24	Testing Laboratory	Yes	Working	NA	Not Applicable
25	Swachabhart Toilets	No	Not Applicable	NA	Not Applicable
26	Helipad	No	Not Applicable	NA	Not Applicable
27	Remarks / Observations				




 <p>Latitude: 22.741165 Longitude: 70.489222 Altitude: 13.2 m Accuracy: 5.8 m Time: 19-11-2023 10:37 Phone: +91-151A km toll plaza</p>	 <p>Latitude: 22.741168 Longitude: 70.489788 Altitude: 42.054 m Accuracy: 11.3 m Time: 19-11-2023 11:12 Phone: +91-151A km toll plaza</p>
TP1 Toll Plaza @ Km 32100	TP1 Administrative Building @ Km. 32100

 <p>Latitude: 22.741721 Longitude: 70.487859 Altitude: 42.046 m Accuracy: 13.1 m Time: 19-11-2023 11:05 Phone: +91-151A km toll plaza</p>	 <p>Latitude: 22.742784 Longitude: 70.489111 Altitude: 42.054 m Accuracy: 7.8 m Time: 19-11-2023 11:19 Phone: +91-151A km toll plaza</p>
Medical Aid and Traffic Aid post Building	Static Weigh Bridge

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available,

	Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.				
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 9+934 RHS	@ Km. 11+310 LHS	@ Km. 11+650 RHS	@ Km. 14+950 LHS
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Prov	Prov	Prov
1.8	Guard Rails condition	Good	Good	Good	Good
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Prov	Prov	Prov	Prov
2.2	Pavement type of Bus bay	Flexi	Flexi	Flexi	Flexi
2.3	Island type	Ghost	Ghost	Ghost	Ghost
2.4	Road Marking	Yes	Yes	Yes	Yes
2.5	Drainage condition	Good	Good	Good	Good
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	Yes	Yes	Yes	Yes
3.3	Sign Board	Yes	Yes	Yes	Yes
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities				
					
BUS BAY @ 9+934 RHS		BUS BAY @ 11+310 LHS			

Abbreviations: G- Good, F- Fair, P- Poor, NA- Not Applicable, Pro = Provided, Not Pro = Not Provided, Mas = Masonry

	Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.				
BUS BAY & PASSENGER BUS SHELTER - INVENTORY & CONDITION DATA					
Sno.	Description	Location / Chainage			
		@ Km. 15+450 RHS	@ Km. 19+315 RHS	@ Km. 23+378 LHS	@ Km. 27+940 RHS
1	PASSANGER SHELTER				
1.1	Shelter Type	RCC	RCC	RCC	RCC
1.2	Condition of Shelter	Good	Good	Good	Good
1.3	Passenger seating	Prov	Prov	Prov	Prov
1.4	Condition of Passenger seating	Good	Good	Good	Good
1.5	Flooring condition	Good	Good	Good	Good
1.6	Ramp for disabled persons	Prov	Prov	Prov	Prov
1.7	Guard Rails	Prov	Not Prov	Not Prov	Not Prov
1.8	Guard Rails condition	Good	Not Applicable	Not Applicable	Not Applicable
1.9	Cleanliness	Good	Good	Good	Good
1.10	Over all condition of Bus shelter	Good	Good	Good	Good
2	BUSBAY				
2.1	Bus bay	Prov	Prov	Prov	Prov
2.2	Pavement type of Bus bay	Flexi	Flexi	Flexi	Flexi
2.3	Island type	Ghost	Ghost	NA	Ghost
2.4	Road Marking	Yes	Yes	Yes	Yes
2.5	Drainage condition	Good	Good	Good	Good
3	FACILITIES				
3.1	Drinking Water Facility	No	No	No	No
3.2	Lighting	Yes	Yes	Yes	Yes
3.3	Sign Board	Yes	Yes	Yes	Yes
3.4	Landscaping and plantaion near Bus Bay	No	No	No	No
3.5	Others.....	NA	NA	NA	NA
3.6	Remarks / Observations on facilities				
					
BUS BAY @ Km 11+650 RHS		BUS BAY @ 14+950 LHS			

Four Lining of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.							
INCIDENT MANAGEMENT SYSTEM - INVENTORY & CONDITION							
Sno.	Description		Vehicle 1		Vehicle 2		Remarks
			Inventory	Condition	Inventory	Condition	
1	AMBULANCE						
1.1	Vehicle	Parking Location @ Km.	Km 32100.000				Working / Not-Working / NA
1.2		Vehicle Reg. No.	TR	Working		Not Applicable	
1.3		Fitted with GPS ?	Yes	Working	NA	Not Applicable	
1.4	Equipment	First Aid Kit	Yes	Good	NA	Not Applicable	
1.5		Oxygen Cylider	Yes	Good	NA	Not Applicable	
1.6		Strecher	Yes	Good	NA	Not Applicable	
1.7	Manpower	No. Of shifts	2		NA		
1.8		Driver	Yes	2	NA		
1.9		Paramedical Staff	Yes	2	NA		
2	Route Petroling Vehicle						
2.1	Vehicle	Parking Location @ Km.	Km 32100.000				
2.2		Vehicle Reg. No.	RJ20GC0688	Working		Not Applicable	
2.3		Fitted with GPS ?	Yes	Working	NA	Not Applicable	
2.4	Equipment	Safety Helmets	No	Good	NA	Not Applicable	
2.5		Flags & Caution Tap	No	Good	NA	Not Applicable	
2.6		Safety Cones	No	Good	NA	Not Applicable	
2.7	Manpower	No. Of shifts	3		NA		
2.8		Driver	Yes	2	NA		
2.9		Helpers	Yes	1	NA		
3	Crane / Towing Vehicle						
3.1	Vehicle	Parking Location @ Km.	Km 32100.000				
3.2		Vehicle Reg. No.	PB13KB3092	Working		Not Applicable	
3.3		Fitted with GPS ?	No	Working	NA	Not Applicable	
3.4	Equipment	Capacity In Mt	25	As per CA	NA	Not as per CA	
3.5		Tool Kit	Yes	Good	NA	Not Applicable	
3.6		Belt/Rope/Chain	Yes	Good	NA	Not Applicable	
3.7	Manpower	Safety Cones	Yes	Good	NA	Not Applicable	
3.8		No. Of shifts	2		NA		
3.9		Driver	Yes	2	NA		
3.10		Helpers	Yes	1	NA		
4	Remarks / Observations						
							
Ambulance			Route Petroling Vehicle				
							
Crane							

Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh- 151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.					
ADVANCED TRAFFIC MANAGEMENT SYSTEM (ATMS) - INVENTORY & CONDITION					
Sno.	Description	Inventory	Quantity	Condition	Remarks
1	OUT-DOOR EQUIPMENT	Km 32100.000			
1.1	Emergency Call Box (ECB)	Yes	50	Not Working	
1.2	Variable Message system (VMS)	Yes	7	Working	
1.3	Meteorological Data System (MDS)	Yes	1	Working	
1.4	Automatic Traffic counting and classification (ATCC)	Yes	2	Working	
1.5	Vehicle Speed Enforcement System cameras	Yes	4	Working	
1.6	CCTV Surveillance system	Yes	26	Working	
1.7	Video Incident Detection system	Yes	21	Working	
1.8	Visibility Sensors	Yes		Working	
1.9	Mobile Radio Communication System	Yes	1	Working	
2	IN-DOOR EQUIPMENT				
2.1	Central ATMS Server	Yes	1	Working	
2.2	Network Management System	Yes	1	Working	
2.3	Traffic Controller Operator	Yes	1	Working	
2.4	Video Display	Yes	1	Working	
2.5	Network Video Recording and Management system	Yes	1	Working	
2.6	Emergency Call Management Center	Yes	1	Working	
2.7	Video Incident Detection central System	Yes	1	Not Working	
3	Remarks / Observations				

 <p>Latitude: 22.74155 Longitude: 70.48875 Elevation: 29.76+4 m Accuracy: 32.5 m Time: 19-11-2023 11:02 Note: nh-151A km32100 plaza</p>	 <p>Latitude: 22.74155 Longitude: 70.48872 Elevation: 40.06+4 m Accuracy: 16.4 m Time: 19-11-2023 10:43 Note: nh-151A km toll plaza KTM</p>
Control Room @ TP	Control Room @ TP
 <p>Latitude: 22.741546 Longitude: 70.488695 Elevation: 40.06+3 m Accuracy: 19.8 m Time: 19-11-2023 11:10 Note: nh-151A km toll plaza here</p>	 <p>Latitude: 22.741594 Longitude: 70.488788 Elevation: 40.06+4 m Accuracy: 11.3 m Time: 19-11-2023 11:12 Note: nh-151A km toll plaza</p>
Condition Toll Plaza @ Km 32100	Condition Administrative Building @ Km. 32100

Abbreviations: G- Good, F- Fair, P- Poor, VP- Very Poor, NA- Not Applicable or Not Available,

Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.											
HIGHWAY LIGHTING - INVENTORY & CONDITION DATA											
S. No.	From	To	Side	Location	Type	Pole Spacing (m)	Total Nos	Bulb Type	Bulb Wattage	Condition	Remarks
1	32+100		RHS	MCW Edge	HM		1	LED		Good	
2	32+200		LHS	MCW Edge	HM		1	LED		Good	
3	31+700	32+100	Med	Med	DA	30	7	LED	230	Good	
4	11+100	11+310	Med	Med	DA	30	7	LED	230	Good	
5	11+100	11+310	LHS	SR Edge	SA	30	4	LED	230	Good	
6	14+950	14+950	LHS	SR Edge	SA	30	4	LED	230	Good	
7	19+315	19+315	LHS	SR Edge	SA	30	4	LED	230	Good	
8	23+378	23+378	LHS	SR Edge	SA	30	4	LED	230	Good	
9	52+210	52+210	LHS	SR Edge	SA	30	4	LED	230	Good	
10	09+934	09+934	RHS	SR Edge	SA	30	4	LED	230	Good	
11	11+750	11+550	RHS	SR Edge	SA	30	4	LED	230	Good	
12	15+450	15+450	RHS	SR Edge	SA	30	4	LED	230	Good	
13	23+230	23+378	RHS	SR Edge	SA	30	4	LED	230	Good	
14	27+940	27+940	RHS	SR Edge	SA	30	4	LED	230	Good	
15	52700	52700	RHS	SR Edge	SA	30	4	LED	230	Good	
16	54595	5495	RHS	SR Edge	SA	30	4	LED	230	Good	
17	9400	10450	BHS	MCW Edge	DA	30	68	LED	230	Good	
18	13300	14400	BHS	MCW Edge	DA	30	68	LED	230	Good	
19	18770	19700	BHS	MCW Edge	DA	30	72	LED	230	Good	
20	23050	23950	BHS	MCW Edge	DA	30	58	LED	230	Good	
21	51900	52900	BHS	MCW Edge	DA	30	66	LED	230	Good	
22	54580	55580	BHS	MCW Edge	DA	30	66	LED	230	Good	
23	58620	59520	BHS	MCW Edge	DA	30	66	LED	230	Good	

Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
1	06+173	06+185	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
2	06+181	06+193	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
3	07+060	07+160	LHS	MCW Edge	WBCB	100	Good	No	Partially Aavailable	Available	Available	
4	07+176	07+188	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
5	07+210	07+255	LHS	MCW Edge	WBCB	45	Good	No	Partially Aavailable	Available	Available	
6	07+360	07+420	LHS	MCW Edge	WBCB	60	Good	No	Partially Aavailable	Available	Available	
7	09+400	09+570	LHS	MCW Edge	WBCB	170	Good	No	Partially Aavailable	Available	Available	
8	10+360	10+440	LHS	MCW Edge	WBCB	80	Good	No	Partially Aavailable	Available	Available	
9	13+190	13+290	LHS	MCW Edge	WBCB	100	Good	No	Partially Aavailable	Available	Available	
10	13+300	13+330	LHS	MCW Edge	WBCB	30	Good	No	Partially Aavailable	Available	Available	
11	14+290	14+400	LHS	MCW Edge	WBCB	110	Good	No	Partially Aavailable	Available	Available	
12	15+570	15+670	LHS	MCW Edge	WBCB	100	Good	No	Partially Aavailable	Available	Available	
13	15+690	15+702	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
14	15+709	15+740	LHS	MCW Edge	WBCB	30.6	Good	No	Partially Aavailable	Available	Available	
15	15+734	15+760	LHS	MCW Edge	WBCB	26	Good	No	Partially Aavailable	Available	Available	
16	16+400	16+412	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
17	16+417	16+427	LHS	MCW Edge	WBCB	10	Good	No	Partially Aavailable	Available	Available	
18	16+830	16+848	LHS	MCW Edge	WBCB	18	Good	No	Partially Aavailable	Available	Available	
19	16+865	16+900	LHS	MCW Edge	WBCB	35	Good	No	Partially Aavailable	Available	Available	
20	16+883	16+930	LHS	MCW Edge	WBCB	47	Good	No	Partially Aavailable	Available	Available	
21	17+094	17+106	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
22	17+104	17+112	LHS	MCW Edge	WBCB	8	Good	No	Partially Aavailable	Available	Available	
23	17+505	17+517	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	

Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
24	17+514	17+522	LHS	MCW Edge	WBCB	8	Good	No	Partially Avaliable	Available	Available	
25	18+669	18+681	LHS	MCW Edge	WBCB	12	Good	No	Partially Avaliable	Available	Available	
26	18+673	18+681	LHS	MCW Edge	WBCB	8	Good	No	Partially Avaliable	Available	Available	
27	18+700	18+790	LHS	MCW Edge	WBCB	90	Good	No	Partially Avaliable	Available	Available	
28	19+550	19+700	LHS	MCW Edge	WBCB	150	Good	No	Partially Avaliable	Available	Available	
29	20+630	20+790	LHS	MCW Edge	WBCB	160	Good	No	Partially Avaliable	Available	Available	
30	20+810	21+250	LHS	MCW Edge	WBCB	440	Good	No	Partially Avaliable	Available	Available	
31	20+814	20+825	LHS	MCW Edge	WBCB	11	Good	No	Partially Avaliable	Available	Available	
32	22+030	22+090	LHS	MCW Edge	WBCB	60	Good	No	Partially Avaliable	Available	Available	
33	22+110	22+150	LHS	MCW Edge	WBCB	40	Good	No	Partially Avaliable	Available	Available	
34	22+350	22+430	LHS	MCW Edge	WBCB	80	Good	No	Partially Avaliable	Available	Available	
35	22+550	22+664	LHS	MCW Edge	WBCB	114	Good	No	Partially Avaliable	Available	Available	
36	22+729	22+849	LHS	MCW Edge	WBCB	120	Good	No	Partially Avaliable	Available	Available	
37	22+784	23+040	LHS	MCW Edge	WBCB	256	Good	No	Partially Avaliable	Available	Available	
38	23+060	23+100	LHS	MCW Edge	WBCB	40	Good	No	Partially Avaliable	Available	Available	
39	23+790	23+950	LHS	MCW Edge	WBCB	160	Good	No	Partially Avaliable	Available	Available	
40	26+174	26+186	LHS	MCW Edge	WBCB	12	Good	No	Partially Avaliable	Available	Available	
41	26+197	26+205	LHS	MCW Edge	WBCB	8	Good	No	Partially Avaliable	Available	Available	
	26+450			Med	WBCB	110	Good	No	Partially Avaliable	Available	Available	
42	26+949	26+961	LHS	MCW Edge	WBCB	12	Good	No	Partially Avaliable	Available	Available	
43	26+964	26+970	LHS	MCW Edge	WBCB	6	Good	No	Partially Avaliable	Available	Available	
44	26+967	26+978	LHS	MCW Edge	WBCB	11	Good	No	Partially Avaliable	Available	Available	
45	26+994	27+027	LHS	MCW Edge	WBCB	33	Good	No	Partially Avaliable	Available	Available	

Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
46	27+011	27+023	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
47	27+026	27+032	LHS	MCW Edge	WBCB	6	Good	No	Partially Aavailable	Available	Available	
48	27+138	27+145	LHS	MCW Edge	WBCB	7	Good	No	Partially Aavailable	Available	Available	
49	27+380	27+430	LHS	MCW Edge	WBCB	50	Good	No	Partially Aavailable	Available	Available	
50	27+596	27+602	LHS	MCW Edge	WBCB	6	Good	No	Partially Aavailable	Available	Available	
51	29+696	29+737	LHS	MCW Edge	WBCB	40.8	Good	No	Partially Aavailable	Available	Available	
52	31+645	31+657	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
53	31+662	31+680	LHS	MCW Edge	WBCB	18	Good	No	Partially Aavailable	Available	Available	
54	31+675	31+790	LHS	MCW Edge	WBCB	115	Good	No	Partially Aavailable	Available	Available	
55	32+250	32+530	LHS	MCW Edge	WBCB	280	Good	No	Partially Aavailable	Available	Available	
56	32+545	32+557	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
57	32+562	32+572	LHS	MCW Edge	WBCB	10	Good	No	Partially Aavailable	Available	Available	
58	32+567	32+579	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
59	32+584	32+594	LHS	MCW Edge	WBCB	10	Good	No	Partially Aavailable	Available	Available	
60	32+588	32+600	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
61	32+605	32+615	LHS	MCW Edge	WBCB	10	Good	No	Partially Aavailable	Available	Available	
62	32+610	32+760	LHS	MCW Edge	WBCB	150	Good	No	Partially Aavailable	Available	Available	
63	33+319	33+331	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
64	33+340	33+358	LHS	MCW Edge	WBCB	18	Good	No	Partially Aavailable	Available	Available	
65	33+349	33+360	LHS	MCW Edge	WBCB	11	Good	No	Partially Aavailable	Available	Available	
66	36+959	36+971	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
67	36+975	36+982	LHS	MCW Edge	WBCB	6.5	Good	No	Partially Aavailable	Available	Available	
68	37+010	37+070	LHS	MCW Edge	WBCB	60	Good	No	Partially Aavailable	Available	Available	

Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
69	41+497	41+509	LHS	MCW Edge	WBCB	12	Good	No	Partially Avaliable	Available	Available	
70	41+517	41+533	LHS	MCW Edge	WBCB	16	Good	No	Partially Avaliable	Available	Available	
71	41+540	41+590	LHS	MCW Edge	WBCB	50	Good	No	Partially Avaliable	Available	Available	
72	41+630	41+640	LHS	MCW Edge	WBCB	10	Good	No	Partially Avaliable	Available	Available	
73	41+660	41+828	LHS	MCW Edge	WBCB	168	Good	No	Partially Avaliable	Available	Available	
74	41+871	41+956	LHS	MCW Edge	WBCB	85	Good	No	Partially Avaliable	Available	Available	
75	49+804	49+816	LHS	MCW Edge	WBCB	12	Good	No	Partially Avaliable	Available	Available	
76	49+830	49+858	LHS	MCW Edge	WBCB	28	Good	No	Partially Avaliable	Available	Available	
77	50+640	50+650	LHS	MCW Edge	WBCB	10	Good	No	Partially Avaliable	Available	Available	
78	50+670	50+687	LHS	MCW Edge	WBCB	17	Good	No	Partially Avaliable	Available	Available	
79	50+701	50+729	LHS	MCW Edge	WBCB	28	Good	No	Partially Avaliable	Available	Available	
	51+150			Med	WBCB	110	Good	No	Partially Avaliable	Available	Available	
80	51+900	52+020	LHS	MCW Edge	WBCB	120	Good	No	Partially Avaliable	Available	Available	
81	52+680	52+900	LHS	MCW Edge	WBCB	220	Good	No	Partially Avaliable	Available	Available	
82	53+230	53+240	LHS	MCW Edge	WBCB	10	Good	No	Partially Avaliable	Available	Available	
83	54+020	54+070	LHS	MCW Edge	WBCB	50	Good	No	Partially Avaliable	Available	Available	
84	54+110	54+268	LHS	MCW Edge	WBCB	158	Good	No	Partially Avaliable	Available	Available	
85	54+305	54+377	LHS	MCW Edge	WBCB	72	Good	No	Partially Avaliable	Available	Available	
86	54+341	54+570	LHS	MCW Edge	WBCB	229	Good	No	Partially Avaliable	Available	Available	
87	54+580	54+690	LHS	MCW Edge	WBCB	110	Good	No	Partially Avaliable	Available	Available	
88	55+400	55+580	LHS	MCW Edge	WBCB	180	Good	No	Partially Avaliable	Available	Available	
	57+825			Med	WBCB	110	Good	No	Partially Avaliable	Available	Available	
89	58+620	58+750	LHS	MCW Edge	WBCB	130	Good	No	Partially Avaliable	Available	Available	

Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
90	59+480	59+520	LHS	MCW Edge	WBCB	40	Good	No	Partially Aavailable	Available	Available	
91	59+610	59+764	LHS	MCW Edge	WBCB	154	Good	No	Partially Aavailable	Available	Available	
92	59+806	59+904	LHS	MCW Edge	WBCB	97.8	Good	No	Partially Aavailable	Available	Available	
93	59+870	60+065	LHS	MCW Edge	WBCB	195	Good	No	Partially Aavailable	Available	Available	
94	60+072	60+140	LHS	MCW Edge	WBCB	68	Good	No	Partially Aavailable	Available	Available	
95	60+075	60+082	LHS	MCW Edge	WBCB	6.5	Good	No	Partially Aavailable	Available	Available	
96	60+525	60+537	LHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
97	60+545	60+568	LHS	MCW Edge	WBCB	22.5	Good	No	Partially Aavailable	Available	Available	
98	60+560	60+570	LHS	MCW Edge	WBCB	10	Good	No	Partially Aavailable	Available	Available	
1	06+177	6189	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
2	07+110	7188	RHS	MCW Edge	WBCB	78	Good	No	Partially Aavailable	Available	Available	
3	07+233	7370	RHS	MCW Edge	WBCB	137	Good	No	Partially Aavailable	Available	Available	
4	14+980	15190	RHS	MCW Edge	WBCB	210	Good	No	Partially Aavailable	Available	Available	
5	15+235	15370	RHS	MCW Edge	WBCB	135	Good	No	Partially Aavailable	Available	Available	
6	15+570	15685	RHS	MCW Edge	WBCB	115	Good	No	Partially Aavailable	Available	Available	
7	15+716	15728	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
8	16+422	16434	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
9	16+883	16895	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
10	17+050	17094	RHS	MCW Edge	WBCB	44	Good	No	Partially Aavailable	Available	Available	
11	17+103	17120	RHS	MCW Edge	WBCB	17	Good	No	Partially Aavailable	Available	Available	
12	17+512	17524	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
13	18+666	18678	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
14	19+700	19800	RHS	MCW Edge	WBCB	100	Good	No	Partially Aavailable	Available	Available	

Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
15	20+780	20790	RHS	MCW Edge	WBCB	10	Good	No	Partially Aavailable	Available	Available	
16	20+830	20930	RHS	MCW Edge	WBCB	100	Good	No	Partially Aavailable	Available	Available	
17	22+280	22674	RHS	MCW Edge	WBCB	394	Good	No	Partially Aavailable	Available	Available	
18	22+795	22990	RHS	MCW Edge	WBCB	195	Good	No	Partially Aavailable	Available	Available	
19	26+207	26260	RHS	MCW Edge	WBCB	53	Good	No	Partially Aavailable	Available	Available	
20	26+350	26380	RHS	MCW Edge	WBCB	30	Good	No	Partially Aavailable	Available	Available	
21	26+967	26978	RHS	MCW Edge	WBCB	11	Good	No	Partially Aavailable	Available	Available	
22	27+011	27023	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
23	27+030	27134	RHS	MCW Edge	WBCB	104	Good	No	Partially Aavailable	Available	Available	
24	27+141	27153	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
25	28+670	28882	RHS	MCW Edge	WBCB	212	Good	No	Partially Aavailable	Available	Available	
26	32+150	32180	RHS	MCW Edge	WBCB	30	Good	No	Partially Aavailable	Available	Available	
27	32+200	32290	RHS	MCW Edge	WBCB	90	Good	No	Partially Aavailable	Available	Available	
28	32+340	32470	RHS	MCW Edge	WBCB	130	Good	No	Partially Aavailable	Available	Available	
29	32+500	32557	RHS	MCW Edge	WBCB	57	Good	No	Partially Aavailable	Available	Available	
30	32+567	32579	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
31	32+589	32601	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
32	32+610	32622	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
33	33+349	33361	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
34	36+977	36989	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
35	41+525	41537	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
36	41+630	41650	RHS	MCW Edge	WBCB	20	Good	No	Partially Aavailable	Available	Available	
37	41+670	41828	RHS	MCW Edge	WBCB	158	Good	No	Partially Aavailable	Available	Available	

Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
38	42+130	42190	RHS	MCW Edge	WBCB	60	Good	No	Partially Aavailable	Available	Available	
39	49+844	49856	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
40	49+870	49920	RHS	MCW Edge	WBCB	50	Good	No	Partially Aavailable	Available	Available	
41	49+950	50020	RHS	MCW Edge	WBCB	70	Good	No	Partially Aavailable	Available	Available	
42	50+715	50727	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
43	54+100	54268	RHS	MCW Edge	WBCB	168	Good	No	Partially Aavailable	Available	Available	
44	54+341	54350	RHS	MCW Edge	WBCB	9	Good	No	Partially Aavailable	Available	Available	
45	54+350	54450	RHS	MCW Edge	WBCB	100	Good	No	Partially Aavailable	Available	Available	
46	59+640	59750	RHS	MCW Edge	WBCB	110	Good	No	Partially Aavailable	Available	Available	
47	59+849	60079	RHS	MCW Edge	WBCB	230	Good	No	Partially Aavailable	Available	Available	
48	60+086	60100	RHS	MCW Edge	WBCB	14	Good	No	Partially Aavailable	Available	Available	
49	60+130	60530	RHS	MCW Edge	WBCB	400	Good	No	Partially Aavailable	Available	Available	
50	60+553	60560	RHS	MCW Edge	WBCB	7	Good	No	Partially Aavailable	Available	Available	
51	60+560	60630	RHS	MCW Edge	WBCB	70	Good	No	Partially Aavailable	Available	Available	
52	61+750	62090	RHS	MCW Edge	WBCB	340	Good	No	Partially Aavailable	Available	Available	
53	06+181	6193	RHS	MCW Edge	WBCB	12	Good	No	Partially Aavailable	Available	Available	
54	07+210	7255	RHS	MCW Edge	WBCB	45	Good	No	Partially Aavailable	Available	Available	
55	15+709	15739.2	RHS	MCW Edge	WBCB	30.2	Good	No	Partially Aavailable	Available	Available	
56	16+417	16427	RHS	MCW Edge	WBCB	10	Good	No	Partially Aavailable	Available	Available	
57	16+865	16900	RHS	MCW Edge	WBCB	35	Good	No	Partially Aavailable	Available	Available	
58	17+104	17112	RHS	MCW Edge	WBCB	8	Good	No	Partially Aavailable	Available	Available	
59	17+514	17522	RHS	MCW Edge	WBCB	8	Good	No	Partially Aavailable	Available	Available	
60	18+673	18681	RHS	MCW Edge	WBCB	8	Good	No	Partially Aavailable	Available	Available	

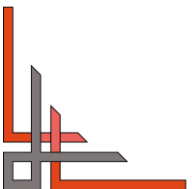
Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
61	20+814	20825	RHS	MCW Edge	WBCB	11	Good	No	Partially Avaliable	Available	Available	
62	22+729	22849	RHS	MCW Edge	WBCB	120	Good	No	Partially Avaliable	Available	Available	
63	26+197	26205	RHS	MCW Edge	WBCB	8	Good	No	Partially Avaliable	Available	Available	
64	26+964	26970	RHS	MCW Edge	WBCB	6	Good	No	Partially Avaliable	Available	Available	
65	26+994	27027	RHS	MCW Edge	WBCB	33	Good	No	Partially Avaliable	Available	Available	
66	27+026	27032	RHS	MCW Edge	WBCB	6	Good	No	Partially Avaliable	Available	Available	
67	27+138	27145	RHS	MCW Edge	WBCB	7	Good	No	Partially Avaliable	Available	Available	
68	27+596	27602	RHS	MCW Edge	WBCB	6	Good	No	Partially Avaliable	Available	Available	
69	29+696	29736.6	RHS	MCW Edge	WBCB	40.6	Good	No	Partially Avaliable	Available	Available	
70	31+662	31680	RHS	MCW Edge	WBCB	18	Good	No	Partially Avaliable	Available	Available	
71	32+562	32572	RHS	MCW Edge	WBCB	10	Good	No	Partially Avaliable	Available	Available	
72	32+584	32594	RHS	MCW Edge	WBCB	10	Good	No	Partially Avaliable	Available	Available	
73	32+605	32615	RHS	MCW Edge	WBCB	10	Good	No	Partially Avaliable	Available	Available	
74	33+340	33358	RHS	MCW Edge	WBCB	18	Good	No	Partially Avaliable	Available	Available	
75	36+975	36981	RHS	MCW Edge	WBCB	6	Good	No	Partially Avaliable	Available	Available	
76	41+517	41533	RHS	MCW Edge	WBCB	16	Good	No	Partially Avaliable	Available	Available	
77	41+871	41956	RHS	MCW Edge	WBCB	85	Good	No	Partially Avaliable	Available	Available	
78	49+830	49858	RHS	MCW Edge	WBCB	28	Good	No	Partially Avaliable	Available	Available	
79	50+701	50729	RHS	MCW Edge	WBCB	28	Good	No	Partially Avaliable	Available	Available	
80	54+305	54377	RHS	MCW Edge	WBCB	72	Good	No	Partially Avaliable	Available	Available	
81	59+806	59903.6	RHS	MCW Edge	WBCB	97.6	Good	No	Partially Avaliable	Available	Available	
82	60+075	60081	RHS	MCW Edge	WBCB	6	Good	No	Partially Avaliable	Available	Available	
83	60+545	60567	RHS	MCW Edge	WBCB	22	Good	No	Partially Avaliable	Available	Available	

Four Laning of Dhrol – Bhadra Patiya Section of NH- 151A (Between Ex Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya – Papaliya of Nh-151A (Between Ex Km 73+000 to Km 44+800 and Ex Km 38+350 to 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity Mode.												
CRASH BARRIER / GUARD RAIL - INVENTORY & CONDITION DATA												
S. No.	From	To	Side	Location	Type	Length(m)	Condition	With Antiglare sheeting	Reflective stickering	Hazard marker at start and end	End Terminal	Remarks
84	09+400	9570	RHS	MCW Edge	WBCB	170	Good	No	Partially Avaliable	Available	Available	
85	10+360	10440	RHS	MCW Edge	WBCB	80	Good	No	Partially Avaliable	Available	Available	
86	13+300	13330	RHS	MCW Edge	WBCB	30	Good	No	Partially Avaliable	Available	Available	
87	14+290	14400	RHS	MCW Edge	WBCB	110	Good	No	Partially Avaliable	Available	Available	
88	18+700	18790	RHS	MCW Edge	WBCB	90	Good	No	Partially Avaliable	Available	Available	
89	19+550	19700	RHS	MCW Edge	WBCB	150	Good	No	Partially Avaliable	Available	Available	
90	23+060	23100	RHS	MCW Edge	WBCB	40	Good	No	Partially Avaliable	Available	Available	
91	23+790	23950	RHS	MCW Edge	WBCB	160	Good	No	Partially Avaliable	Available	Available	
92	27+380	27430	RHS	MCW Edge	WBCB	50	Good	No	Partially Avaliable	Available	Available	
93	51+900	52020	RHS	MCW Edge	WBCB	120	Good	No	Partially Avaliable	Available	Available	
94	52+680	52900	RHS	MCW Edge	WBCB	220	Good	No	Partially Avaliable	Available	Available	
95	54+580	54690	RHS	MCW Edge	WBCB	110	Good	No	Partially Avaliable	Available	Available	
96	55+400	55580	RHS	MCW Edge	WBCB	180	Good	No	Partially Avaliable	Available	Available	
97	58+620	58750	RHS	MCW Edge	WBCB	130	Good	No	Partially Avaliable	Available	Available	
98	59+480	59520	RHS	MCW Edge	WBCB	40	Good	No	Partially Avaliable	Available	Available	



Annexure-3

Inventory & Condition of Structures



Four Laning of Dhrol Bhadra Pati a section of NH 151A (Between Ex Km 5 00 to Km 13 600 of H 25) and Bhadra Pati a Papali a of Nh 151A (Between Ex Km 3 000 to Km 44 800 and Ex Km 38 350 to 24 000 of C H 6) in u arat through Pu lic Private Partnership (PPP) on H rid Annuit Mode.

PIPE CULVERT

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	6.592	2x1.2	Completed	Good	
2	8.400	1x1.2	Completed	Good	
3	9.290	2x1.2	Completed	Good	
4	9.730	1x1.2	Completed	Good	
5	10.120	2x1.2	Completed	Good	
6	10.595	2x1.2	Completed	Good	
7	10.680	2x1.2	Completed	Good	
8	12.490	2x1.2	Completed	Good	
9	12.520	2x1.2	Completed	Good	
10	13.380	2x1.2	Completed	Good	
11	13.750	2x1.2	Completed	Good	
12	13.830	1x1.2	Completed	Good	
13	14.130	1x1.2	Completed	Good	
14	14.466	1x1.2	Completed	Good	
15	17.393	2x1.2	Completed	Good	
16	18.120	1x1.2	Completed	Good	
17	21.280	1x1.2	Completed	Good	
18	21.630	1x1.2	Completed	Good	
19	22.085	2x1.2	Completed	Good	
20	23.440	2x1.2	Completed	Good	
21	24.970	1x1.2	Completed	Good	
22	25.255	1x1.2	Completed	Good	
23	25.544	2x1.2	Completed	Good	
24	26.510	1x1.2	Completed	Good	
25	28.440	1x1.2	Completed	Good	
26	29.455	1x1.2	Completed	Good	
27	29.770	2x1.2	Completed	Good	
28	30.075	1x1.2	Completed	Good	
29	30.196	1x1.2	Completed	Good	
30	33.894	2x1.2	Completed	Good	
31	35.920	1x1.2	Completed	Good	
32	36.710	1x1.2	Completed	Good	
33	37.646	1x1.2	Completed	Good	
34	38.300	2x1.2	Completed	Good	
35	38.800	1x1.2	Completed	Good	
36	40.090	1x1.2	Completed	Good	
37	41.497	1x1.2	Completed	Good	
38	41.590	1x1.2	Completed	Good	
39	48.790	2x1.2	Completed	Good	
40	49.160	2x1.2	Completed	Good	
41	50.315	1x1.2	Completed	Good	
42	51.700	1x1.2	Completed	Good	

Four Laning of Dhrol Bhadra Pati a section of NH 151A (Between Ex Km 5 00 to Km 13 600 of H 25) and Bhadra Pati a Papali a of Nh 151A (Between Ex Km 3 000 to Km 44 800 and Ex Km 38 350 to 24 000 of C H 6) in u arat through Pu lic Private Partnership (PPP) on H rid Annuit Mode.

43	52.120	1x1.2	Completed	Good	
44	53.280	1x1.2	Completed	Good	
45	53.850	1x1.2	Completed	Good	
46	54.830	2x1.2	Completed	Good	
47	55.250	2x1.2	Completed	Good	
48	56.713	1x1.2	Completed	Good	
49	58.926	2x1.2	Completed	Good	

BOX culvert					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	10.750	1x5	Completed	Good	
2	11.930	1x1.5	Completed	Good	
3	13.040	1x3.0	Completed	Good	
4	15.190	1x3.0	Completed	Good	
5	17.221	1x2.0	Completed	Good	
6	17.785	1x4.5	Completed	Good	
7	19.020	2x2.6	Completed	Good	
8	19.640	1x3.0	Completed	Good	
9	21.880	1x4.4	Completed	Good	
10	22.390	1x5.5	Completed	Good	
11	27.122	1x5.5	Completed	Good	
12	27.545	2x2.75	Completed	Good	
13	28.040	1x1.5	Completed	Good	
14	31.070	1x1.5	Completed	Good	
15	31.100	2x2.25	Completed	Good	
16	31.800	1x4	Completed	Good	
17	32.932	1x3.0	Completed	Good	
18	34.410	1x4.5	Completed	Good	
19	35.156	2x2.9	Completed	Good	
20	36.220	2x2.9	Completed	Good	
21	39.560	1x3.0	Completed	Good	
22	41.032	1x1.5	Completed	Good	
23	41.065	1x1.5	Completed	Good	
24	56.320	1x1.5	Completed	Good	
25	57.160	1x2	Completed	Good	
26	57.910	1x1.5	Completed	Good	
27	58.590	1x1.5	Completed	Good	
28	61.060	1x1.5	Completed	Good	
29	61.434	1x3.1	Completed	Good	
30	62.280	1x2	Completed	Good	

MNB					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks

Four Laning of Dhrol Bhadra Pati a section of NH 151A (Between Ex Km 5 00 to Km 13 600 of H 25) and Bhadra Pati a Papali a of Nh 151A (Between Ex Km 3 000 to Km 44 800 and Ex Km 38 350 to 24 000 of C H 6) in u arat through Pu lic Private Partnership (PPP) on H rid Annuit Mode.

1	6.190	3x5.00	Completed	Good	
2	7.200	2x22.50	Completed	Good	
3	15.715	4x7.65	Completed	Good	
4	16.415	1x10.00	Completed	Good	
5	16.850	2x17.50	Completed	Good	
6	17.100	1x8.0	Completed	Good	
7	17.522	1x8.00	Completed	Good	
8	18.670	2x4.00	Completed	Good	
9	20.800	2x7.00	Completed	Good	
10	26.200	2x6.00	Completed	Good	
11	26.960	1x6.00	Completed	Good	
12	26.995	4x8.25	Completed	Good	
13	27.025	1x6.00	Completed	Good	
14	27.135	2x3.50	Completed	Good	
15	27.590	2x3.00	Completed	Good	
16	29.700	2x20.40	Completed	Good	
17	31.660	1x18.00	Completed	Good	
18	32.570	1x10.00	Completed	Good	
19	32.610	1x10.00	Completed	Good	
20	32.650	1x10.00	Completed	Good	
21	33.340	1x18.00	Completed	Good	
22	36.975	1x6.50	Completed	Good	
23	37.810	2x3.25	Completed	Good	
24	41.520	4x4.00	Completed	Good	
25	42.085	1x10.00	Completed	Good	
26	49.835	4x7.00	Completed	Good	
27	50.710	4x7.00	Completed	Good	
28	60.068	1x6.50	Completed	Good	
29	60.545	4x5.625	Completed	Good	

MJB

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	22.720	4X32.60	Completed	Good	
2	28.980	6x32.60	Completed	Good	
3	41.870	3x28.35	Completed	Good	
4	54.330	3x24.00	Completed	Good	
5	59.815	2x32.60	Completed	Good	

LVUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	9.860	1X12	Completed	Good	
2	19.220	1X12	Completed	Good	

Four Laning of Dhrol Bhadra Pati a section of NH 151A (Between Ex Km 5 00 to Km 13 600 of H 25) and Bhadra Pati a Papali a of Nh 151A (Between Ex Km 3 000 to Km 44 800 and Ex Km 38 350 to 24 000 of C H 6) in u arat through Pu lic Private Partnership (PPP) on H rid Annuit Mode.

3	23.450	1X12	Completed	Good	
4	27.750	1X12	Completed	Good	
5	37.900	1X12	Completed	Good	
6	52.370	1X12	Completed	Good	
7	55.060	1X12	Completed	Good	
8	59.270	1X12	Completed	Good	

PUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	30.220	1X7	Completed	Good	
2	30.505	1X7	Completed	Good	

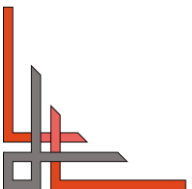
VUP


S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	13.800	15+30+15	Completed	Good	
2	30.400	1x20.0	Completed	Good	




Annexure-4

Operation & Maintenance cost Estimate



	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya -Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ANNEXURE: ABSTRACT COST
---	--	------------------------------------


FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2023-2024	-	1.08	2.92	4.00	
2024-2025	-	2.24	4.61	6.84	
2025-2026	2.41	2.67	4.84	9.92	
2026-2027	2.90	3.11	5.10	11.10	
2027-2028	0.87	3.13	5.30	9.30	
2028-2029	0.89	3.27	5.50	9.66	
2029-2030	13.27	3.36	5.72	22.35	
2030-2031	13.97	3.27	6.16	23.41	
2031-2032	1.23	3.45	6.30	10.97	
2032-2033	0.99	3.64	6.35	10.99	
2033-2034	3.56	3.67	6.52	13.76	
2034-2035	3.56	3.82	6.70	14.09	
2035-2036	0.99	3.86	6.88	11.73	
2036-2037	15.54	3.89	7.07	26.49	
2037-2038	16.28	3.91	7.26	27.45	
2038-2039	0.96	1.95	2.49	5.40	
Total Expenditure in Cr. Rs	77.41	50.32	89.72	217.45	

	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya - Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ANNEXURE: MMR
---	---	----------------------

FY	6. MMR (Rs in Cr)			Total Expenditure till the end of Concession Period
	MMR Highway	MMR Structure	MMR Toll Plaza	
2023-2024	-	-	-	-
2024-2025	-	-	-	-
2025-2026	2.41	-	-	2.41
2026-2027	2.90	-	-	2.90
2027-2028	0.87	-	-	0.87
2028-2029	0.89	-	-	0.89
2029-2030	8.01	0.99	4.27	13.27
2030-2031	13.97	-	-	13.97
2031-2032	0.71	-	0.51	1.23
2032-2033	0.50	-	0.49	0.99
2033-2034	-	-	3.56	3.56
2034-2035	2.54	1.02	-	3.56
2035-2036	0.99	-	-	0.99
2036-2037	15.54	-	-	15.54
2037-2038	16.28	-	-	16.28
2038-2039	0.96	-	-	0.96
Total Expenditure in Cr. Rs	66.56	2.01	8.83	77.41


PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya -Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.														MMR-Highway
S.No	FY	Description	CODE	Unit	% of Treatment	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalatio n (%)	Year	Amount in INR after Escalation
6	2026	Filling of Earthen Shoulder	MCW-SF	Cum	10%	1,00,832.00	1.5		15,124.80	585.00	88,48,008	4.0%	2	95,55,848.64
1	2026	Replacement of Joint Sealent	MCW-JS	Rm	16%	402568			65,357.39	85.00	55,55,378	4.0%	2	59,99,808.67
4	2026	Diamond Grinding	MCW-GRIN	Sqm	1%	916668			9,166.68	80.00	7,33,334	4.0%	2	7,92,000.87
2	2026	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	9%	37525		0.3	985.35	1,674.17	16,49,646	4.0%	2	17,81,617.42
3	2026	Replacement of Panels @ 2% area	TP-CC PAN	Cum	9%	37525		0.3	985.35	5,580.55	54,98,819	4.0%	2	59,38,724.74
	TOTAL AMOUNT										2,22,85,185			2,40,68,000
6	2027	Filling of Earthen Shoulder	MCW-SF	Cum	11%	1,00,832.00	1.56266002		16,626.62	585.00	97,26,574	4.0%	3	1,08,93,762.83
1	2027	Replacement of Joint Sealent	MCW-JS	Rm	15%	402568			60,385.16	85.00	51,32,739	4.0%	3	57,48,667.21
4	2027	Diamond Grinding	MCW-GRIN	Sqm	15%	916668			1,37,500.15	80.00	1,10,00,012	4.0%	3	1,23,20,013.47
	TOTAL AMOUNT										2,58,59,325			2,89,62,444
1	2028	Replacement of Joint Sealent	MCW-JS	Rm	1%	402568			4,025.68	85.00	3,42,183	3.0%	4	3,83,244.48
4	2028	Diamond Grinding	MCW-GRIN	Sqm	1%	916668			9,166.68	80.00	7,33,334	3.0%	4	8,21,334.23
2	2028	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	8%	37525		0.3	917.72	1,674.17	15,36,418	3.0%	4	17,20,787.92
3	2028	Replacement of Panels @ 2% area	TP-CC PAN	Cum	8%	37525		0.3	917.72	5,580.55	51,21,393	3.0%	4	57,35,959.75
	TOTAL AMOUNT										77,33,327			86,61,326
1	2029	Replacement of Joint Sealent	MCW-JS	Rm	5%	402568			20,128.39	85.00	17,10,913	3.0%	5	19,67,549.79
2	2029	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	0%	916668		0.3	571.97	1,674.17	9,57,567	3.0%	5	11,01,202.02
3	2029	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	0%	916668		0.3	571.97	5,580.55	31,91,890	3.0%	5	36,70,673.40
4	2029	Diamond Grinding	MCW-GRIN	Sqm	3%	916668			23,714.58	80.00	18,97,166	3.0%	5	21,81,740.96
	TOTAL AMOUNT										77,57,536			89,21,166
1	2030	Replacement of Joint Sealent	MCW-JS	Rm	10%	402568			40,256.77	85.00	34,21,826	3.0%	6	40,37,754.35
2	2030	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	3%	916668		0.3	7,873.04	1,674.17	1,31,80,761	3.0%	6	1,55,53,297.59
3	2030	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	3%	916668		0.3	7,873.04	5,580.55	4,39,35,869	3.0%	6	5,18,44,325.30
4	2030	Diamond Grinding	MCW-GRIN	Sqm	10%	916668			91,666.77	80.00	73,33,341	3.0%	6	86,53,342.80
	TOTAL AMOUNT										6,78,71,797			8,00,88,720
1	2031	Replacement of Joint Sealent	MCW-JS	Rm	10%	402568			40,256.77	85.00	34,21,826	3.0%	7	41,40,409.12
2	2031	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	4%	916668		0.3	11,172.32	1,674.17	1,87,04,304	3.0%	7	2,26,32,207.49
3	2031	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	4%	916668		0.3	11,172.32	5,580.55	6,23,47,679	3.0%	7	7,54,40,691.65
4	2031	Diamond Grinding	MCW-GRIN	Sqm	10%	916668			91,666.77	80.00	73,33,341	3.0%	7	88,73,343.04
3	2031	Road Marking - MCW	RM MCW	Sqm	100%	2,35,274.67	0.15		35,291.20	669.90	2,36,41,575	3.0%	7	2,86,06,305.60
	TOTAL AMOUNT										11,54,48,725			13,96,92,957
1	2032	Kerb	KERB	Rm	17%	19880			3,402.96	398.00	13,54,380	3.0%	8	16,79,431.09
2	2032	Kerb Painting	KERBP	Sqm	100%	19880	0.34		6,759.20	121.00	8,17,863	3.0%	8	10,14,150.37
4	2032	Road Marking - SR	RM SR	Sqm	18%	50586.66667	0.10		895.47	669.90	5,99,876	3.0%	8	7,43,845.88
5	2032	Studs	STUD	Nos	100%	11750			11,750.00	252.00	29,61,000	3.0%	8	36,71,640.00
	TOTAL AMOUNT										57,33,119			71,09,067

PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya -Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.														MMR-Highway
S.No	FY	Description	CODE	Unit	% of Treatment	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalatio n (%)	Year	Amount in INR after Escalation
1	2033	Replacement of Joint Sealent	MCW-JS	Rm	1%	402568			4,025.68	85.00	3,42,183	2.0%	9	4,03,775.44
4	2033	Diamond Grinding	MCW-GRIN	Sqm	1%	916668			9,166.68	80.00	7,33,334	2.0%	9	8,65,334.28
1	2033	TC for BC	SR-TC	Sqm	6%	21680	7.5		9,258.66	13.00	1,20,363	2.0%	9	1,42,027.91
2	2033	BC Overlay	SR-BC	Cum	6%	21680	7.5	0.04	370.35	8,321.72	30,81,919	2.0%	9	36,36,663.84
	TOTAL AMOUNT										42,77,798			50,47,801
6	2035	Filling of Earthen Shoulder	MCW-SF	Cum	10%	1,00,832.00	1.5		15,858.17	585.00	92,77,030	2.0%	11	1,13,17,976.93
1	2035	Replacement of Joint Sealent	MCW-JS	Rm	16%	402568			65,357.39	85.00	55,55,378	2.0%	11	67,77,561.64
4	2035	Diamond Grinding	MCW-GRIN	Sqm	1%	916668			9,166.68	80.00	7,33,334	2.0%	11	8,94,667.65
2	2035	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	6%	37525		0.3	723.99	1,674.17	12,12,083	2.0%	11	14,78,740.88
3	2035	Replacement of Panels @ 2% area	TP-CC PAN	Cum	6%	37525		0.3	723.99	5,580.55	40,40,276	2.0%	11	49,29,136.26
	TOTAL AMOUNT										2,08,18,101			2,53,98,083
6	2036	Filling of Earthen Shoulder	MCW-SF	Cum	8%	1,00,832.00	1.5		11,767.02	585.00	68,83,707	2.0%	12	85,35,796.23
1	2036	Replacement of Joint Sealent	MCW-JS	Rm	1%	402568			4,025.68	85.00	3,42,183	2.0%	12	4,24,306.39
4	2036	Diamond Grinding	MCW-GRIN	Sqm	1%	916668			9,166.68	80.00	7,33,334	2.0%	12	9,09,334.33
	TOTAL AMOUNT										79,59,223			98,69,437
1	2037	Replacement of Joint Sealent	MCW-JS	Rm	5%	402568			20,128.39	85.00	17,10,913	2.0%	13	21,55,750.21
2	2037	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	3%	916668		0.3	8,396.06	1,674.17	1,40,56,397	2.0%	13	1,77,11,060.13
3	2037	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	3%	916668		0.3	8,396.06	5,580.55	4,68,54,656	2.0%	13	5,90,36,867.11
4	2037	Diamond Grinding	MCW-GRIN	Sqm	5%	916668			45,833.38	80.00	36,66,671	2.0%	13	46,20,005.05
2	2037	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	1%	37525		0.3	112.58	1,674.17	1,88,469	2.0%	13	2,37,471.42
3	2037	Replacement of Panels @ 2% area	TP-CC PAN	Cum	1%	37525		0.3	112.58	5,580.55	6,28,231	2.0%	13	7,91,571.41
1	2037	TC for BC	SR-TC	Sqm	100%	21680	7.5		1,62,600.00	13.00	21,13,800	2.0%	13	26,63,388.00
2	2037	BC Overlay	SR-BC	Cum	100%	21680	7.5	0.04	6,504.00	8,321.72	5,41,24,434	2.0%	13	6,81,96,787.29
	TOTAL AMOUNT										12,33,43,572			15,54,12,901
1	2038	Replacement of Joint Sealent	MCW-JS	Rm	10%	402568			40,256.77	85.00	34,21,826	2.0%	14	43,79,936.93
2	2038	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	4%	916668		0.3	10,893.36	1,674.17	1,82,37,285	2.0%	14	2,33,43,724.85
3	2038	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	4%	916668		0.3	10,893.36	5,580.55	6,07,90,950	2.0%	14	7,78,12,416.16
4	2038	Diamond Grinding	MCW-GRIN	Sqm	10%	916668			91,666.77	80.00	73,33,341	2.0%	14	93,86,676.93
2	2038	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	1%	37525		0.3	112.58	1,674.17	1,88,469	2.0%	14	2,41,240.81
3	2038	Replacement of Panels @ 2% area	TP-CC PAN	Cum	1%	37525		0.3	112.58	5,580.55	6,28,231	2.0%	14	8,04,136.03
2	2038	Kerb Painting	KERBP	Sqm	100%	118569	0.34		40,313.55	121.00	48,77,939	2.0%	14	62,43,761.85
3	2038	Road Marking - MCW	RM MCW	Sqm	100%	2,35,274.67	0.15		35,291.20	669.90	2,36,41,575	2.0%	14	3,02,61,215.85
4	2038	Road Marking - SR	RM SR	Sqm	100%	50586.66667	0.15		7,588.00	669.90	50,83,201	2.0%	14	65,06,497.54
5	2038	Studs	STUD	Nos	100%	11750			11,750.00	252.00	29,61,000	2.0%	14	37,90,080.00
	TOTAL AMOUNT										12,71,63,818			16,27,69,687
1	2039	Replacement of Joint Sealent	MCW-JS	Rm	19%	402568			77,981.24	85.00	66,28,406	2.0%	15	86,16,927.23
4	2039	Diamond Grinding	MCW-GRIN	Sqm	1%	916668			9,166.68	80.00	7,33,334	2.0%	15	9,53,334.38
	TOTAL AMOUNT										73,61,740			95,70,262

	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya -Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ANNEXURE: ABSTRACT OF MMR STRUCTURE
---	--	--


2. Structure

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
2.01	2030	30-07-2029	699324	8391883	6	0.03	9902422	0.99	GST 0% considered
2.01	2035	29-07-2034	699324	8391883	11	0.02	10238097	1.02	GST 0% considered

	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya - Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ABSTRACT OF MMR STRUCTURE
---	---	--


Structure - MMR Base

Sr. No.	Item	Unit	Quantity	% of Extant to be Treated	Rate (Rs)	Amount (Rs)
1	Strip Seal Joint	Rmt	893	0.20%	11,389.00	20,340.75
2	Filler type expansion joint	Rmt	0	2.50%	4,500.00	-
3	Crash Barrier on Structures	Rmt	20130	0.50%	3,562.00	3,58,509.96
4	Painting of Crash Barrier	Sqm	25396	20.00%	80.00	4,06,343.17
5	Wearing Coat over Deck Slab	Sqm	40593	50.00%	326.36	66,24,037.85
6	Repalcement old Damaged Drainage Spoutes	Nos	542	25.00%	3,562.00	4,82,651.00
7	Lifting of Spans for rapair/replacement of bearings	Nos	0	7.50%	75,000.00	-
8	Replacement of Elastomeric Bearings	Cu. Cm	0	5.00%	0.53	-
9	Replacement of POT PTFE Bearings	Nos	0	5.00%	1,15,077.00	-
10	Repair of RE Wall	Ls				5,00,000.00
Total Structure MMR Cost						83,91,883


	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya -Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ANNEXURE: ABSTRACT OF MMR TOLL PLAZA
---	--	---

3. Toll Plaza

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalation Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
3.01	2030	30-07-2029	3013635	36163617	6	0.03	42673068	4.27	GST 0% considered
3.01	2032	30-07-2031	345788	4149457	8	0.03	5145327	0.51	GST 0% considered
3.01	2033	29-07-2032	345788	4149457	9	0.02	4896359	0.49	GST 0% considered
3.01	2034	29-07-2033	2474585	29695024	10	0.02	35634029	3.56	GST 0% considered

	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya - Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ANNEXURE: ROUTINE MAINTENANCE
---	---	--


FY	1. RM Costs (Rs in Cr) with inflation				Total Expenditure till the end of Concession Period
	Highway Routine Maintenance Cost	Structure Routine Maintenance Cost	Route Maintenance Manpower Cost	Route Maintenance Vehicle & Equipment Cost	
Base Cost 2023-2024	1.25	0.25	0.45	0.63	2.58
2024-2025	1.09	0.22	0.39	0.54	2.24
2025-2026	1.30	0.26	0.46	0.65	2.67
2026-2027	1.51	0.30	0.54	0.75	3.11
2027-2028	1.52	0.31	0.54	0.76	3.13
2028-2029	1.59	0.32	0.57	0.79	3.27
2029-2030	1.64	0.33	0.58	0.82	3.36
2030-2031	1.59	0.32	0.57	0.79	3.27
2031-2032	1.68	0.34	0.60	0.84	3.45
2032-2033	1.77	0.35	0.63	0.88	3.64
2033-2034	1.79	0.36	0.64	0.89	3.67
2034-2035	1.86	0.37	0.66	0.93	3.82
2035-2036	1.88	0.38	0.67	0.94	3.86
2036-2037	1.89	0.38	0.67	0.94	3.89
2037-2038	1.90	0.38	0.68	0.95	3.91
2038-2039	0.95	0.19	0.34	0.47	1.95
Total Expenditure in Cr. Rs	24.47	4.90	8.74	12.20	50.32

	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya -Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE
---	--	--

BASE COST - 2023-24

Routine Maintenance Cost


Sr. No.	Description	Unit	QTY	Damage d % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1	HIGHWAY								
1.1	FLEXIBLE PAVEMENT, MEDIAN & SHOULDERS								
1.1.2	Treatment of Bleeding Surface								
1.1.2.2	Providing treatment to bleeding bituminous surface at scattered locations - Slip/Service Road	Sqm	7588	5%	2	1170	14,037.80		
1.1.3	Treatment of Rutting Surface								
1.1.3.2	Providing localised repair to rutted portion and edge breaking of bituminous surface - Service/Slip road	Cum	304	5%	8322	210484	25,25,806.94		
1.1.4	Pothole Repair								
1.1.4.2	Providing treatment and repair to pot-holes and patch work - Service/Slip Road	Sqm	379	0%	382	12078	1,44,930.80		
1.1.6	Filling in median island with approved materials	Cum	194	1%	223	3601	43,212.61		
1.1.7	Shoulder Maintenance	Sqm	2907	2%	38	9204	1,10,453.75		
1.2	DRAINAGE & PROTECTION								
1.2.3	RCC drain Repair/Restoring	Rm	99	1%	500	4142	49,700.00		
1.2.4	Earthen drain Repair/Restoring	Rm	1540	2%	100	12835	1,54,018.50		
1.2.5	Repair/Restoring of Drain Slabs	Rm	199	1%	600	9940	1,19,280.00		
1.2.6	Repair/Repstoration of Turfing on embankment slopes and at all other Project Facilities	Sqm	727	2%	46	2761	33,136.12		
1.2.7	Rain Cuts Maintenance: Restoration of rain cuts soil, moorum, gravel or a combination of these	Sqm	1453	2%	46	5571	66,853.58		
1.2.8	Providing and laying Stone pitching on slopes of road embankment	Cum	145	0%	1221	14788	1,77,452.66		
1.2.10	Repair of Chutes in High Embankment	Rm	969	1%	100	8074	96,889.25		
1.3	PROJECT FACILITIES					0			
1.3.1	Gantry Sign Boards					0			
1.3.1.1	Overhead/ Gantry Sign boards	Nos	1	5%	10000	583	7,000.00		
1.3.1.2	Cantilever Gantry Sign boards	Nos	0	5%	10000	250	3,000.00		
1.3.2	Other Sign Boards	Nos	29	3%	4238	10214	1,22,562.96		
1.3.2.16	Painting to Sign Board pole	Nos	212	20%	75	1326	15,906.00		
1.3.3	Cats Eyes/Raised pavement marker (NMC Nails Less)	Nos	235	2%	252	4935	59,220.00		
1.3.4	Distance Measurement Stones								
1.3.4.1	Painting								
1.3.4.1.1	Hectometer stones	Nos	81	20%	30	202	2,423.19		
1.3.4.1.2	5 Kilometer Stone	Nos	4	20%	409	150	1,798.02		
1.3.4.1.3	Kilometer stone	Nos	16	20%	183	243	2,921.84		
1.3.4.1.4	Boundary stone	Nos	101	5%	143	1199	14,385.28		
1.3.4.1.5	Boundary Wall	Sqm	0	1%	121	0	-		
1.3.4.2	Fixing/Replacing/Restoring								
1.3.4.2.1	Hectometer stones	Nos	81	20%	599	4033	48,399.20		
1.3.4.2.2	5 Kilometer Stone	Nos	2	10%	3471	636	7,636.20		
1.3.4.2.3	Kilometer stone	Nos	8	10%	2033	1355	16,264.00		
1.3.4.2.4	Boundary stone	Nos	20	1%	625	1051	12,612.50		

	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya -Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE
---	--	--

BASE COST - 2023-24

Routine Maintenance Cost


Sr. No.	Description	Unit	QTY	Damage d % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1.3.5	Kerb								
1.3.5.1	Cement Concrete Kerb casting with-out channel section (I-Kerb)	Rm	296	0%	398	9831	1,17,976.40		
1.3.5.3	Painting of Kerb with-out channel section (I-Kerb)	Sqm	2016	5%	121	20325	2,43,896.95		
1.3.6	Pavement Markings								
1.3.6.1	Lane / Centre Line / Edge Line	Sqm	4416	13%	670	246535	29,58,423.11		
1.3.7	Barriers								
1.3.7.1	Repair/Replace MBCB/W-beam Crash barrier	Rm	318	1%	2422	64183	7,70,196.00		
1.3.8	Plantation					0			
1.3.8.1	Maintenance of Median Plantation	Km	0	1%	288463	10804	1,29,648.61		
1.3.8.2	Avenue Plantation	Nos	45	1%	1184	4435	53,214.44		
1.3.9	Miscellaneous								
1.3.9.2	Providing/Repair of Rumble Strips	Rm	1	3%	378	33	396.90		
1.3.9.4	Solar Blinker	Nos	4	5%	25000	7292	87,500.00		
1.4	RIGID PAVEMENT								
1.4.1	Longitudinal Cracks more than 1.5m	Lm	249	0.5%	80	1657	19,887.20		
1.4.2	Longitudinal Cracks less than 1.5m	Lm	497	1.0%	100	4143	49,718.00		
1.4.3	Transverse Cracks less than 1.5m	Lm	497	1.0%	80	3315	39,774.40		
1.4.4	Transverse Cracks more than 1.5m	Lm	249	0.5%	100	2072	24,859.00		
1.4.5	Longitudinal Crack full Depth	Cum	64	0.0%	5581	29840	3,58,085.68		
1.4.6	Pothole	Sqm	229	0.0%	1674	31972	3,83,663.23		
1.4.7	Corner Cracks	Cum	64	0.0%	5581	29840	3,58,085.68		
1.4.8	Joint Spalling	Lm	249	0.5%	515	10669	1,28,023.85		
1.4.9	Diagonal Crackings	Lm	249	0.5%	100	2072	24,859.00		
1.4.10	Removal of Sealent & Replacement with Appoxy Sealent	Lm	2126	0.5%	85	15060	1,80,716.89		
1.4.11	Replacement of Panels	Nos	89	0.1%	24610	183084	21,97,011.43		
1.4.12	Texturing/Raveling of panel	Sqm	7156	0.8%	80	47710	5,72,515.63	1,25,48,354	0 Service Charge Considered

	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya -Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE
---	--	--

BASE COST - 2023-24

Routine Maintenance Cost


Sr. No.	Description	Unit	QTY	Damage d % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2	STRUCTURES								
2.01	Providing and laying of wearing course with 25 mm thick mastic asphalt laid over 40 mm thick bituminous concrete including correction of existing profile with bituminous concrete as per drawings and Technical Specifications clause 2700 (item rate includes cost of BC and profile correction course)	Sqm	41	0.10%	750	2537	30,445.08		
2.02	Structure Repair Works	LS					5,00,000.00		
2.03	Expansion Joint Repair	Rm	89	10.00%	12000	89300	10,71,600.00		
2.04	Providing Reinforced cement concrete crash barrier at the edges of the bridge structures constructed with M-40 grade concrete with HYSD-Fe 500 TMT reinforcement concrete per Rmt conforming to IRC:21 and fixing with dowel bars 16 mm dia to old concrete using epoxy grout as per drawing and Technical Specifications and as directed by the Engineer.	Rmt	57	0.25%	3334	15750	1,88,999.46		
2.05	Painting of Concrete Crash Barrier	Sqm	850	25.0%	121	8576	1,02,908.23		Considering 25% repainting per year & 1.25Sqm per Rm
2.06	Providing and fixing 50mm NB MS pipe rail on crash barrier with MS base plate and vertical stiffener fixed with anchor bolts complete including providing three or more coats of epoxy paint of approved colour, make and quality over a coat of epoxy primer complete as per drawings and Technical Specifications Sections 1900 & 2703.	Rmt	0	0.25%	150	0	-		
2.07	Removal of earth, debris and vegetation from waterway of culverts and bridges by manual means through unskilled labor, and disposal of removed material within all lead as directed by Engineer. (Before and after Monsoon)	LS	55	70%	5000	23042	2,76,500.00		
2.08	Providing Boulder apron on U/S and D/S sides, 1000 mm thick, including relaying / removing existing damaged boulders as per Technical Specification Sections 2500 and direction of Engineers.	Nos	72	2%	3436	20481	2,45,766.20		
2.09	Providing and laying Stone pitching on slopes upto 0.5m height over H.F.L and for bed where specified, using hard variety stone of 200 mm nominal size, the joints being filled with spalls and pointed with 1:4 cement mortar as per technical specification	Nos	20	2.50%	1221	2073	24,875.41		
2.10	Providing and laying Plain/Reinforced Cement Concrete in Rigid Apron excluding reinforcement complete as per Drawing and Technical Specifications.Ref. to Technical specification 1500,1700 & 2100 .	Cum	46	3%	0	0	-		
2.11	Cleaning of choked weep holes as per Technical Specification and as directed by the Engineer.	Nos	50	1.00%	250	1051	12,612.19		

	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya -Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE
---	--	--

BASE COST - 2023-24

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damage d % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2.12	Providing gratings to the existing drainage spouts as per technical specification Clause 2705 & Additional Technical Specification	Nos	54	10.0%	500	2258	27,100.00		
2.13	Repair/Replacement of Drainage Spoutes	Nos	27	5.00%	1254	2832	33,983.40	25,14,790	0 Service Charge Considered

	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya -Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ANNEXURE: ROUTINE MAINTENANCE EXPENDITURE
--	--	--


Base Cost - 2023-24

3. Route Maintenance Manpower Cost

Sr. No.	Position	Unit	Nos	Shift	Blank	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
3.02	HR and Admin	Nos	1	1		1	45,000	45,000	5,40,000		
3.04	Maintenance Supervisor	Nos	2	1		2	35,000	70,000	8,40,000		
3.08	Labour for RRM (Male)	Nos	9	1		9	12,746	1,14,710	13,76,520		
3.09	Labour for RRM (Female)	Nos	5	1		5	12,746	63,728	7,64,733		
3.10	Labour for Misc. works	Nos	2	1		2	13,337	26,675	3,20,095		
3.11	Grass cutting operator	Nos	4	1		4	13,337	53,349	6,40,189		
3.13	Others	Nos	0	1		0	13,337	-	-	44,81,537	Service Charge @ 0%
						23		373461			

4. Route Maintenance Vehicle & Equipment Cost

Sr. No.	Description	Unit	Nos	Shift	Blank	Total Nos	Rate/Month (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
4.02	Water tanker 20 KL	Nos	1	1		1	60,523	60,523	7,26,270		
4.03	Pickup /Campher	Nos	1	1		1	55,023	55,023	6,60,270		
4.04	Staff Bus (20+ seater)	Nos	1	1		1	89,836	89,836	10,78,032		
4.06	Water tanker 5 KL	Nos	2	1		2	50,958	1,01,915	12,22,981		
4.07	Grass Cutter	Nos	2	1		2	9,183	18,366	2,20,392		
4.08	Man Basket for Elec.	Days/Month	7	1		7	11,429	80,000	9,60,000		
4.09	JCB	Days/Month	7	1		7	11,429	80,000	9,60,000		
4.11	Bikes for Supervisor	Nos	2	1		2	4,591	9,181	1,10,172		
4.12	PPE/Uniform for staff	Nos	3	1		3	525	1,575	18,900		Considering Rs. 350/- per pair & 2 pairs per each (75% of the Staff)
4.13	Safety items, Sign boards	Nos	1	1		1	10,000	10,000	1,20,000		
4.14	Tools & tackles	Nos	1	1		1	15,000	15,000	1,80,000		
4.18	Others	Nos	0	1		0		-	-	62,57,018	Service Charge @ 0%
								521418		17750	Rs. Per Month per Km

	PROJECT: Four Laning of Dhrol-Bhadra Patiya section of NH-151A (Between Ex. Km 5+700 to Km 13+600 of SH-25) and Bhadra Patiya -Pipaliya Section of NH-151A (Between Ex. Km 73+000 to Km 44+800 and Ex. Km 38+350 to Km 24+000 of CSH-6) in Gujarat through Public Private Partnership (PPP) on Hybrid Annuity mode.	ANNEXURE: Operations Cost
---	--	--------------------------------------

Year	Operation Cost in Cr. Rs				Total Expenditure till the end of Concession Period
	SPV Cost	Manpower	Operating Expenses (IMV)	Electricity	
2023-2024	1.14	0.82	0.22	0.74	2.92
2024-2025	1.77	1.34	0.35	1.15	4.61
2025-2026	1.85	1.44	0.36	1.20	4.84
2026-2027	1.92	1.56	0.37	1.25	5.10
2027-2028	1.98	1.65	0.39	1.28	5.30
2028-2029	2.04	1.75	0.40	1.32	5.50
2029-2030	2.10	1.86	0.41	1.36	5.72
2030-2031	2.16	1.97	0.64	1.40	6.16
2031-2032	2.23	2.08	0.54	1.44	6.30
2032-2033	2.27	2.17	0.44	1.47	6.35
2033-2034	2.32	2.25	0.45	1.50	6.52
2034-2035	2.36	2.35	0.46	1.53	6.70
2035-2036	2.41	2.44	0.47	1.56	6.88
2036-2037	2.46	2.54	0.48	1.59	7.07
2037-2038	2.51	2.64	0.49	1.63	7.26
2038-2039	0.85	0.91	0.17	0.55	2.49

Anantam Highways Trust

Four laning from Km 0.000 to Km 26.400 (along with 0.700 km Approach towards NH 207 with Interchange on NH 4 at start point) of Bangalore to Malur section on Hybrid Annuity Mode under Bharatmala Pariyojna, in the state of Karnataka (Phase-I Package-I)

(FINAL REPORT)



FEBRUARY, 2025



**RUKY Projects Private Limited
Hyderabad**

contact@rukypjrojects.com | www.rukypjrojects.com | 040 4855 7777



BLANK PAGE



Four laning from Km 0+000 to Km 26+400 (along with 0.700 km Approach towards NH 207 with Interchange on NH 4 at start point) of Bangalore to Malur section on Hybrid Annuity Mode under Bharatmala Pariyojna, in the state of Karnataka (Phase-I Package-I)

REVISION RECORD

This document has been issued and amended as follows:

Document No.	Issue	Date	Description
RU-337/AHT /TDD/BMHPL	R0	15-02-2025	Final Report



DISCLAIMER AND CONSENT FOR USE

This report has been prepared for the benefit of Anantam Highways Trust for and in connection with initial offer of units representing an undivided beneficial interest in the Trust. In Preparing this report, RUKY Projects Pvt Ltd has relied, in whole or in part, on data and information provided by Anantam Highways Trust and M/s Bangalore Malur Highways Private Limited which RUKY Project Pvt Ltd has assumed to be accurate, complete, reliable and correct.

This report may be reproduced and included in the preliminary placement memorandum, placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust and may be made available for inspection in the manner specified therein. In connection with the report, the following details in relation to the Technical Consultant may be included in preliminary placement memorandum and the placement memorandum and any other documents prepared in connection with the aforesaid initial offer of units of the Trust

Technical Consultant:

RUKY PROJECTS PRIVATE LIMITED
Flat No. 1403A, 14th Floor,
Manjeera Trinity Corporate,
JNTU-Hitech City Road, Kukatpally,
Hyderabad – 500072
www.rukyprojects.com
contact@rukypjrojects.com
+91-040-4855 7777

RUKY Projects Private Ltd has prepared this report in accordance with the instructions of client, for the client's sole and specific use. Any other persons who use any information contained herein do so at their own risk.

RUKY Projects Private Limited
#1403A, Manjeera Trinity Corporate,
JNTU-HITEC City Road,
Kukatpally, Hyderabad – 500 072,
Telangana, India,
+91 40 4855 7777 / 2304 4777
www.rukyprojects.com

TABLE OF CONTENTS

CHAPTER 1. EXECUTIVE SUMMARY	1
1.1 Project Description	1
1.2 Present status of the Project	2
1.3 Condition of Project Corridor.....	2
1.3.1. Pavement Condition	2
1.3.2. Condition of Structures.....	2
1.3.3. Condition of Project Facilities	2
1.4 Review of Agreements.....	2
1.5 Other issues	2
1.5.1. Critical issues.....	2
1.5.2. Extension of time (EoT)	2
1.6 O&M Cost Estimate.....	2
CHAPTER 2. INTRODUCTION	4
2.1 Project Background.....	4
2.2 Project Geography and Climate	5
2.3 Project Overview.....	6
2.4 Chainage Equation	6
CHAPTER 3. SCOPE OF CONSULTANCY SERVICES	7
3.1 Scope of Consultancy Services	7
CHAPTER 4. SALIENT FEATURES OF THE PROJECT	8
4.1 Salient Features of the Project	8
4.2 Typical Cross Section (TCS) Schedule.....	8
4.3 Service Roads/Slip Roads	12
4.4 Drainage	12
4.5 Summary of the Carriageway and Pavement Details	12
4.6 Summary of Structures	13
4.7 Project Facilities	13
CHAPTER 5. REVIEW OF AGREEMENTS	14
5.1 Review of Concession Agreement	14
5.1.1. Concession (Article 3)	14
5.1.2. Tests (Clause 13.3)	14
5.1.3. Pre-PCOD scenario in the project	14
5.1.4. Provisional Completion Certificate (Article 14)	14
5.1.5. Change of scope (Article 16).....	15
5.1.6. O&M Obligations of the Concessionaire (Clause 17.1).....	15
5.1.7. Maintenance Requirements (Clause 17.2)	15
5.1.8. Appointment of Independent Engineer(Article 21).....	16
5.2 Review of Correspondence	16
5.3 Non-performance of the O&M Operations:	16
CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS	16
6.1 Monthly status reports	17
6.2 Inspection Reports	17

6.3	Review of Pavement design report.....	17
6.3.1.	Flexible pavement for main carriageway.....	18
6.3.2.	Rigid pavement for Toll Plaza	18
6.3.3.	Site Investigations	19
CHAPTER 7.	SITE APPRAISAL	21
7.1	General.....	21
7.2	Highways.....	21
7.2.1.	Road Inventory.....	21
7.2.2.	Type of terrain	21
7.2.3.	Land use	21
7.2.4.	Villages/Towns along the Project	21
7.2.5.	Main Carriageway	22
7.2.6.	Interchanges/Cross Roads	23
7.2.7.	Road Side Drainage	23
7.2.8.	Retaining	25
7.2.9.	Kerb.....	26
7.2.10.	GFC Vs Site Comparison.....	26
7.3	Pavement Condition	26
7.4	Structures.....	26
7.4.1.	Status of Construction	29
7.5	Culverts	30
7.5.1.	Inventory.....	30
7.5.2.	Culverts	31
7.5.3.	Status of Construction:	32
7.6	Project Facilities.....	32
7.6.1.	Toll Plaza	32
7.6.2.	ATMS.....	32
7.6.3.	Road Furniture	32
7.6.4.	Overhead Signs	33
7.6.5.	Landscaping & Tree Plantation	33
7.6.6.	Pavement marking.....	33
7.6.7.	Metal beam Crash Barrier.....	33
7.6.8.	Hectometer/Km. stones.....	34
7.6.9.	Highway Lighting.....	34
7.6.10.	Traffic Aid Post	34
7.6.11.	Medical Aid Post	34
7.6.12.	Vehicle Rescue Posts.....	34
7.6.13.	Operation and Maintenance (O&M) Centre.....	34
7.6.14.	Telecom System	34
7.6.15.	Advance Traffic Management System (ATMS)	35
7.6.16.	Noise Barrier	35
7.6.17.	Road Studs	35
7.6.18.	NCRs and its status.....	35
CHAPTER 8.	REVIEW OF O&M AGREEMENT.....	36
CHAPTER 9.	SCHEDULE OF ANNUITY PAYMENTS	38
9.1	Hybrid Annuity Model (HAM)	38
9.2	Schedule of Annuity Payments	38

CHAPTER 10. COST ESTIMATES 40

10.1 Maintenance of Project Cost	40
10.2 O&M Expense forecasts.....	41

CHAPTER 11. CONCLUSION 43

LIST OF TABLES

Table 1-1: Key Dates	1
Table 1-2: Salient Features	1
Table 1-3: Summary of O&M Cost Estimate	3
Table 2-1: Project Data	6
Table 2-2: Distribution of alignment of Chainages	6
Table 4-1: Salient Features of the Project	8
Table 4-2: Typical Cross Sections (Main Expressway).....	8
Table 4-3: TCS Summary as per CA	12
Table 4-4: Summary of the Carriageway and Pavement Details	12
Table 6-1: Correspondence related to pavement design submission and approvals.....	17
Table 6-2: Designed pavement crust summary as per pavement design report.....	18
Table 6-3: Pavement Composition for Toll plaza	18
Table 6-4: Pavement Design Thickness Vs Executed Crust Thickness	19
Table 7-1: Land use details along the project road	21
Table 7-2: Inventory and status of drains	23
Table 7-3: Locations of Retaining wall	25
Table 7-4: Summary of Structures	26
Table 7-5: Major Bridges	27
Table 7-6: Minor Bridges	27
Table 7-7: Interchange.....	28
Table 7-8: Vehicle Underpass	28
Table 7-9: Vehicle Overpass	28
Table 7-10: Light Vehicle Underpass	29
Table 7-11: Pedestrian Underpass	29
Table 7-12: Utility	29
Table 7-13: List of Culverts and their status	30
Table 7-14: Location of Toll Plaza	32
Table 7-15: Status of traffic sign boards	33
Table 7-16: Status of Avenue and median plantation	33
Table 7-17: Status of Metal beam Crash barrier.....	33
Table 7-18: Details of lighting	34
Table 9-1: Schedule of Payment Milestones	38
Table 9-2: Details of Annuity payments are as below	38
Table 10-1: Summary of Cost Estimate.....	41

LIST OF FIGURES

Figure 2.1: Project Location Map.....	5
Figure 6.1: Bar Chart showing Design thickness vs Executed thickness	20
Figure 7.1: Status of Main Carriageway.....	23
Figure 7.2: Photographs showing the condition of Pavement	26
Figure 7.3: Photographs of Metal Beam Crash Barrier.....	34

List of Annexures

Annexure-1: Inventory of Structures	44
Annexure-2: O&M Cost Estimates	48

ABREVIATIONS

Abbreviation	Meaning	Abbreviation	Meaning
3A/3D/3G	Stages of Land Acquisition	EOT	Extension Of Time
AADT	Annual Average Daily Traffic	EPC	Engineering Procurement Construction
AASHTO	American Association of State Highway and Transportation Officials	ESAL	Equivalent Standard Axle Load
ADT	Average Daily Traffic	ESMF	Environment and Social Management Framework
ATMS	Advance Traffic Management System	Exc	Excavation
BBD	Benkelman Beam Deflection	FOB	Foot Over Bridge
BC	Bituminous Concrete	FWD	Falling weight Deflectometer
BI	Bump Integrator- Roughness (mm/Km.)	GDP	Gross Domestic Product
BM	Bituminous Macadam	GFC	Good For Construction
BOQ	Bill of Quantities	GNP	Gross National Product
BOT	Built Operate and Transfer	GOI	Government of India
BPC	Bid Project cost	GSB	Granular Sub Base
C&G	Clearing and Grubbing	HAM	Hybrid Annuity Mode
C/s	Cross-section	HFL	High Flood Level
CA	Concession Agreement	HPC	Hume Pipe culvert
CapEx	Capital Expenditure	HS	Hard Shoulder
CBR	California Bearing Ratio	Ht	Height
Ch	Chainage	HTMS	Highway Traffic Management System
cm	Centimetre	IE	Independent Engineer
COD	Commercial Operation date	IRC	Indian Roads Congress
Concessionaire	M/s Bangalore Malur Highways Private Limited	IRI	International Roughness Index
Cos	Change of Scope	IS	Indian Standard
Cr.	Crores	Kg	Kilogram
cum	Cubic Meter	Km.	Kilometre
CV	Commercial Vehicles	LHS	Left Hand Side
CVPD	Commercial Vehicles per Day	Ltr	Litre
NMHPL	M/s Bangalore Malur Highways Private Limited	m (or) Mts	Metre/Meter
DBM	Dense Bituminous Macadam	M/s	Messers
DFBOT	Design, Finance, Build, Operate and Transfer	MCW	Main Carriageway
DFO	District Forest Officer	MDD	Maximum Dry Density
Dia (or)*	Diameter	MDR	Major District Road
DLC	Dry Lean Concrete	Misc	Miscellaneous
DLP	Defect liability Period	MJB	Major Bridge
DPR	Detailed Project Report	mm	Millimetre
DTM	Digital Terrain Model	MM	Major Maintenance
EIA	Environment Impact Assessment	MNB	Minor Bridge
EIRR	Economic Internal Rate of Return	MORTH	Ministry of Road Transport & Highways
Emb	Embankment	MOU	Memoranda Of Understanding
EMP	Environment Management Plan	MSA	Million Standard Axles

Abbreviation	Meaning
MT (or) T	Metric Tonne
NCR	Non-Conformance Report
NDT	Non-Destructive Test
NH	National Highway
NHAI	National Highway Authority of India
NHDP	National Highways Development Project
No. (or) Nos.	Numbers
NPV	Net Present value
NSDP	Net State Domestic Product
O&M	Operation and Maintenance
O-D	Origin and Destination
OpEx	Operative Expenditure
PCU	Passenger Car Unit
PIA	Project Influence Area
PIU	Project Implementation Unit
PM	Periodic Maintenance
PQC	Pavement Quality Concrete
PSC	Pre-stressed Concrete
RCC	Reinforced Cement Concrete
RE	Reinforced Earth

Abbreviation	Meaning
RHS	Right Hand Side
RoB	Road over Bridge
ROW	Right Of Way
RUB	Road Under bridge
RUKY	RUKY Projects Private Limited
SDBC	Semi Dense Bituminous Concrete
SF	Seasonal Factor
SH	State Highway
SPV	Special Purpose Vehicle
Sqm	Square Meter
SR	Service Road
TCS	Typical Cross Section
TDD	Technical Due Diligence
TOR	Terms of Reference
VDF	Vehicle Damage Factor
VOC	Vehicle Operating Costs
VOP	Vehicular Overpass
VUP	Vehicular Underpass
WMM	Wet Mix Macadam

CHAPTER 1. EXECUTIVE SUMMARY**1.1 Project Description**

Four laning from Km.0+000 to Km.26+400 (along with 0+700 Km approach towards NH 207 with interchange on NH 4 at start point) of Bangalore to Malur Section of Bangalore Chennai Expressway on Hybrid Annuity Mode under Bharatmala Pariyojna in the State of Karnataka (Phase- I Package – I) is being executed in accordance with provisions of the Concession Agreement dated 17-05-2021. Bid Project cost is 1,160 Cr (Ref: Clause 23.1 of the CA). Key Dates and salient features are given in tables below.

Table 1-1: Key Dates

S No	Description	Date/Period	Remarks
1	LOA date	04-03-2021	
2	Date of Agreement	17-05-2021	
3	Appointed date	15-09-2021	
4	Construction Period	730 days	From the appointed date
5	Scheduled Construction End Date	14-09-2023	
6	Extension of Time	199 days	As per settlement agreement 199 days EOT is granted
7	Operation Period	15 years	From the COD
8	Concession Period	730 days+15 years	Construction Period+ Operation Period
9	Commercial Operation date		15-05-2024
10	Date of Completion Certificate		Applied for Completion certificate

Table 1-2: Salient Features

S. No.	Particulars	As per CA	At Site
1	Total Length of Four Lane (Flexible)	27.100 Km.	27.100 Km.
2	Width of Main Carriage way	22.50 m	22.50 m
3	Connecting Road (Flexible)	3.169 Km.	3.169 Km.
4	Major Bridges	4 Nos	4 Nos
5	Minor Bridges	12 Nos	13 Nos (Incl.01 no CoS)
6	LVUPs	6 Nos	6 Nos
7	VUPs	16 Nos	17 Nos (Incl.01 no CoS)
8	VOPs	3 Nos	3 Nos
9	PUP	NIL	01 Nos (Incl.01 no Cos)
10	Pipe Culverts (Widening)	1 No	1 No
11	Box culverts	49 Nos	48 Nos (Incl.01 no descope)
12	Utility Crossing	1 No	1 No
13	Interchange	2 Nos	2 Nos
14	Toll Plaza	2 Nos	2 Nos

1.2 Present status of the Project

P- COD is issued by the Independent Engineer and project is in O&M phase.

1.3 Condition of Project Corridor

1.3.1. Pavement Condition

Overall assessment of Pavement Condition of the project road is in Good Condition. Details are provided at **Chapter 8**.

1.3.2. Condition of Structures

Overall condition of the structures is Good. Details are provided in **Chapter 8**.

1.3.3. Condition of Project Facilities

Project has two toll plaza, same are operational and in good condition. Project Facilities enumerated under Schedule C of the Project are constructed and are in good condition. Details are provided in Chapter 8.

1.4 Review of Agreements

Following Agreements have been reviewed and comments were provided in **Chapter 5**.

- Concession Agreement
- EPC Agreement
- Settlement Agreement

1.5 Other issues

1.5.1. Critical issues

Nil

1.5.2. Extension of time (EoT) .

EOT was granted till March 2024 due to excessive rainfall and prolonged monsoon, 3rd wave of Covid – 19, delay in utility shifting and delay in handing over pending ROW

1.6 O&M Cost Estimate

The summary of year wise O&M and any immediate cost estimate are given below:

Table 1-3: Summary of O&M Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2024-2025	-	2.20	3.17	5.37
2025-2026	-	2.50	3.34	5.84
2026-2027	1.73	3.55	3.53	8.81
2027-2028	0.52	3.73	3.67	7.93
2028-2029	0.41	3.80	3.83	8.04
2029-2030	0.42	3.97	3.99	8.38
2030-2031	37.34	5.63	4.19	47.16
2031-2032	6.64	4.18	4.44	15.25
2032-2033	0.71	4.28	4.46	9.45
2033-2034	0.47	4.32	4.59	9.38
2034-2035	2.17	4.45	4.72	11.35
2035-2036	0.64	4.56	4.86	10.06
2036-2037	0.49	4.58	5.00	10.07
2037-2038	43.32	4.73	5.15	53.19
2038-2039	7.64	4.71	3.97	16.31
2039-2040	0.33	0.40	4.09	4.82
Total Expenditure in Cr. Rs	102.83	61.57	66.99	231.40

CHAPTER 2. INTRODUCTION

2.1 Project Background

The Government of India had entrusted to the NHAI (Herein referred to as “**the Authority**”) the development, maintenance and management of 4 laning from Km.00+000 to 26+400 (along with 0.700 Km approach towards NH 207 with interchange on NH-4 at start point) of Bangalore to Malur section of Bangalore Chennai Expressway on Hybrid Annuity Mode under Bharatmala Pariyojna in the State of Karnataka (Phase-I, Package-I) in accordance with the terms and conditions set forth in a Concession Agreement dated 17-05-2021.

After evaluation of the bids received from prospective bidders, NHAI (hereafter referred to as “**Authority**”) had selected M/s. Dilip Build Con Limited and issued LOA vide NHAI/KNT/BCE/Pkg-I/LOA/Main work/2021/31461 dated 04-03-2021. Further, the selected bidder formed M/s Bangalore Malur Highways Private Limited (Herein referred to as “**the Concessionaire**”) as per Companies Act, 2013 and Concession Agreement (CA) was executed between NHAI and the Concessionaire on 17-05-2021.

Subsequently, the Concessionaire vide Agreement dated 02-09-2021 appointed Dilip BuildCon Limited as EPC contractor for the construction of aforesaid work.

National Highway NH-207, which starts near Hoskote and Design Ch. (-) 0+700 and terminates at Malur in Kolar District i.e., Design Ch. 26+400. in Karnataka. The project highway crosses State Highways, Major District roads and village roads etc. The stretch passes through Bangalore Urban and Bangalore rural districts. Important towns along the route are Hoskote, Haralur, Jadigena Hally, Hedaginabele, Madivala and Malur having total design length of 27.10 km. The project Location map is given in **Figure 2.1**.

Anantam Highways Trust appointed RUKY Projects Pvt. Ltd. as consultant for detailed Technical Due Diligence services of the above Road Project to know-how the present condition of Carriageway and Structures, estimate costs of Operations and Maintenance during balance Concession Period, additional road safety requirements if any and to review the annuity payments received and future schedule of annuity payments. etc. The Scope of Consultancy services is narrated under Chapter-3 of this report.

The data and observations provided in this report are based on the status of the project observed by the Consultant.

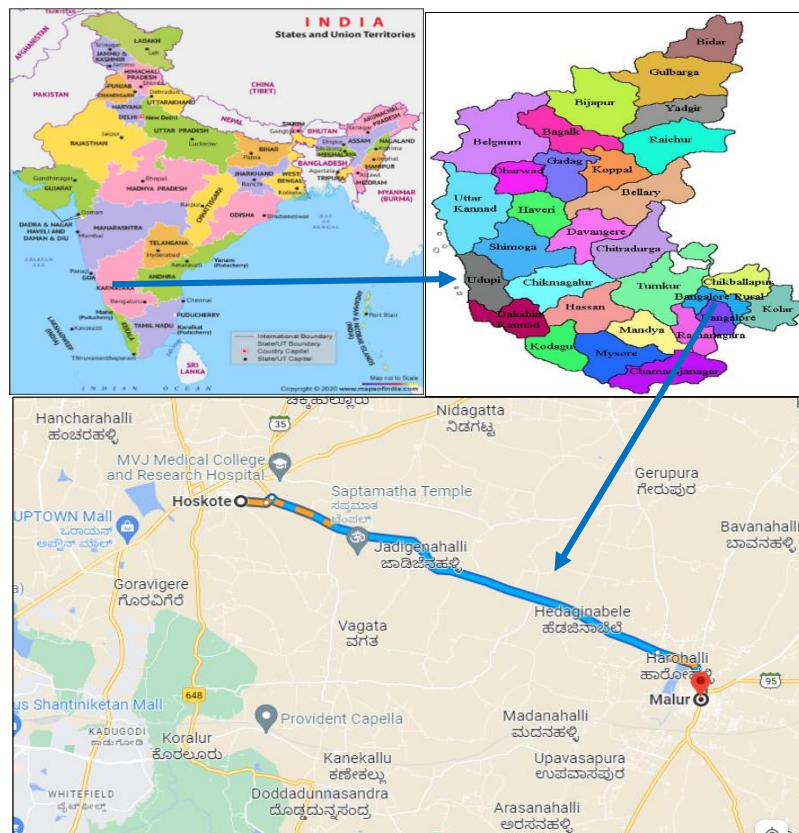


Figure 2.1: Project Location Map

2.2 Project Geography and Climate

Climate:

The temperature typically varies from 16°C to 34°C and is rarely below 13°C or above 37°C. The hot season lasts from March to May, with an average daily high temperature above 32°C. The hottest month of the year is April, with an average high of 34°C and low of 22°C.

The rainy period of the year lasts from March to December, with a sliding 31-day rainfall of at least 13 millimeters. The month with the most rain in is September, with an average rainfall of 132 millimeters.

Terrain: The project road stretch is passing through Plain terrain. The land use by the side of this road includes agriculture, residential and commercial use.

Villages and Towns: The stretch passes through Bangalore Urban and Bangalore rural districts. Important towns along the route are Hoskote, Haralur, Jadigena Hally, Hedaginabele, Madivala and Malur.

2.3 Project Overview

Key features and timelines of the project are presented in the table below.

Table 2-1: Project Data

S. No.	Particulars	Details
1	Name of the project	4 Laning from km 0.000 to km 26.400 (along with 0.700km approach towards NH 207 with interchange on NH4 at start point) of Bangalore to Malur Section on Hybrid Annuity Mode under Bharatmala Pariyojna, in the state of Karnataka (Phase-I Package-I)
2	Name of the Authority	National Highways Authority of India (NHAI)
3	Name of the Concessionaire/SPV	M/s Bangalore Malur Highways Private Ltd
4	EPC contractor	M/s. Dilip Buildcon Limited
5	Independent Engineer	K&J Projects Private Limited in JV with Satra Services & Solution Private Limited.
6	Project Length as per Schedule B of CA	27.100 Km.
7	Bid Project Cost	Rs.1160 Cr
8	Estimated Project Cost	Rs.994.36 Cr, Revised Rs.1024.16 Cr.
9	Toll collected by	The Authority
10	Construction Period	730 days from Appointed Date
11	Operation Period	15 years from actual COD.
12	Concession Period	Construction +Operation Period: 730 days +15 years
13	Appointed Date	15-09-2021
14	Scheduled Construction End Date	14-09-2023
15	Extension of Time (if any)	As per settlement agreement 199 days EOT granted
16	Commercial Operation date	15-05-2024

2.4 Chainage Equation

To avoid confusion while reviewing drawings and report it is necessary to understand the chainage equation between existing and New design chainages. As given in Appendix A-I of CA, the project design chainage corresponding to NH-207 existing chainages are shown below the table.

Table 2-2: Distribution of alignment of Chainages

Start Chainage	End Chainage	Length (Km)	Remarks
-0.700	11.682	12.382	Bangalore Rural
11.682	26.400	14.718	Kolar/Karnataka
	Total	27.100	

CHAPTER 3. SCOPE OF CONSULTANCY SERVICES

3.1 Scope of Cconsultancy Services

The consultant shall carry out the Technical Due Ddiligence services for the afore mentioned asset and the scope of work for the same is as follows:

- Review of various contractual documents
- Carryout detailed assessment of pavement condition and propose maintenance plan along with BOQ.
- Carrying out inventory & condition survey of all elements of road like embankment slope, plantation, road furniture of the project.
- Carrying out inventory & condition survey of all structures (Major Bridges, Minor Bridges, ROB, RE Wall, Flyovers, VUPs, PUPs, Culverts etc.), suggest any rehabilitation & maintenance requirements along with BOQ.
- Carryout road safety audit on Project highway and provide suggestions for improvement.
- Assess and Provide BOQ and cost estimate for routine & periodic maintenance including O&M.
- Review of validity of insurance and statutory compliances related to Project.
- Review of correspondence exchanged between parties on contract related issues and claims etc. Submission of detailed report on technical due diligence of the projects.

CHAPTER 4. SALIENT FEATURES OF THE PROJECT

4.1 Salient Features of the Project

The salient features of the Project as per Schedule B and C of Concession Agreement (CA) are listed in the following Table.

Table 4-1: Salient Features of the Project

S. No.	Particulars	As per CA	At Site
1	Total Length of Four Lane (Flexible)	27.100 Km.	27.100 Km.
2	Width of Main Carriage way	22.50 m	22.50 m
3	Connecting Road (Flexible) Service/Slip Road	3.169 Km.	1.327 +2.520 Km (BHS)
4	Major Bridges	4 Nos	4 Nos
5	Minor Bridges	12 Nos	13 Nos (Incl.01 no CoS)
6	LVUPs	6 Nos	6 Nos
7	VUPs	16 Nos	18 Nos
8	VOPs	3 Nos	3 Nos
9	PUP	NIL	01 Nos (Incl.01 no Cos)
10	Pipe Culverts (Widening)	3 Nos	3 Nos
11	Box culverts	49 Nos	48 Nos (Incl.01 no descope)
12	Utility Crossing	1 No	1 No
13	Interchange	2 Nos	2 Nos
14	Toll Plaza	2 Nos	2 Nos

4.2 Typical Cross Section (TCS) Schedule

As per provisions of Schedule B of CA, there are 15 types of Typical Cross Sections (TCS) for the development of the Project Highway. The schedule of TCS as shown in Appendix BI of schedule B of CA is summarized and given in the following table

Table 4-2: Typical Cross Sections (Main Expressway)

S.No	Segment		Length (Km)	Type	Remarks
	From (Km)	To (Km)			
1	-0+700	-0.280	0.420		Varying as per Dwg.No.BCE/ML/INT-0+000-001 & Drawing No:BCE/G:IC-01
2	-0+280	-0.035	0.245		
3	-0+035	0.035	0.070	Type 13 & Drawing No:BCE/G:IC-01	
4	0+035	0.280	0.245		Varying as per Dwg.No.BCE/ML/INT-0+000-001 & Drawing No:BCE/G:IC-01
5	0+280	0.530	0.250	Type 1	
6	0+530	1.024	0.494	Type 2	
7	1+024	1.036	0.012	VOP	Drawing No:BCE/G:VOP-01

Four laning from Km 0+000 to Km 26+400 (along with 0.700 km Approach towards NH 207 with Interchange on NH 4 at start point) of Bangalore to Malur section on Hybrid Annuity Mode under Bharatmala Pariyojna, in the state of Karnataka (Phase-I Package-I)

S.No	Segment		Length (Km)	Type	Remarks
	From (Km)	To (Km)			
8	1+036	1.530	0.494	TYPE 2	
9	1+530	1.694	0.164	TYPE 1	
10	1+694	1.706	0.012	LVUP	Drawing No:BCE/G:LVUP-01
11	1+706	1.840	0.134	TYPE 1	
12	1+840	1.880	0.040	MNB Girder	Drawing No:BCE/G:MNB-01
13	1+880	2.100	0.220	TYPE 1	
14	2+100	2.140	0.040	TYPE 6A	
15	2+140	2.180	0.040	MNB Girder	Drawing No:BCE/G:MNB-01
16	2+180	2.505	0.325	TYPE 6A	
17	2+505	2.535	0.030	VUP	Drawing No:BCE/G:VUP-01
18	2+535	2.600	0.065	TYPE 6A	
19	2+600	3.000	0.400	TYPE 1	
20	3+000	3.200	0.200	TYPE 4	
21	3+200	4.125	0.925	TYPE 1	
22	4+125	4.352	0.227	TYPE 5A	
23	4+352	4.364	0.012	VUP	Drawing No:BCE/G:VUP-02
24	4+364	4.415	0.051	TYPE 6A	
25	4+415	4.455	0.040	MNB Girder	Drawing No:BCE/G:MNB-01
26	4+455	4.500	0.045	TYPE 1	
27	4+500	4.725	0.225	TYPE 2	
28	4+725	4.750	0.025	TYPE 6A	
29	4+750	4.826	0.076	TYPE 6	
30	4+826	4.838	0.012	LVUP	Drawing No:BCE/G:VUP-01
31	4+838	4.970	0.132	TYPE 6	
32	4+970	5.000	0.030	VUP	Drawing No:BCE/G:VUP-01
33	5+000	5.195	0.195	TYPE 6A	
34	5+195	5.205	0.009	MNB BOX	Drawing No:BCE/G:MNB-04
35	5+205	5.400	0.195	TYPE 6A	
36	5+400	5.500	0.100	TYPE 1	
37	5+500	6.050	0.550	TYPE 6	
38	6+050	6.085	0.035	TYPE 6A	
39	6+085	6.115	0.030	VUP	Drawing No:BCE/G:VUP-01
40	6+115	6.160	0.045	TYPE 6A	
41	6+160	6.160	0.042	TYPE 1	
42	6+202	6.202	0.016	MNB BOX	Drawing No:BCE/G:MNB-05
43	6+218	6.218	0.395	TYPE 1	
44	6+613	6.613	0.026	MNB Girder	Drawing No:BCE/G:PLC-01
45	6+639	6.639	0.388	TYPE 5A	
46	7+027	7.027	0.012	VUP	Drawing No:BCE/G:VUP-02
47	7+039	7.039	0.196	TYPE 1	
48	7+235	7.235	0.270	MJB Girder	Drawing No:BCE/G:MJB-01
49	7+505	7.505	0.809	TYPE 1	

Four laning from Km 0+000 to Km 26+400 (along with 0.700 km Approach towards NH 207 with Interchange on NH 4 at start point) of Bangalore to Malur section on Hybrid Annuity Mode under Bharatmala Pariyojna, in the state of Karnataka (Phase-I Package-I)

S.No	Segment		Length (Km)	Type	Remarks
	From (Km)	To (Km)			
50	8+314	8.314	0.012	LVUP	Drawing No:BCE/G:LVUP-01
51	8+326	8.326	0.413	TYPE 1	
52	8+739	8.739	0.012	VUP	Drawing No:BCE/G:VUP-02
53	8+751	8.751	0.411	TYPE 1	
54	9+162	9.162	0.951	TYPE 2	
55	10+113	10.113	0.033	VOP	Drawing No:BCE/G:VOP-02
56	10+147	10.147	0.628	TYPE 2	
57	10+775	10.775	0.164	TYPE 1	
58	10+939	10.939	0.012	VUP	Drawing No:BCE/G:VUP-02
59	10+951	10.951	0.020	TYPE 1	
60	10+971	10.971	0.009	MNB BOX	Drawing No:BCE/G:MNB-04
61	10+981	10.981	0.356	TYPE 1	
62	11+337	11.337	0.035	MNB Girder	Drawing No:BCE/G:MNB-02
63	11+372	11.372	0.273	TYPE 1	
64	11+644	11.644	0.012	VUP	Drawing No:BCE/G:VUP-02
65	11+656	11.656	0.176	TYPE 1	
66	11+833	11.833	0.125	MJB Girder	Drawing No:BCE/G:MJB-02
67	11+958	11.958	0.393	TYPE 6A	
68	12+350	12.350	0.810	TYPE 1	
69	13+160	13.160	0.009	MNB BOX	Drawing No:BCE/G:MNB-04
70	13+168	13.168	0.161	TYPE 5A	
71	13+329	13.329	0.012	VUP	Drawing No:BCE/G:VUP-02
72	13+341	13.341	0.359	TYPE 5A	
73	13+700	13.700	0.400	TYPE 1	TAPER FOR TOLL PLAZA
74	14+100	14.100	1.000	TOLL PLAZA	TOLL PLAZA
75	15+100	15.100	0.400	TYPE 2	TAPER FOR TOLL PLAZA
76	15+500	15.500	0.067	TYPE 2	
77	15+567	15.567	0.012	VOP	Drawing No:BCE/G:VOP-01
78	15+579	15.579	1.291	TYPE 2	
79	16+870	16.870	0.170	TYPE 1	
80	17+040	17.040	0.360	MJB Girder	Drawing No:BCE/G:MJB-03
81	17+400	17.400	0.200	TYPE 6	
82	17+650	17.650	0.060	TYPE 1	
83	17+600	17.600	0.050	TYPE 6A	
84	17+710	17.710	0.020	VUP	Drawing No:BCE/G:VUP-01
85	17+730	17.730	0.270	TYPE 1	
86	18+000	18.000	0.600	TYPE 2	
87	18+600	18.600	0.520	TYPE 1	
88	19+120	19.260	0.140	TYPE 6A	
89	19+260	19.504	0.244	TYPE 1	
90	19+504	19.516	0.012	LVUP	Drawing No:BCE/G:LVUP-01
91	19+516	19.851	0.335	TYPE 1	

Four laning from Km 0+000 to Km 26+400 (along with 0.700 km Approach towards NH 207 with Interchange on NH 4 at start point) of Bangalore to Malur section on Hybrid Annuity Mode under Bharatmala Pariyojna, in the state of Karnataka (Phase-I Package-I)

S.No	Segment		Length (Km)	Type	Remarks
	From (Km)	To (Km)			
92	19+851	19.863	0.012	VUP	Drawing No:BCE/G:VUP-02
93	19+863	20.119	0.256	TYPE 1	
94	20+119	20.133	0.014	MNB BOX	Drawing No:BCE/G:MNB-04
95	20+133	20.445	0.312	TYPE 1	
96	20+445	20.455	0.009	MNB BOX	Drawing No:BCE/G:MNB-04
97	20+4+55	20.980	0.525	TYPE 1	
98	20+980	21.105	0.125	MJB Girder	Drawing No:BCE/G:MJB-02
99	21+105	21.600	0.495	TYPE 6	
100	21+600	21.945	0.345	TYPE 6A	
101	21+945	21.975	0.030	VUP	Drawing No:BCE/G:VUP-01
102	21+975	22.000	0.025	TYPE 6	
103	22+000	22.385	0.385	TYPE 1	
104	22+385	22.415	0.030	VUP	Drawing No:BCE/G:VUP-01
105	22+415	22.800	0.385	TYPE 6A	
106	22+800	23.315	0.515	TYPE 1	
107	23+315	23.345	0.030	MNB Girder	Drawing No:BCE/G:MNB-03
108	23+345	23.550	0.205	TYPE 1	
109	23+550	23.744	0.194	TYPE 6A	
110	23+744	23.756	0.012	VUP	Drawing No:BCE/G:VUP-04
111	23+756	24.125	0.369	TYPE 6A	
112	24+125	24.152	0.027	INTERCHANGE VOP	Drawing No:BCE/G:IC-01
113	24+152	24.200	0.049	TYPE 1	
114	24+200	24.500	0.300	TYPE 6A	
115	24+500	24.630	0.130	TYPE 6	
116	24+630	25.154	0.524	TYPE 1	
117	25+154	25.166	0.012	LVUP	Drawing No:BCE/G:LVUP-01
118	25+166	25.750	0.584	TYPE 1	
119	25+750	25.780	0.030	TYPE 5A	
120	25+780	25.792	0.012	LVUP	Drawing No:BCE/G:LVUP-01
121	25+792	25.950	0.158	TYPE 5A	
122	25+950	26.400	0.450	TYPE 1	
Total Length			27.100		

Table 4-3: TCS Summary as per CA

S. No	TCS Type	Description
1	TCS-1	4- Lanes Expressway in Embankment
2	TCS-2	4-Lane Expressway cutting
3	TCS-3	4 Lanes Expressway Embankment on LHS and cutting on RHS
4	TCS-4	4 Lanes Expressway cutting on LHS and Embankment on RHS
5	TCS-5	4-Lanes Expressway in Embankment with Retaining structure with connecting road n Both sides.
6	TCS-5A	4-Lanes Expressway in Embankment with Retaining Structure with connecting Road Left/Right
7	TCS-6	4-Lanes Expressway in Embankment with Retaining Structure Both sides
8	TCS-6A	4-Lanes Expressway in Embankment with Retaining structure Left/Right
9	TCS-7	Typical Cross section for Two Lane Loop and Ramp
10	TCS-7A	Typical Cross Section for wider Carriageway at Loop
11	TCS-8	Typical Cross section for 4 Lanes at Loop
12	TCS-8A	Typical Cross section for 4 Lanes at Connecting Road to interchange
13	TCS-9	Typical Cross section for 4 lanes on cross Road at Interchange Joining point
14	TCS-10	Typical cross section for Cross Road Approach at VUP/LVUP
15	TCS-11	Typical Cross section for 2 Lanes Cross Road Approach at Overpass
16	TCS-12	Typical Cross section for 4 Lanes Cross Road Approach at Overpass
17	TCS-13	Typical Cross section for Approach to interchange at Km.0.0

4.3 Service Roads/Slip Roads

Service roads are provided on both sides of MCW along the project road for Type 5 Cross section locations and on one side for Type 5 A cross section location in accordance with the provisions of Schedule B of CA.

4.4 Drainage

As per provisions of Schedule B of CA, drains are to be provided at entire Project of Highway. RCC drains have been proposed for a length of 19.488 Km. and unlined drains for a length of 27.588 km. (Based on Schedule G).

4.5 Summary of the Carriageway and Pavement Details

Table 4-4: Summary of the Carriageway and Pavement Details

S No.	Description	Carriageway Width in m	Length (Km.)	Pavement Type
1	Main Carriageway	22.50 m	21.700	Flexible

S No.	Description	Carriageway Width in m	Length (Km.)	Pavement Type
2	Service/Slip Road	7.00 m.	1.327	Flexible
3	Connecting Road Interchange Location at 24+138		2.520	

4.6 Summary of Structures

Summary of Structures as per provisions of schedule B of the CA is given in **Table 4.1**

4.7 Project Facilities

As per Schedule C of CA, the following facilities shall be provided in the project highway

- Two Toll Plazas are constructed at Km.14+160 & Km.14+780 in stagger position and Km. 24+138 with 8+1 lanes
- Road furniture
 - Kilometer/ Hectometer stones
 - Road signs
 - Road Marking
 - Delineators
 - Reflective Pavement Markers & Solar Studs
 - Traffic Impact Attenuators
 - Metal Beam Crash Barriers
 - Road Boundary Stones
 - Fence
 - Glare reduction
- Operation & Maintenance Center
- Lighting
- Landscaping and tree plantation
- Advanced Traffic Management system
- Provision for utilities
- Rain water harvesting.

Review of Project facilities is done in detail under **Chapter-7**

CHAPTER 5. REVIEW OF AGREEMENTS

5.1 Review of Concession Agreement

Commercial operations are commenced in the Project with effect from 15-05-2024 (PCOD Date). Currently the Project is under operation phase.

5.1.1. Concession (Article 3)

Authority grants Concession to the Concessionaire the construction period of 730 days from the appointed date and operation period of 15 years commencing from COD.

5.1.2. Tests (Clause 13.3)

For determining that the project, conforms to the Maintenance Requirements, the Independent Engineer shall require the Concessionaire (Concessionaire shall in turn require the Contractor) to carry out, or cause to be carried out, tests specified by it in accordance with Good Industry Practice. One half of the costs incurred on such tests, and to the extent certified by the Independent Engineer as reasonable, shall be reimbursed by the Authority to the Concessionaire

Based on the review of correspondence and documents made available, no adverse correspondence or comments from IE are noticed in this regard.

5.1.3. Pre-PCOD scenario in the project

The Concession Agreement (CA) was executed on 17-05-2021. After fulfilling all the requirements as per Article 4 and 24 of CA, the Appointed Date was fixed on 15-09-2021 and the development of the project Highway was commenced. The Construction period for the project was fixed as 730 days as per Schedule G of CA from Appointed Date ie, Construction Period End date is 14-09-2023. Commercial Operations were commenced from 15-05-2024 upon issuance of Provisional Completion Certificate.

5.1.4. Provisional Completion Certificate (Article 14)

A section of the project shall be deemed to be completed to open for traffic only when the completion certificate or provisional certificate for that section is issued in accordance with the Clause 14.3 of the CA. Further to note that as per 14.3.2, the Provisional certificate shall be issued for operating part of the Project, if the concessionaire has completed construction of 100% of the site made available to the Concessionaire up to 146 days from the Appointed date.

Provisional Completion Certificate was issued on vide IE letter dated 03-07-2023 for the length of 26.56 km with the Punch List items. The Concessionaire, vide its letter dated 03-08-2024 notified the completion of works in punch list-A.

5.1.5. Change of scope (Article 16)

As per Clause 16.1.1 of CA, the Authority may, notwithstanding anything to the contrary contained in the agreement, require the provision of additional works and services which are not included in the scope of the Project as contemplated by this agreement (the "Change of scope"). Any such change of scope shall be made in accordance with the provisions of this Article and cost shall be expended by the concessionaire and reimbursed to it by the Authority in accordance with clause 16.3.

5.1.6. O&M Obligations of the Concessionaire (Clause 17.1)

The project is under Operation and maintenance Stage .

- Permitting safe, smooth and uninterrupted flow of traffic on the project road
- Minimizing the disruption to traffic in the event of accidents
- Undertaking routine maintenance including prompt repairs of pot holes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices
- Undertaking major maintenance such as resurfacing of pavements, repairs and refurbishments of tolling system and other equipment
- Preventing any unauthorized use of the project road.
- Protection of environment and provision of equipment and materials
- Complying with safety Requirements in accordance with the provisions of the CA.

Upon review of the documents no adversity of the correspondence was noticed.

5.1.7. Maintenance Requirements (Clause 17.2)

The Contractor shall procure that at all times during the Operations period; the project road conforms to the maintenance requirements set forth in Schedule K of CA (The "**Maintenance Requirements**").

Upon review of the documents it is observed that the Concessionaire is fulfilling the Maintenance Requirements set forth in Schedule K of the CA. No adverse correspondence was noticed in this regard.

5.1.8. Maintenance Manual (Clause 17.3)

No later than 90 (ninety) days prior to the Completion Date, the Concessionaire shall, in consultation with the Independent Engineer, evolve a repair and maintenance manual (the "Maintenance Manual") for the regular and preventive maintenance of the Project in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority and 2 (two) copies to the Independent Engineer. The Maintenance Manual shall be revised and updated once every 3 (three) years and the provisions of this Clause shall apply, mutatis mutandis, to such revision.

Upon review of the documents shared with the Consultant, it is observed that Maintenance Manual was submitted by the Concessionaire.

5.1.9. Maintenance Programme (Clause 17.4)

On or before COD and no later than 45 days prior to the beginning of each accounting year during the Operation Period as the case may be the Concessionaire shall provide to the Authority and Independent Engineer its proposed annual Program of preventive, urgent and the schedule maintenance.

Upon review of the documents shared with the Consultant, it is observed that Maintenance Programme is submitted by the Concessionaire.

5.1.8. **Appointment of Independent Engineer(Article 21)**

The Authority shall appoint a consulting Engineer firm substantially in accordance with the selection criteria set forth in Schedule M, to be the Independent Engineer. The appointment shall be made no later than 60 days from the date of this Agreement and shall be for a period of Construction period plus 6 months. On expiry or termination of the aforesaid appointment, the Authority shall appoint Independent Engineer for a further term of 3 years in accordance with the provisions of Schedule M of the CA.

As per Cl.21.1, IE shall be appointed within 60 days from the date of signing of agreement i.e. on or before 9.5.2021. Accordingly, the Authority Appointed K&J Projects Private Limited in JV with Satra Services & Solution Private Limited., as IE. It is reported that IE has been mobilized on 9-11-2021.

One half of the remuneration cost and expenses incurred by the IE shall be reimbursed by the Concessionaire to the Authority pursuant to Clause 21.3 of the CA

5.2 **Review of Correspondence**

The Concessionaire provided letters exchanged between Concessionaire, EPC contractor and Independent Engineer. After review of the correspondence provided, the major issues dealt with are as follows:

Observation	Comment
Damages for failure in Maintenance requirements.	No adverse comment
Report on quality control issues	No adverse comment
Non-Confirmation Reports.	No Pending NCR
Safety issues and accident report	Regularly submitted in MPR
Weather Report	Regularly submitted in MPR

5.3 **Non-performance of the O&M Operations:**

Upon review of the Monthly Progress Reports, IE inspection and site visit along with the Concessionaire, no defects were identified during the joint inspection

Upon review of the documents, no adverse correspondence was noticed in this regard.

CHAPTER 6. REVIEW OF REPORTS AND DOCUMENTS

6.1 Monthly status reports

During the Construction Period, the Contractor shall, no later than 7 (seven) days after the close of each month, furnish to the Concessionaire, the Authority and the Independent Engineer a monthly report on physical and financial progress of the construction works and shall promptly give such other relevant information as may be required by the IE.

Upon reviewing the documents, it is observed that the Concessionaire started submitting Monthly Status Reports as per the above clause . PCOD was issued on 15-05-2024. There are no adverse findings in these reports.

6.2 Inspection Reports

Clause 13.2 of CA specifies that during Construction Period, the IE shall inspect the Project at least once in a month and make a report of such inspection stating in reasonable detail, the defects or deficiencies, if any with particular reference to the project completion schedule, the scope of the project etc. It shall send the Report to the Authority and Concessionaire. Upon receipt of such inspection report, the Concessionaire shall rectify or remedy the defects if any, stated in the report.

Following are major items covered under the Monthly Inspection Reports

- *Physical Progress*
- *Land Acquisition and clearance*
- *Change of Scope*
- *Quality Control issues*
- *Latest correspondence exchanges between the Authority, IE and the Concessionaire*
- *Weather Report*
- *Unusual occurrences Report*

Upon review of the documents, it is observed that the Monthly Inspection Reports are being submitted regularly by the IE as per the above Clause and upon pursuing same, it is observed that there are no adverse comments from IE.

6.3 Review of Pavement design report

The Concessionaire under the provisions of Article 10 submitted Pavement Design reports vide various letters given as under. Independent Engineer reviewed the submitted designs for its compliance under project specifications and standards and accorded their approval/consent. Reference correspondence related to submissions and approvals are given in the table below.

Table 6-1: Correspondence related to pavement design submission and approvals

S No.	Document Description	Report Reference
-------	----------------------	------------------

1	Pavement Design Report (Part I) For Main Carriageway and Interchange Loop & Ramps.	21038/RD/PS/PD/0001
2	Pavement Design Report (Part III)	21038/RD/PS/PD/0003

The above pavement designs submitted and approved by the Independent Engineer were reviewed by the Consultant and is discussed in the following paragraphs.

6.3.1. Flexible pavement for main carriageway

Design traffic

As stated in Clause 4.15 of Schedule-B, "The Flexible Perpetual Pavement type for Main Carriageway and Interchange Loop and Ramp shall be designed for a minimum design traffic of 300 MSA for design period of 30 years".

Sub grade CBR

The concessionaire has been adopted 12% CBR for Sub grade.

The pavement was designed by the design consultant based on homogeneous sections (HS), traffic and sub grade CBR. The design traffic wise homogeneous sections were summarized in the table below.

Table 6-2: Designed pavement crust summary as per pavement design report

Section	Design Traffic	Effective CBR %	BC (CRMB)	DBM	Crack Relief Layer (WMM)	Cementitious Base (CTB)	Cementitious Sub Base (CTSB)
Entire Project main carriageway and Interchange Loop & Ramp	300 MSA	12 %	50 mm	125 mm	100 mm	200 mm	200 mm

As per IRC:37-2018, the pavement crust proposed is satisfying the design traffic with 12% CBR. Hence flexible pavement design for MCW is in order based on traffic and as per schedule B requirement.

6.3.2. Rigid pavement for Toll Plaza

The rigid pavement shall be designed as per IRC: 58-2015 with 12% CBR, as per pavement design report, the design calculations are found in order, and the adopted rigid pavement crust for toll plaza is given below.

Table 6-3: Pavement Composition for Toll plaza

Description	Rigid pavement
Designed CBR	12 %
Pavement Quality Concrete (PQC) - mm	320
A de-bonding interlayer of polythene sheet having minimum thickness of 125 micron is provided between DLC and PQC, as per CI:5.7.5 of IRC:58-2015.	
Dry Lean Concrete (DLC) - mm	150
Drainage Layer (GSB) - (mm)	150
Diameter of Dowel Bar (mm)	36
Length of Dowel Bar (mm)	500
Spacing of Dowel Bars (mm) Contraction Joint	300
Spacing of Dowel Bars (mm) Expansion Joint	270
Diameter of Tie Bar (mm)	12 (Deformed)
Length of Tie Bar (mm)	640
Spacing of Tie Bars (mm)	520

6.3.3. Site Investigations

During site visit, core cutting test/ Trial pit test was conducted at some of the locations along the project stretch to compare the executed crust thickness with the design crust thickness and found that the crust thicknesses are in compliance with the design thickness.

Table 6-4: Pavement Design Thickness Vs Executed Crust Thickness

S. No	Test Location	Side	As per Design Report					As per site test pits		
			BC (mm)	DBM (mm)	AIL (mm)	CTB (mm)	CTSB (mm)	BC+DBM	AIL	CTB+CTSB
1	15+573	LHS	50	125	100	200	200	175	100	400

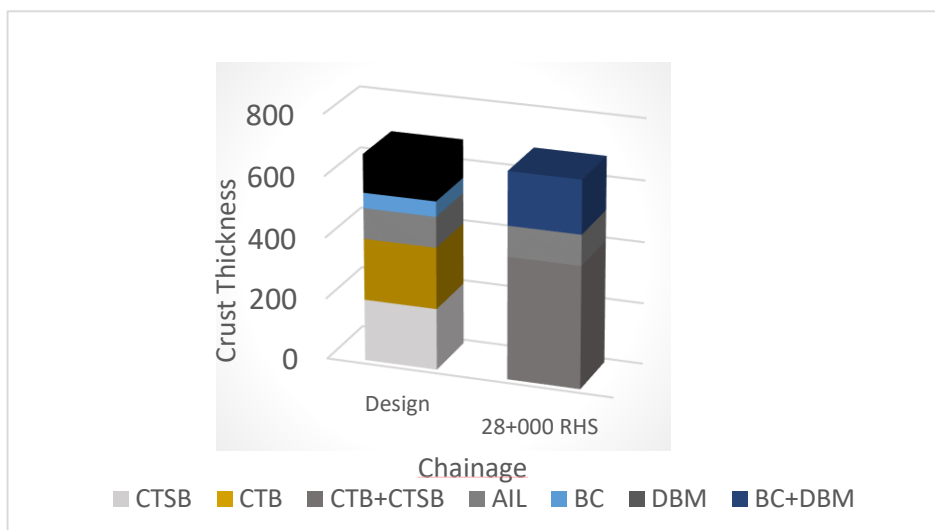


Figure 6.1: Bar Chart showing Design thickness vs Executed thickness

CHAPTER 7. SITE APPRAISAL

7.1 General

The TDD Consultant team visited the site from 19.01-2025 to 21-01-2025 and collected Road inventory besides examining the condition of pavement, structures and physical progress of site work.

7.2 Highways

7.2.1. Road Inventory

The objective of road inventory is to collect and compare information on all physical and visible features of the road with the GFC drawings, to assess progress of construction and to have visual quality inspection. All the details were recorded by actual measurements made at site, according to IRC-SP-19 format duly modified as per the project requirements The Road Inventory was recorded under the following sub-heads: -

- Type of Terrain - (Plain/ Rolling/Hilly)
- Land use - (Built-up/Agri. /Forest/ Industrial/ Barren)
- Name of Village/Town
- Carriageway and Shoulder - Type/ Width/ Condition
- Embankment Height
- Submergence / water logging Area – location if any
- Details of Crossroads - Location/Road Name. /Carriageway Width
- Road Side Drainage (Non-Existing, Partially Functional, Functional)

7.2.2. Type of terrain

The project road combination of plain and rolling terrain.

7.2.3. Land use

The project road passes through built up, barren, agriculture and forest sections all along its length. The details are given below.

Table 7-1: Land use details along the project road

S.No.	From (Km.)	To (km.)	Length (Km)	Land use
1	-0.700	26.400	27.1	Agriculture

7.2.4. Villages/Towns along the Project

The project is green field and starts at Hoskote and ends at Malur.

7.2.5. Main Carriageway

The project road is Four lane divided carriageway with Rigid Pavement and Service / Slip Roads with Flexible Pavement. The survey on general pavement conditions was primarily a visual exercise undertaken by means of slow drive-over survey supplemented with measurements wherever necessary.

Overall assessment of pavement condition of the project road is good. The riding quality is observed to be good and some Photographs Provided below table .

	
Cloverleaf junction View	Cloverleaf junction View
	
Main carriageway View	Main Carriageway View
	
Main Carriageway View	Main Carriageway View



Figure 7.1: Status of Main Carriageway

7.2.6. Interchanges/Cross Roads

Construction of Interchange roads and connecting roads are Completed in accordance with the provisions of the CA.

7.2.7. Road Side Drainage

As per schedule provisions of CA, Drain is constructed at all locations as per TCS and the Condition of the same is good

Table 7-2: Inventory and status of drains

From Chainage	To Chainage	Side	Length (m)	Remarks	Status
0+520	1+500	LHS	980	Cutting Section Lined Drain	Completed
2+980	3+360	LHS	380	Cutting Section Lined Drain	Completed
4+500	4+670	LHS	170	Cutting Section Lined Drain	Completed

From Chainage	To Chainage	Side	Length (m)	Remarks	Status
9+040	10+790	LHS	1750	Cutting Section Lined Drain	Completed
15+140	16+900	LHS	1760	Cutting Section Lined Drain	Completed
18+080	18+570	LHS	490	Cutting Section Lined Drain	Completed
20+540	20+830	LHS	290	Cutting Section Lined Drain	Completed
0+520	1+500	RHS	980	Cutting Section Lined Drain	Completed
2+880	3+320	RHS	440	Cutting Section Lined Drain	Completed
4+470	4+690	RHS	220	Cutting Section Lined Drain	Completed
9+040	10+790	RHS	1750	Cutting Section Lined Drain	Completed
15+140	16+870	RHS	1730	Cutting Section Lined Drain	Completed
18+000	18+550	RHS	550	Cutting Section Lined Drain	Completed
20+540	20+900	RHS	360	Cutting Section Lined Drain	Completed

Lined Drain					Status
-0+525	-0+480	LHS	45.000	Lined Drain	Completed
2+090	2+137	LHS	47.000	Lined Drain	Completed
2+157	2+360	LHS	203.000	Lined Drain	Completed
4+200	4+354	LHS	154.000	Lined Drain	Completed
4+366	4+400	LHS	34.000	Lined Drain	Completed
4+720	4+848	LHS	128.000	Lined Drain	Completed
4+860	4+964	LHS	104.000	Lined Drain	Completed
4+994	5+050	LHS	56.000	Lined Drain	Completed
5+840	6+000	LHS	160.000	Lined Drain	Completed
6+633	7+036	LHS	403.000	Lined Drain	Completed
12+070	12+170	LHS	100.000	Lined Drain	Completed
13+240	13+315	LHS	75.000	Lined Drain	Completed
14+700	14+730	LHS	30.000	Lined Drain	Completed
14+800	14+820	LHS	20.000	Lined Drain	Completed
17+180	17+265	LHS	85.000	Lined Drain	Completed
17+400	17+650	LHS	250.000	Lined Drain	Completed
21+050	21+252	LHS	202.000	Lined Drain	Completed
21+336	21+720	LHS	384.000	Lined Drain	Completed
21+990	22+391	LHS	401.000	Lined Drain	Completed
23+350	23+400	LHS	50.000	Lined Drain	Completed
25+755	25+910	LHS	155.000	Lined Drain	Completed
-0+593	-0+490	RHS	103.000	Lined Drain	Completed
2+070	2+137	RHS	67.000	Lined Drain	Completed
2+157	2+504	RHS	347.000	Lined Drain	Completed
2+534	2+600	RHS	66.000	Lined Drain	Completed
4+400	4+425	RHS	25.000	Lined Drain	Completed
4+770	4+848	RHS	78.000	Lined Drain	Completed
4+994	5+150	RHS	156.000	Lined Drain	Completed
5+880	6+000	RHS	120.000	Lined Drain	Completed
11+940	11+986	RHS	46.000	Lined Drain	Completed

Lined Drain					Status
12+070	12+140	RHS	70.000	Lined Drain	Completed
13+327	13+670	RHS	343.000	Lined Drain	Completed
14+110	14+340	RHS	230.000	Lined Drain	Completed
17+180	17+265	RHS	85.000	Lined Drain	Completed
17+400	17+650	RHS	250.000	Lined Drain	Completed
19+070	19+280	RHS	210.000	Lined Drain	Completed
21+180	21+252	RHS	72.000	Lined Drain	Completed
21+336	21+870	RHS	534.000	Lined Drain	Completed
22+370	22+391	RHS	21.000	Lined Drain	Completed
22+445	22+500	RHS	55.000	Lined Drain	Completed
23+350	23+430	RHS	80.000	Lined Drain	Completed
23+550	23+580	RHS	30.000	Lined Drain	Completed
23+780	23+880	RHS	100.000	Lined Drain	Completed

As per schedule provisions of CA, Drain constructed at all locations and the Condition of the same is good

7.2.8. Retaining

Locations of the Retaining walls proposed in the Project Corridor is provided below with the status of construction.

Table 7-3: Locations of Retaining wall

From (Km)	To (Km)	Side	Length(Km)	Remarks	Condition
790	1040	LHS	250	Executed	Good
1040	1220	LHS	180	Executed	Good
9640	9690	LHS	50	Executed	Good
10010	10210	LHS	200	Executed	Good
15353	15590	LHS	237	Extra(Executed at site)	Good
15590	15960	LHS	370	Executed	Good
15960	16010	LHS	50	Extra(Executed at site)	Good
16010	16200	LHS	190	Executed	Good
810	910	RHS	100	Extra(Executed at site)	Good
910	1040	RHS	130	Executed	Good
1040	1180	RHS	140	Executed	Good
10010	10240	RHS	230	Executed Executed	Good
10240	10330	RHS	90	Executed	Good
15400	15580	RHS	180	Executed	Good
15580	16290	RHS	710	Executed	Good

All the requisite RE walls are constructed.

7.2.9. Kerb

There is no Provision of kerb throughout the project due to 21m depressed median. Except in super elevation portion to guide water to chutes.

7.2.10. GFC Vs Site Comparison

A sample measurement checks were conducted at site based on GFC drawings at ongoing and completed work sections. In general, all elements of works executed are matching with GFC drawings.

7.3 Pavement Condition

The survey on general pavement conditions was primarily a visual exercise undertaken by means of slow drive-over survey, and supplemented with measurements wherever necessary. Visual assessment was carried out from a vehicle, with speed not exceeding 20 kmph and stopping at various locations at suitable intervals and wherever necessary.

Where ever BC and DBM are executed, pavement condition was found to be good. Overall assessment of pavement condition of the project road is good.

Photos captured during the site visit are given below.



Figure 7.2: Photographs showing the condition of Pavement

7.4 Structures

Detailed inventory and condition of structures on the project road were carried out during the site visit as per the guide lines provided in IRC: SP: 52-1999 & IRC: SP: 35-1990. The summary of structures on the project road is given below:

Table 7-4.: Summary of Structures

S. No.	Type of Structure	As per schedule B	COS	Total	As per site	Status	Remarks
1	Major bridges	4	0	4	4	Completed	

S. No.	Type of Structure	As per schedule B	COS	Total	As per site	Status	Remarks
2	Minor Bridges	12	+1	13	13	Completed	COS Minor Bridge at Km: -00+647
3	Interchange	2	0	2	2	Completed	
4	VUP	16	1	17	16	Completed	@Ramp 2 , 0+182
5	LVUP	6	0	6	6	Completed	
6	PUP	-	+1	1	1	Completed	Box culvert changed to PUP
7	VOP	3	0	3	3	Completed	
8	Utility	1	0	1	2	Completed	
9	Pipe culverts	1	0	1	0	Completed	
10	Box Culverts	49	-1	48	47	Completed	

The Bridge inventory and condition of structures is enclosed as **Annexure-1**. Condition survey and remedial measures are given in Table 8.5 to 8.11.

Table 7-5:Major Bridges

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	07+325	6x45	270	Completed	Good
2	12+049	3x42	126	Completed	Good
3	17+265	8x45	360	Completed	Good
4	21+273	3x42	126	Completed	Good

Table 7-6:Minor Bridges

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	-00+647	1x15.31	15.31	Completed	Good
2	23+302	3x10	30	Completed	Good
3	02+150	4x10	40	Completed	Good
4	04+425	4x10	40	Completed	Good
5	05+200	1x8	8	Completed	Good
6	06+206	3x5.0	15	Completed	Good
7	10+966	1x8	8	Completed	Good
8	11+337	4x8.75	35	Completed	Good
9	13+145	1x8	8	Completed	Good
10	20+118	2x6.5	13	Completed	Good
11	20+427	2x4	8	Completed	Good
12	01+860	3x10	30	Completed	Good

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
13	01+070	3x7	21	Completed	Good

Table 7-7: Interchange

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	- 00+001	2x35	70	Completed	Good
2	24+131	2x18.0 +2x42.0	120	Completed	Good

Table 7-8: Vehicle Underpass

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	02+519	1x30	30	Completed	Good
2	04+360	1x12	12	Completed	Good
3	04+979	1x30	30	Completed	Good
4	06+146	1x30	30	Completed	Good
5	07+042	1x12	12	Completed	Good
6	08+753	1x12	12	Completed	Good
7	10+940	1x12	12	Completed	Good
8	11+635	1x12	12	Completed	Good
9	13+321	1x12	12	Completed	Good
10	17+701	1x20	20	Completed	Good
11	19+837	1x12	12	Completed	Good
12	21+942	1x30	30	Completed	Good
13	22+390	1x30	30	Completed	Good
14	23+721	1x12	12	Completed	Good
15	0+126	1x12	12	Completed	Good
16	0+182	1x12	12	Completed	Good
17	0+414	1x12	12	Completed	Good

Table 7-9: Vehicle Overpass

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	01+027	2x40	80	Completed	Good

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
2	10+117	1x18.15+2x59.5+1x34.85	172	Completed	Good
3	15+557	2x40	80	Completed	Good

Table 7-10: Light Vehicle Underpass

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	01+697	1x12	12	Completed	Good
2	04+854	1x12	12	Completed	Good
3	08+330	1x12	12	Completed	Good
4	19+496	1x12	12	Completed	Good
5	25+138	1x12	12	Completed	Good
6	25+749	1x12	12	Completed	Good

Table 7-11: Pedestrian Underpass

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	14+800	1x7x3.644	26	Completed	Good

Table 7-12: Utility

Sl. No	Chainage	Span	Total length of bridge	Status of Construction	Condition of structure
1	06+619	1x26	26	Completed	Good
2	0+617	1x34.28	34.28	Completed	Good

7.4.1. Status of Construction

Construction of all structures totally completed

7.5 Culverts

7.5.1. Inventory

There are 48 Box culverts and one Pipe Culvert in the project stretch. Detailed inventory and condition survey of Culverts is given in **Annexure-1**. Summary of inventory of Culverts is provided in table given below.

Table 7-13: List of Culverts and their status

S. No	Schedule Chainage	Design Chainage	Type of structure	Span Arrangement	Status of Construction	Condition
1	00+401	00+300	Box	1X2X2.5	Completed	Good
2	01+595	01+638	Box	1X2X2.5	Completed	Good
3	02+350	02+350	Box	1X2X2.5	Completed	Good
4	03+500	03+398	Box	1X2X2.5	Completed	Good
5	03+800	03+800	Box	1X2X2.5	Completed	Good
6	14+750	04+295	Box	1X2X2.5	Completed	Shifted from 14+750
7	05+460	05+757	Box	1X2X2.5	Completed	Good
8	05+800	05+920	Box	3X2X2.5	Completed	Good
9	06+580	06+589	Box	1X6X3	Completed	Good
10	06+950	06+950	Box	2x3x3	Completed	Good
11	7+705	07+705	Box	1x2x2.5	Completed	Good
12	07+770	07+770	Box	1X2X2.5	Completed	Good
13	08+210	08+210	Box	1X2X2.5	Completed	Good
14	08+540	08+540	Box	1X2X2.5	Completed	Good
15	12+250	12+250	Box	1X2X2.5	Completed	Good
16	12+530	12+530	Box	1X2X2.5	Completed	Good
17	12+028	12+985	Box	1X2X2.5	Completed	Shifted from 12+028
18	25+861	13+440	Box	1X2X2.5	Completed	Good
19	07+620	13+750	Box	1X2X2.5	Completed	Shifted from 7+620
20	14+610	14+596	Box	1X2X2.5	Completed	Good
21	14+706	14+700	Box	2X3X3	Completed	Good
22	14+850	14+820	Box	1X2X2.5	Completed	Good
23	18+689	18+689	Box	1X3.5X3	Completed	Good
24	18+790	18+790	Box	1X5X3	Completed	Good
25	18+920	18+880	Box	1X3.5X3	Completed	Good
26	19+128	19+189	Box	2X2.5X2.5	Completed	Good
27	21+294	21+100	Box	2X2.5X2.5	Completed	Shifted from 21+294
28	21+507	21+507	Box	1X2X2.5	Completed	Good
29	14+950	22+150	Box	1X2X2.5	Completed	Shifted from 14+950
30	22+430	22+520	Box	1X2X2.5	Completed	Good
31	22+890	22+890	Box	1X2X2.5	Completed	Good
32	23+120	23+120	Box	1X2X2.5	Completed	Good
33	24+500	24+500	Box	1X2X2.5	Completed	Good

S. No	Schedule Chainage	Design Chainage	Type of structure	Span Arrangement	Status of Construction	Condition
34	25+090	25+450	Box	1X2X2.5	Completed	Good
35	26+218	25+950	Box	2X3X3	Completed	Good
36	00+100	00+180	Box	1X2X2.5	Completed	Good (@ Interchange-1-Ramp-2)
37	00+150	00+440	Box	1X2X2.5	Completed	Good (@ Interchange-1-Loop-4)
38	00+200	00+680	Box	1X2X2.5	Completed	Good (@ Interchange-1Ramp-1)
39	00+450	00+400	Box	1X2X2.5	Completed	Good (@ Interchange-1- Loop-3)
40	00+510	-00+550	Box	1X2X2.5	Completed	Good (@ NH-207)
41	00+550	00+125	Box	1X2X2.5	Completed	Good (@ Interchange-1- Loop-1)
42	00+560	00+130	Box	1X2X2.5	Completed	Good (@ Interchange-1- Ramp-3)
43	00+575	00+440	Box	1X2X2.5	Completed	Good(@ Interchange-1- Loop-2)
44	00+600	00+510	Box	1X2X2.5	Completed	Good(@ Interchange-1-Ramp-4)
45	00+640	00+500	Box	1X2X2.5	Completed	Good(@ Interchange-1-Loop-3)
46	00+790	00+440	Box	1X2X2.5	Completed	Good(@ Interchange-1-Ramp-2)
47	00+089	Widening @ Interchange Location	Box	1X2X2.5	Completed	Good(@ Interchange-1-Ramp-2)
48	00+475	Widening @ Interchange Location	Box	1X2X2.5	Completed	@ Interchange
49	-	00+440	Box	1X2X2.5	Completed	@ Interchange-1-Ramp-4

7.5.2. Culverts

All the culverts were constructed and condition is good.

7.5.3. Status of Construction:

The condition of the Box culverts /Pipe Culverts is verified at site and all culverts are in good condition. The details along with inventory is enclosed as **Annexure-1**.

7.6 Project Facilities**7.6.1. Toll Plaza**

Concession Agreement under Schedule C provides construction of two toll Plazas on the project road and details are given in the following table. Each Toll plaza has 8 lanes on each side of 3.5m width and one extra width lane.

Table 7-14: Location of Toll Plaza

S.No	Toll plaza location
TP1	14+160
TP2	24+138

TP1 has been 64+700 with 8+8 lane configuration and static weigh bridges are erected. Facilities to be provided as per CA at toll plaza location are listed below:

- Traffic Aid Post
- Medical aid post
- Vehicle rescue post
- ATMS
- Ambulance
- Crane
- Patrolling vehicle
- Towing vehicle

Automatic Toll collection system including dedicated and hybrid ETC lane.

7.6.2. ATMS

ATMS system installed on the project highway

7.6.3. Road Furniture

As per the provisions of CA Road Furniture shall be provided in accordance with the Manual of Specifications and standards for four laning of national highways through public private partnership published by the MORTH in March 2008. The Concessionaire submitted the signage plan to the Independent Engineer and the same is approved.

As per provision of the CA and GFC signage plan status of traffic signs boards fixing is Completed along the project is given below.

Table 7-15: Status of traffic sign boards

S. No.	Category	Minimum signs to be fixed (Nos)	Remarks
1	Mandatory	10	Fixed
2	Warning	459	Fixed
3	Informatory	17	Fixed
4	Toll Plaza	36	Fixed

7.6.4. Overhead Signs

As per the provision of CA, minimum 4 Nos. of gantry overhead signs and 26 cantilever sign boards (excluding toll plaza location) are erected in the project.

7.6.5. Landscaping & Tree Plantation

As per the Schedule-C of CA and Code, Minimum Nos of Avenue and Median Plantation has been Provided at site.

Table 7-16: Status of Avenue and median plantation

S. No.	Item of work	Chainage		side	Unite	Scope	Remarks
		From	To				
1	Avenue Plantation	0.000	26.400	LHS	Nos	2333	De -Scoped
2	Avenue Plantation	0.000	26.400	RHS	Nos	2332	De-Scoped
3	Median Plantation	0.000	26.400	Both side	Nos	26536	Complete

7.6.6. Pavement marking

Pavement marking is completed along the Project and condition is good.

7.6.7. Metal beam Crash Barrier

During site visit it is observed that metal beam crash barrier has been installed at outer edge of main carriage way wherever the pavement is completed and condition is good.

Table 7-17: Status of Metal beam Crash barrier

S.No.	Item of work	Chainage		side	Status
		From	To		
1	MBCB Outer edge of Carriage way	-0.700	26.400	Both side	Completed



Figure 7.3: Photographs of Metal Beam Crash Barrier

7.6.8. Hectometer/Km. stones

Fixing of Kilometre stones is completed and Condition is good

7.6.9. Highway Lighting

Highway lighting works are completed on the project highway.

Table 7-18: Details of lighting

S.no	Type of pole	Type of bulb	Total Nos provided
1	Single arm	LED	431
2	Double arm	LED	64
3	High Mast	LED	-

7.6.10. Traffic Aid Post

Traffic Aid post construction completed at toll plaza.

7.6.11. Medical Aid Post

Medical Aid post construction completed at toll plaza.

7.6.12. Vehicle Rescue Posts

Vehicle rescue post Construction at toll plaza completed.

7.6.13. Operation and Maintenance (O&M) Centre

O&M canter construction completed as per schedule C.

7.6.14. Telecom System

The telecom communication system completed as per schedule C.

7.6.15. Advance Traffic Management System (ATMS)

ATMS provided for convenience of users of Project Highway in accordance with IRC: SP:84. Details are given in 7.5.2.

7.6.16. Noise Barrier

There is no provision in this project.

7.6.17. Road Studs

As per the provision of CA, road studs provided all along the road.

7.6.18. NCRs and its status

Upon review of the documents, it is observed that all NCRs have been closed.

CHAPTER 8. REVIEW OF O&M AGREEMENT

The Operation and Maintenance agreement was signed between M/s Bangalore Malur Highways Private Limited and Dilip Buildcon Limited .

We have reviewed the provisions under various clauses of this O&M Agreement and our specific comments are indicated below:

Sr No	Clause No	Description in brief
1	Senior Lenders	Means financial institutions, banks, funds or trusts who provide or refinance the debt component of the cost of the Project
2	Contract Period	Contract period for this agreement shall be equivalent to a period commencing from the date of the COD achieved by the Concessionaire in accordance with the Concession Agreement and expiring on the earlier of a) completion of the Operations Period; b) early termination of the Concession Agreement or c) Stake sale of the Concessionaire
3	Scope of Work	O&M Contractor's scope under this Agreement shall be completely and fully in line with the scope of works defined in relevant schedules of the Concession Agreement including and not limited to any remedial/rectification works Scope of work shall confirm to the provisions, specifications and standards design and drawings and other parameters stipulated in the Concession Agreement
4	Contract Price	In consideration of its obligations under this Agreement, during the Contract Period, the O&M Contractor shall be paid an aggregate lump sum fixed contract price for each financial year. It is clarified that the O&M Contractor shall not be entitled to any adjustment of the Contract Price as a result or in consequence of : i. Any escalation of price and / or inflation; and/ or ii. Any quantities of non – consumables, consumables, spares or equipment required for the execution of the Works
5	Payment Terms	O&M Contractor would raise bill half-yearly within 7 days of Annuity Payment Dates. Any shortfall in Annuity payments and/or O&M payments by authority would result in similar reduction in payment under the RA Bill, provided that it is demonstrated that such shortfall in

Sr No	Clause No	Description in brief
		release of the Annuity Payment and O&M Payment by the Authority to the Concessionaire has been solely due to default of the O&M Contractor under this agreement. Any defects found in O&M by Authority/ IE would be rectified by the O&M Contractor at its sole expense without recourse to the Concessionaire.
6	Assignment	Assignment by the Concessionaire: The Concessionaire may, subject to the provisions of the Concession Agreement, assign or transfer or enter into an agreement to assign or transfer this Agreement or the rights and benefits hereunder, in favour of or for the benefit of the Senior Lenders.
7	Termination	Concessionaire has rights to terminate the O&M agreement on account of O&M event of default and vice-versa

CHAPTER 9. SCHEDULE OF ANNUITY PAYMENTS

9.1 Hybrid Annuity Model (HAM)

Hybrid annuity model is the PPP model in which Authority makes payment of 40% of the Bid Project cost during construction period based on progress milestones set forth in Concession Agreement. Payment of the balance 60% of the Bid Project Cost is made in form of bi-annual annuities with interest during the operational phase of concession.

Table 9-1: Schedule of Payment Milestones

S. no	Payment Milestone Number	Criteria for releasing the Payment
1	I	On Achievement of 5% of Physical Progress
2	II	On Achievement of 10% of Physical Progress
3	III	On Achievement of 20% of Physical Progress
4	IV	On Achievement of 30% of Physical Progress
5	V	On Achievement of 40% of Physical Progress
6	VI	On Achievement of 50% of Physical Progress
7	VII	On Achievement of 60% of Physical Progress
8	VIII	On Achievement of 70% of Physical Progress
9	IX	On Achievement of 80% of Physical Progress
10	X	On Achievement of 90% of Physical Progress

During the Operation Period following payment components are payable.

Annuity Payment as per the Annuity Payment Schedule provided in 23.6.3 of the Concession Agreement.

Interest to be paid on the balance of completion cost at an interest rate an Average of MCLR of 5 banks as declared by NHA plus 1.25% ,O&M Payment as a lump sum amount as per Clause 23.7.1 of the Concession Agreement.

9.2 Schedule of Annuity Payments

Table 9-2: Details of Annuity payments are as below

Annuity	Percentage of BCC	Annuity Due Date
1	2.10%	11-11-2024
2	2.17%	11-05-2025
3	2.24%	11-11-2025
4	2.31%	11-05-2026
5	2.38%	11-11-2026
6	2.45%	11-05-2027
7	2.52%	11-11-2027
8	2.60%	11-05-2028
9	2.68%	11-11-2028

Four laning from Km 0+000 to Km 26+400 (along with 0.700 km Approach towards NH 207 with Interchange on NH 4 at start point) of Bangalore to Malur section on Hybrid Annuity Mode under Bharatmala Pariyojna, in the state of Karnataka (Phase-I Package-I)

Annuity	Percentage of BCC	Annuity Due Date
10	2.76%	11-05-2029
11	2.84%	11-11-2029
12	2.93%	11-05-2030
13	3.02%	11-11-2030
14	3.11%	11-05-2031
15	3.20%	11-11-2031
16	3.30%	11-05-2032
17	3.40%	11-11-2032
18	3.50%	11-05-2033
19	3.61%	11-11-2033
20	3.72%	11-05-2034
21	3.83%	11-11-2034
22	3.94%	11-05-2035
23	4.06%	11-11-2035
24	4.18%	11-05-2036
25	4.25%	11-11-2036
26	4.25%	11-05-2037
27	4.44%	11-11-2037
28	4.71%	11-05-2038
29	4.75%	11-11-2038
30	4.75%	11-05-2039

CHAPTER 10. COST ESTIMATES**10.1 Maintenance of Project Cost**

The maintenance methodology and yearly maintenance program will guide the Maintenance team to undertake the routine & periodic maintenance works of the Project Facilities. This program is the basic indicator of the intended works to be carried out by the Maintenance Team over a period of one year

Road maintenance can be carried out in four ways as listed below.

- i. Preventive Maintenance
- ii. Routine Maintenance
- iii. Periodic Maintenance
- iv. Special repairs

- Preventive Maintenance:

Preventive maintenance is an organized, systematic process of applying a series of preventive treatments over the life of the pavement to minimize life cycle costs.

The strategy of applying periodic treatments at appropriate times in a pavement's life is economical than applying treatment at the end of pavement's life. Preventive maintenance is designed to retard pavement deterioration. Regular preventive maintenance will be carried out to ensure adherence to the Design Requirements and specifications throughout the Concession period.

The flexible pavement is in good condition and hence does not require any immediate or preventive interventions.

- Routine Maintenance:

Routine maintenance, which involves repairing of cracks, replacement of safety girders along the highway, clearance of debris following accidents, ensuring functionality of signposts, maintenance of a security set-up, and such other activities

- Periodic Maintenance

In contrast to preventive maintenance treatments, periodic maintenance treatments are ideally applied on pavements to improve surface integrity and waterproofing, or to improve skid resistance, without increasing the strength of the pavement significantly

Schedule of Periodic Maintenance	
Description	Scheduled Year
1 st Periodic Maintenance	FY 2031
2 nd Periodic Maintenance	FY 2038

- Special Repairs

The group of activities performed to restore the roadway following damage due to natural calamities such as heavy floods, sand storms, hurricanes, cyclones, earthquakes or landslides which shall be unpredictable. The affected Project Road shall be rectified, and the system shall be restored to function as per program prepared in consultation with Independent Engineer.

Typical activities include:

- Culvert and bridge repairs;
- Retaining wall repairs and construction;
- Construction of Diversions;
- Roadway repairs; and
- Flood damage restoration works, etc.

10.2 O&M Expense forecasts

The O&M costs were estimated based on various parameters of CA, and design reports. The cost summary is given below, and detailed cost estimations are given in Annexure -2

Proposed Plan for Future Operation & Maintenance Costs (in Crores)

Table 10-1: Summary of Cost Estimate

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2024-2025	-	2.20	3.17	5.37
2025-2026	-	2.50	3.34	5.84
2026-2027	1.73	3.55	3.53	8.81
2027-2028	0.52	3.73	3.67	7.93
2028-2029	0.41	3.80	3.83	8.04
2029-2030	0.42	3.97	3.99	8.38
2030-2031	37.34	5.63	4.19	47.16
2031-2032	6.64	4.18	4.44	15.25
2032-2033	0.71	4.28	4.46	9.45
2033-2034	0.47	4.32	4.59	9.38
2034-2035	2.17	4.45	4.72	11.35
2035-2036	0.64	4.56	4.86	10.06
2036-2037	0.49	4.58	5.00	10.07

Four laning from Km 0+000 to Km 26+400 (along with 0.700 km Approach towards NH 207 with Interchange on NH 4 at start point) of Bangalore to Malur section on Hybrid Annuity Mode under Bharatmala Pariyojna, in the state of Karnataka (Phase-I Package-I)

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.
2037-2038	43.32	4.73	5.15	53.19
2038-2039	7.64	4.71	3.97	16.31
2039-2040	0.33	0.40	4.09	4.82
Total Expenditure in Cr. Rs	102.83	61.57	66.99	231.40

CHAPTER 11. CONCLUSION

Based on detailed site inspection, review of various documents and reports as described in the preceding chapters technical over view of the Project is provided below.

- Pavement Condition

The Pavement condition for the overall project is good. Lined and unlined drains constructed as per CA provisions, which facilitates the effective drainage system along good.

- Condition of Structures

Condition of Bridges is good. No structural defects were noticed. The general condition of Culverts is good.

- Toll Plaza

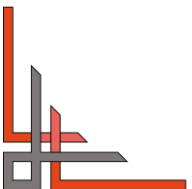
Toll Plaza is operational with ETC Toll collection system and connected by network system monitored in administrative building. Medical Aid posts found functional. Avenue plantation and landscaping at Toll Plaza is provided and being maintained well. Highway lighting is provided at toll plaza and the same is found functional.

- Road Safety

Pavement marking is in good condition and number of sign boards are provided as per IRC SP 73-2007. The condition of sign boards & other road appurtenances like metal beam crash barriers is good



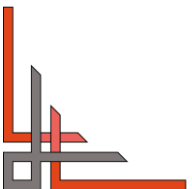
ANNEXURES





Annexure-1

Inventory & Condition of Structures



FOUR LANING FROM KM 0.000 TO KM 26.400 (ALONG WITH 0.700 KM APPROACH TOWARDS NH 207 WITH INTERCHANGE ON NH 4 AT START POINT) OF BANGALORE TO MALUR SECTION ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PHASE-I PACKAGE-I)

BOX culvert					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	-00+510	1x2x2.5	Completed	Good	
2	00+550 Loop 1	1x2x2.5	Completed	Good	
3	00+089 Widen Ramp 2	1x1.5x1.5	Completed	Good	
4	00+575 Loop 2	1x2x2.5	Completed	Good	
5	00+450 Loop 3	1x2x2.5	Completed	Good	
6	00+640 Loop 3	1x2x2.5	Completed	Good	
7	00+440 Loop 4	1x2x2.5	Completed	Good	
8	00+680 Ramp 1	1x2x2.5	Completed	Good	
9	00+180 Ramp 2	1x2x2.5	Completed	Good	
10	00+440 Ramp 2	1x2x2.5	Completed	Good	
11	00+560 Ramp 3	1x2x2.5	Completed	Good	
12	00+600 Ramp 4	1x2x2.5	Completed	Good	
13	00+401	1x2x2.5	Completed	Good	
14	0+0475 Widen Ramp 2	1x2x2.5	Completed	Good	
15	1+595	1x2x2.5	Completed	Good	
16	2+350	1x2x2.5	Completed	Good	
17	3+500	1x2x2.5	Completed	Good	
18	3+800	1x2x2.5	Completed	Good	
19	14+750	1x2x2.5	Completed	Good	
20	5+460	1x2x2.5	Completed	Good	
21	5+800	2x3x2.5	Completed	Good	
22	6+580	1x6x4.5	Completed	Good	
23	6+950	2x3.0x3.0	Completed	Good	
24	7+705	1x2x2.5	Completed	Good	
25	7+770	1x2x2.5	Completed	Good	
26	8+210	1x2x2.5	Completed	Good	
27	8+540	1x2x2.5	Completed	Good	
28	12+250	1x2x2.5	Completed	Good	
29	12+530	1x2x2.5	Completed	Good	
30	12+028	1x2x2.5	Completed	Good	
31	25+861	1x2x2.5	Completed	Good	
32	7+620	1x2x2.5	Completed	Good	
33	14+610	1x2x2.5	Completed	Good	
34	14+706	2x3.0x3.0	Completed	Good	
35	14+850	1x2x2.5	Completed	Good	
36	18+689	1x3.5x3.0	Completed	Good	
37	18+790	1x5.0x3.0	Completed	Good	
38	18+920	1x3.5x3.0	Completed	Good	
39	19+128	2x2.5x2.5	Completed	Good	
40	21+294	2x2.5x2.5	Completed	Good	
41	21+507	1x2x2.5	Completed	Good	
42	14+950	1x2x2.5	Completed	Good	

FOUR LANING FROM KM 0.000 TO KM 26.400 (ALONG WITH 0.700 KM APPROACH TOWARDS NH 207 WITH INTERCHANGE ON NH 4 AT START POINT) OF BANGALORE TO MALUR SECTION ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PHASE-I PACKAGE-I)

43	22+430	1x2x2.5	Completed	Good	
44	22+890	1x2x2.5	Completed	Good	
45	23+120	1x2x2.5	Completed	Good	
46	24+500	1x2x2.5	Completed	Good	
47	25+090	1x2x2.5	Completed	Good	
48	26+218	2x3.0x3.0	Completed	Good	
49	24+138 Ramp 1	1x2x2.5	Completed	Good	

MNB					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	-00+647	1 x 15.31	Completed	Good	
2	23+302	3 x 10	Completed	Good	
3	02+150	4 x 10	Completed	Good	
4	04+425	4 x 10	Completed	Good	
5	05+200	1 x 8	Completed	Good	
6	06+206	3 x 5.0	Completed	Good	
7	10+966	1 x 8	Completed	Good	
8	11+337	4 x 8.75	Completed	Good	
9	13+145	1 x 8.0	Completed	Good	
10	20+118	2 x 6.5	Completed	Good	
11	20+427	2 x 4	Completed	Good	
12	01+860	3 x 10	Completed	Good	
13	01+070	3 x 7	Completed	Good	
14	06+619	1 x 26	Completed	Good	IOCL

MJB					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	07+325	6 x 45	Completed	Good	
2	12+049	3 x 42	Completed	Good	
3	17+265	8 x 45	Completed	Good	
4	21+273	3 x 42	Completed	Good	

LVUP					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	01+697	1X12	Completed	Good	
2	04+854	1X12	Completed	Good	
3	08+330	1X12	Completed	Good	
4	19+496	1X12	Completed	Good	
5	25+138	1X12	Completed	Good	
6	25+749	1X12	Completed	Good	

PUP					
S No	Design Chainage	Vent/Size	Status	Condition	Remarks

FOUR LANING FROM KM 0.000 TO KM 26.400 (ALONG WITH 0.700 KM APPROACH TOWARDS NH 207 WITH INTERCHANGE ON NH 4 AT START POINT) OF BANGALORE TO MALUR SECTION ON HYBRID ANNUITY MODE UNDER BHARATMALA PARIYOJNA, IN THE STATE OF KARNATAKA (PHASE-I PACKAGE-I)

1	14+800	1X7	Completed	Good	
---	--------	-----	-----------	------	--

VUP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	02+519	1 x 30	Completed	Good	
2	04+360	1 x 12	Completed	Good	
3	04+979	1 x 30	Completed	Good	
4	06+146	1 x 30	Completed	Good	
5	07+042	1 x 12	Completed	Good	
6	08+753	1 x 12	Completed	Good	
7	10+940	1 x 12	Completed	Good	
8	11+635	1 x 12	Completed	Good	
9	13+321	1 x 12	Completed	Good	
10	17+701	1 x 20	Completed	Good	
11	19+837	1 x 12	Completed	Good	
12	21+942	1 x 30	Completed	Good	
13	22+390	1 x 30	Completed	Good	
14	23+721	1 x 12	Completed	Good	
15	0+126	1 x 12	Completed	Good	
16	0+182	1 x 12	Completed	Good	
17	0+414	1 x 12	Completed	Good	

VOP

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	01+027	2 x 40	Completed	Good	
2	10+117	1x18.15+2x59.5+ 1x34.85	Completed	Good	
3	15+557	2 x 40	Completed	Good	
4	24+131	2x18.0+2x42.0	Completed	Good	

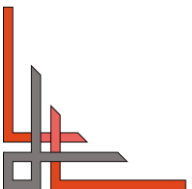
INTERCHANGE

S No	Design Chainage	Vent/Size	Status	Condition	Remarks
1	-00+001	2 x 35	Completed	Good	



Annexure-2

Operation & Maintenance cost Estimate






PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)

**ANNEXURE:
ABSTRACT COST**

FY	Major Maintenance in Cr. Rs.	Routine Maintenance Cost in Cr. Rs.	Operational Cost in Cr. Rs.	Total Amount in Cr. Rs.	Remarks
2024-2025	-	2.20	3.17	5.37	
2025-2026	-	2.50	3.34	5.84	
2026-2027	1.73	3.55	3.53	8.81	
2027-2028	0.52	3.73	3.67	7.93	
2028-2029	0.41	3.80	3.83	8.04	
2029-2030	0.42	3.97	3.99	8.38	
2030-2031	37.34	5.63	4.19	47.16	
2031-2032	6.64	4.18	4.44	15.25	
2032-2033	0.71	4.28	4.46	9.45	
2033-2034	0.47	4.32	4.59	9.38	
2034-2035	2.17	4.45	4.72	11.35	
2035-2036	0.64	4.56	4.86	10.06	
2036-2037	0.49	4.58	5.00	10.07	
2037-2038	43.32	4.73	5.15	53.19	
2038-2039	7.64	4.71	3.97	16.31	
2039-2040	0.33	0.40	4.09	4.82	
Total Expenditure in Cr. Rs	102.83	61.57	66.99	231.40	

	PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)	ANNEXURE: MMR
---	--	----------------------

FY	MMR (Rs in Cr)			Total Expenditure till the end of Concession Period
	MMR Highway	MMR Structure	MMR Toll Plaza	
2024-2025	-	-	-	-
2025-2026	-	-	-	-
2026-2027	1.73	-	-	1.73
2027-2028	0.28	0.25	-	0.52
2028-2029	0.04	-	0.37	0.41
2029-2030	-	-	0.42	0.42
2030-2031	37.34	-	-	37.34
2031-2032	1.85	0.27	4.52	6.64
2032-2033	0.71	-	-	0.71
2033-2034	0.47	-	-	0.47
2034-2035	2.17	-	-	2.17
2035-2036	0.64	-	-	0.64
2036-2037	0.49	-	-	0.49
2037-2038	43.32	-	-	43.32
2038-2039	0.27	-	7.36	7.64
2039-2040	0.33	-	-	0.33
Total Expenditure in Cr. Rs	89.64	0.52	12.67	102.83



PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)

MMR-Highway

FY	Description	CODE	Unit	% of Treatement	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalation (%)	Year	Amount in INR after Escalation
2027	Filling of Earthen Shoulder	MCW-SF	Cum	35%	54,200.00	1.5		28,764.96	558.00	1,60,50,848.96	4%	2	1,73,34,916.88
	TOTAL AMOUNT									1,60,50,849			1,73,34,917
2028	Milling	MCW-Mill	Sqm	1%	54,200.00	10.887		5,063.80	90.00	4,55,741.55	4%	3	5,10,430.54
2028	TC for BC	MCW-TC BC	Sqm	1%	54,200.00			542.00	13.00	7,046.00	4%	3	7,891.52
2028	BC Overlay	MCW-BC	Cum	1%	54,200.00	10.887	0.04	236.03	8,473.83	20,00,059.61	4%	3	22,40,066.76
	TOTAL AMOUNT									24,62,847			27,58,389
2029	TC for BC	MCW-TC BC	Sqm	12%	54,200.00			6,318.89	13.00	82,145.54	3%	4	92,003.01
2029	BC Overlay	MCW-BC	Cum	0%	54,200.00	10.887	0.04	35.40	8,473.83	3,00,008.94	3%	4	3,36,010.01
	TOTAL AMOUNT									3,82,154			4,28,013
2031	TC for DBM	MCW-TC DBM	Sqm	20%	54200	10.887		1,15,185.91	13.00	14,97,416.88	3%	6	17,66,951.92
2031	DBM Overlay	MCW-DBM	Cum	20%	54,200.00	10.887	0.05	5,457.22	9,595.00	5,23,61,987.60	3%	6	6,17,87,145.37
2031	TC for BC	MCW-TC BC	Sqm	100%	54200	10.887		5,90,069.89	13.00	76,70,908.63	3%	6	90,51,672.19
2031	BC Overlay	MCW-BC	Cum	100%	54,200.00	10.887	0.05	27,956.01	8,473.83	23,68,94,359.94	3%	6	27,95,35,344.72
2031	TC for BC	SR-TC	Sqm	100%	2540	7.5		19,050.00	13.00	2,47,650.00	3%	6	2,92,227.00
2031	BC Overlay	SR-BC	Cum	100%	2540	7.50	0.05	895.34	8,473.83	75,86,982.67	3%	6	89,52,639.55
2031	Road Marking - MCW	RM MCW	Sqm	100%	1,26,466.67	0.15		18,970.00	400.00	75,88,000.00	3%	6	89,53,840.00
2031	Studs	STUD	Nos	100%	11698			11,698.00	220.00	25,73,560.00	3%	6	30,36,800.80
	TOTAL AMOUNT									31,64,20,866			37,33,76,622
2032	Filling of Earthen Shoulder	MCW-SF	Cum	17%	54,200.00	2.903172915		26,983.52	558.00	1,50,56,806.85	3%	7	1,82,18,736.29
2032	Road Marking - SR	RM SR	Sqm	100%	5926.666667	0.10		570.80	400.00	2,28,320.72	3%	7	2,76,268.07
	TOTAL AMOUNT									1,52,85,128			1,84,95,004
2033	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	5%	61793		0.3	926.90	2,700.00	25,02,636.45	3%	8	31,03,269.19
2033	Replacement of Panels @ 2% area	MCW-CC PAN	Cum	2%	61793		0.3	355.57	9,000.00	32,00,140.62	3%	8	39,68,174.37
	TOTAL AMOUNT									57,02,777			70,71,444
2034	Filling of Earthen Shoulder	MCW-SF	Cum	5%	54,200.00	1.5		4,252.54	558.00	23,72,916.84	2%	9	28,00,041.88
2034	Dismantling of CC Panels @ 2% area	MCW-CC DIS	Cum	3%	61793		0.3	597.99	2,700.00	16,14,583.12	2%	9	19,05,208.08
	TOTAL AMOUNT									39,87,500			47,05,250
2035	Filling of Earthen Shoulder	MCW-SF	Cum	23%	54,200.00	1.5		18,894.06	558.00	1,05,42,883.25	2%	10	1,26,51,459.91
2035	Replacement of Joint Sealant	TP-JS	Rm	100%	35368			35,368.25	98.00	34,66,088.50	2%	10	41,59,306.20
2035	Diamond Grinding	TP-GRIN	Sqm	61%	61793			37,521.39	100.00	37,52,139.24	2%	10	45,02,567.09
2035	Microsurfacing	SR-MS	Sqm	76%	2540			1,928.72	180.00	3,47,169.90	2%	10	4,16,603.88
	TOTAL AMOUNT									1,81,08,281			2,17,29,937



PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)

MMR-Highway

FY	Description	CODE	Unit	% of Treatement	Length (m)	Width (m)	Depth (m)	Total Quantity	Rate	Amount in INR	Escalation (%)	Year	Amount in INR after Escalation
2036	Replacement of Joint Sealent	TP-JS	Rm	100%	35368			35,368.25	98.00	34,66,088.50	2%	11	42,28,627.97
2036	Diamond Grinding	TP-GRIN	Sqm	29%	61793			17,691.65	100.00	17,69,164.90	2%	11	21,58,381.18
	TOTAL AMOUNT									52,35,253			63,87,009
2037	TC for BC	MCW-TC BC	Sqm	2%	54200	10.88689843		9,007.95	13.00	1,17,103.38	2%	12	1,45,208.19
2037	BC Overlay	MCW-BC	Cum	2%	54,200.00	10.89	0.05	453.09	8,473.83	38,39,440.76	2%	12	47,60,906.55
	TOTAL AMOUNT									39,56,544			49,06,115
2038	TC for BC	MCW-TC BC	Sqm	99%	54200	10.88689843		5,81,218.85	13.00	75,55,845.01	2%	13	95,20,364.71
2038	BC Overlay	MCW-BC	Cum	99%	54,200.00	10.89	0.05	29,234.93	8,473.83	24,77,31,707.90	2%	13	31,21,41,951.96
2038	Dismantling of CC Panels @ 2% area	TP-CC DIS	Cum	32%	61793		0.3	5,944.75	2,700.00	1,60,50,831.61	2%	13	2,02,24,047.83
2038	Replacement of Panels @ 2% area	TP-CC PAN	Cum	32%	61793		0.3	5,944.75	9,000.00	5,35,02,772.04	2%	13	6,74,13,492.77
2038	TC for BC	SR-TC	Sqm	100%	2540	7.5		19,050.00	13.00	2,47,650.00	2%	13	3,12,039.00
2038	BC Overlay	SR-BC	Cum	100%	2540	7.5	0.05	963.89	8,473.83	81,67,866.07	2%	13	1,02,91,511.25
2038	Road Marking - MCW	RM MCW	Sqm	100%	1,26,466.67	0.15		18,970.00	400.00	75,88,000.00	2%	13	95,60,880.00
2038	Road Marking - SR	RM SR	Sqm	100%	5926.666667	0.15		889.00	400.00	3,55,600.00	2%	13	4,48,056.00
2038	Studs	STUD	Nos	100%	11698			11,698.00	220.00	25,73,560.00	2%	13	32,42,685.60
	TOTAL AMOUNT									34,37,73,833			43,31,55,029
2039	Road Marking - MCW	RM MCW	Sqm	28%	1,26,466.67	0.15		5,333.59	400.00	21,33,436.16	2%	14	27,30,798.28
	TOTAL AMOUNT									21,33,436			27,30,798
2040	Studs	STUD	Nos	100%	11698			11,698.00	220.00	25,73,560.00	2%	15	33,45,628.00
	TOTAL AMOUNT									25,73,560			33,45,628




**PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400
Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode
(Phase-1 Package-1)**

**ANNEXURE:
ABSTRACT OF MMR
STRUCTURE**

2. Structure

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalat ion Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
2.01	2028	10-07-2028	1,84,786	22,17,434	3	4.0%	24,83,526	0.25	GST 0% considered
2.01	2032	09-07-2032	1,84,786	22,17,434	7	3.0%	26,83,095	0.27	GST 0% considered

	PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)	ANNEXURE: ABSTRACT OF MMR STRUCTURE
--	--	--

Structure - MMR Base

Sr. No.	Item	Unit	Quantity	% of Extant to be Treated	Rate (Rs)	Amount (Rs)
1	Painting of Crash Barrier	Sqm	20100	10.00%	80	1,60,802
2	Wearing Coat over Deck Slab	Sqm	61335	4.92%	681	20,56,632
Total Structure MMR Cost						22,17,434




**PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400
Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-
1 Package-1)**

**ANNEXURE:
ABSTRACT OF MMR
for Toll Plaza**

3. Toll Plaza

Sr. No.	Description	Due Date	Amount Per Month (Rs)	Amount Per Year (Rs)	Escalatio n Period	Escalation Rate per Year	Cost of MMR including Escalation (Rs)	Amount in Cr. Rs	Remarks
3.01	2029	10-07-2029	2,75,375	33,04,505	4	3.0%	37,01,045	0.37	GST 0% considered
3.01	2030	10-07-2030	3,04,542	36,54,505	5	3.0%	42,02,681	0.42	GST 0% considered
3.01	2032	09-07-2032	31,13,584	3,73,63,005	7	3.0%	4,52,09,236	4.52	GST 0% considered
3.01	2039	08-07-2039	47,93,126	5,75,17,510	14	2.0%	7,36,22,413	7.36	GST 0% considered

	PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)	ANNEXURE:Routine Maintenance
---	--	-------------------------------------

FY	1. RM Costs (Rs in Cr) with Inflation				Total Expenditure till the end of Concession Period
	Highway Routine Maintenance Cost	Structure Routine Maintenance Cost	Route Maintenance Manpower Cost	Route Maintenance Vehicle & Equipment Cost	
Base Cost 2023-24	0.50	0.36	0.81	0.44	2.12
2024-2025	0.52	0.37	0.85	0.46	2.20
2025-2026	0.59	0.42	0.96	0.52	2.50
2026-2027	0.84	0.60	1.36	0.75	3.55
2027-2028	0.88	0.63	1.43	0.78	3.73
2028-2029	0.90	0.64	1.46	0.80	3.80
2029-2030	0.94	0.67	1.52	0.83	3.97
2030-2031	1.33	0.95	2.16	1.18	5.63
2031-2032	0.99	0.71	1.61	0.88	4.18
2032-2033	1.01	0.73	1.65	0.90	4.28
2033-2034	1.02	0.73	1.66	0.91	4.32
2034-2035	1.05	0.76	1.71	0.94	4.45
2035-2036	1.08	0.77	1.75	0.96	4.56
2036-2037	1.08	0.78	1.76	0.96	4.58
2037-2038	1.12	0.80	1.82	0.99	4.73
2038-2039	1.11	0.80	1.81	0.99	4.71
2039-2040	0.09	0.07	0.15	0.08	0.40
Total Expenditure in Cr. Rs	14.53	10.44	23.66	12.94	61.57



PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)

**ANNEXURE: ROUTINE
MAINTENANCE
EXPENDITURE**

BASE COST - 2023-24

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1	HIGHWAY								
1.1	FLEXIBLE PAVEMENT, MEDIAN & SHOULDERS								
1.1.1	Sealing of Cracks								
1.1.1.3	Filling discrete cracks with slow curing bitumen emulsion as per Technical Specification Clause 3004.3.3	Rm	4772	10%	5	1,988.36	23,860.34		
1.1.2	Treatment of Bleeding Surface								
1.1.2.1	Providing treatment to bleeding bituminous surface at scattered locations - Main carriageway	Sqm	53686	10%	2	9,484.49	1,13,813.82		
1.1.3	Treatment of Rutting Surface								
1.1.3.1	Providing localised repair to rutted portion and edge breaking of bituminous surface - Main carriageway	Cum	139	1%	11269	1,30,616.85	15,67,402.25		
1.1.4	Pothole Repair								
1.1.4.1	Providing treatment and repair to pot-holes and patch work - MCW	Sqm	805	0%	442	29,661.39	3,55,936.62		
1.1.4.2	Providing treatment and repair to pot-holes and patch work - Service/Slip Road	Sqm	27	0%	442	982.35	11,788.14		
1.1.7	Shoulder Maintenance	Sqm	3579	3%	85	25,351.61	3,04,219.34		
1.2	DRAINAGE & PROTECTION								
1.2.3	RCC drain Repair/Restoring	Rm	195	1%	500	8,120.00	97,440.00		
1.2.4	Earthen drain Repair/Restoring	Rm	276	1%	100	2,299.00	27,588.00		
1.2.5	Repair/Restoring of Drain Slabs	Rm	487	3%	600	24,360.00	2,92,320.00		
1.2.6	Repair/Repstoration of Turfing on embankment slopes and at all other Project Facilities	Sqm	1193	3%	46	4,533.46	54,401.58		
1.2.7	Rain Cuts Maintenance: Restoration of rain cuts soil, moorum, gravel or a combination of these	Sqm	3579	2%	46	13,719.70	1,64,636.35		
1.2.8	Providing and laying Stone pitching on slopes of road embankment	Cum	286	1%	1404	33,499.92	4,01,999.01		
1.2.10	Repair of Chutes in High Embankment	Rm	954	1%	100	7,953.45	95,441.36		
1.3	PROJECT FACILITIES								
1.3.1	Gantry Sign Boards								
1.3.1.1	Overhead/ Gantry Sign boards	Nos	0	5%	10000	83.33	1,000.00		
1.3.1.2	Cantilever Gantry Sign boards	Nos	0	5%	10000	166.67	2,000.00		
1.3.2	Other Sign Boards	Nos	25	5%	5450	11,376.88	1,36,522.50		
1.3.2.16	Painting to Sign Board pole	Nos	110	20%	87	799.10	9,589.14		
1.3.3	Cats Eyes/Raised pavement marker (NMC Nails Less)	Nos	351	3%	220	6,433.90	77,206.80		



PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)

**ANNEXURE: ROUTINE
MAINTENANCE
EXPENDITURE**

BASE COST - 2023-24

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
1.3.4	Distance Measurement Stones								
1.3.4.1	Painting								
1.3.4.1.1	Hectometer stones	Nos	54	25%	36	160.20	1,922.40		
1.3.4.1.2	5 Kilometer Stone	Nos	3	25%	350	87.50	1,050.00		
1.3.4.1.3	Kilometer stone	Nos	11	25%	222	203.59	2,443.10		
1.3.4.1.4	Boundary stone	Nos	27	5%	171	385.46	4,625.46		
1.3.4.2	Fixing/Replacing/Restoring								
1.3.4.2.1	Hectometer stones	Nos	43	20%	690	2,484.00	29,808.00		
1.3.4.2.2	5 Kilometer Stone	Nos	1	10%	4022	402.20	4,826.40		
1.3.4.2.3	Kilometer stone	Nos	4	10%	2350	861.67	10,340.00		
1.3.4.2.4	Boundary stone	Nos	5	1%	723	326.56	3,918.66		
1.3.6	Pavement Markings								
1.3.6.1	Lane / Centre Line / Edge Line	Sqm	473	3%	400	15,761.11	1,89,133.33		
1.3.7.2	Repair/Replace Tri-beam Crash barrier	Rm	65	0%	4262	23,239.98	2,78,879.71		
1.3.7.6	Repair/Replace Fencing	Rm	813	2%	388	26,287.00	3,15,444.00		
1.3.8	Plantation								
1.3.8.1	Maintenance of Median Plantation	Km	0	1%	331732	6,363.82	76,365.83		
1.3.8.2	Avenue Plantation	Nos	48	2%	1362	5,470.13	65,641.59		
1.3.9	Miscellaneous								
1.3.9.4	Solar Blinker	Nos	2	20%	4500	600.00	7,200.00		
1.3.9.5	Delinaters	Nos	45	20%	1183	4,436.25	53,235.00		
1.3.10	Bus Shelter								
1.4.10	Removal of Sealent & Replacement with Appoxy Sealent	Lm	707	2%	98	5,776.81	69,321.77		
1.4.11	Replacement of Panels	Nos	2	0.1%	39690	6,489.32	77,871.78		
1.4.12	Texturing/Raveling of panel	Sqm	618	1%	100	5,149.46	61,793.49	49,90,986	0 Service Charge Considered



PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)

**ANNEXURE: ROUTINE
MAINTENANCE
EXPENDITURE**

BASE COST - 2023-24

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2	STRUCTURES								
2.01	Providing and laying of wearing course with 25 mm thick mastic asphalt laid over 40 mm thick bituminous concrete including correction of existing profile with bituminous concrete as per drawings and Technical Specifications clause 2700 (item rate includes cost of BC and profile correction course)	Sqm	153	0%	750	9,583.66	1,15,003.96		
2.02	Structure Repair Works	LS					5,00,000.00		
2.03	Expansion Joint Repair	Rm	1450	2.50%	12000	36,250.00	4,35,000.00		
2.04	Providing Reinforced cement concrete crash barrier at the edges of the bridge structures constructed with M-40 grade concrete with HYSD-Fe 500 TMT reinforcement concrete per Rmt conforming to IRC:21 and fixing with dowel bars 16 mm dia to old concrete using epoxy grout as per drawing and Technical Specifications and as directed by the Engineer.	Rmt	179	1.00%	6500	97,210.97	11,66,531.60		
2.05	Painting of Concrete Crash Barrier	Sqm	647	10%	140	7,547.34	90,568.10		Considering 50% repainting per year & 1.25Sqm per Rm
2.06	Providing and fixing 50mm NB MS pipe rail on crash barrier with MS base plate and vertical stiffener fixed with anchor bolts complete including providing three or more coats of epoxy paint of approved colour, make and quality over a coat of epoxy primer complete as per drawings and Technical Specifications Sections 1900 & 2703.	Rmt	179	1.00%	150	2,243.33	26,919.96		
2.07	Removal of earth, debris and vegetation from waterway of culverts and bridges by manual means through unskilled labor, and disposal of removed material within all lead as directed by Engineer. (Before and after Monsoon)	LS	25	50%	5000	10,208.33	1,22,500.00		
2.08	Providing Boulder apron on U/S and D/S sides, 1000 mm thick, including relaying / removing existing damaged boulders as per Technical Specification Sections 2500 and direction of Engineers.	Cum	43	3%	1500	5,320.37	63,844.46		



PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)

**ANNEXURE: ROUTINE
MAINTENANCE
EXPENDITURE**

BASE COST - 2023-24

Routine Maintenance Cost

Sr. No.	Description	Unit	QTY	Damaged % per year	Rate (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
2.09	Providing and laying Stone pitching on slopes upto 0.5m height over H.F.L and for bed where specified, using hard variety stone of 200 mm nominal size, the joints being filled with spalls and pointed with 1:4 cement mortar as per technical specification	Cum	25	2.5%	1404	2,895.68	34,748.20		
2.10	Providing and laying Plain/Reinforced Cement Concrete in Rigid Apron excluding reinforcement complete as per Drawing and Technical Specifications.Ref. to Technical specification 1500,1700 & 2100 .	Cum	188	4%	5025	78,904.54	9,46,854.48		
2.11	Cleaning of choked weep holes as per Technical Specification and as directed by the Engineer.	Nos	3	1%	250	62.50	750.00		
2.12	Providing gratings to the existing drainage spouts as per technical specification Clause 2705 & Additional Technical Specification	Nos	104	25%	500	4,344.79	52,137.50		
2.13	Repair/Replacement of Drainage Spoutes	Nos	21	5%	1443	2,507.81	30,093.77	35,84,952.02	0 Service Charge Considered



PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)

**ANNEXURE: ROUTINE
MAINTENANCE
EXPENDITURE**


Base Cost - 2023-24

3. Route Maintenance Manpower Cost

Sr. No.	Position	Unit	Nos	Shift	Blank	Total Nos	Rate/Mon th (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
3.02	HR and Admin	Nos	1	1		1	45000	45000	540000		
3.03	Maintenance Engineer	Nos	1	1		1	50000	50000	600000		
3.04	Maintenance Supervisor	Nos	1	1		1	35000	35000	420000		
3.06	System Engineer (TMS)	Nos	1	1		1	40000	40000	480000		
3.07	System Engineer (HTMS)	Nos	1	1		1	35000	35000	420000		
3.08	Labour for RRM (Male)	Nos	12	1		12	22495	269941	3239298		
3.09	Labour for RRM (Female)	Nos	4	1		4	22495	89980	1079766		
3.10	Labour for Misc. works	Nos	2	1		2	22495	44990	539883		
3.11	Grass cutting operator	Nos	3	1		3	22495	67485	809824		
3.13	Others	Nos	0	1		0	23653	0	0	81,28,771	Service Charge @ 0%
						26		677398			

4. Route Maintenance Vehicle & Equipment Cost

Sr. No.	Description	Unit	Nos	Shift	Blank	Total Nos	Rate/Mon th (Rs)	Amount Per Month (Rs)	Amount Per Year (Rs)	Amount (Rs)	Remarks
4.02	Water tanker 20 KL	Nos	1	1		1	98692	98692	888232		
4.03	Pickup /Campher	Nos	1	1		1	53968	53968	647610		
4.06	Water tanker 5 KL	Nos	1	1		1	50135	50135	451212		
4.07	Grass Cutter	Nos	3	1		3	8854	26562	318739		
4.08	Man Basket for Elec.	Days/Month	3	1		3	26667	80000	960000		
4.09	JCB	Days/Month	3	1		3	26667	80000	960000		
4.11	Bikes for Supervisor	Nos	1	1		1	4758	4758	57098		
4.12	PPE/Uniform for staff	Nos	5	1		5	525	2625	31500		Considering Rs. 350/- per pair & 2 pairs per each (75% of the Staff)
4.13	Safety items, Sign boards	Nos	1	1		1	6000	6000	72000		
4.14	Tools & tackles	Nos	1	1		1	5000	5000	60000		
4.18	Others	Nos	0	1		0		0	0	44,46,391	Service Charge @ 0%
								407739		38669	Rs. Per Month per Km

	PROJECT: Construction of Four lane Bengaluru Chennai Expressway from Km -0.700 to Km 26.400 Bengaluru to Malur Section in the State of Karnataka under Bharatamala on Hybrid Annuity Mode (Phase-1 Package-1)	ANNEXURE: Operations Cost
---	--	--------------------------------------

Year	Operation Cost in Cr. Rs				Total Expenditure till the end of Concession Period
	SPV Cost	Manpower	Operating Expenses (IMV)	Electricity	
2024-2025	1.49	1.20	0.35	0.13	3.17
2025-2026	1.55	1.29	0.36	0.14	3.34
2026-2027	1.61	1.40	0.38	0.14	3.53
2027-2028	1.66	1.48	0.39	0.15	3.67
2028-2029	1.71	1.57	0.40	0.15	3.83
2029-2030	1.76	1.66	0.41	0.16	3.99
2030-2031	1.81	1.76	0.45	0.16	4.19
2031-2032	1.87	1.87	0.53	0.17	4.44
2032-2033	1.90	1.94	0.44	0.17	4.46
2033-2034	1.94	2.02	0.45	0.17	4.59
2034-2035	1.98	2.10	0.46	0.18	4.72
2035-2036	2.02	2.19	0.47	0.18	4.86
2036-2037	2.06	2.27	0.48	0.18	5.00
2037-2038	2.10	2.36	0.49	0.19	5.15
2038-2039	1.61	1.84	0.38	0.14	3.97
2039-2040	1.64	1.92	0.38	0.15	4.09

ANNEXURE C - SPECIAL PURPOSE COMBINED FINANCIAL STATEMENTS

(This page has been left intentionally blank)

Independent Auditor's Report on Special Purpose Combined Financial Statements

To,
The Board of Directors,
Alpha Alternatives Fund-Infra Advisors Private Limited ("Investment Manager")
(As an Investment Manager of Anantam Highways Trust)
33rd Floor, Sunshine Tower,
Senapati Bapat Marg, Dadar,
Delisle Road, Mumbai
Maharashtra - 400013

We have audited the accompanying special purpose combined financial statements of Bangalore Malur Highways Limited, Viluppuram Highways Limited, Narenpur Purnea Highways Limited, Repallewada Highways Limited, Dodaballpur Hoskote Highways Limited, Dhrol Bhadra Highways Limited, Malur Bangarpet Highways Limited, Poondiyankuppam Highways Limited and DPJ Pollachi HAM Project Private Limited (individually referred to as "SPV" and together referred to as "SPV Group") which comprise the special purpose combined balance sheets as at December 31, 2024, March 31, 2024, March 31, 2023 and March 31, 2022, the special purpose combined statements of profit and loss (including other comprehensive income), the special purpose combined statement of changes in equity and the special purpose combined cash flow statements for the nine months period ended December 31, 2024 and for the years ended March 31, 2024, March 31, 2023 and March 31, 2022, the combined statement of net assets at fair value as at December 31, 2024, the combined statement of total returns at fair value for the period ended December 31, 2024 and the year ended March 31, 2024 and notes to the special purpose combined financial statements including a summary of material accounting policies and other explanatory information (collectively, the "Special Purpose Combined Financial Statements"). The Special Purpose Combined Financial Statements are prepared in connection with the proposed initial public offering of units to be issued by the Anantam Highways Trust ("Trust") as per Securities Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, as amended from time to time including the circulars notifications, clarifications and guidelines issued thereunder (the "InvIT Regulations").

The Special Purpose Combined Financial Statements have been prepared in accordance with the basis of preparation as set out in note [1.2] to the Special Purpose Combined Financial Statements.

In our opinion and to the best of our information and according to the explanations given to us and based on the consideration of reports of other auditors on separate financials statements of the SPVs, the aforesaid Special Purpose Combined Financial Statements give a true and fair view in accordance with the basis of preparation as specified in note 1.2 to the Special Purpose Combined Financial Statements in case of:

- i. the combined balance sheet, of the state of affairs of the SPV Group as at December 31, 2024, March 31, 2024, March 31, 2023 and March 31, 2022;

- ii. the combined statement of profit and loss (including other comprehensive income) of the SPV Group, of the profit/(loss) for the nine-month period ended December 31, 2024 and for the years ended March 31, 2024, March 31, 2023 and March 31, 2022;
- iii. the combined statement of changes in equity, of the movement of the equity holders for the nine-month period ended December 31, 2024 and for the years ended March 31, 2024, March 31, 2023 and March 31, 2022;
- iv. the combined Statement of cash flow of the cash movements of the Group for the nine-month period ended December 31, 2024 and for the years ended March 31, 2024, March 31, 2023 and March 31, 2022;
- v. the combined statement of net asset at fair value, of the net assets as at December 31, 2024; and;
- vi. the combined statement of total returns at fair values, of the total returns for the nine-month period ended December 31, 2024 and for the year ended March 31, 2024.

Basis of Opinion

We conducted our audit of the Special Purpose Combined Financial Statements in accordance with the Standards on Auditing (SAs) and other pronouncements issued by the Institute of Chartered Accountants of India (ICAI). Our responsibilities under those Standards are further described in the Auditor's Responsibilities for the Audit of the Special Purpose Combined Financial Statements section of our report. We are independent of the SPV Group in accordance with the 'Code of Ethics' issued by the ICAI and we have fulfilled our other ethical responsibilities in accordance with the Code of Ethics. We believe that the audit evidence obtained by us is sufficient and appropriate to provide a reasonable basis for our audit opinion on the Special Purpose Combined Financial Statements.

Emphasis of Matter

We draw attention to Note 18.1 of the Special Purpose Combined Financial Statements which describes the status of the road construction services carried out by the DPJ Pollachi HAM Project Private Limited during the period covered under this report.

Our opinion is not modified in respect of this matter.

Management's Responsibility for the Special Purpose Combined Financial Statements

The Board of Directors of the Investment Manager are responsible for the preparation and presentation of these Special Purpose Combined Financial Statements that give a true and fair view of the combined financial position, combined financial performance including other comprehensive income, combined statement of changes in equity, combined cash flows, combined position of net assets at fair value and combined total return at fair value of the SPV Group in accordance with the basis of preparation specified in note 1.2 to the Special Purpose Combined Financial Statements.

The Board of Directors of the respective SPVs and the Board of Directors of the Investment Manager are responsible for the maintenance of adequate accounting records in accordance with the provisions of the Companies Act, 2013 for safeguarding the assets of the SPVs and for preventing and detecting frauds and other irregularities; the selection and application of appropriate accounting policies; making

judgements and estimates that are reasonable and prudent; and the design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the Special Purpose Combined Financial Statements that give a true and fair view and are free from material misstatement, whether due to fraud or error, which have been used for the purpose of preparation of these Special Purpose Combined Financial Statements by the Investment Manager, as aforesaid.

In preparing the Special Purpose Combined Financial Statements, the Board of Directors of the respective SPVs and Board of Directors of the Investment Manager are responsible for assessing the SPV Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the SPV Group or to cease operations or has no realistic alternative but to do so.

The Board of Directors of the SPVs and Board of Directors of the Investment Manager are also responsible for overseeing the SPV Group's financial reporting process.

Auditors' Responsibility for the audit of the Special Purpose Combined Financial Statements

Our objectives are to obtain reasonable assurance about whether the Special Purpose Combined Financial Statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these Special Purpose Combined Financial Statements.

As part of an audit in accordance with SAs and other pronouncements issued by ICAI, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

1. Identify and assess the risks of material misstatement of the Special Purpose Combined Financial Statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
2. Obtain an understanding of internal financial controls relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for expressing an opinion on the effectiveness of the SPV Group's internal control.
3. Evaluate the appropriateness of material accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Investment Manager.

4. Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the SPVs' ability to continue as going concern. If based on the consideration of reports of other auditors on separate financials statements of the SPVs, we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the Special Purpose Combined Financial Statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the SPVs to cease to continue as going concern.
5. Evaluate the overall presentation, structure and content of the Special Purpose Combined Financial Statements, including the disclosures, and whether the Special Purpose Combined Financial Statements represent the underlying transactions and events in a manner that achieves fair presentation.
6. Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the SPV Group to express an opinion on the special purpose combined financial statements. We are responsible for the direction, supervision and performance of the audit of the financial statements of such entities included in the special purpose combined financial statements of which we are the independent auditors. For the other entities included in the special purpose combined financial statements, which have been audited by other auditors, such other auditors remain responsible for the direction, supervision and performance of the audits carried out by them. We remain responsible for our audit opinion.

We communicate with those charged with governance of the Investment Manager who are responsible for preparation of the Special Purpose Combined Financial Statements among other matters, the planned scope and timing of audit and significant audit findings that we identify during our audit of these Special Purpose Combined Financial Statements.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably thought to bear on our independence, and where applicable, related safeguards.

Other Matter

- a) We did not audit the financial statements and other financial information as of and for the nine months period ended December 31, 2024 of 4 SPVs whose financial statements reflected total assets of ₹ 18,356.50 million as at December 31, 2024 and total revenues of ₹ 3,521.72 million and net cash inflow of ₹ 620.04 million for the nine months period ended December 31, 2024. We did not audit the financial statements and other financial information as of and for the years ended March 31, 2024, March 31, 2023 and March 31, 2022 of 9 SPVs whose financial statements reflected total assets of ₹ 40,015.30 million, ₹ 28,697.77 million and ₹ 20,862.66 million as at March 31, 2024, March 31, 2023 and March 31, 2022 respectively and total revenues of ₹ 27,185.05 million, ₹ 27,687.01 million and ₹ 21,891.56 million and net cash inflow of ₹ 277.56

million, ₹ 30.14 million and ₹ 605.45 million for the years ended March 31, 2024, March 31, 2023 and March 31, 2022 respectively, included in the Special Purpose Combined Financial Statements. These General-purpose financial statements and other financial information considered for the purpose of preparation of Special purpose combined financial statements have been audited by the statutory auditor of those SPVs for the respective periods, which financial statements, other information and auditors report have been furnished to us by Investment manager. Our opinion on the Special Purpose Combined Financial Statements, in so far as it relates to the amounts and disclosures included in respect of the above entities, is based solely on the reports of such other auditors.

- b) We draw attention to note 1.2 to the Special Purpose Combined Financial Statements, which describes basis of preparation and presentation including the approach to and the purpose for preparing them. The Special Purpose Combined Financial Statements have been prepared by the Investment Manager to meet the requirement of the InvIT Regulations. Consequently, Special Purpose Combined Financial Statements may not necessarily be indicative of financial performance, financial position and cash flows of the SPV Group that would have occurred if it had operated as a separate standalone group of entities during the periods presented. This Report is addressed to Trust, the Trustee and the Investment Manager solely for inclusion in the Draft Offer Document, Offer Document and Final Offer Document in connection with the proposed initial public issue of units of Trust. As a result, the Special Purpose Combined Financial Statements may not be suitable for any other purpose. Our report should not be used, referred to or distributed for any other purpose or to any party. Accordingly, we do not accept or assume any liability or any duty of care for any other purpose or to any other person to whom this report is shown or into whose hands it may come.
- c) The audit report of those SPVs financial statements as at and for the nine months period ended December 31, 2024 included other matter – restriction of use paragraph which is reproduced below:
- “Our report is solely for use of Board of Directors in connection with the proposed public placement of units of Anantam Highways Trust (“InvIT”). Accordingly, our report should not be distributed or otherwise made available to any other person or used for any other purpose. Accordingly, we do not accept or assume any liability or any duty of care for any other purpose or to any other person to whom this report is shown or into whose hands it may come without our prior consent in written”.

Report on Other Legal and Regulatory Requirements

As required by section 3.5.1(d) of the SEBI Master Circular no. SEBI/HO/DDHS-PoD-2/P/CIR/2024/44 dated May 15, 2024 (“SEBI Circular”), we report that:

- a) We have obtained all the information and explanations which to the best of our knowledge and belief were necessary for the purpose of our audit of the aforesaid Special Purpose Combined Financial Statements;

- b) the Special Purpose Combined Balance Sheet, Special Purpose Combined Statement of Profit and Loss (including Other Comprehensive Income), Special Purpose Combined Statement of Changes in Equity and Special Purpose Combined Statement of Cash Flows dealt with by this Report are in agreement with the books of accounts maintained for the purpose of preparation of the Special Purpose Combined Financial Statements; and
- c) In our opinion, the Special Purpose Combined Financial Statements comply with the basis of preparation as stated in note 1.2 to the Special Purpose Combined Financial Statements.

For Mukund M Chitale & Co.
Chartered Accounts
FRN: 106655W

(S. M. Chitale)
Partner
M. No.: 111383
UDIN : 25111383BMKWLI7593
Place: Mumbai
Date: March 28, 2025

SPV Group

(As defined in Note 1.1 - Corporate Information)

Special Purpose Combined Balance Sheet

(All amounts are in Indian rupees million, unless otherwise stated)

	Particulars	Notes	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
(1)	ASSETS					
	Non-Current assets					
	(a) Property, plant and equipment	2	21.33	10.92	1.73	1.73
	(b) Capital work in progress	3	297.51	12,104.81	22,562.83	12,000.82
	(c) Financial assets					
	(i) Investment Accounted for using Equity Method	4	(349.43)	(183.49)	(67.89)	(31.45)
	(ii) Trade receivables	5	33,362.30	20,957.90	-	-
	(iii) Other Financial Assets	6	67.25	-	-	-
	(d) Deferred tax assets (Net)	17	22.40	-	-	-
	(e) Other non-current asset	7	371.83	-	-	2,167.00
	Total Non-Current assets		33,793.19	32,890.14	22,496.67	14,138.10
(2)	Current assets					
	(a) Financial assets					
	(i) Trade receivables	5	2,811.07	1,248.87	898.60	7.01
	(ii) Cash and cash equivalent	8	1,969.43	1,010.55	732.99	702.85
	(iii) Bank balance other than (ii) above	9	2,161.87	-	-	-
	(iv) Other financial assets	6	-	-	10.65	-
	(b) Current Tax Assets (Net)	10	96.01	18.22	30.28	41.70
	(c) Other current assets	7	3,847.04	4,847.53	4,528.59	5,973.01
	Total Current assets		10,885.42	7,125.17	6,201.11	6,724.57
	TOTAL ASSETS		44,678.61	40,015.31	28,697.78	20,862.67
(1)	EQUITY AND LIABILITIES					
	Equity					
	(a) Equity Share Capital	11(a)	762.40	762.39	743.79	735.36
	(b) Other equity	11(b)	3,481.36	737.92	809.61	907.26
	Total Equity		4,243.76	1,500.31	1,553.40	1,642.62
	LIABILITIES					
	Non-Current liabilities					
	(a) Financial liabilities					
	(i) Borrowings	12	37,727.68	32,377.29	19,893.21	9,704.90
	(ii) Trade payable	13	-	-	-	-
(2)	(iii) Other financial liabilities	14	-	-	-	131.58
	(b) Provisions	15	458.98	90.69	120.89	0.04
	(c) Deferred tax liabilities (net)	17	-	444.81	224.40	35.05
	(d) Other non-current liabilities	16	61.82	-	347.84	1,937.62
	Total Non-Current liabilities		38,248.48	32,912.79	20,586.34	11,809.19
	Current liabilities					
	(a) Financial liabilities					
	(i) Borrowings	12	1,448.60	4,198.94	3,860.29	2,502.78
	(ii) Trade payable					
	(a) Total outstanding dues of micro and small enterprises	13	-	0.38	-	-
	(b) Total outstanding dues of creditors other than micro and small enterprises	13	198.15	610.98	664.73	450.28
	(iii) Other financial liabilities	14	499.96	574.02	212.21	190.85
	(b) Other current liabilities	16	37.61	185.04	1,779.29	4,266.95
	(c) Provisions	15	2.05	32.85	41.52	-
	(d) Current tax liability (net)		-	-	-	-
	Total Current liabilities		2,186.37	5,602.21	6,558.04	7,410.86
	TOTAL LIABILITIES		40,434.85	38,515.00	27,144.38	19,220.05
	TOTAL EQUITY AND LIABILITIES		44,678.61	40,015.31	28,697.78	20,862.67

The notes to accounts form an integral part of Special Purpose Combined Financial Statements

As per our report of even date

For Mukund M Chitale & Co.

Chartered Accountants

FRN: 106655W

For and on behalf of the Board of Directors of

Alpha Alternatives Fund - Infra Advisors Private Limited

(As an Investment Manager to Anantam Highways Trust)

(S. M. Chitale)

Partner

M.No 111383

Place: Mumbai

Date: March 28, 2025

(Jignesh Shah)

Director

DIN: 01587849

Place: Mumbai

Date: March 28, 2025

(Naresh Kothari)

Director

DIN: 00012523

Place: Mumbai

Date: March 28, 2025

SPV Group

(As defined in Note 1.1 - Corporate Information)

Special Purpose Combined Statement of Profit and Loss

(All amounts are in Indian rupees million, unless otherwise stated)

	Particulars	Notes	For the nine month period ended 31 December' 2024	For the year ended 31 March 2024	For the year ended 31 March 2023	For the year ended 31 March 2022
(I)	Revenue from Operations	18	7,410.85	27,185.05	27,687.01	21,891.56
(II)	Other income	19	80.14	14.11	18.29	41.53
(III)	Total Income (I+II)		7,490.99	27,199.16	27,705.30	21,933.09
(IV)	Expenses					
	Cost of construction	20	1,487.52	25,387.57	25,927.00	20,662.63
	Employee benefits expense	21	43.09	3.26	1,395.38	1,175.55
	Finance costs	22	2,645.54	2,559.47	1,655.09	663.48
	Depreciation expense	23	1.32	0.25	-	-
	Other expenses	24	597.27	82.38	82.20	77.99
	Total Expenses (IV)		4,774.74	28,032.93	29,059.67	22,579.65
(V)	Profit/(loss) before exceptional items and tax (III-IV)		2,716.25	(833.77)	(1,354.37)	(646.56)
(VI)	Exceptional items		-	-	-	-
(VII)	Profit / (loss) before share of Profit / (loss) of Poondiyankuppam Highways Limited (V) +/- (VI)		2,716.25	(833.77)	(1,354.37)	(646.56)
(VIII)	Share of Profit / (loss) of Poondiyankuppam Highways Limited (Refer Note 31)		(165.94)	(180.53)	(125.03)	(31.96)
(IX)	Profit / (Loss) before tax (VII + VIII)		2,550.31	(1,014.30)	(1,479.40)	(678.52)
(X)	Tax expenses					
	(1) Current tax	17	13.21	62.19	5.82	-
	(2) Deferred tax - Charge/(Credit)	17	(517.52)	165.04	149.51	(35.02)
	(3) Adjustment of Tax related to earlier years	17	(70.71)	4.08	1.14	-
(XI)	Profit / (Loss) for the period/year from continuing operations (IX - X)		3,125.33	(1,245.61)	(1,635.87)	(643.50)
(XII)	Other Comprehensive Income					
	(a) i) Items that will not be reclassified to profit or loss		87.76	64.40	(2.27)	-
	ii) Income tax relating to items that will not be reclassified to profit or loss		(24.42)	(17.92)	0.63	-
	(b) i) Items that will be reclassified to profit or loss		-	-	-	-
	ii) Income tax relating to items that will be reclassified to profit or loss		-	-	-	-
(XIII)	Total Comprehensive Income for the period/year (XI+XII)		3,188.67	(1,199.13)	(1,637.51)	(643.50)
(XIV)	Earnings per unit (Refer Note 30)					

The notes to accounts form an integral part of Special Purpose Combined Financial Statements

-

As per our report of even date

For Mukund M Chitale & Co.
Chartered Accountants
FRN: 106655W

For and on behalf of the Board of Directors of
Alpha Alternatives Fund - Infra Advisors Private Limited
(As an Investment Manager to Anantam Highways Trust)

(S. M. Chitale)
Partner
M.No 111383

Place: Mumbai
Date: March 28, 2025

(Jignesh Shah)
Director
DIN: 01587849

Place: Mumbai
Date: March 28, 2025

(Naresh Kothari)
Director
DIN: 00012523

Place: Mumbai
Date: March 28, 2025

SPV Group
(As defined in Note 1.1 - Corporate Information)
Special Purpose Combined Statement of Cash flows
(All amounts are in Indian rupees million, unless otherwise stated)

	Particulars	For the nine month period ended 31st December, 2024	For the Year ended 31st March, 2024	For the Year ended 31st March 2023	For the Year ended 31st March 2022
	CASH FLOW FROM OPERATING ACTIVITIES:				
	Net Profit/(loss) before tax as per Statement of Profit & Loss	2,716.25	(833.77)	(1,354.37)	(646.56)
	Adjustments for:				
	Interest Income	(74.48)	(363.20)	(2.66)	(37.90)
	Reversal of Excess Revenue Booking		(643.74)	-	-
	Other Comprehensive Income	9.16	64.40	(0.55)	-
	Depreciation and amortization expense	1.31	0.25	-	-
	Finance Cost	2,645.55	2,559.49	1,655.10	663.47
	Operating Profit before Working Capital Changes	5,297.79	783.43	297.52	(20.99)
	Adjusted for:				
	(Increase)/Decrease in Other Current Assets	(1,874.58)	2,212.32	(1,570.76)	(9,544.23)
	(Increase)/Decrease in Other Non- Current Assets	(7,452.09)	(3,743.96)	(1,366.60)	(4,019.37)
	(Increase)/Decrease in Trade Receivable	(6,039.69)	(17,814.95)	(891.58)	(4.92)
	Increase/(Decrease) in Trade payable	(415.88)	(53.59)	214.67	97.50
	Increase/(Decrease) in Deffered Asset	(823.09)	-	12.98	-
	Increase/(Decrease) in Other Current financial liabilities	39.39	382.24	(290.04)	340.02
	Increase/(Decrease) in Other Non Current financial liabilities	(9.08)	(104.20)	110.59	122.63
	Increase/(Decrease) in Other current liabilities	(85.00)	(1,688.46)	(2,635.15)	2,803.68
	Increase/(Decrease) in Other non current liabilities	-	(147.79)	(1,236.36)	1,013.15
	Increase/(Decrease) in non current Provisions	265.87	(31.15)	13.02	176.87
	Increase/(Decrease) in Provisions	43.72	(34.67)	9.87	34.69
		(11,052.64)	(20,240.78)	(7,331.84)	(9,000.98)
	Income tax (paid) / refund	824.94	(74.71)	32.39	87.21
A	Net Cash Used in Operating Activities (Total A)	(10,227.70)	(20,315.49)	(7,299.45)	(8,913.77)
	CASH FLOW FROM INVESTING ACTIVITIES:				
	(Increase)/ Decrease in Financial asset in progress	11,584.44	8,036.01	(4,192.69)	(3,451.65)
	Purchase of Investments	(10.72)	(4.68)	-	-
	Purchase of items of Property, Plant and Equipment	(1.01)	(4.77)	-	-
	Interest Income	78.65	13.16	2.66	37.90
B	Net Cash Generated from / (Used in) Investing Activities (Total B)	11,651.36	8,039.72	(4,190.03)	(3,413.75)
	CASH FLOW FROM FINANCING ACTIVITIES:				
	Proceeds form issue of shares including share premium	-	1,407.43	1,329.46	1,847.80
	Proceeds from Long Term Borrowings	5,481.68	12,939.43	10,468.12	10,101.51
	Proceeds from Short Term Borrowings	(2,760.71)	225.73	1,377.14	1,647.17
	Finance Cost	(2,645.53)	(2,559.49)	(1,655.10)	(663.51)
	Equity component of compound financial instruments	(540.22)	540.23	-	-
C	Net Cash (used in) /Generated from Financing Activities (Total C)	(464.78)	12,553.33	11,519.62	12,932.97
A+B+C	Net Increase / (Decrease) in Cash and Cash Equivalents	958.88	277.56	30.14	605.45
	Opening Balance of Cash and Cash Equivalents	1,010.55	732.99	702.85	97.40
	Closing Balance of Cash and Cash Equivalents	1,969.43	1,010.55	732.99	702.85

SPV Group
(As defined in Note 1.1 - Corporate Information)
Special Purpose Combined Statement of Cash flows
(All amounts are in Indian rupees million, unless otherwise stated)

Debt reconciliation as per Ind AS 7:

Particulars	As at 1 April 2024	Net Cash flow	Non cash movement	As at 31 December 2024
Non current borrowings (including current maturities)	33,889.14	5,306.44	(46.44)	39,149.14
Current	2,687.09	(2,659.95)	-	27.14
Total	36,576.23	2,646.49	(46.44)	39,176.28

Particulars	As at 1 April 2023	Net Cash flow	Non cash movement	As at 31 March 2024
Non current borrowings (including current maturities)	20,666.47	13,522.94	(300.27)	33,889.14
Current	3,087.03	(399.94)	-	2,687.09
Total	23,753.50	13,123.00	(300.27)	36,576.23

Particulars	As at 1 April 2022	Net Cash flow	Non cash movement	As at 31 March 2023
Non current borrowings (including current maturities)	9,704.90	11,276.21	(314.64)	20,666.47
Current	2,502.78	584.25	-	3,087.03
Total	12,207.68	11,860.45	(314.64)	23,753.50

Particulars	As at 1 April 2021	Net Cash flow	Non cash movement	As at 31 March 2022
Non current borrowings (including current maturities)	580.81	9,472.97	(348.88)	9,704.90
Current	385.88	2,116.90	-	2,502.78
Total	966.69	11,589.87	(348.88)	12,207.68

The notes to accounts form an integral part of Special Purpose Combined Financial Statements

As per our report of even date

For Mukund M Chitale & Co.
Chartered Accountants
FRN: 106655W

For and on behalf of the Board of Directors of
Alpha Alternatives Fund - Infra Advisors Private Limited
(As an Investment Manager to Anantam Highways Trust)

(S. M. Chitale)
Partner
M.No 111383

Place: Mumbai
Date: March 28, 2025

(Jignesh Shah)
Director
DIN: 01587849

Place: Mumbai
Date: March 28, 2025

(Naresh Kothari)
Director
DIN: 00012523

Place: Mumbai
Date: March 28, 2025

SPV Group
(As defined in Note 1.1 - Corporate Information)
Special Purpose Combined Statement of Changes in Equity
(All amounts are in Indian rupees million, unless otherwise stated)

A. Capital (Equity Shares of Rs. 10/- each, issued, subscribed and fully paid up)

	Number of Shares	Amount
As at 1 April 2021	-	-
Add/(Less): Changes during the year	7,35,36,000	735.36
As at 31 March 2022	7,35,36,000	735.36
As at 1 April 2022	7,35,36,000	735.36
Add/(Less): Changes during the year	8,75,130	8.75
As at 31 March 2023	7,44,11,130	744.11
As at 1 April 2023	7,44,11,130	744.11
Add/(Less): Changes during the year	18,86,470	18.86
As at 31 March 2024	7,62,97,600	762.98
As at 1 April 2024	7,62,97,600	762.98
Add/(Less): Changes during the period	1,300	0.01
As at 31 December 2024	7,62,98,900	762.99

B. Other Equity

Particulars	Reserves and Surplus				Equity component of compound financial instruments	Share of equity in joint venture	Total
	Securities Premium	Retained Earnings	Debenture Redemption Reserve	Loan Redemption Reserve			
Balance as at 31st March 2021	250.60	41.88	-	-	-	0.51	292.99
Proceeds from Share Issue	1,115.58	-	-	-	-		1,115.58
Loss After Tax	-	(643.50)	-	-	-		(643.50)
Equity Portion of Unsecured Loan from Holding Company	-	190.02	-	-	-		190.02
Deferred Tax Liability on Equity Portion	-	(47.83)	-	-	-		(47.83)
Balance as at 31st March 2022	1,366.18	(459.43)	-	-	-	0.51	907.26
Proceeds from Share Issue	1,321.00	-	-	-	-		1,321.00
Loss After Tax	-	(1,635.87)	-	-	-		(1,635.87)
Other comprehensive income (net of tax)	-	(1.64)	-	-	-		(1.64)
Increase in share of equity in SPV (refer Note 11b)	-		-	-	-	88.59	88.59
Equity Portion of Unsecured Loan from Holding Company	-	170.75	-	-	-		170.75
Deferred Tax Liability on Equity Portion	-	(40.48)	-	-	-		(40.48)
Balance as at 31st March 2023	2,687.18	(1,966.67)	-	-	-	89.10	809.61
Proceeds from Share Issue	1,388.80	-	-	-	-		1,388.80
Loss After Tax	-	(1,245.61)	-	-	-		(1,245.61)
Other comprehensive income (net of tax)	-	46.48	-	-	-		46.48
Equity component of compound financial instruments	-	-	-	-	540.22		540.22
Equity Portion of Unsecured Loan from Holding Company	-	164.70	-	-	-		164.70
Increase in share of equity in SPV (refer Note 11b)	-		-	-	-	64.93	64.93
Interest Income booked Pre COD	-	(350.05)	-	-	-		(350.05)
Reversal of excess Revenue booking	-	(643.74)	-	-	-		(643.74)
Deferred Tax Liability on Equity Portion	-	(37.42)	-	-	-		(37.42)
Amount Set aside for Debenture/Loan redemption	-	(382.12)	382.12	-	-		-
Balance as at 31st March 2024	4,075.98	(4,414.43)	382.12	-	540.22	154.03	737.92
Profit After Tax	-	3,125.33	-	-	-		3,125.33
Other comprehensive income (net of tax)	-	63.34	-	-	-		63.34
Equity component of compound financial instruments	-	120.90	-	-	(540.22)		(419.32)
Deferred Tax Liability on Equity Portion	-	(25.91)	-	-	-		(25.91)
Amount set aside for Debenture/Loan redemption	-	(2,530.47)	541.42	1,989.05	-		(0.00)
Balance as at 31st December 2024	4,075.98	(3,661.24)	923.54	1,989.05	-	154.03	3,481.36

The notes to accounts form an integral part of Special Purpose Combined Financial Statements

As per our report of even date

For Mukund M Chitale & Co.
Chartered Accountants
FRN: 106655W

For and on behalf of the Board of Directors of
Alpha Alternatives Fund - Infra Advisors Private Limited
(As an Investment Manager to Anantam Highways Trust)

(S. M. Chitale)
Partner
M.No 111383

(Jignesh Shah)
Director
DIN: 01587849

(Naresh Kothari)
Director
DIN: 00012523

Place: Mumbai
Date: March 28, 2025

Place: Mumbai
Date: March 28, 2025

Place: Mumbai
Date: March 28, 2025

SPV Group**(As defined in Note 1.1 - Corporate Information)****Disclosures as required by Securities and Exchange Board of India circular no SEBI/HO/DDHS-PoD-2/P/CIR/2024/44 dated May 15, 2014:***(All amounts are in Indian rupees million, unless otherwise stated)***a) Total Return at fair value**

Sr No	Particulars	As at 31 December 2024	As at 31 March 2024
(a)	Total Comprehensive Income (As per the Statement of Profit and loss)	3,188.67	(1,199.13)
(b)	Add/Less: Other Changes in Fair Value (excluding tax) of total assets for the period / year not recognized in Total Comprehensive Income (Refer Note (i) below)	3,022.05	35,636.34
	Total Return	6,210.72	34,437.21

- (i) In the above statement, Other changes in fair value for nine month period ended 31 December 2024 and year ended 31 March 2024 has been computed based on the difference in fair values of total assets as at 31 December 2024, 31 March 2024 and 31 March 2023 respectively. The fair values of total assets as at 31 December 2024, 31 March 2024 and 31 March 2023 are based solely on the valuation reports dated March 26, 2025 for each of the respective period/year of the independent valuer appointed by Investment Manager under the InvIT Regulations.

b) Net Assets at Fair value as on 31 December 2024

Sr No	Particulars	Book Value	Fair Value
(a)	Assets	44,678.61	65,533.98
(b)	Liabilities	40,434.85	40,434.85
(c)	Net Assets (a-b)	4,243.76	25,099.13
(d)	No of Units	(Refer Note (i) below)	(Refer Note (i) below)
(e)	NAV (c/d)	(Refer Note (i) below)	(Refer Note (i) below)

- (i) The number of units that the Trust will issue is not presently ascertainable. Hence, the disclosure in respect of Number of units and Net Asset Value (NAV) per unit have not been given.

c) Project wise break up of fair value of the assets as at December 31, 2024 :

Sr No	Name of SPV	Fair Value
1	Bangalore Malur Highways Limited	7,963.00
2	Malur Bangarpet Highways Limited	8,710.00
3	Dhrol Bhadra Highways Limited	6,159.00
4	Dodaballpur Hoskote Highways Limited	7,349.00
5	Repallewada Highways Limited	7,138.00
6	Narenpur Pura Highways Limited	11,450.00
7	Villupurram Highways Limited	6,928.00
8	Poondiyankuppam Highways Limited (Refer Note (ii) below)	4,165.98
9	DPJ Pollachi Ham Project Private Limited	5,671.00
	Total	65,533.98

- (i) Project wise break up of fair value of total assets includes break up of 9 SPVs as at December 31, 2024 as disclosed above are based on solely on the fair valuation report dated March 26, 2025 of the independent valuer appointed by Investment Manager under InvIT regulation.
- (ii) The proposed transfer of shareholding in this SPV will be only 49%. Accordingly, the fair value numbers reflected above are 49% of Poondiyankuppam Highways Limited's fair value of assets.

For Mukund M Chitale & Co.Chartered Accountants
FRN: 106655W**(S. M. Chitale)**Partner
M.No 111383Place: Mumbai
Date: March 28, 2025**For and on behalf of the Board of Directors of
Alpha Alternatives Fund - Infra Advisors Private Limited
(As Investment Manager of Anantnam Highways Trust)****(Jignesh Shah)**Director
DIN: 01587849Place: Mumbai
Date: March 28, 2025**(Naresh Kothari)**Director
DIN: 00012523Place: Mumbai
Date: March 28, 2025

SPV Group**(as defined in Note 1.1 – Corporate Information)****Notes to the special purpose combined financial statements***(All amounts are in Indian rupees million, unless otherwise stated)***1.1 Corporate Information**

The special purpose combined financial statements comprise financial statements of Bangalore Malur Highways Limited, Dhrol Bhadra Highways Limited, Dodaballapur Hoskote Highways Limited, Repallewada Highways Limited, Malur Bangarpet Highways Limited, Narenpur Purnea Highways Limited, Viluppuram Highways Limited, Poondiyankuppam Highways Limited and DPJ Pollachi HAM Project Private Limited (individually referred to as '**SPV**' and together referred to as '**SPV Group**'). These SPVs are public limited companies registered under the Companies Act 2013. SPVs are domiciled in India.

Alpha Alternatives Fund Advisors LLP set up Anantnam Highways Trust (the "Trust") as an irrevocable trust under the Indian Trust Act, 1882 pursuant to Trust Deed dated July 24, 2024 as its Sponsor. The Trust has been settled for an initial sum of ₹ 10,000. The Trust has been registered as an Infrastructure Investment Trust ('InvIT') with Securities Exchange Board of India ('SEBI') under the Securities Exchange Board of India (Infrastructure Investment Trust) Regulations, 2014 vide Certificate of Registration as an Infrastructure Investment Trust dated August 19, 2024. The registered office of the Trust is located at 33rd Floor, Sunshine Tower, Senapati Bapat Marg, Dadar West, Mumbai – 400013, Maharashtra, India. The Trustee to the Trust is **Axis Trustee Services Limited** (the "Trustee"), Investment manager for the Trust is **Alpha Alternatives Fund Infra Advisors Private Limited** (the "Investment Manager").

The object and purpose of the Trust, as described in the Trust Deed, is to carry on the activity of an infrastructure investment trust as permissible under SEBI (Infrastructure Investment Trusts) Regulations, 2014 as amended from time to time including circulars, notifications, clarifications and guidelines issued thereunder (the "InvIT Regulations") to raise funds through the Trust, to make investments in accordance with the InvIT Regulations and the investment strategy and to carry on the activities as may be required for operating the Trust, including incidental and ancillary matters thereto.

The shareholding pattern of the SPV Group is given below:

SPV Name	Dilip Buildcon Limited[^]	DBL Infraventure Private Limited	Alpha (including its associates)*
Repallewada Highways Limited	51.02%	2.99%	45.99%
Dhrol Bhadra Highways Limited	51.02%	2.99%	45.99%
Viluppuram Highways Limited	51.02%	2.99%	45.99%
Dodaballapur Hoskote Highways Limited	51.02%	2.99%	45.99%
Narenpur Purnea Highways Limited	51.02%	2.99%	45.99%
Bangalore Malur Highways Limited	51.02%	2.99%	45.99%
Malur Bangarpet Highways Limited	51.02%	2.99%	45.99%
Poondiyankuppam Highways Limited	52.01%	23.00%	24.99%
DPJ Pollachi HAM Project Private Limited ^{^^}	-	-	-

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

^including its nominee shareholders

* Alpha (including its associates) includes entities viz. Alpha Alternatives Infrastructure Fund, Alpha Alternatives Financial Services Private Limited, Build India Infrastructure Fund and Spectrum Edge LLP.

^^ Alpha Alternatives Holdings Private Limited has signed the share purchase agreement with the shareholders dated March 25, 2025 to acquire the complete stake in the DPJ Pollachi HAM Project Private Limited. However, as on the date of adoption of the combined financial statements, the shares are not transferred.

Dilip Buildcon Limited, DBL Infraventure Private Limited and Alpha (along with its associates) proposes to transfer their complete shareholding in the respective SPVs to the Trust, except for Poondiyankuppam Highways Limited, where the proposed transfer of shareholding will be only 49%.

As required by the Guidance Note on Combined and Carve-Out Financial Statements issued by the Institute of Chartered Accountants of India, the details of various entities included in the Special Purpose Combined Financial Statements is as given below:

Name of the Concession	Principal Activities	Proposed Shareholding by Trust	Nature of Proposed Investment	Status	Country of Origin
Bangalore Malur Highways Limited	Construction and Operation of Highways	100%	Subsidiary	Operating	India
Dhrol Bhadra Highways Limited	Construction and Operation of Highways	100%	Subsidiary	Operating	India
Doodballpur Hoskote Highways Limited	Construction and Operation of Highways	100%	Subsidiary	Operating	India
Repallewada Highways Limited	Construction and Operation of Highways	100%	Subsidiary	Operating	India
Malur Bangarpet Highways Limited	Construction and Operation of Highways	100%	Subsidiary	Operating	India
Narenpur Purnea Highways Limited	Construction and Operation of Highways	100%	Subsidiary	Operating	India
Villupurram Highways Limited	Construction and Operation of Highways	100%	Subsidiary	Operating	India
Poondiyankuppam Highways Limited	Construction and Operation of Highways	49%	Associate	Operating	India
DPJ Pollachi HAM Project Private Limited	Construction and Operation of Highways	100%	Subsidiary	Operating	India

*The investors have proposed to transfer 49% shareholding held in Poondiyankuppam Highways Limited, since the project is under construction. The balance 51% stake will be transferred upon receiving of Provisional Commercial Operation Date (PCOD) and receiving the necessary approvals from the Lender and the Authority.

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

The Special Purpose Combined Financial Statements were approved for issue in accordance with resolution passed by the Board of Directors of the Investment Manager, acting on behalf of the Trust on March 28, 2025.

1.2 Material Accounting Policies

Basis of Preparation

The Special Purpose Combined Financial Statements of the SPV Group comprise the Special Purpose Combined Balance Sheet as at December 31, 2024, March 31, 2024, March 31, 2023 and March 31, 2022 and the Special purpose Combined Statement of Profit and Loss (including Other Comprehensive Income), Combined Statement of Changes in Equity, Special Purpose Combined Statement of Cash Flow for the nine months period ended December 31, 2024 and years ended March 31, 2024, March 31, 2023 and March 31, 2022, the Combined Statement of net assets at fair value as at December 31, 2024, the Combine Statement of Total Returns at Fair Value for the nine months period ended December 31, 2024 and year ended March 31, 2024 and notes to the special purpose combined financial statements including a summary of material accounting policies and other explanatory information (collectively, the **“Special Purpose Combined Financial Statements”**).

The Special Purpose Combined Financial Statements have been prepared by Investment Manager, acting on behalf of the Trust (‘Trust Management’) to meet the requirements of InvIT Regulations and for inclusion in the Draft Offer Document / Offer Document / Final Offer Documents prepared by the Investment Manager in connection with the proposed Initial Public Issue of units of Trust. As a result, the Special Purpose Combined Financial Statements may not be suitable for another purpose. Further, the requirement of Schedule III (as amended) notified under the Companies Act 2013 are not applicable to the Special Purpose Combined Financial Statements and hence these financial statements are not prepared in accordance with those requirements.

The Special Purpose Combined Financial Statements have been prepared on basis of the Special Purpose Audited Financial Statements of the SPVs as at and for the period ended December 31, 2024 and General Purpose Audited Financial Statements of the SPVs as at and for the years ended March 31, 2024, March 31, 2023 and March 31, 2022, which were prepared in accordance with Indian Accounting Standards as defined in Rule 2(1)(a) of the Companies (Indian Accounting Standards) Rules, 2015 prescribed under Section 133 of the Companies Act, 2013 ("Ind AS"). The following adjustments have been made to those general purpose audited financial statement for the purpose of preparation Special purpose combined financial statement of SPV Group prepared as per requirement of InvIT Regulations and Guidance Note on Combined and Carve-Out Financial Statements issued by the Institute of Chartered Accountants of India ("Guidance Note"):

- a) Necessary adjustments, rectifications, reclassifications wherever necessary in accordance with SEBI Circular CIR/IMD/DF/114/2016 dated October 20, 2016 as mentioned in note 35 of the Special purpose combined financial statements;
- b) Non-disclosure of earning per unit as required under Ind AS 33: Earning per share which has been explained in note 30 in this Special purpose combined financial statements.

In accordance with requirements of the InvIT Regulations, since the Trust was registered as an InvIT on August 19, 2024 and hence it has been in existence for a period lesser than three completed financial years before the filing of offer documents. The Special Purpose Combined Financial Statements has been accordingly prepared considering financial information of the SPV Group for

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

the nine months period ended December 31, 2024 and years ended March 31, 2024, March 31, 2023 and March 31, 2022. This general special purpose audited financial statements of the Narenpur Purnea Highways Limited, Poondiyankuppam Highways Limited, Viluppuram Highways Limited and DPJ Pollachi HAM Project Private Limited as at and for the period ended December 31, 2024, and general purpose audited financial statements of all the SPVs as at and for the years ended March 31, 2024, March 31, 2023, and March 31, 2022, were audited by firms of Chartered Accountant other than Mukund M. Chitale & Co and we have placed our reliance on the same. Further, as required by the InvIT regulations, the Special Purpose Combined Financial Statements are prepared, based on an assumption that the Trust will held stake in SPV group i.e 100% stake in all SPVs, except for Poondiyankuppam Highways Limited, where the proposed transfer of shareholding will be only 49%. The Special Purpose Combined Financial Statements may not be representative of the position which may prevail after the SPV Group is transferred to the Trust.

The Special Purpose Combined Financial Statements are presented in INR, which is the functional currency of the SPV Group. The SPV Group does not have any foreign operation and has assessed the functional currency to be INR. All values are rounded to the nearest Million rupees, unless otherwise indicated. Certain amounts that are required to be disclosed and do not appear due to rounding-off are expressed as 0.00.

The Special Purpose Combined Financial Statements correspond to classification provisions contained in Ind AS 1 'Presentation of Financial Statements'. The Special Purpose Combined Financial Statements have been prepared on a historical cost convention and on an accrual basis except for certain financial assets (refer accounting policy regarding financial instruments).

Basis of Combination

The Special Purpose Combined Financial Statements have been prepared using uniform accounting policies for like transactions and other events in similar circumstances. The special purpose combined financial statements of the SPV Group used for the purpose of combination are drawn up to the same reporting date i.e. year ended on March 31 each year /nine-month period ended December 31.

The procedure for preparing Special Purpose Combined Financial Statements of the SPV Group are stated below –

- i) Combine like items of assets, liabilities, equity, income, expenses and cash flows of the SPV;
- ii) Eliminate in full intragroup assets and liabilities, equity, income, expenses and cash flows relating to transactions between entities of the SPV group (profits or losses resulting from intragroup transactions that are recognised in assets, such as inventory and property, plant and equipment, are eliminated in full). Ind AS 12, *Income Taxes* applies to temporary differences that arise from the elimination of profits and losses resulting from intragroup transactions.
- iii) Considering that the shareholders of the SPVs, other than the Sponsor or its related parties, will also be transferring their stake to the Trust, Non-controlling interest is not applicable.
- iv) In case of one of the SPV i.e. Poondiyankuppam Highways Limited, the share of net profit/ (loss) is accounted for using equity method.

Dates of commencement of commercial operations

InvIT Regulations require disclosure, if there are any assets for which the financial information is considered for a period lesser than three years. The details of incorporation and commencement of operations of such SPV which are as given below:

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

Name of the Concession	Date of Incorporation	Construction completed date under the concession agreement
Bangalore Malur Highways Limited	22-03-2021	15-05-2024 (PCOD)
Dhrol Bhadra Highways Limited	29-12-2020	25-09-2023 (PCOD)
Doodballpur Hoskote Highways Limited	25-09-2020	21-07-2023 (PCOD)
Repallewada Highways Limited	13-10-2020	29-03-2024 (Final COD)
Malur Bangarpet Highways Limited	23-03-2021	16-05-2024 (PCOD)
Narenpur Purnea Highways Limited	07-10-2020	29-03-2024 (PCOD)
Viluppuram Highways Limited	01-04-2021	04-04-2024 (PCOD)
Poondiyankuppam Highways Limited	26-03-2021	Under Construction
DPJ Pollachi HAM Project Private Limited	25-03-2019	05-10-2023 (PCOD)

Note: PCOD represents ‘Provisional Commercial Operation Date’ and COD represents ‘Commercial Operation Date’

1.3 Summary of Material Accounting Policies

Current / Non-Current classification

An asset or liability is classified as ‘current’ when it satisfies any of the following criteria:

- (i) it is expected to be realized or settled, or is intended for sale or consumption in, the SPV Group’s normal operating cycle;
- (ii) it is held primarily for the purpose of being traded;
- (iii) it is expected to be realized or settled within twelve months from the reporting date; or
- (iv) an asset is cash or a cash equivalent unless it is restricted from being exchanged or used to settle a liability for at least twelve months from the reporting date
- (v) in case of liability, the SPV Group does not have an unconditional right to defer settlement of the liability for at least twelve months from the reporting date.

All other assets and liabilities are classified as non-current.

Operating Cycle

Based on the nature of services provided by the SPV Group and the normal time between acquisition of assets and their realization in cash or cash equivalents, the SPV Group has determined its operating cycle as 12 months for the purpose of classification of its assets and liabilities as current and non-current.

Use of judgements, estimates and assumptions

The preparation of special purpose combined financial statements in conformity with Ind AS requires the management to make judgments, estimates and assumptions that affect the reported amounts of revenue, expenses, current assets, non-current assets, current liabilities, non-current liabilities and disclosure of the contingent liabilities at the end of each reporting period. The estimates are based on management’s best knowledge of current events and actions, however, due to uncertainty

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

about these assumptions and estimates, actual results may differ from the estimates.

This note provides an overview of the areas that involved a higher degree of judgement or complexity and of items which are more likely to be materially adjusted due to estimates and assumptions turning out to be different than those originally assessed. Detailed information about each of these estimates and judgements is included in the relevant note.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised prospectively.

(a) Critical estimates and judgements

The areas involving critical estimates or judgements are:

A. Judgements in applying material accounting policies

The judgements, apart from those involving estimations (see note below) that the SPV Group has made in the process of applying its material accounting policies and that have a significant effect on the amounts recognised in these financial statements pertain to useful life of assets. The SPV Group is required to determine whether its intangible assets have indefinite or finite life which is a subject matter of judgement.

B. Service Concession arrangement:

The key inputs of the model comprise of annuity and interest on annuity inflows, estimations on cost to build and maintain the asset and other operational efficiencies. These inputs are based on circumstances existing the management judgement / assumption on the future expectations based on current situations. Judgement includes management view on expected earnings in future years, changes in interest rates, cost inflation government policy changes, etc. These input assumptions could affect the reported cash flow from the related assets and accordingly these assumptions are reviewed periodically.

C. Key source of estimation uncertainty

The following are the key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the reporting period that may have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year.

a) Property, Plant and Equipment (PPE)

Determination of the estimated useful lives of items of PPE and the assessment as to which components of the cost may be capitalized. Useful lives of items of PPE are based on the life prescribed in Schedule II of the Companies Act, 2013. In cases, where the useful lives are different from that prescribed in Schedule II, they are based on technical advice, taking into account the nature of the asset, the estimated usage of the asset, the operating conditions of the asset, past history of replacement, anticipated technological changes, manufacturers' warranties and maintenance support.

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

b) Recognition and measurement of defined benefit obligations

The obligation arising from defined benefit plan is determined on the basis of actuarial assumptions. Key actuarial assumptions include discount rate, trends in salary escalation and vested future benefits and life expectancy. The discount rate is determined based on the prevailing market yields of Indian Government Securities as at the Balance Sheet Date for the estimated term of the obligations.

c) Recognition of deferred tax assets

A deferred tax asset is recognised for all the deductible temporary differences to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilised.

d) Recognition and measurement of other provisions

The recognition and measurement of other provisions are based on the assessment of the probability of an outflow of resources, and on past experience and circumstances known at the balance sheet date. The actual outflow of resources at a future date may therefore vary from the figure included in other provisions.

e) Discounting of long-term financial instruments

All financial instruments are required to be measured at fair value on initial recognition. In case of financial instruments which are required to be subsequently measured at amortised cost, interest is accrued using the effective interest method.

Cash and cash equivalents

Cash and cash equivalents in the balance sheet comprise cash at banks and on hand and highly liquid short-term deposits with an original maturity of three months or less, which are subject to an insignificant risk of changes in value.

Property, plant and equipment and Depreciation

Property, Plant and Equipment is recognized when it is probable that future economic benefits associated with the item will flow to the SPV Group and the cost can be measured reliably.

Items of property, plant and equipment are measured at cost, which includes capitalised eligible borrowing costs, less accumulated depreciation and accumulated impairment losses, if any.

Cost of an item of property, plant and equipment comprises its purchase price, including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates, any directly attributable cost of bringing the item to its working condition for its intended use and estimated costs of dismantling and removing the item and restoring the site on which it is located.

If significant parts of an item of property, plant and equipment have different useful lives, then they are accounted for as separate items (major components) of property, plant and equipment.

Any gain or loss on disposal of an item of property, plant and equipment is recognised in profit or loss.

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

Subsequent expenditure is capitalised only if it is probable that the future economic benefits associated with the expenditure will flow to the SPV Group. Advance given towards acquisition of Property, Plant and Equipment outstanding at the reporting date are disclosed as capital advances under Non-Current Assets. Property, Plant and Equipment is derecognized upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition is recognized in the Statement of Profit and Loss in the same period.

Depreciation is calculated on cost of items of property, plant and equipment less their estimated residual values over their estimated useful lives using the straight-line method, and is generally recognised in the statement of profit and loss. Freehold land is not depreciated.

Depreciation on additions/disposals is provided on a pro-rata basis i.e. from/up to the date on which asset is ready for use/disposed of.

Capital Work in Progress

The SPV Group capitalizes the total cost incurred for construction of the road till the date of Commercial Operation Date (COD) to be issued by the authority. The government assistance received during the construction period is adjusted from the cost of the Capital Work in Progress.

Intangible assets and amortisation

Intangible assets that the SPV Group controls and from which it expects future economic benefits are capitalised upon acquisition at cost comprising the purchase price and directly attributable costs to prepare the assets for its intended use.

Intangible Assets is derecognized upon disposal or when no future economic benefits are expected from its use or disposal. Any gain or loss arising on derecognition is recognized in the Statement of Profit and Loss in the same period.

Intangible assets that have finite lives are amortised over their useful lives by the straight-line method. Intangible assets with indefinite useful life are not amortised but are tested for impairment.

Leases

The SPV Group assesses whether a contract contains a lease, at inception of a contract. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, the SPV Group assesses whether: (i) the contract involves the use of an identified asset (ii) the SPV Group has substantially all of the economic benefits from use of the asset through the period of the lease and (iii) the SPV Group has the right to direct the use of the asset.

At the date of commencement of the lease, the SPV Group recognizes a right-of-use asset ("ROU") and a corresponding lease liability for all lease arrangements in which it is a lessee, except for leases with a term of twelve months or less (short-term leases) and low value leases. For these short-term and low value leases, the SPV Group recognizes the lease payments as an operating expense on a straight-line basis over the term of the lease.

Certain lease arrangements include the option to extend or terminate the lease before the end of the lease term. Lease term includes non- cancellable period of lease together with periods covered by such options

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

if the SPV Group is reasonably certain to exercise the option to extend or reasonably certain not to exercise the option to terminate.

The right-of-use assets are initially recognized at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or prior to the commencement date of the lease plus any initial direct costs less any lease incentives. They are subsequently measured at cost less accumulated depreciation and impairment losses.

Right-of-use assets are depreciated from the commencement date on a straight-line basis over the shorter of the lease term and useful life of the underlying asset. Right of use assets are evaluated for recoverability whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. For the purpose of impairment testing, the recoverable amount (i.e. the higher of the fair value less cost to sell and the value-in-use) is determined on an individual asset basis unless the asset does not generate cash flows that are largely independent of those from other assets. In such cases, the recoverable amount is determined for the Cash Generating Unit (CGU) to which the asset belongs.

The lease liability is initially measured at the present value of the future lease payments. The lease payments are discounted using the interest rate implicit in the lease or, if not readily determinable, using the incremental borrowing rates in the country of domicile of these leases. Lease liability is subsequently measured at Amortised Cost. Lease liability is remeasured with a corresponding adjustment to the related right of use asset if the SPV Group changes its assessment of whether it will exercise an extension or a termination option.

Borrowing costs

Borrowing costs consist of interest and other costs that an entity incurs in connection with the borrowing of funds. Borrowing cost also includes exchange differences to the extent regarded as an adjustment to the borrowing costs.

Borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset that necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised during the period of time that is required to complete and prepare the asset for its intended use or sale. All other borrowing costs are expensed in the period in which they are incurred.

Impairment of non-financial assets

The SPV Group assesses at each balance sheet date whether there is any indication that an asset or cash generating unit (CGU) may be impaired. If any such indication exists, the SPV Group estimates the recoverable amount of the asset. The recoverable amount is the higher of an asset's or CGU's net selling price or its value in use. Where the carrying amount of an asset or CGU exceeds its recoverable amount, the asset is considered impaired and is written down to its recoverable amount.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

Impairment losses are recognised in the statement of profit and loss. The impairment loss in respect of a CGU is allocated first to reduce the carrying amount of any goodwill allocated to the CGU, and then to reduce the carrying amounts of the other assets in the CGU on a pro rata basis.

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

An impairment loss in respect of goodwill is not reversed. For other assets, an impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised.

Revenue recognition

Revenue from contracts with customers is recognised when control of the goods or services are transferred to the customer at an amount that reflects the consideration to which SPV Group expects to be entitled in exchange for those goods or services. SPV Group has generally concluded that it is the principal in its revenue arrangements because it typically controls the goods or services before transferring them to the customer.

(a) Revenue from Operations

(i) Construction Income

Revenue, where the performance obligation is satisfied over time since SPV Group creates an assets that the customer controls, is recognised in proportion to the stage of completion of the contract. The stage of completion is assessed by reference to surveys of work performed. Contract costs are recognised as an expense in the Statement of Profit and Loss in the accounting periods in which the work to which they relate is performed.

(ii) Operational and Maintenance Income

SPV group is required to carry out operations and maintenance on the road annually with an obligation to carry out periodic maintenance in terms of the concession at regular intervals Revenue is recognized when services are performed and contractually billable.

(iii) Income from Service Concession arrangement (Finance Income)

SPV Group recognizes the considerations given by the grantor in accordance with Appendix D to Ind AS 115 – Service Concession Arrangements under financial assets mode. Under financial assets mode, SPV group has an unconditional contractual right to receive cash i.e. fixed annuity after concession period including interest thereon. The finance Income calculated on the basis of the effective interest rate in accordance with the Ind AS 109. The finance Income is recognized under other operating income.

(iv) Variable consideration

SPV Group's claim for bonus, incentives and other claims in rates relating to execution of contracts are recognized as revenue in the year in which said claims are finally accepted by the clients.

(b) Other income

Other items of income are accounted as and when the right to receive such income arises and it is probable that the economic benefits will flow to the SPV Group and the amount of income can be measured reliably.

Employee benefits

Short term employee benefits

All employee benefits payable wholly within twelve months of rendering the service are classified as short-term employee benefits. Benefits such as salaries, wages etc. and the expected cost of ex-gratia are recognized in the period in which the employee renders the related service. A liability is recognised for the amount expected to be paid if the SPV Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee and the obligation can be estimated reliably.

Post-Employment Employee Benefits

Retirement benefits to employees comprise payments to government provident funds, gratuity fund and Employees State Insurance.

Defined Contribution Plans

The SPV Group's contribution to defined contributions plans such as Provident Fund, Employee State Insurance are recognised in the Statement of Profit and Loss in the year when the contributions to the respective funds are due. There are no other obligations other than the contribution payable to the respective Funds.

Defined Benefit Plans

Gratuity liability is defined benefit obligation. The SPV Group's net obligation in respect of the gratuity benefit scheme is calculated by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value.

The present value of the obligation under such defined benefit plan is determined based on actuarial valuation by an independent actuary, using the projected unit credit method, which recognizes each period of service as giving rise to additional unit of employee benefit entitlement and measures each unit separately to build up the final obligation.

The obligation is measured at the present value of the estimated future cash flows. The discount rates used for determining the present value of the obligation under defined benefit plan, are based on the market yields on Government securities as at the Balance Sheet date.

Remeasurement of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognised immediately in Other Comprehensive Income. The same is not eligible to be reclassified to profit or loss. Net interest expense (income) on the net defined liability (assets) is computed by applying the discount rate, used to measure the net defined liability (asset), to the net defined liability (asset) at the start of the financial year after taking into account any changes as a result of contribution and benefit payments during the year. Net interest expense and other expenses related to defined benefit plans are recognised in Statement of Profit and Loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognised immediately in Statement of Profit and Loss. The SPV Group recognises gains and losses on the settlement of a defined benefit plan when the settlement occurs.

Income Taxes

Income tax expense comprises current and deferred tax. It is recognised in the statement of profit and loss except to the extent that it relates to a business combination or items recognised directly in equity or in OCI.

(a) Current tax

Current tax comprises the expected tax payable or receivable on the taxable income or loss for the year and any adjustment to the tax payable or receivable in respect of previous years. The amount of current tax reflects the best estimate of the tax amount expected to be paid or received after considering the uncertainty, if any, related to income taxes. It is measured using tax rates (and tax laws) enacted or substantively enacted by the reporting date.

Current tax assets and current tax liabilities are offset only if there is a legally enforceable right to set off the recognised amounts, and it is intended to realise the asset and settle the liability on a net basis or simultaneously.

Minimum alternative tax (MAT) credit is recognized as an asset only when and to the extent there is convincing evidence that the SPV Group will pay income tax higher than that computed under MAT, during the year that MAT is permitted to be set off under the Income Tax Act, 1961 (specified year). In the year, in which the MAT credit becomes eligible to be recognized as an asset the said asset is created by way of a credit to the Statement of profit and loss and shown as MAT credit entitlement.

The SPV Group reviews the same at each balance sheet date and writes down the carrying amount of MAT credit entitlement to the extent there is no longer convincing evidence to the effect that the SPV Group will pay income tax higher than MAT during the specified year.

(b) Deferred tax

Deferred tax is recognised in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the corresponding amounts used for taxation purposes, that is, the tax base. Deferred tax is also recognised in respect of carried forward tax losses and tax credits. Deferred income tax assets and liabilities are measured using tax rates and tax laws that have been enacted or substantively enacted by the balance sheet date and are expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect of changes in tax rates on deferred income tax assets and liabilities is recognized as income or expense in the period that includes the enactment or the substantive enactment date. A deferred income tax asset is recognized to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences and tax losses can be utilized. The SPV Group offsets deferred tax assets and deferred tax liabilities, where it has a legally enforceable right to set off the deferred tax assets against deferred tax liabilities and the deferred tax assets and the deferred tax liabilities relate to income taxes levied by the same taxation authority.

Provisions and Contingencies

Provisions involving substantial degree of estimation in measurement are recognized when there is a present obligation as a result of past events, it is probable that there will be an outflow of resources and a reliable estimate can be made of the amount of the obligation. These are reviewed at each balance sheet date and adjusted to reflect the current best estimate. Contingent liabilities are not provided for and are

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

disclosed by way of notes unless the possibility of outflow of resources embodying economic benefits is remote.

If the effect of the time value of money is material, provisions are discounted using a current pre-tax rate that reflects, when appropriate, the risks specific to the liability. When discounting is used, the increase in the provision due to the passage of time is recognised as a finance cost in the statement of profit and loss.

Contingent liability is disclosed in case of:

- (i) a present obligation arising from past events, when it is not probable that an outflow of resources will be required to settle the obligation; and
- (ii) a present obligation arising from past events, when no reliable estimate is possible.

Contingent assets are not recognised in financial statements, however are disclosed, where inflow of economic benefits is probable.

Provisions, contingent liabilities and contingent assets are reviewed at each balance sheet date.

Statement of Cash Flow

The cash flows from operating, investing and financing activities of the SPV Group are segregated. Cash flows from operating activities are reported using the indirect method, whereby profit for the period is adjusted for the effects of transactions of a non-cash nature, any deferrals or accruals of past or future operating cash receipts or payments and item of income or expenses associated with investing or financing cash flows.

Fair value measurement

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either:

- In the principal market for the asset or liability, or
- In the absence of a principal market, in the most advantageous market for the asset or liability

The principal or the most advantageous market must be accessible by the SPV Group. The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

For cash and other liquid assets, the fair value is assumed to approximate to book value, given the short term nature of these instruments. For those items with a stated maturity exceeding twelve months, fair value is calculated using a discounted cash flow methodology.

A fair value measurement of a non-financial asset considers a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another.

The SPV Group uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximizing the use of relevant observable inputs and minimizing the use of unobservable inputs.

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

- Level 1 — Quoted (unadjusted) market prices in active markets for identical assets or liabilities
- Level 2 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable
- Level 3 — Valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

For assets and liabilities that are recognised in the financial statements on a recurring basis, the SPV Group determines whether transfers have occurred between levels in the hierarchy by re-assessing categorisation (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

For the purpose of fair value disclosures, the SPV Group has determined classes of assets and liabilities based on the nature, characteristics and risks of the asset or liability and the level of the fair value hierarchy as explained above.

Financial instruments

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

(a) Financial Assets

(i) Initial Recognition

The SPV Group recognizes financial assets when it becomes a party to the contractual provisions of the instrument. All financial assets are recognized at fair value on initial recognition, except for trade receivables which are initially measured at transaction price unless those contain a significant financing component. Transaction costs that are directly attributable to the acquisition or issue of financial assets that are not at fair value through profit or loss are added to the fair value on initial recognition.

(ii) Subsequent measurement

For the purpose of subsequent measurement, financial assets are classified in two broad categories:- i] Financial assets at fair value and ii] Financial assets at amortised cost. Where assets are measured at fair value, gains and losses are either recognised entirely in the statement of profit and loss [i.e fair value through profit or loss], or recognised in other comprehensive income [i.e. fair value through other comprehensive income].

A financial asset is subsequently measured at amortised cost if it is held within a business model whose objective is to hold the asset in order to collect contractual cash flows and the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

A financial asset is subsequently measured at FVTOCI if it is held within a business model whose objective is achieved both by collecting contractual cash flows and selling financial assets; and the contractual terms of instrument give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

(iii) Derecognition

The SPV Group derecognises a financial asset when the contractual rights to the cash flows from the financial asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of the risks and rewards of ownership of the financial asset are transferred or in which the SPV Group neither transfers nor retain substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

(iv) Impairment of financial asset

For impairment of financial assets, SPV Group applies expected credit loss (ECL) model. Following financial assets and credit risk exposure are covered within the ECL model:

- a. Financial assets that are debt instruments, and are measured at amortised cost e.g. loans, debt securities, deposits and bank balance.
- b. Trade receivables or any contractual right to receive cash or another financial asset that result from transactions that are within the scope of Ind AS 115.

The SPV Group follows 'simplified approach' for recognition of impairment loss allowance on trade receivables including receivables recognised under service concession arrangements.

The application of simplified approach does not require the SPV Group to track changes in credit risk. Rather, it recognises impairment loss allowance based on lifetime ECLs at each reporting date, right from its initial recognition. For recognition of impairment loss on other financial assets and risk exposure, the SPV Group determines whether there has been a significant increase in the credit risk since initial recognition. If credit risk has not increased significantly, 12-month ECL is used to provide for impairment loss. However, if credit risk has increased significantly, then the impairment loss is provided based on lifetime ECL.

(b) Financial liabilities

(i) Initial recognition

The SPV Group initially recognises borrowings, trade payables and related financial liabilities on the date on which they are originated.

Non-derivative financial liabilities are initially recognised at fair value, net of transaction costs incurred.

(ii) Subsequent measurement

Financial liabilities are subsequently carried at amortized cost using the effective interest method, except for contingent consideration recognized in a business combination which is subsequently measured at fair value through profit and loss. For trade and other payables maturing within one year from the Balance Sheet date, the carrying amounts approximate fair value due to the short maturity of these instruments.

(iii) Derecognition

A financial liability is derecognised when the obligation under the liability is discharged or cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as the derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognised in the statement of profit or loss.

(c) Offsetting of financial instruments

Financial assets and financial liabilities are offset and the net amount is reported in the balance sheet if there is a currently enforceable legal right to offset the recognised amounts and there is an intention either to settle on a net basis or to realise the assets and settle the liabilities simultaneously.

Operating Segments

Operating segments are reported in a manner consistent with the internal reporting provided to the Chief Operating Decision Maker (CODM) of SPV Group. The CODM is responsible for allocating resources and assessing performance of the operating segments of SPV Group.

Earnings per unit

Basic earnings per unit is calculated by dividing the net profit or loss for the period attributable to unit holders by the weighted average number of units outstanding during the period.

For the purpose of calculating diluted earnings per unit, the net profit or loss for the period attributable to unit holders and the weighted average number of units outstanding during the period are adjusted for the effects of all dilutive potential units.

Equity accounted Investee

Interests in Poondiyankuppam Highways Limited (PHL) is accounted for using the equity method, after initially being recognised at the net book value as at April 1, 2021. Currently investment proposed in the PHL is 49% and balance 51% stake would be acquired upon necessary approvals from Lender and Authority.

Under the equity method of accounting, subsequent to initial recognition, the investments are adjusted to recognize the share of the post-acquisition profits or losses of the investee in the statement of profit and loss, and the share of other comprehensive income of the investee in other comprehensive income.

When the share of losses in an equity-accounted investment equals or exceeds its interest in the entity, the Trust does not recognize further losses, unless it has incurred obligations or made payments on behalf of the other entity.

Combined Statement of net assets at fair value

The disclosure of Statement of Net Assets at Fair Value comprises of the fair values of the total assets and fair values of the total liabilities of individual SPV's. The fair value of the assets are reviewed

SPV Group
(as defined in Note 1.1 – Corporate Information)
Notes to the Special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

regularly by Management with reference to independent assets and market conditions existing at the reporting date, using generally accepted market practices. The independent valuers are leading independent appraisers with a recognised and relevant professional qualification and with recent experience in the location. Judgment is also applied in determining the extent and frequency of independent appraisals. Such independent appraisals and the assumptions used are reviewed at each balance sheet date.

Statement of Total Returns at Fair Value

The disclosure of total returns at fair value comprises of the total Comprehensive Income as per the Combined Statement of Profit and loss and Other Changes in Fair Value of Total Assets which were not recognised in total Comprehensive Income.

SPV Group

(As defined in Note 1.1 - Corporate Information)

Notes to special purpose combined financial statements

(All amounts are in Indian rupees million, unless otherwise stated)

2. Property Plant and Equipment**Period Ended 31 December 2024**

Description of Assets	GROSS BLOCK				DEPRECIATION				WRITTEN DOWN VALUE	
	As at 01/04/2024	Additions	Deductions	As at 31/12/2024	As at 01/04/2024	For the period	Deductions	As at 31/12/2024	As at 31/12/2024	As at 31/03/2024
Land	1.73	-	-	1.73	-	-	-	-	1.73	1.73
Vehicle	9.44	3.19	-	12.63	0.25	1.06	-	1.31	11.32	9.19
Plant and Machinery	-	8.54	-	8.54	-	0.26	-	0.26	8.28	-
Total	11.17	11.73	-	22.90	0.25	1.32	-	1.57	21.33	10.92

Year ended 31 March 2024

Description of Assets	GROSS BLOCK				DEPRECIATION				WRITTEN DOWN VALUE	
	As at 01/04/2023	Additions	Deductions	As at 31/03/2024	As at 01/04/2023	For the year	Deductions	As at 31/03/2024	As at 31/03/2024	As at 31/03/2023
Land	1.73	-	-	1.73	-	-	-	-	1.73	1.73
Vehicle	-	9.44	-	9.44	-	0.25	-	0.25	9.19	-
Total	1.73	9.44	-	11.17	-	0.25	-	0.25	10.92	1.73

Year ended 31 March 2023

Description of Assets	GROSS BLOCK				DEPRECIATION				WRITTEN DOWN VALUE	
	As at 01/04/2022	Additions	Deductions	As at 31/03/2023	As at 01/04/2022	For the year	Deductions	As at 31/03/2023	As at 31/03/2023	As at 31/03/2022
Land	1.73	-	-	1.73	-	-	-	-	1.73	1.73
Total	1.73	-	-	1.73	-	-	-	-	1.73	1.73

Year ended 31 March 2022

Description of Assets	GROSS BLOCK				DEPRECIATION				WRITTEN DOWN VALUE	
	As at 01/04/2021	Additions	Deductions	As at 31/03/2022	As at 01/04/2021	For the year	Deductions	As at 31/03/2022	As at 31/03/2022	As at 31/03/2021
Land	-	1.73	-	1.73	-	-	-	-	1.73	-
Total	-	1.73	-	1.73	-	-	-	-	1.73	-

3 .Capital work in progress

Period Ended 31 December 2024

	Gross Carrying Value				Depreciation/Amortization				Net Carrying Value	
Particulars	As at 01/04/2024	Additions	Deductions	As at 31/12/2024	As at 01/04/2024	For the period	Deductions	As at 31/12/2024	As at 31/12/2024	As at 31/03/2024
Financial asset in progress	12,104.81	1,229.16	13,036.46	297.51	-	-	-	-	297.51	12,104.81
Total	12,104.81	1,229.16	13,036.46	297.51	-	-	-	-	297.51	12,104.81

Year ended 31 March 2024

	Gross Carrying Value				Depreciation/Amortization				Net Carrying Value	
Particulars	As at 01/04/2023	Additions	Deductions	As at 31/03/2024	As at 01/04/2023	For the year	Deductions	As at 31/03/2024	As at 31/03/2024	As at 31/03/2023
Financial asset in progress	22,562.83	23,365.34	33,823.36	12,104.81	-	-	-	-	12,104.81	22,562.83
Total	22,562.83	23,365.34	33,823.36	12,104.81	-	-	-	-	12,104.81	22,562.83

Year ended 31 March 2023

	Gross Carrying Value				Depreciation/Amortization				Net Carrying Value	
Particulars	As at 01/04/2022	Additions	Deductions	As at 31/03/2023	As at 01/04/2022	For the year	Deductions	As at 31/03/2023	As at 31/03/2023	As at 31/03/2022
Financial asset in progress	12,000.82	25,151.66	14,589.65	22,562.83	-	-	-	-	22,562.83	12,000.82
Total	12,000.82	25,151.66	14,589.65	22,562.83	-	-	-	-	22,562.83	12,000.82

Year ended 31 March 2022

	Gross Carrying Value				Depreciation/Amortization				Net Carrying Value	
Particulars	As at 01/04/2021	Additions	Deductions	As at 31/03/2022	As at 01/04/2021	For the year	Deductions	As at 31/03/2022	As at 31/03/2022	As at 31/03/2021
Financial asset in progress	1,989.82	20,579.59	10,568.59	12,000.82	-	-	-	-	12,000.82	1,989.82
Total	1,989.82	20,579.59	10,568.59	12,000.82	-	-	-	-	12,000.82	1,989.82

SPV Group
(As defined in Note 1.1 - Corporate Information)
Notes to special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

4: Investment Accounted for using Equity Method

Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
Non Current				
i) Investment in SPV (Unquoted) (refer note 31) Poondiyakuppam Highways Limited	(183.49)	(67.89)	(31.45)	0.51
Add/ (Less): Share of equity share issued and securities premium	-	64.93	88.59	-
Add/ (Less): Share of profit/ (loss) during the year / period	(165.94)	(180.53)	(125.03)	(31.96)
Total	(349.43)	(183.49)	(67.89)	(31.45)
Note:				
Percentage Ownership Interest	49%	49%	49%	49%
Net Assets	(713.15)	(374.50)	(138.58)	(64.22)
Share of Net Assets	(349.44)	(183.50)	(67.90)	(31.46)

5: Trade Receivables

Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
Non Current				
Trade Receivables considered good - Secured				
Trade Receivables considered good - Unsecured	33,362.30	20,957.90	-	-
Trade Receivables which have significant risk in Credit Risk	-	-	-	-
Trade Receivables - credit impaired	-	-	-	-
Less: Allowance for bad and doubtful debts	-	-	-	-
Total Non Current	33,362.30	20,957.90	-	-
Current				
Trade Receivables considered good - Secured				
Trade Receivables considered good - Unsecured	2,811.07	1,248.87	898.60	7.01
Trade Receivables which have significant risk in Credit Risk	-	-	-	-
Trade Receivables - credit impaired	-	-	-	-
Less: Allowance for bad and doubtful debts	-	-	-	-
Total Current	2,811.07	1,248.87	898.60	7.01
Total	36,173.37	22,206.77	898.60	7.01

5.1: There is no amount due from any director or any officer of the SPV Group, either severally or jointly with any other person, or from any firms or private companies in which any director is a partner, a director or a member.

5.2: Trade Receivables Ageing

Period ended 31 December 2024

	Particulars	Trade Receivables - Unbilled	Outstanding for following periods from due date of payment					Total
			Less than 6 months	6 months - 1 year	1-2 years	2-3 years	More than 3 years	
(i)	Undisputed Trade receivables – considered good	33,737.44	2,345.53	17.06	66.81	1.47	5.06	36,173.37
(ii)	Undisputed Trade receivables – which have significant increase in credit risk	-	-	-	-	-	-	-
(iii)	Undisputed Trade receivables – credit impaired	-	-	-	-	-	-	-
(iv)	Disputed Trade Receivables considered good	-	-	-	-	-	-	-
(v)	Disputed Trade receivables – which have significant increase in credit risk	-	-	-	-	-	-	-
(vi)	Disputed Trade receivables – credit impaired	-	-	-	-	-	-	-
	Total	33,737.44	2,345.53	17.06	66.81	1.47	5.06	36,173.37

Year ended 31 March 2024

	Particulars	Trade Receivables - Unbilled	Outstanding for following periods from due date of payment					Total
			Less than 6 months	6 months - 1 year	1-2 years	2-3 years	More than 3 years	
(i)	Undisputed Trade receivables – considered good	16,001.24	618.68	5,576.47	5.03	4.23	1.11	22,206.77
(ii)	Undisputed Trade receivables – which have significant increase in credit risk	-	-	-	-	-	-	-
(iii)	Undisputed Trade receivables – credit impaired	-	-	-	-	-	-	-
(iv)	Disputed Trade Receivables considered good	-	-	-	-	-	-	-
(v)	Disputed Trade receivables – which have significant increase in credit risk	-	-	-	-	-	-	-
(vi)	Disputed Trade receivables – credit impaired	-	-	-	-	-	-	-
	Total	16,001.24	618.68	5,576.47	5.03	4.23	1.11	22,206.77

Year Ended 31 March 2023

	Particulars	Trade Receivables - Unbilled	Outstanding for following periods from due date of payment					Total
			Less than 6 months	6 months - 1 year	1-2 years	2-3 years	More than 3 years	
(i)	Undisputed Trade receivables – considered good	777.63	115.30	0.33	4.23	1.11	-	898.59
(ii)	Undisputed Trade receivables – which have significant increase in credit risk	-	-	-	-	-	-	-
(iii)	Undisputed Trade receivables – credit impaired	-	-	-	-	-	-	-
(iv)	Disputed Trade Receivables considered good	-	-	-	-	-	-	-
(v)	Disputed Trade receivables – which have significant increase in credit risk	-	-	-	-	-	-	-
(vi)	Disputed Trade receivables – credit impaired	-	-	-	-	-	-	-
	Total	777.63	115.30	0.33	4.23	1.11	-	898.59

Year Ended 31 March 2022

	Particulars	Trade Receivables - Unbilled	Outstanding for following periods from due date of payment					Total
			Less than 6 months	6 months - 1 year	1-2 years	2-3 years	More than 3 years	
(i)	Undisputed Trade receivables – considered good	-	1.96	3.94	1.11	-	-	7.01
(ii)	Undisputed Trade receivables – which have significant increase in credit risk	-	-	-	-	-	-	-
(iii)	Undisputed Trade receivables – credit impaired	-	-	-	-	-	-	-
(iv)	Disputed Trade Receivables considered good	-	-	-	-	-	-	-
(v)	Disputed Trade receivables – which have significant increase in credit risk	-	-	-	-	-	-	-
(vi)	Disputed Trade receivables – credit impaired	-	-	-	-	-	-	-
	Total	-	1.96	3.94	1.11	-	-	7.01

6. Other Financial Assets

	Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
	Non -Current				
(a)	Fixed Deposits with Banks with original maturity of more than 12 months	66.80	-	-	-
(b)	Interest Receivable on Mobilisation Advance	0.45	-	-	-
	Total Non-current	67.25	-	-	-
	Current				
	Unsecured Considered Good				
(a)	Advance Given	-	-	10.65	-
	Total Current	-	-	10.65	-
	Total	67.25	-	10.65	-

SPV Group**(As defined in Note 1.1 - Corporate Information)****Notes to special purpose combined financial statements***(All amounts are in Indian rupees million, unless otherwise stated)***7. Other Assets**

Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
<u>Non-current</u>				
(a) Advances to related party - Mobilisation Advance	-	-	-	2,167.00
(b) Security Deposit	0.87	-	-	-
(c) Withheld By Authority	370.96	-	-	-
Total Non-current	371.83	-	-	2,167.00
<u>Current</u>				
(a) Advance to Suppliers/Creditors	0.40	23.65	0.28	0.19
(b) Other Advances	53.79	-	0.94	4.24
(c) Advance to Related Party				
- Mobilisation Advance	-	-	999.06	4,226.09
- Other Advances	-	-	1.89	200.00
- for Change of Scope	-	56.67	233.41	-
(d) Deposit with Govt Authorities	3,712.12	3,964.55	2,334.69	1,517.20
(e) Withheld Money with Department	2.63	284.20	572.78	6.11
(f) Prepaid expense	17.51	13.54	13.02	19.18
(g) GST Withheld by Department	-	504.92	372.52	-
(h) Unbilled Revenue	4.45	-	-	-
(i) Accrued Interest on Fixed Deposits	41.04	-	-	-
(j) MAT Credit Entitlement	5.14	-	-	-
(k) Inventory in hand	9.96	-	-	-
Total Current	3,847.04	4,847.53	4,528.59	5,973.01
Total	4,218.87	4,847.53	4,528.59	8,140.01

SPV Group**(As defined in Note 1.1 - Corporate Information)****Notes to special purpose combined financial statements***(All amounts are in Indian rupees million, unless otherwise stated)***8. Cash and Cash Equivalents**

Particulars		As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
(a)	Cash on hand	0.01	0.01	0.01	0.01
(b)	Balance with Banks in current account	153.77	989.55	257.58	238.64
(c)	Fixed deposit with banks with original maturity with less than 3 months	1,815.65	20.99	475.40	464.20
Total		1,969.43	1,010.55	732.99	702.85

9. Other Bank Balance

Particulars		As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
(a)	Term Deposit with maturity of more than 3 months but less than 12 months	2,161.87	-	-	-
Total		2,161.87	-	-	-

10. Current Tax Assets

Particulars		As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
(a)	Advance Income Tax (Net of Provisions)	96.01	18.22	30.28	41.70
Total		96.01	18.22	30.28	41.70

SPV Group
(As defined in Note 1.1 - Corporate Information)
Notes to special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

Note 11(a): Equity Share Capital

	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
Authorised shares				
7,71,13,000 (31 March 2024: 7,70,43,000, 31 March 2023: 7,60,90,000, 31 March 2022: 7,55,80,000) equity shares of Rs. 10 each	769.53	768.83	759.30	754.80
Total	769.53	768.83	759.30	754.80
Issued, subscribed and fully paid-up shares				
763,98,900 (31 March 2024: 763,97,600, 31 March 2023: 745,11,130, 31 March 2022: 736,36,000) equity shares of Rs. 10 each, fully paid up	762.40	762.39	743.79	735.36
Total	762.40	762.39	743.79	735.36

i) Reconciliation of the no. of shares and amounts outstanding at the beginning and at the end of the reporting period:

Particulars	As at31 December 2024		As at31 March 2024		As at31 March 2023		As at31 March 2022	
	Numbers	Amount	Numbers	Amount	Numbers	Amount	Numbers	Amount
At the beginning of the period /year	7,62,97,600	762.98	7,44,11,130	744.11	7,35,36,000	735.36	-	-
Add/Less: Change during the period /year	1,300	0.01	18,86,470	18.86	8,75,130	8.75	7,35,36,000	735.36
Outstanding at the end of the period /year	7,62,98,900	762.99	7,62,97,600	762.98	7,44,11,130	744.11	7,35,36,000	735.36

ii) Details of shareholders holding more than 5% shares in the Company

Particulars	As at 31 December 2024		As at 31 March 2024		As at 31 March 2023		As at 31 March 2022	
	Numbers	% of holding	Numbers	% of holding	Numbers	% of holding	Numbers	% of holding
Equity shares of Rs. 10 each fully paid								
Dilip Buildcon Limited (including its nominees)	7,62,98,900	100%	7,62,97,600	100%	7,44,11,130	100%	7,35,36,000	100%

iii) Right ,preference and restrictions attached to equity shares :

The SPV Group has a single class of Equity Shares. Accordingly, all Equity Shares rank equally with regard to Dividend and share in the respective SPV's Residual Assets. The Equity Shares are entitled to receive Dividend as declared from time to time. The Voting Rights of Equity Shareholders are in proportion to their Share of Paid Up Equity Capital of the respective SPV. Voting rights cannot be exercised in respect of shares on which any call or other sums presently payable had not been paid.

Note 11(b): Other Equity

i. Securities Premium

Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
Balance at the beginning of the period / year	4,075.98	2,687.18	1,366.18	250.60
Add: Proceeds from Share issue	-	1,388.80	1,321.00	1,115.58
Balance at the end of the period / year	4,075.98	4,075.98	2,687.18	1,366.18

ii. Retained Earnings

Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
Balance at the beginning of the period /year	(4,414.43)	(1,966.67)	(459.43)	41.88
Profit (Loss) After Tax	3,125.33	(1,245.61)	(1,635.87)	(643.50)
Other comprehensive income (net of tax)	63.34	46.48	(1.64)	190.02
Deferred Tax Liability on Equity Portion	(25.91)	(37.42)	(40.48)	(47.83)
Equity Portion of Unsecured Loan from Holding Company	-	164.70	170.75	-
Interest Income booked Pre COD	-	(350.05)	-	-
Reversal of excess Revenue booking	-	(643.74)	-	-
Transfer to Debenture redemption	120.90	(382.12)	-	-
Transfer to Loan redemption	(2,530.47)	-	-	-
Balance at the end of the period / year	(3,661.24)	(4,414.43)	(1,966.67)	(459.43)

iii. Debenture Redemption Reserve

Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
Balance at the beginning of the period / year	382.12	-	-	-
Add: Transfer from Retained Earnings	541.42	382.12	-	-
Balance at the end of the period / year	923.54	382.12	-	-

iv. Loan Redemption Reserve

Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
Balance at the beginning of the period / year	-	-	-	-
Add: Transfer from Retained Earnings	1,989.05	-	-	-
Balance at the end of the period / year	1,989.05	-	-	-

v. Equity component of compound financial instruments

Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
Balance at the beginning of the period / year	540.22	-	-	-
Equity component of compound financial instruments	(540.22)	540.22	-	-
Balance at the end of the period / year	-	540.22	-	-

vi. Share of equity in SPV

Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
Balance at the beginning of the period / year	154.03	89.10	0.51	0.51
Share of increase in equity in SPV on issue of equity	-	64.93	88.59	-
Balance at the end of the period / year	154.03	154.03	89.10	0.51

Balance of Other Equity at the end of the period / year	3,481.36	737.92	809.61	907.26
--	-----------------	---------------	---------------	---------------

Securities Premium: Securities premium is used to record the premium received on issue of shares. It is utilized in accordance with the provisions of the Companies Act, 2013.

Retained Earnings: Retained earnings are the profits or losses that the Company has earned or incurred till date, less dividends or other distributions paid to shareholders.

Debenture Redemption Reserve: Debenture Redemption Reserve is created in compliance of Section 71(4) of Companies Act, 2013 which requires Company to create a Debenture Redemption Reserve out of the profits of the company available for payment of dividend.

Loan Redemption Reserve: Loan Redemption Reserve represents the 10% of the outstanding principal amount of loan from Banks.

Equity component of compound financial instruments: The equity component of a compound financial instrument is the difference between the fair value of the entire instrument and the fair value of its liability component.

Share of equity in SPV: The Investors have proposed to transfer 49% shareholding held in Poondiyakuppam Highways Limited. Therefore, Investment in Poondiyakuppam Highways Limited is accounted using the equity method and hence this reserve represents 49% of the Securities Premium balance as appearing in the audited statements of Financial statements of Poondiyakuppam Highways Limited.

SPV Group

(As defined in Note 1.1 - Corporate Information)

Notes to special purpose combined financial statements

(All amounts are in Indian rupees million, unless otherwise stated)

12. Borrowings

Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
Non-current				
(a) Secured				
Term loans				
From Banks (Refer Note 12.1)	35,627.20	33,579.79	20,712.05	9,833.57
Less: Current maturities of non-current borrowings disclosed under the head ' Current borrowings '.	(1,421.46)	(1,511.84)	(773.26)	-
Less: Unamortised Processing Charges	(106.74)	(193.68)	(176.16)	(190.36)
	34,099.00	31,874.27	19,762.63	9,643.21
Unsecured				
(a) Debentures (Refer Note 12.2)				
Non Convertible Debentures	3,343.70	290.48	-	-
(b) Financial liability Portion of Unsecured Loan from Holding Company	284.98	212.54	130.58	61.69
Non-current borrowings	37,727.68	32,377.29	19,893.21	9,704.90
Current				
(a) Secured				
Current maturities of non current borrowings	1,421.46	1,511.84	773.26	-
(b) Unsecured (Refer Note 12.3)				
From Related Parties				
- Holding Company	27.14	802.09	768.66	318.94
- Other related parties	-	1,885.00	2,318.37	2,183.84
Current borrowings	1,448.60	4,198.94	3,860.29	2,502.78
Total Borrowings	39,176.28	36,576.23	23,753.50	12,207.68

12.1: Term loan from Banks are secured by:
For SPV Group (excluding DPJ Pollachi Ham Project Private Limited)

First charge on borrower's immovable properties, both present and future, tangible moveable assets (including but not limited to all current/ non- current assets) both present and future other than the asset forming part of the Project Assets, Escrow account and Sub accounts, and intangible assets.

Personal guarantee of Mr. Dilip Suryavanshi, the managing director and Mr. Devendra Jain, whole time director, of the Holding Company of the SPV Group (excluding DPJ Pollachi Ham Project Private Limited) and Mrs. Seema Suryavanshi, relative of managing director.

Corporate Guarantee from the Holding Company of the SPV Group (excluding DPJ Pollachi Ham Project Private Limited) till the receipt of 1st Annuity.

The Holding Company of the SPV Group (excluding DPJ Pollachi Ham Project Private Limited) has pledged 30% shares and 51% shares in favour of the respective lenders of the SPV.

For DPJ Pollachi Ham Project Private Limited

First Charge on all the Borrower's movables (except Project Assets), including movable Plant & Machinery, furniture, Fixtures, Vehicles and all other movable Assets, Machinery spares, tools and accessories, both present & future.

First Charge by way of Hypothecation/charge and assignment of all monies lying the Escrow Account in to which all the investments in the project and all project revenues, Receivables, shortfall to be received, Cash and Insurance proceeds are to be deposited provided that such charge over the Escrow Account shall only be to the extent of water fall of the priorities as provided in the

First Charge on all Intangibles (Other than Project Assets) of the Borrower, including but not limited to goodwill, uncalled Capital and intellectual property rights both present and future.

First charge on all the Borrower's bank accounts including without limitation the Escrow Account, Debt Service Reserve Accounts and each of the other Accounts require to be created by borrower under any project documents or contract, provided that the charge shall only be to the extent of waterfall of the priorities as provided in Escrow Agreement

SPV Group**(As defined in Note 1.1 - Corporate Information)****Notes to special purpose combined financial statements***(All amounts are in Indian rupees million, unless otherwise stated)***12. Borrowings**

Pledge of 51% of the Shares of Borrower held by

Personal Guarantees of Mr Deepak Jain and Mr Girish Jain till 2 years from COD or stabilisation of the project i.e. receipt of annuity as per Concession Agreement for First 2 years, whichever is later, in case of for project Cost Over run, Shortfall in Debt servicing and shortfall in termination payment.

Corporate guarantee of sponsor D P Jain & Co Infrastructure Pvt Ltd to meet any cost overrun, shortfall in debt servicing and shortfall in termination payment.

Terms of Repayment of Secured Loan from Bank:**For SPV Group (excluding DPJ Pollachi Ham Project Private Limited)**

Loan will be repaid in 26 unequal half yearly instalments as referred to the Loan Agreement post the moratorium period. Repayment shall start post moratorium period from completion date of the project.

For DPJ Pollachi Ham Project Private Limited

Loan shall be repaid in 27 structured bi-annual/ half-yearly installments, with the first repayment starting from the end of 9 months from the COD and tail period of 3 annuities will be available

12.2: Terms of issue of Non Convertible Debentures:**For SPV Group (excluding DPJ Pollachi Ham Project Private Limited)**

The NCDs bears interest rate of 0.01% and are redeemable anytime after 30th June 2037, to its related party by conversion of Unsecured Loan advanced by promoter in form of quasi equity

12.3: Unsecured Loans:**For SPV Group (excluding DPJ Pollachi Ham Project Private Limited)**

The SPV Group has received interest free loan from its Holding Company based on the exemption given under section 186(11) of the Companies Act 2013. The Unsecured Loan received is in the nature of quasi equity investment as promoters contribution for the construction and development of the project awarded.

12.4: Repayment Schedule:**Period ended 31 December 2024**

Particulars	0-1 Year	1-3 years	Beyond 3 Years	Total Amount
Debentures	-	-	3,343.70	3,343.70
Term Loans From Banks	1,424.03	5,948.19	28,254.98	35,627.20
Other				-
Total	1,424.03	5,948.19	31,598.68	38,970.90

Year ended 31 March 2024

Particulars	0-1 Year	1-3 years	Beyond 3 Years	Total Amount
Debentures	-	-	290.48	290.48
Term Loans From Banks	1,514.53	5,014.43	27,050.83	33,579.79
Total	1,514.53	5,014.43	27,341.31	33,870.27

Year ended 31 March 2023

Particulars	0-1 Year	1-3 years	Beyond 3 Years	Total Amount
Debentures	-	-	-	-
Term Loans From Banks	651.46	2,624.37	17,436.22	20,712.04
Total	651.46	2,624.37	17,436.22	20,712.04

SPV Group

(As defined in Note 1.1 - Corporate Information)

Notes to special purpose combined financial statements*(All amounts are in Indian rupees million, unless otherwise stated)***12. Borrowings****Year ended 31 March 2022**

Particulars	0-1 Year	1-3 years	Beyond 3 Years	Total Amount
Debentures	-	-	-	-
Term Loans From Banks	-	940.74	8,892.83	9,833.57
Total	-	940.74	8,892.83	9,833.57

13. Trade Payables

Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
a total outstanding dues of micro enterprises and small enterprises	-	0.38	-	-
b total outstanding dues of creditors other than micro enterprises and small enterprises				
- Payable to related parties	176.63	610.98	662.99	444.39
- Payable to Others	21.51	-	1.74	5.88
Total	198.14	611.36	664.73	450.27

13.1: Trade Payables Ageing:**Period ended at 31 December 2024**

SR No.	Particulars	Outstanding for following periods from due date of transaction				
		Less than 1 year	1-2 years	2-3 years	More than 3 years	Total
(i)	MSME	-	-	-	-	-
(ii)	Others	198.14	-	-	-	198.14
(iii)	Disputed dues – MSME	-	-	-	-	-
(iv)	Disputed dues - Others	-	-	-	-	-

Year ended 31 March 2024

SR No.	Particulars	Outstanding for following periods from due date of transaction				
		Less than 1 year	1-2 years	2-3 years	More than 3 years	Total
(i)	MSME	0.32	0.06	-	-	0.38
(ii)	Others	610.98	-	-	-	610.98
(iii)	Disputed dues – MSME	-	-	-	-	-
(iv)	Disputed dues - Others	-	-	-	-	-

Year ended 31 March 2023

SR No.	Particulars	Outstanding for following periods from due date of transaction				
		Less than 1 year	1-2 years	2-3 years	More than 3 years	Total
(i)	MSME	-	-	-	-	-
(ii)	Others	664.73	-	-	-	664.73
(iii)	Disputed dues – MSME	-	-	-	-	-
(iv)	Disputed dues - Others	-	-	-	-	-

Year ended 31 March 2022

SR No.	Particulars	Outstanding for following periods from due date of transaction				
		Less than 1 year	1-2 years	2-3 years	More than 3 years	Total
(i)	MSME	-	-	-	-	-
(ii)	Others	450.27	-	-	-	450.27
(iii)	Disputed dues – MSME	-	-	-	-	-
(iv)	Disputed dues - Others	-	-	-	-	-

SPV Group

(As defined in Note 1.1 - Corporate Information)

Notes to special purpose combined financial statements

(All amounts are in Indian rupees million, unless otherwise stated)

14. Other financial liabilities

Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
Non Current				
(a) Payable to Employees	-	-	-	131.58
Total	-	-	-	131.58
Current				
(a) Creditors for expenses	484.62	520.87	34.43	17.95
(b) Payable to Employees	15.14	53.11	126.11	156.00
(c) Term Loan Interest Payable	0.14	-	16.13	-
(d) Director Salary Payable	0.06	0.04	0.03	0.03
(e) Interest Accrued but not due on Mobilisation Advance Received	-	-	35.51	16.87
Total	499.96	574.02	212.21	190.85
Grand Total	499.96	574.02	212.21	322.43

15. Provisions

Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
Non-current				
(a) Provision for Gratuity Payable	7.16	59.46	97.24	0.04
(b) Provision for Compensated absences	1.45	11.71	23.65	-
(c) Provision for Major Maintenance	450.37	19.52	-	-
Total	458.98	90.69	120.89	0.04
Current				
(a) Provision for Gratuity Payable	1.20	24.84	28.24	-
(b) Provision for Compensated absences	0.85	8.01	13.28	-
Total	2.05	32.85	41.52	-
Grand Total	461.03	123.55	162.41	0.04

SPV Group**(As defined in Note 1.1 - Corporate Information)****Notes to special purpose combined financial statements***(All amounts are in Indian rupees million, unless otherwise stated)***Note 16: Other Current liabilities**

Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
Non Current				
(a) Mobilisation Advance from authority	61.82	-	200.01	1,713.56
(b) Interest payable on Mobilization Advance	-	-	147.83	224.06
Total	61.82	-	347.84	1,937.62
Current				
(a) Statutory Remittances	1.59	66.14	31.99	22.92
(b) Withheld Amount & Retention Money*	14.89	29.99	52.11	-
(c) GST Withheld by authority	-	3.89	5.32	-
(d) Mobilisation Advance from authority	-	-	1,317.15	3,734.42
(e) Interest payable on Mobilization Advance	21.13	23.20	146.69	509.61
(f) COS Advance from authority	-	61.82	226.03	-
Total	37.61	185.04	1,779.29	4,266.95

*includes Rs. 14.43 millions payable to Holding company of the SPV Group (excluding DPJ Pollachi HAM Project Private Limited) as at 31 March 2023.

Note 17: Deferred Tax

i. Amount recognised in profit or loss

Particulars	For the Nine Months Ended 31 December 2024	For the Year Ended 31 March 2024	For the Year Ended 31 March 2023	For the Year Ended 31 March 2022
Current income tax:				
Current tax	13.21	62.19	5.82	-
Income Tax Pertaining to earlier years	(70.71)	4.08	1.14	-
Deferred tax:				
Relating to origination and reversal of temporary differences	(517.52)	165.04	149.51	(35.02)
Income tax relating to items that will not be reclassified to profit or loss	(24.42)	(17.92)	0.63	-
Income tax expense reported in the statement of profit and loss	(599.43)	213.39	157.10	(35.02)

(ii) Deferred Tax

Period ended 31st December 2024:

Particulars	Opening Balance 01 April , 2024	Recognised in Profit and Loss (credit) /charge	Recognised in Other Comprehensive Income (credit) /charge	Retained Earnings (credit) /charge	Closing Balance 31st December, 2024
Deferred Tax Assets					
Gratuity and Leave Encashment Liability	0.08	27.30	(24.42)	-	2.96
Income Tax Losses - Brought Forward	-	0.00	-	-	-
Current Year Loss	(310.64)	1745.10	-	-	1,434.46
Provision of Operation Maintenance & Major Maintenance	18.80	106.49	-	-	125.29
Admin Charges	0.03	(0.03)	-	-	-
Written down value of Property ,Plant and Equipment	0.03	(0.03)	-	-	-
Amortization of Project Asset /Capital Work in Progress	1,065.21	(103.14)	-	-	962.07
Amortization of Preliminary & Peroperative Expenses	0.71	0.00	-	-	0.71
Total Deferred Tax Assets [A]	774.22	1,775.69	(24.42)		2,525.49
Deferred Tax Liabilities					
Written down value of Property ,Plant and Equipment	-	1,389.62	-	-	1,389.62
Financial Asset Right for annuity receivable from NHAI	1,085.02	(130.97)	-	-	954.05
Loan Processing Fees	8.27	(0.48)	-	-	7.79
Interest on Financial liability Portion of Unsecured Loan from Holding Company	125.74	-	-	25.89	151.63
Total Deferred Tax Liabilities [B]	1,219.03	1,258.17	-	25.89	2,503.09
Deferred tax Asset (Net) [A-B]	(444.81)	517.52	(24.42)	(25.89)	22.40

Year ended 31 March 2024:

Particulars	Opening Balance 01 April , 2023	Recognised in Profit and Loss (credit) /charge	Recognised in Other Comprehensive Income (credit) /charge	Retained Earnings (credit) /charge	Closing Balance 31 March, 2024
Deferred Tax Assets					
Gratuity and Leave Enashment Liability	38.48	(20.48)	(17.92)	-	0.08
Income Tax Losses - Brought Forward	0.02	(0.02)	-	-	-
Current Year Loss	7.27	(317.91)	-	-	(310.64)
Provision of Operation Maintenance & Major Maintenance	-	18.80	-	-	18.80
Admin Charges	-	0.03	-	-	0.03
Written down value of Property ,Plant and Equipment	-	0.03	-	-	0.03
Amortization of Project Asset /Capital Work in Progress	846.81	218.40	-	-	1,065.21
Amortization of Preliminary & Peroperative Expenses	0.71	(0.00)	-	-	0.71
Total Deferred Tax Assets [A]	893.29	(101.15)	(17.92)		774.22
Deferred Tax Liabilities					
Written down value of Property ,Plant and Equipment	-	-	-	-	-
Financial Asset Right for annuity receivable from NHAI	1,021.26	63.76	-	-	1,085.02
Loan Processing Fees	8.13	0.14	-	-	8.27
Interest on Financial liability Portion of Unsecured Loan from Holding Company	88.30	0.00	-	37.44	125.74
Total Deferred Tax Liabilities [B]	1,117.69	63.90	-	37.44	1,219.03
Deferred tax Asset (Net) [A-B]	(224.40)	(165.04)	(17.92)	(37.44)	(444.81)

Note 17: Deferred Tax

Year ended 31 March 2023:

Particulars	Opening Balance 01 April , 2022	Recognised in Profit and Loss (credit) /charge	Recognised in Other Comprehensive Income (credit) /charge	Retained Earnings (credit) /charge	Closing Balance 31 March, 2023
Deferred Tax Assets					
Gratuity and Leave Enashment Liability	34.54	3.31	0.63	-	38.48
Income Tax Losses - Brought Forward	16.27	(16.25)	-	-	0.02
Current Year Loss	47.90	(40.63)	-	-	7.27
Amortization of Project Asset /Capital Work in Progress	702.52	144.29	-	-	846.81
Amortization of Preliminary & Peroperative Expenses	0.71	0.00	-	-	0.71
Total Deferred Tax Assets [A]	801.94	90.72	0.63	-	893.29
Deferred Tax Liabilities					
Financial Asset Right for annuity receivable from NHAI	781.23	240.03	-	-	1,021.26
Loan Processing Fees	7.93	0.20	-	-	8.13
Interest on Financial liability Portion of Unsecured Loan from Holding Company	47.83	0.00	-	40.47	88.30
Total Deferred Tax Liabilities [B]	836.99	240.23	-	40.47	1,117.69
Deferred tax Asset (Net) [A-B]	(35.05)	(149.51)	0.63	(40.47)	(224.40)

Year ended 31 March 2022:

Particulars	Opening Balance 01 April , 2021	Recognised in Profit and Loss (credit) /charge	Recognised in Other Comprehensive Income (credit) /charge	Retained Earnings (credit) /charge	Closing Balance 31 March, 2022
Deferred Tax Assets					
Gratuity and Leave Enashment Liability	0.01	34.53	-	-	34.54
Income Tax Losses - Brought Forward	-	16.27	-	-	16.27
Current Year Loss	-	47.90	-	-	47.90
Amortization of Project Asset /Capital Work in Progress	127.11	575.41	-	-	702.52
Amortization of Preliminary & Peroperative Expenses	0.71	0.00	-	-	0.71
Total Deferred Tax Assets [A]	127.83	674.11	-		801.94
Deferred Tax Liabilities					
	-	-	-	-	-
	-	-	-	-	-
Financial Asset Right for annuity receivable from NHAI	143.18	638.05	-	-	781.23
Loan Processing Fees	6.89	1.04	-	-	7.93
Interest on Financial liability Portion of Unsecured Loan from Holding Company	-	-	-	47.83	47.83
	-	-	-	-	-
Total Deferred Tax Liabilities [B]	150.07	639.09	-	47.83	836.99
Deferred tax Asset (Net) [A-B]	(22.24)	35.02	-	(47.83)	(35.05)

SPV Group

(As defined in Note 1.1 - Corporate Information)

Notes to special purpose combined financial statements

(All amounts are in Indian rupees million, unless otherwise stated)

18. Revenue from Operations

Particulars	For the Nine Months Ended 31 December 2024	For the Year Ended 31 March 2024	For the Year Ended 31 March 2023	For the Year Ended 31 March 2022
(a) Operation & Maintenance Income	179.49	51.68	-	-
(b) Construction revenue (refer note 18.1)	1,244.92	22,588.87	25,615.49	21,254.19
(c) Interest on Balance Completion Cost	3,997.70	1,178.37	-	-
(d) Interest on financial assets	1,777.04	1,040.01	306.62	43.20
Other Operating revenue				
(a) Change of Scope				
Transportation Income	49.33	1,090.43	1,232.70	560.51
Tree Cutting income	-	8.57	27.84	-
Utility Shifting	63.47	109.58	76.34	33.66
Other Change in Scope income	98.90	1,117.54	428.02	-
Total	7,410.85	27,185.05	27,687.01	21,891.56

Refer Note 33 for disclosure on disaggregation of Revenue and Performance Obligation

18.1: During the period ended December 31, 2024, the DPJ Pollachi HAM Project Private Limited carried out work for road construction services; however, no bill was raised as the required Compliances in term and specifications of the EPC agreement were not fully met. Upon completion of the above compliances, DPJ Pollachi HAM Project Private Limited raised a bill of Rs.9.45 Crores (Inclusive GST) on 09.01.2025, which covers only the portion of the construction work where the terms, conditions, and specifications of the EPC agreement were met up until December 31, 2024. The remaining balance for EPC costs will be billed upon the completion of the road construction work. Additionally, the DPJ Pollachi HAM Project Private Limited raised an O&M invoice on 09.01.2025 for Rs.8.37 Crores (Inclusive GST), covering the O&M work completed during the current financial year.

19. Other Income

Particulars	For the Nine Months Ended 31 December 2024	For the Year Ended 31 March 2024	For the Year Ended 31 March 2023	For the Year Ended 31 March 2022
(i) Interest Income				
(a) Interest from banks on deposits	74.00	9.85	16.33	41.53
(b) Interest on Deposits with others	-	0.33	-	-
(c) Interest on Income tax refund	2.35	0.86	1.81	0.00
(ii) Other non-operating income				
(a) Interest on Mobilization Advance	1.87	-	-	-
(b) Miscellaneous income	1.92	3.07	0.15	0.00
Total	80.14	14.11	18.29	41.53

20. Cost of Construction

Particulars	For the Nine Months Ended 31 December 2024	For the Year Ended 31 March 2024	For the Year Ended 31 March 2023	For the Year Ended 31 March 2022
(a) Subcontractor Charges (construction)	1,099.24	21,358.66	23,918.14	19,893.85
(b) Subcontractor Charges (utility)	68.76	199.50	75.32	578.24
(c) DRB Member Fees	0.50	1.83	1.09	-
(d) Tree Cutting Expense	-	8.23	27.00	2.40
(e) Change in Scope- Expenses	110.21	1,092.29	411.90	-
(f) Independent Engineer Fees	4.22	72.84	68.93	27.31
(g) Insurance expense	0.85	76.13	49.46	38.05
(h) Admin charges for utility shifting	-	0.96	0.17	-
(i) Transportation Expense	47.20	1,089.69	1,193.83	-
(j) Labour Cess	10.88	146.66	181.16	122.73
(k) Safety Consultant Fees	-	0.47	-	-
(l) Operation & Maintenance Charges	-	114.79	-	-
(m) Major Maintenance Expenses	-	121.86	-	-
(n) Salaries, Wages and Bonus	135.75	1,016.72	-	-
(o) Contributions to funds	7.96	65.89	-	-
(p) Gratuity Expense and Privilege Leave Expense	1.95	21.05	-	-
(q) Material Testing Charges	-	-	-	0.05
Total	1,487.52	25,387.57	25,927.00	20,662.63

SPV Group

(As defined in Note 1.1 - Corporate Information)

Notes to special purpose combined financial statements

(All amounts are in Indian rupees million, unless otherwise stated)

21. Employee Benefit Expense

Particulars	For the Nine Months Ended 31 December 2024	For the Year Ended 31 March 2024	For the Year Ended 31 March 2023	For the Year Ended 31 March 2022
(a) Salaries, Wages and Bonus	44.50	2.94	1,278.34	1,012.97
(b) Contributions to funds	2.52	-	77.05	60.60
(c) Gratuity Expense and Privilege Leave Expense	(4.11)	0.06	39.73	101.74
(d) Directors' Remuneration	0.18	0.26	0.26	0.24
Total	43.09	3.26	1,395.38	1,175.55

22. Finance Cost

Particulars	For the Nine Months Ended 31 December 2024	For the Year Ended 31 March 2024	For the Year Ended 31 March 2023	For the Year Ended 31 March 2022
(a) Interest on borrowings	2,418.90	2,386.86	1,262.15	279.28
(b) Interest on Mobilisation Advance	-	67.60	268.20	261.10
(c) Bank Guarantee Commission	1.63	6.04	33.13	51.92
(d) Amortization of Loan Processing Fees	100.75	55.46	17.29	9.63
(e) Other borrowing costs	106.22	27.59	65.92	60.02
(f) Fair value adjustment on receipt of interest free long-term loan from Holding Company	18.04	15.92	8.40	1.53
Total	2,645.54	2,559.47	1,655.09	663.48

23. Depreciation expense

Particulars	For the Nine Months Ended 31 December 2024	For the Year Ended 31 March 2024	For the Year Ended 31 March 2023	For the Year Ended 31 March 2022
(a) Depreciation on items of Property, plant and equipment	1.32	0.25	-	-
Total	1.32	0.25	-	-

24. Other Expenses

Particulars	For the Nine Months Ended 31 December 2024	For the Year Ended 31 March 2024	For the Year Ended 31 March 2023	For the Year Ended 31 March 2022
(a) Payment to Auditors	0.72	0.83	1.33	0.68
(b) Electricity Expenses	39.44	0.53	0.03	-
(c) ROC Charges	-	0.35	0.17	8.30
(d) Interest on Taxes	0.62	2.17	0.06	0.05
(e) Legal & Professional Charges	3.16	0.32	0.14	5.66
(f) Tender Expense	-	2.81	1.12	-
(g) Other Expenses	1.33	11.40	13.81	0.16
(h) Seignorage fee	0.41	(0.10)	-	-
(i) Business Operations	15.75	21.00	20.67	14.25
(j) Travelling & Conveyance	0.44	1.55	3.33	1.33
(k) Professional Tax	-	0.02	0.02	0.02
(l) Incorporation expenses	-	-	-	0.03
(m) AMC, Technical & Professional charges	6.81	18.20	16.68	30.94
(n) Director sitting fees	0.28	0.62	-	-
(o) Safety Consultant Fees	10.30	4.89	-	-
(p) Internal Audit Fee	0.13	0.04	-	-
(q) Insurance Charges	24.54	4.90	8.67	4.13
(r) Supervision Charges	0.09	-	-	-
(s) Independent Engineer Fee	34.08	12.85	16.17	12.44
(t) Labour Cess Utility	3.18	-	-	-
(u) Operation & Maintenance Charges	127.47	-	-	-
(v) Major Maintenance Provision	328.53	-	-	-
Total	597.27	82.38	82.20	77.99

(All amounts are in Indian rupees million, unless otherwise stated)

Following are the related parties and transactions entered with related parties for the year ended 31 March 2024, 31 March 2023 and 31 March 2022

[illegible]

SPV Group
(As defined in Note 1.1 - Corporate Information)
Notes to special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

Note 25: Related party disclosure

Information on related party transactions pursuant to Ind AS 24 - Related Party Disclosures and SEBI (Infrastructure Investment Trusts) Regulations, 2014 have been presented below.

Following are the related parties and transactions entered with related parties for the year ended 31 March 2024, 31 March 2023 and 31 March 2022

2 List of related parties as per requirement of InvIT regulations

a) Parties of Trust

Alpha Alternatives Fund Advisors LLP - **Sponsor**
Arsenio Strategies Private Limited - **Project Manager**
Alpha Alternatives Fund Infra Advisors Private Limited - **Investment Manager**
Axis Trustee Services Limited - **Trustee**
Spectrum Edge LLP, Build India Infrastructure Fund, Terrefert Green Growth LLP, Alpha Alternatives Infrastructure Fund, Alpha Alternatives Financial Services Private Limited - **Sponsor Group**

b) Promoters, Directors and Partners of the persons mentioned in clause (a)

Particular	Sponsor	Project Manager	Investment Manager	Trustee
Promoters	-	Alpha Alternatives Fund Advisors LLP	Alpha Alternatives Fund Advisors LLP	Axis Bank Limited
Directors	-	1) Mr. Kaushal Biyani 2) Mr. Shreyans Mehta 3) Mr. Hrishikesh Parandekar	1) Mr. Naresh Kothari 2) Mr. Jignesh Shah 3) Mr. Abhishek Dalmia 4) Mr. Vijay Chhibber 5) Mr. Radhakrishnan Nair 6) Dr. Shubhada Rao	1) Mr. Prashant Joshi 2) Mr. Rahul Choudhary 3) Mr. Arun Mehta 4) Mr. Parmod Kumar Nagpal
Partners	1) Alpha Alternatives Holdings Private Limited represented by Mr. Ashim Sahni 2) Mr. Naresh Kothari	-	-	-

Particular	Sponsor Group				
	Spectrum Edge LLP	Build India Infrastructure Fund	Terrefert Green Growth LLP	Alpha Alternatives Fund Infrastructure Fund	Alpha Alternatives Financial Services Private Limited
Promoters	-	-	-	-	Alpha Alternatives Holdings Private Limited
Directors / Persons Controlling	Alpha Alternatives Fund Advisors LLP	Alpha Alternatives Fund Advisors LLP	-	Alpha Alternatives Fund Advisors LLP	1) Mr. Naresh Kothari 2) Mr. Shreyans Mehta 3) Mr. Pradeep Parakh 4) Mrs. Bharati Aindley
Partners	1) Alpha Alternatives Structured Credit Opportunities Fund represented by Mr. Venkatesh Prabhu 2) Vipin Saboo	-	1) Ebony Advisors LLP represented by Mr. Vipin Saboo 2) Mr. Umang Pawa 3) Rajasthan Gum Private Limited 4) Sargam Retail Private Limited	-	-

3 Transactions with Related Parties and their closing balances

The aggregate value of the transactions occurred with related parties and outstanding balances is as follows:

Transaction nature	Relationship	Transaction value for the period / year ended			
		31 December 2024	31 March 2024	31 March 2023	31 March 2022
Revenue					
Interest received	Holding company				34.83
Expenses					
Subcontractor charges*	Holding company	1,201.69	22,516.58	24,490.13	20,286.84
Other borrowing cost	Holding company	0.00	-	32.10	51.42
Admin charges- utility	Holding company	-	0.96	0.17	-
Business Operations Expense	Holding company	13.05	16.80	16.80	14.25
Interest Expenses	Holding company	18.04	15.92	8.40	1.53
Operation & Maintenance	Holding company	91.84	114.78	-	-
Salary To Directors	KMP	0.18	0.26	0.26	0.24
Assets					
Mobilization Advance	Holding company	-	-	999.06	4,226.09
Change of Scope advance	Holding company	-	56.67	233.41	-
Other Advance	Holding company	-	-	1.89	200.00
Liability					
Unsecured Loan	Holding company	27.14	802.09	768.66	318.94
	Holding company	284.98	212.54	130.58	61.69
Unsecured Loan Financial Liability Portion					
Non Convertible Debentures	Holding company	1,416.70	161.32	-	-
Non Convertible Debentures	Fellow subsidiary	622.00	66.80	-	-
Unsecured Loan	Fellow subsidiary	-	1,885.00	2,318.37	2,183.84
Trade Payable	Holding company	176.29	610.39	662.99	444.33
Trade Payable	Fellow subsidiary	0.35	0.60	-	-
GST withheld - COS advance	Holding company	-	-	14.43	-

*Subcontractor charges of March 2023 and March 2022 includes amounts inclusive of GST

SPV Group**(As defined in Note 1.1 - Corporate Information)****Notes to special purpose combined financial statements***(All amounts are in Indian rupees million, unless otherwise stated)***Note 26: Fair value of financial assets and liabilities**

Set out below, is a comparison by class of the carrying amounts and fair value of the SPV Group's financial instruments that are recognised in the financial statements.

	Particulars	Carrying value				Fair value			
		31 December 2024	31 March 2024	31 March 2023	31 March 2022	31 December 2024	31 March 2024	31 March 2023	31 March 2022
(a)	Financial Asset								
	Carried at amortised cost								
	Trade Receivables*	36,173.36	22,206.77	898.60	7.01	-	-	-	-
	Other financial asset	67.25	-	10.65	-	67.25	-	10.65	-
	Cash and cash equivalent *	1,969.43	1,010.55	732.99	702.85	-	-	-	-
(b)	Financial Liabilities								
	Carried at amortised cost								
	Borrowings	39,176.28	36,576.23	23,753.50	12,207.68	39,176.28	36,576.23	23,753.50	12,207.68
	Trade payable *	198.14	611.36	664.73	450.27	-	-	-	-
	Other financial liabilities	499.96	574.02	212.21	322.43	499.96	574.02	212.21	322.43

The SPV Group maintains policies and procedures to value financial assets or financial liabilities using the best and most relevant data available. In addition, the SPV Group internally reviews valuations, including independent price validation for certain instruments. Further, in other instances, SPV Group retains independent pricing vendors to assist in corroborating the valuations of certain instruments.

The fair value of the financial assets and liabilities are included at the amount at which the instrument that would be received to sell an asset or paid to transfer liability in an orderly transaction between market participants at the measurement date.

* The SPV Group has not disclosed the fair values of trade payables, trade receivables and cash and cash equivalents, because their carrying amounts are reasonable approximation of fair value.

Long-term fixed-rate and variable-rate receivables/borrowings are evaluated by the SPV Group based on parameters such as interest rates, individual creditworthiness of the customer and the risk characteristics of the financed project. Based on this evaluation, allowances are taken into account for the expected credit losses of these receivables. As of reporting date the carrying amounts of such receivables, net of allowances are not materially different from their calculated fair values.

Fair value hierarchy

The following table provides the fair value measurement hierarchy of SPV Group's assets and liabilities grouped into Level 1 to Level 3 as described in material accounting policies - Note 1. Further table describes the valuation techniques used, key inputs to valuations and quantitative information about significant unobservable inputs for fair value measurements.

Quantitative disclosures of fair value measurement hierarchy as at 31 December 2024:

Quantitative disclosures of fair value measurement hierarchy as at 31 December 2024						
Sr. No.	Particulars	Fair value measurement using			Valuation technique used	Inputs used
		Level 1	Level 2	Level 3		
(a)	Financial assets measured at amortised cost					
(i)	Other Financial asset	-	67.25	-	Discounted cash flows	Forecast cash flows, discount rate,
(b)	Financial liabilities measured at amortised cost					
(i)	Borrowings	-	39,176.28	-	Discounted cash flows	Forecast cash flows, discount rate, maturity
(ii)	Other financial liabilities	-	499.96	-		

SPV Group

(As defined in Note 1.1 - Corporate Information)

Notes to special purpose combined financial statements

(All amounts are in Indian rupees million, unless otherwise stated)

Note 26: Fair value of financial assets and liabilities

Quantitative disclosures of fair value measurement hierarchy as at 31 March, 2024

Sr. No.	Particulars	Fair value measurement using			Valuation technique used	Inputs used
		Level 1	Level 2	Level 3		
(a)	Financial assets measured at amortised cost					
(i)	Other Financial asset	-	-	-	Discounted cash flows	Forecast cash flows, discount rate, maturity
(b)	Financial liabilities measured at amortised cost					
(i)	Borrowings	-	36,576.23	-	Discounted cash flows	Forecast cash flows, discount rate, maturity
(ii)	Other financial liabilities	-	574.02	-		

Quantitative disclosures of fair value measurement hierarchy as at 31 March, 2023:

Sr. No.	Particulars	Fair value measurement using			Valuation technique used	Inputs used
		Level 1	Level 2	Level 3		
(a)	Financial assets measured at amortised cost					
(i)	Other Financial asset	-	10.65	-	Discounted cash flows	Forecast cash flows, discount rate, maturity
(b)	Financial liabilities measured at amortised cost					
(i)	Borrowings	-	23,753.50	-	Discounted cash flows	Forecast cash flows, discount rate, maturity
(ii)	Other financial liabilities	-	212.21	-		

Quantitative disclosures of fair value measurement hierarchy as at 31 March 2022

Sr. No.	Particulars	Fair value measurement using			Valuation technique used	Inputs used
		Level 1	Level 2	Level 3		
(a)	Financial assets measured at amortised cost					
(i)	Other Financial asset	-	-	-	Discounted cash flows	Forecast cash flows, discount rate, maturity
(b)	Financial liabilities measured at amortised cost					
(i)	Borrowings	-	12,207.68	-	Discounted cash flows	Forecast cash flows, discount rate, maturity
(ii)	Other financial liabilities	-	322.43	-		

SPV Group**(As defined in Note 1.1 - Corporate Information)****Notes to special purpose combined financial statements***(All amounts are in Indian rupees million, unless otherwise stated)***Note 27: Capital Management**

For the purpose of the SPV Group's capital management, capital includes issued equity capital , share premium and all other equity reserves. The primary objective of the SPV Group's capital management is to maximise the shareholder value.

The SPV Group manages its capital structure and makes adjustments in light of changes in economic conditions and the requirements of the financial covenants. SPV Group monitors capital using a gearing ratio, which is net debt divided by total capital plus net debt. SPV Group's policy is to keep the gearing ratio between 70% and 100% . The SPV Group includes within net debt, interest bearing loans and borrowings, trade and other payables, less cash and cash equivalents, excluding discontinued operations.

Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
Borrowings	39,176.28	36,576.23	23,753.50	12,207.68
Trade payables	198.14	611.36	664.73	450.27
Other financial liabilities	499.96	574.02	212.21	322.43
Less: Cash and cash equivalents	(1,969.43)	(1,010.55)	(732.99)	(702.85)
Net debt	37,904.95	36,751.06	23,897.45	12,277.53
Equity	4,243.76	1,500.31	1,553.40	1,642.62
Capital and net debt	42,148.70	38,251.37	25,450.85	13,920.14
Gearing Ratio (Net Debt / Cap + Net Debt)	89.93%	96.08%	93.90%	88.20%

SPV Group**(As defined in Note 1.1 - Corporate Information)****Notes to special purpose combined financial statements***(All amounts are in Indian rupees million, unless otherwise stated)***Note 28: Financial risk management policies and objectives**

The SPV Group's financial liabilities comprise mainly of borrowings, trade and other payables. The SPV Group's financial assets comprise mainly of cash and cash equivalents and other receivables.

Credit Risk

Credit risk is the risk that a counterparty will not meet the obligations under a financial instrument or customer contract, leading to a financial loss. The SPV Group is exposed to credit risk primarily financial assets including deposits with banks. The SPV Group's exposure and credit ratings of its counterparties are continuously monitored and the aggregate value of transactions is reasonably spread amongst the counterparties.

Other receivables

Security deposits are interest free deposits withheld by the authority during the construction period.

The gross carrying amount of Security deposit is 0.87 million as at December 31, 2024 and Nil as at March 31, 2024, March 31, 2023 and March 31, 2022.

Withheld Amount are interest free amounts withheld by the authority during the construction period.

The gross carrying amount of Security deposit is 373.59 million, 284.20 million, 575.67 million and 129.56 million as at December 31, 2024, March 31, 2024, March 31, 2023 and March 31, 2022.

Liquidity Risk

Liquidity risk is the risk that the SPV Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The SPV Group's approach to managing liquidity is to ensure, as far as possible, that it will have sufficient liquidity to meet its liabilities when they are due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the SPV Group's reputation.

Exposure to Liquidity Risk

The following are the remaining contractual maturities of financial liabilities at the reporting date. The amounts are gross and undiscounted.

Particulars	Carrying Amount	Contractual Cash Flows		
		Less than 1 year	1-3 years	More than 3 years
Non-derivative financial liabilities as on 31.12.2024				
Borrowings	39,176.28	1,424.03	5,948.19	31,598.68
Trade payables	198.14	198.14	-	-
Other current financial liabilities	499.96	499.96	-	-
Total	39,874.37	2,122.12	5,948.19	31,598.68
Non-derivative financial liabilities as on 31.03.2024				
Borrowings	36,576.23	1,514.53	5,014.42	27,341.31
Trade payables	611.36	611.36	-	-
Other current financial liabilities	574.02	574.02	-	-
Total	37,761.61	2,699.91	5,014.42	27,341.31
Non-derivative financial liabilities as on 31.03.2023				
Borrowings	23,753.50	651.46	2,624.37	17,436.22
Trade payables	664.73	664.73	-	-
Other current financial liabilities	212.21	212.21	-	-
Total	24,630.43	1,528.40	2,624.37	17,436.22
Non-derivative financial liabilities as on 31.03.2022				
Borrowings	12,207.68	-	940.74	8,892.83
Trade payables	450.27	450.27	-	-
Other current financial liabilities	322.43	322.43	-	-
Total	12,980.38	772.70	940.74	8,892.83

SPV Group**(As defined in Note 1.1 - Corporate Information)****Notes to special purpose combined financial statements***(All amounts are in Indian rupees million, unless otherwise stated)***Note 28: Financial risk management policies and objectives****Market Risk**

Market risk is the risk that changes in market prices - such as foreign exchange rates, interest rates and equity prices - will affect the SPV Group's income or the value of its holdings of financial investments.

(a) Currency Risk

The functional currency of the SPV Group is Indian Rupees (Rs). The SPV Group is not exposed to foreign currency risk.

(b) Price Risk

The SPV Group is not exposed to any price risk.

(c) Interest Rate Risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The SPV Group is exposed to interest rate risk resulting from fluctuations in interest rates. SPV Group's borrowing includes unsecured loan taken from banks & the Parent SPV Group. Summary of financial assets and financial liabilities has been provided below.

Exposure to Interest Rate Risk

The exposure of SPV Group's borrowing to interest rate changes at the end of reporting period as follows:

Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
Fixed / Variable rate instruments				
Fixed rate borrowing	36,193.92	30,970.75	18,316.40	8,233.57
Variable rate borrowing	2,776.98	2,899.52	2,395.65	1,600.00

Interest Rate Sensitivity

Profit and Loss is sensitive to higher/lower interest expenses from borrowings as a result of change in interest rates. The following table demonstrates the sensitivity of floating rate instruments to a reasonably possible change in interest rates. The risk estimates provided assume a parallel shift of 50 basis points interest rate across all yield curves. This calculation also assumes that the change occurs at the balance sheet date and has been calculated based on risk exposures outstanding as at that date. The year end balances are not necessarily representative of the average debt outstanding during the period.

Sensitivity Analysis (Impact on Profit Before Tax)

Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
Interest Rate				
Increase by 50 basis points	(180.97)	(154.85)	(91.58)	(41.17)
Decrease by 50 basis points	180.97	154.85	91.58	41.17

SPV Group**(As defined in Note 1.1 - Corporate Information)****Notes to special purpose combined financial statements***(All amounts are in Indian rupees million, unless otherwise stated)***Note 29: Contingent Liability and Capital Commitments****a) Contingent liabilities**

Particular	31 December 2024	31 March 2024	31 March 2023	31 March 2022
Claims against the SPVs not acknowledged as debt – Litigations in respect of Indirect taxes	27.80	-	-	-
Bank Guarantee in respect of Mobilization Advance	-	-	2,531.50	3,694.40

b) Capital Commitments

As informed by the management, there is no capital commitments as on the respective period / year end.

Note 30: The number of units that Trust will issue to investors in the proposed initial public offering is not presently ascertainable. Hence the disclosures in respect of Earnings per Unit and changes in Unitholders equity have not been given in the Special Purpose Combined Financial Statements.

Note 31: Investment in SPV accounted under Equity Method:

The investors have proposed to transfer their complete shareholding in the respective SPVs to the Trust, except for Poondiyankuppam Highways Limited, where the proposed transfer of shareholding will be only 49%, since the completion certificate is awaited. The balance 51% stake will be transferred upon receiving of Provisional Commercial Operation Date (PCOD) and receiving the necessary approvals from the Lender and the Authority.

Refer policy on 'equity accounted investee' which states that investment in PHL is accounted for using the Equity Method in the Special Purpose Combined Financial Statements. Summarised financial information of the SPV in its special purpose financial statements and reconciliation with the carrying amount of the investment in the special purpose combined financial statements are set out below:

Summarised Balance Sheet

Particulars	As at 31 December 2024	As at 31 March 2024	As at 31 March 2023	As at 31 March 2022
Current Assets, Including Cash & Cash Equivalents	653.99	744.81	2,405.15	756.53
Non- Currents Assets	4,501.67	3,915.70	962.98	1,619.90
Current Liabilities including Tax Payable	1,700.59	1,025.48	607.17	1,964.53
Non-Current Liabilities	4,168.23	4,009.54	2,899.54	476.12
Equity	(713.16)	(374.51)	(138.58)	(64.22)
49% Share	(349.45)	(183.51)	(67.90)	(31.46)
Carrying amount of the Investment in the Combined Financial Statements	(349.45)	(183.51)	(67.90)	(31.46)

Summarised Statement of Profit & Loss

Particulars	For the Nine Months Ended 31 December 2024	For the Year Ended 31 March 2024	For the Year Ended 31 March 2023	For the Year Ended 31 March 2022
Total Income	1,368.00	3,208.46	3,671.90	1,466.14
Construction Expense	1,388.27	2,985.78	3,457.39	1,388.54
Employee benefits expense	-	259.55	253.05	97.46
Finance costs	329.97	319.65	207.85	38.17
Depreciation expense	-	-	-	-
Other expenses	3.58	4.81	6.25	15.74
Profit Before Tax	(353.83)	(361.33)	(252.63)	(73.77)
Income Tax Expense	(2.08)	7.57	2.32	(8.54)
Profit/(Loss) for the year	(351.75)	(368.90)	(254.96)	(65.23)
Other Comprehensive Income (Net of Tax)	13.10	0.48	(0.20)	-
Total Comprehensive Income	(338.65)	(368.43)	(255.16)	(65.23)
Group's Share of Profit/(Loss) for the period/ year	(165.94)	(180.53)	(125.03)	(31.96)

SPV Group

(As defined in Note 1.1 - Corporate Information)

Notes to special purpose combined financial statements

(All amounts are in Indian rupees million, unless otherwise stated)

Note 32: Disclosures as required by Securities and Exchange Board of India circular no SEBI/HO/DDHS-PoD-2/P/CIR/2024/44 dated May 15, 2014:**a) Statement showing operating cash flows from the projects for all the SPV's:**

Sr No	Particulars	For the period ended 31 December 2024	For the year 31 March 2024	For the year 31 March 2023	For the year 31 March 2022
	Net Cash from Operating Activities				
1	Bangalore Malur Highways Limited	(3,606.32)	(376.12)	(288.50)	(82.29)
2	Malur Bangarpet Highways Limited	(3,693.11)	(332.45)	(392.24)	(127.75)
3	Dhrol Bhadra Highways Limited	81.05	(4,406.47)	(1,342.17)	(1,180.92)
4	Dodaballpur Hoskote Highways Limited	163.04	(3,853.77)	195.07	(643.09)
5	Repallewada Highways Limited	687.03	(4,191.70)	20.88	(557.47)
6	Narenpur Purea Highways Limited	413.36	(5,523.04)	(499.30)	(548.81)
7	Viluppuram Highways Limited	(4,213.46)	(369.28)	(141.87)	(137.45)
8	DPJ Pollachi HAM Project Private Limited	(59.28)	(1,262.66)	(4,851.31)	(5,635.97)
9	Poondiyankuppam Highways Limited	(283.49)	(218.43)	(735.30)	425.96
	Total	(10,511.19)	(20,533.92)	(8,034.73)	(8,487.80)

Note: Operating Cash Flows of projects SPV's are considered from respective audited financial statements of the SPVs.**b) Capitalisation Statement:**

Sr No	Particulars	Pre-issue as at December 31, 2024	As adjusted for issue*
(a)	Non Current borrowings	37,727.68	-
(b)	Current borrowings	1,448.60	-
(c)	Total Debt	39,176.28	-
(d)	Unitholder's fund	-	-
(e)	Unit Capital	-	-
(f)	Equity Share Capital	762.40	-
(g)	Reserves	3,481.36	-
(h)	Debt equity ratio (c/(f+g))	9.23	-

* Corresponding details post initial issue are not available as on the date of adoption of the special purpose combined financial statements, hence the required disclosures in respect of the same have not been provided in the above table.

**c) Debt Payment History:
Dodaballapur Hoskote Highways Limited**

Sr No	Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
(a)	Opening balance at the beginning of the period	5,085.63	3,665.03	2,208.03	580.81
(b)	Add: Additional borrowings availed during the period	-	1,420.60	1,457.00	1,627.22
(c)	Less: Repayments during the period	128.75	-	-	-
(d)	Other adjustments and settlements during the period	-	-	-	-
(e)	Closing Balance at the end of the period	4,956.88	5,085.63	3,665.03	2,208.03

Repallewada Highways Limited

Sr No	Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
(a)	Opening balance at the beginning of the period	4,285.91	2,391.29	1,348.39	-
(b)	Add: Additional borrowings availed during the period	48.09	1,894.61	1,042.90	1,348.39
(c)	Less: Repayments during the period	127.80	-	-	-
(d)	Other adjustments and settlements during the period	-	-	-	-
(e)	Closing Balance at the end of the period	4,206.20	4,285.91	2,391.29	1,348.39

Dhrol Bhadra highways Limited

Sr No	Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
(a)	Opening balance at the beginning of the period	4,554.57	2,090.70	788.80	-
(b)	Add: Additional borrowings availed during the period	491.13	2,463.87	1,301.90	788.80
(c)	Less: Repayments during the period	118.00	-	-	-
(d)	Other adjustments and settlements during the period	-	-	-	-
(e)	Closing Balance at the end of the period	4,927.70	4,554.57	2,090.70	788.80

Narenpur Purnea Highways Limited

Sr No	Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
(a)	Opening balance at the beginning of the period	5,403.77	3,784.50	1,619.50	-
(b)	Add: Additional borrowings availed during the period	1,547.05	1,619.27	2,165.00	1,619.50
(c)	Less: Repayments during the period	-	-	-	-
(d)	Other adjustments and settlements during the period	-	-	-	-
(e)	Closing Balance at the end of the period	6,950.82	5,403.77	3,784.50	1,619.50

Viluppuram Highways Limited

Sr No	Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
(a)	Opening balance at the beginning of the period	3,491.91	2,025.00	608.35	-
(b)	Add: Additional borrowings availed during the period	1,737.86	1,466.91	1,416.65	608.35
(c)	Less: Repayments during the period	-	-	-	-
(d)	Other adjustments and settlements during the period	-	-	-	-
(e)	Closing Balance at the end of the period	5,229.77	3,491.91	2,025.00	608.35

Bangalore Malur Highways Limited

Sr No	Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
(a)	Opening balance at the beginning of the period	3,800.10	2,165.20	816.20	-
(b)	Add: Additional borrowings availed during the period	850.15	1,634.90	1,349.00	816.20
(c)	Less: Repayments during the period	-	-	-	-
(d)	Other adjustments and settlements during the period	-	-	-	-
(e)	Closing Balance at the end of the period	4,650.25	3,800.10	2,165.20	816.20

Malur Bangarpet Highways Limited

Sr No	Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
(a)	Opening balance at the beginning of the period	4,316.00	2,162.40	812.80	-
(b)	Add: Additional borrowings availed during the period	925.10	2,153.60	1,349.60	812.80
(c)	Less: Repayments during the period	-	-	-	-
(d)	Other adjustments and settlements during the period	-	-	-	-
(e)	Closing Balance at the end of the period	5,241.10	4,316.00	2,162.40	812.80

DPJ Pollachi HAM Project Private Limited

Sr No	Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
(a)	Opening balance at the beginning of the period	2,932.38	2,427.93	1,631.50	-
(b)	Add: Additional borrowings availed during the period	-	504.20	796.50	1,632.40
(c)	Less: Repayments during the period	124.25			
(d)	Other adjustments and settlements during the period	0.05	0.25	-0.07	-0.90
(e)	Closing Balance at the end of the period	2,808.18	2,932.38	2,427.93	1,631.50

Poondiyankuppam Highways Limited

Sr No	Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
(a)	Opening balance at the beginning of the period	4,014.48	2,496.00	-	-
(b)	Add: Additional borrowings availed during the period	499.70	1,518.48	2,496.00	-
(c)	Less: Repayments during the period				
(d)	Other adjustments and settlements during the period				
(e)	Closing Balance at the end of the period	4,514.18	4,014.48	2,496.00	-

SPV Group
(As defined in Note 1.1 - Corporate Information)
Notes to special purpose combined financial statements
(All amounts are in Indian rupees million, unless otherwise stated)

Note 33: Disclosure as per Ind AS 115 - Revenue from Contract with Customers:

(a) Disaggregation of Revenue

Sr. No.	Segment	For the period ended 31 December 2024	For the year 31 March 2024	For the year 31 March 2023	For the year 31 March 2022
(i)	Type of Service				
	Engineering, Procurement and Construction (EPC) Projects & Road Infrastructure Maintenance	7,410.85	27,185.05	27,687.01	21,891.56
	Annuity Projects & Others	-	-	-	-
	Total	7,410.85	27,185.05	27,687.01	21,891.56
(ii)	Based on Geography				
	India	7,410.85	27,185.05	27,687.01	21,891.56
	Outside India	-	-	-	-
	Total	7,410.85	27,185.05	27,687.01	21,891.56
(iii)	Timing of Revenue				
	Revenue recognized Overtime	7,361.53	26,094.62	26,454.31	21,331.05
	Revenue recognized at a Point in time	49.33	1,090.43	1,232.70	560.51
	Total	7,410.85	27,185.05	27,687.01	21,891.56

(b) Contract Balances and Trade Receivables

(i) Contract Balances

Details of trade receivables, contract assets and contract liabilities arising from the contracts with customers are given below:

Particulars	31 December 2024	31 March 2024	31 March 2023	31 March 2022
Trade receivables (Refer Note 4)	36,173.37	22,206.77	898.60	7.01
Contract Assets:				
Retention Money, Withheld Money, Security & Other Deposits (Refer Note 6)	2.63	284.20	572.78	6.11
Unbilled Revenue	-	-	-	-
Contract Liabilities:				
Advances from customers (Refer Note 14)	61.82	-	1,517.16	5,447.98

Revenue for construction contracts is recognised in profit or loss in proportion to the stage of completion of the contract. The stage of completion is assessed by reference to surveys of work performed. Otherwise, contract revenue is recognised only to the extent of contract costs incurred that are likely to be recoverable. Revenue in excess of billings is recognised as Unbilled revenue and is classified as Financial Asset for these cases as right to consideration is unconditional upon passage of time.

Changes in Contract Assets and Contract Liabilities are on account of transaction undertaken in the normal course of business.

(c) Performance Obligations

The SPV Group has applied the practical expedient as provided in Ind AS 115 and excluded the disclosure relating to remaining performance obligation for:

- (i) Contracts where the original expected duration is one year or less
- (ii) Contracts where the revenue recognized corresponds directly with the value to the customer of the entity's performance completed to date. Typically this involves those contracts where invoicing is on time and material basis.

Remaining performance obligation estimates are subject to change and are affected by several factors such as terminations, changes in the scope of contracts, periodic revalidations of estimates and other macro economic factors.

SPV Group

(As defined in Note 1.1 - Corporate Information)

Notes to special purpose combined financial statements

(All amounts are in Indian rupees million, unless otherwise stated)

Note 34 : Disclosure pursuant to Appendix E of Ind AS 115 for Service Concession Arrangements

Under service concession arrangements (SCA), where a special purpose vehicle (SPV) has acquired contractual right to receive specified determinable amount (Annuity) for use of assets, such amounts are recognised as "financial assets" and are disclosed as "receivable under service concession arrangement. Below is additional disclosure requirement pursuant to Appendix E of IND AS 115 - Service Concession Arrangement (SCA).

Name of the Concession	Date of Incorporation	Start of Concession period (appointed date)	End of Concession period	Period of Concession since the appointed date	BPC Cost as per concession agreement	O&M Cost per annum	Construction completed date (Pre-COD) under the concession agreement	Construction completed date(COD) under the concession agreement
Bangalore Malur Highways Limited	22-03-2021	15-09-2021	11-09-2038	17 years	11,600.00	30.00	15-05-2024	Not received
Dhrol Bhadra Highways Limited	29-12-2020	28-10-2021	24-10-2038	17 years	8,820.00	30.00	25-09-2023	Not received
Dodaballapur Hoskote Highways Limited	25-09-2020	22-02-2021	18-02-2038	17 years	12,780.00	30.00	21-07-2023	Not received
Repallewada Highways Limited	13-10-2020	01-03-2021	25-02-2038	17 years	11,400.50	30.00	20-10-2023	29-03-2024
Malur Bangarpet Highways Limited	23-03-2021	20-09-2021	16-09-2038	17 years	12,790.00	30.00	16-05-2024	Not received
Narenpur Purna Highways Limited	07-10-2020	18-03-2021	14-03-2038	17 years	19,050.00	30.00	29-03-2024	Not received
Villupurram Highways Limited	01-04-2021	30-11-2021	26-11-2038	17 years	10,130.00	30.00	04-04-2024	Not received
Poondiyakuppam Highways Limited	26-03-2021	15-11-2021	11-11-2038	17 years	12,280.00	30.00	Under Construction	Under Construction
DPI Pollachi HAM Project Private Limited	25-03-2019	04-12-2020	01-12-2035	15 years	7,184.14	174.10	05-10-2023	Not received

Notes:

(i) 40% of the total bid project cost shall be due and payable to the company during the construction period and balance 60% in half yearly annuity in 15 years in accordance with the provision of service concession agreement.

(ii) Interest shall be due and receivable on the reducing balance of completion cost at an interest rate equal to the applicable rate specified in the concession agreement. Such interest shall be due and receivable in half yearly annuity in accordance with provision of the concession agreement.

SPV Group**(As defined in Note 1.1 - Corporate Information)****Notes to special purpose combined financial statements**

(All amounts are in Indian rupees million, unless otherwise stated)

Note 35: Reclassification

Figures for the reported periods have been reclassified as per the disclosure requirements of the applicable Indian Accounting standards and as per guidance given in schedule III of the Companies Act 2013. The details are set out below:

Sr No	Particulars	Note no	31 December 2024	31 March 2024	31 March 2023	31 March 2022
A	Reclassified from					
i	Other Current Assets	7	11.06	16.48	51.84	54.94
ii	Other Non Current Assets	7	-	144.66	127.67	145.20
iii	Other Non Current Financial Asset	6	2,953.75	3,580.90	2,052.45	1,263.03
iv	Other Current Financial Asset	6	837.00	730.20	2,005.33	1,841.03
v	Other Current Liabilities	16	0.01	570.82	146.44	19.40
vi	Provisions	15	31.83	-	5.35	141.62
vii	Other Current Financial Liabilities	14	-	0.98	1.23	0.02
	Total		3,833.64	5,044.05	4,390.31	3,465.24
B	Reclassified to					
i	Non Current Borrowing	12	-	160.82	143.88	158.82
ii	Other Current Financial Liabilities	14	31.84	570.82	146.44	84.90
iii	Other Current Liabilities	16		0.98	1.23	5.24
iv	Current tax asset	10	11.06	0.33	40.99	41.32
v	Other Current Asset	7	-	-	-	70.90
vi	Capital Work in Progress	3	297.51	817.87	4,057.78	3,104.06
vii	Trade Recievable	5	3,493.23	3,493.23	-	-
	Total		3,833.64	5,044.05	4,390.31	3,465.24

SPV Group

(As defined in Note 1.1 - Corporate Information)

Notes to special purpose combined financial statements

(All amounts are in Indian rupees million, unless otherwise stated)

Note 36: Other Notes:

The SPV Group does not fall under the criteria of applicability of provisions of CSR, as per the clauses of Section 135 of the Companies Act, 2013. Thus, no further disclosure required.

The SPV Group does not have any transaction with any company struck off under section 248 of the Companies Act 2013.

There is no Benami Property held or there are no proceedings initiated or pending against the SPV Group for holding any benami property under the Benami Transactions (Prohibition) Act, 1988 (45 of 1988) and rules made thereunder.

The SPV Group has not traded or invested in Crypto currency or Virtual Currency during the financial year.

Signature to Notes to Special Purpose Combined Financial Statements

For Mukund M Chitale & Co.
Chartered Accountants
FRN: 106655W

For and on behalf of the Board of Directors of
Alpha Alternatives Fund - Infra Advisors Private Limited
(As an Investment Manager to Anantam Highways Trust)

(S. M. Chitale)
Partner
M.No 111383

(Jignesh Shah)
Director
DIN: 01587849

(Naresh Kothari)
Director
DIN: 00012523

Place: Mumbai
Date: March 28, 2025

Place: Mumbai
Date: March 28, 2025

Place: Mumbai
Date: March 28, 2025

**ANNEXURE D - PROJECTIONS OF REVENUE FROM OPERATIONS AND CASH FLOW FROM OPERATING
ACTIVITIES**

(This page has been left intentionally blank)

Independent auditor's report on the projections of revenue from operations and cash flow from operating activities and underlying assumption

To,

**The Board of Directors,
Alpha Alternatives Fund-Infra Advisors Private Limited.
(As an Investment Manager of Anantam Highways Trust)**
33rd Floor, Sunshine Tower,
Senapati Bapat Marg, Dadar,
Delisle Road, Mumbai
Maharashtra – 400013

Dear Sirs,

1. We have examined the accompanying Statement of Projections of revenue from operations and cash flow from operating activities and the underlying assumptions of Trust Group which consists of Anantam Highways Trust ("InvIT" or "Trust") and Bangalore Malur Highways Limited ("BMHL"), Viluppuram Highways Limited ("VHL"), Narenpur Purnea Highways Limited ("NPHL"), Repallewada Highways Limited ("RHL"), Dodaballpur Hoskote Highways Limited ("DHHL"), Dhrol Bhadra Highways Limited ("DBHL"), Malur Bangarpet Highways Limited ("MBHL"), Poondiyankuppam Highways Limited ("PHL") and DPJ Pollachi HAM Project Private Limited ("DPHPPL") (Individually referred to as "SPV" and together referred to as "SPV Group") (Trust and SPV Group together referred to as 'Trust Group') and each of BMHL, VHL, NPHL, RHL, DHHL, DBHL, MBHL, PHL and DPHPPL for the years ending March 31, 2026, 2027 and 2028 along with the basis of preparation and other explanatory information and the significant assumptions (hereinafter referred to as "Statement of Projections") in accordance with the Standard on Assurance Engagement 3400, "The Examination of Prospective Financial Information", issued by the Institute of Chartered Accountants of India, proposed to be included in the Draft Offer Document/Offer Document/Final Offer Document as required under the Securities and Exchange Board of India (Infrastructure Investment Trusts) Regulations, 2014, as amended from time to time, including the circulars, notifications, clarifications and guidelines issued thereunder ("InvIT Regulations") in connection with the proposed initial public issue of unit of the Trust.
2. The preparation and presentation of Statement of Projections including the underlying assumptions and basis of preparation as set out in Note 2 to the Statement of Projections is the responsibility of the Investment Manager to the Trust and has been approved by the Board of Directors of the Investment Manager to the Trust. The Statement of Projections has been prepared by the Investment Manager using a set of assumptions that include hypothetical assumptions about future events, which by their nature are subject to significant risks and uncertainties. Consequently, users are cautioned that these projections may not be appropriate or meaningful for any purpose other than described above.
3. Our responsibility is to examine the evidence supporting the assumptions (excluding hypothetical assumptions) and other information in the Statement of Projections on test basis. Our responsibility does not include verification of the accuracy of the Statement of Projections (including quantitative details). Therefore, we do not vouch for the accuracy of the same. The assumptions and estimates

(including technical estimates) used for the preparation of these Statement of Projections have been provided to us by the Investment Manager to the Trust and have been relied upon by us.

4. Based on our examination of the evidence supporting the assumptions, nothing has come to our attention which causes us to believe that these assumptions do not provide a reasonable basis for the Statement of Projections. Further, in our opinion, the Statement of Projections, read together with the basis of preparation and notes therein, is properly prepared on the basis of the assumptions as set out in Note 3 to the Statement of Projections and is on consistent basis with the accounting policies used for preparation of the historical Special Purpose Combined Financial Statements as required by the InvIT Regulations and included in the Draft Offer Document/Offer Document/Final Offer Document, which are prepared in accordance with Indian Accounting Standards as defined in Rule 2(1)(a) of the Companies (Indian Accounting Standards) Rules, 2015, as amended, prescribed under Section 133 of the Companies Act, 2013 read with relevant rules and other accounting principles generally accepted in India and the InvIT Regulations.
5. Events and circumstances frequently do not occur as expected. Even if the events anticipated under the hypothetical assumptions described in the Statement of Projections occur, actual results are still likely to be different from those stated in the Statement of Projections since other anticipated events frequently do not occur as expected and the variation may be material. The actual results may therefore differ materially from those forecasted and projected. For the reasons set out above, we do not express any opinion as to the possibility of the achievement of the projections stated in the Statement of Projections.
6. This report is required by InvIT Regulations requiring the independent auditor to issue a report on the Statement of Projections and is issued for the sole purpose of the proposed initial public issue under the InvIT Regulations. Our work has not been carried out in accordance with auditing or other standards and practices generally accepted in jurisdictions outside India including in the United States of America, and accordingly should not be relied upon as if it had been carried out in accordance with those standards and practices. US securities regulations do not require profit forecasts to be reported on by a third party. This report should not be relied upon by prospective investors in the United States of America, including persons who are Qualified Institutional Buyers as defined under Rule 144A under the United States Securities Act of 1933 participating in the offering. We accept no responsibility and deny any liability to any person who seeks to rely on this report and who may seek to make a claim in connection with any offering of securities on the basis that they had acted in reliance on such information under the protections afforded by United States of America law and regulation.
7. We have no responsibility to update our report for events and circumstances occurring after the date of the report.

8. This report is addressed to and is provided to Investment Manager solely for inclusion in the Draft Offer Document/ Offer Document/Final Offer Document in connection with the proposed initial public offer of the Trust and is not to be used, referred to or distributed for any other purpose. Accordingly, we do not accept or assume any liability or any duty of care for any other purpose or to any other person to whom this report is shown or into whose hands it may come.

For Mukund M Chitale & Co.
Chartered Accounts
FRN: 106655W

(S. M. Chitale)
Partner
M. No. 111383

UDIN : 25111383BMKWLJ4376

Place : Mumbai
Date : March 28, 2025

Anantam Highways Trust

Statement of Projections of Revenue from Operations and Cash Flow from Operating activities

All amounts are in rupees in millions unless otherwise stated

i. **Combined projections of Revenue from Operations and Cash flow from operating activities of the SPV Group:**

Particulars	Revenue from Operations			Cash flow from operating activities		
	Year ended March 31,2026	Year ended March 31,2027	Year ended March 31 ,2028	Year ended March 31,2026	Year ended March 31,2027	Year ended March 31 ,2028
SPV Group	10,065.14	9,828.67	9,465.28	10,237.13	9,351.71	8,287.88

ii. **Projections of Revenue from Operations and Cash flow from operating activities of individual SPVs and Trust:**

Particulars	Revenue from Operations			Cash flow from operating activities		
	Year ended March 31,2026	Year ended March 31,2027	Year ended March 31 ,2028	Year ended March 31,2026	Year ended March 31,2027	Year ended March 31 ,2028
Anantam Highways Trust	5,630.08	7,560.23	7,121.49	5,507.17	7,395.19	6,966.02
Bangalore Malur Highways Limited	1,192.66	1,154.17	1,115.48	1,193.35	1,120.86	953.90
Viluppuram Highways Limited	928.41	878.78	843.67	977.17	854.38	848.48
Narenpur Purnea Highways Limited	1,792.67	1,732.57	1,672.51	1,753.67	1,461.33	1,308.05
Repallewada Highways Limited	1,210.64	1,081.97	1,044.79	1,203.53	981.74	823.62
Dodaballpur Hoskote Highways Limited	1,064.88	1,024.80	982.39	1,090.48	926.57	786.38
Dhrol Bhadra Highways Limited	788.17	754.67	720.36	806.93	734.19	715.01
Malur Bangarpet Highways Limited	1,301.33	1,208.50	1,165.68	1,313.47	1,193.73	1,063.64
Poondiyankuppam Highways Limited	1,239.05	1,205.91	1,164.72	1,383.81	1,238.99	1,149.03
DPJ Pollachi HAM Project Private Limited	547.33	787.30	755.68	514.72	839.92	639.77

The above statement should be read with the basis of preparation (refer note 2) and significant assumptions for these projections and other explanatory information.

**For and on behalf of Board of Directors of Alpha Alternatives Fund-Infra
Advisors Private Limited
(As Investment Manager of Anantam Highways Trust)**

**Jignesh Shah
Director
DIN: 01587849**

Date: March 28, 2025
Place: Mumbai

**Naresh Kothari
Director
DIN: 00012523**

Date: March 28, 2025
Place: Mumbai

Anantam Highways Trust

Basis and Notes to Projected Revenue from Operations and Cash Flow from Operating activities

1. General information

Alpha Alternatives Fund Advisors LLP ("Settlor") has set up Anantam Highways Trust ("InvIT" or "Trust") as an irrevocable trust under the Indian Trust Act 1882 pursuant to the Trust deed dated July 24, 2024.

The Trust has been settled with an initial sum of ₹ 10,000. The Trust is registered as an Infrastructure Trust ('InvIT') with Securities Exchange Board of India ('SEBI') under the SEBI (Infrastructure Investment Trust) Regulations, 2014, as amended ("InvIT Regulation") vide Certificate of Registration dated August 19, 2024 with registration number IN/InvIT/24-25/0031. The registered office of the Trust is located at 33rd Floor, Sunshine Tower, Senapati Bapat Marg, Dadar West, Mumbai – 400013, Maharashtra, India. The Trustee to the Trust is **Axis Trustee Services Limited** (the "Trustee") and Investment manager for the Trust is Alpha Alternatives Fund Infra Advisors Private Limited (the "Investment Manager").

The object and purpose of the Trust, as described in the Trust Deed, is to carry on the activity of an infrastructure investment trust as permissible under SEBI (Infrastructure Investment Trusts) Regulations, 2014 as amended from time to time including circulars, notifications, clarifications and guidelines issued thereunder (the "InvIT Regulations") to raise funds through the Trust, to make investments in accordance with the InvIT Regulations and the investment strategy and to carry on the activities as may be required for operating the Trust, including incidental and ancillary matters thereto.

The shareholding pattern of the SPV Group is given below:

SPV Name	Dilip Buildcon Limited[^]	DBL Infraventure Private Limited	Alpha (including its associates)*
Repallewada Highways Limited	51.02%	2.99%	45.99%
Dhrol Bhadra Highways Limited	51.02%	2.99%	45.99%
Viluppuram Highways Limited	51.02%	2.99%	45.99%
Dodaballapur Hoskote Highways Limited	51.02%	2.99%	45.99%
Narenpur Purnea Highways Limited	51.02%	2.99%	45.99%
Bangalore Malur Highways Limited	51.02%	2.99%	45.99%
Malur Bangarpet Highways Limited	51.02%	2.99%	45.99%
Poondiyankuppam Highways Limited	52.01%	23.00%	24.99%
DPJ Pollachi HAM Project Private Limited ^{^^}	-	-	-

[^]including its nominee shareholders

* Alpha (including its associates) includes entities viz. Alpha Alternatives Infrastructure Fund, Alpha Alternatives Financial Services Private Limited, Build India Infrastructure Fund and Spectrum Edge LLP.

^^ Alpha Alternatives Holdings Private Limited has signed the share purchase agreement with the shareholders dated March 25, 2025 to acquire the complete stake in the DPJ Pollachi HAM Project Private Limited. However, as on the date of this certificate, the shares are not transferred.

Dilip Buildcon Limited, DBL Infraventure Private Limited and Alpha (along with its associates) proposes to transfer their complete shareholding in the respective SPVs to the Trust, except for Poondiyankuppam Highways Limited, where the proposed transfer of shareholding will be only 49%. These SPVs have entered into Concession Agreement with National Highways Authorities of India (NHAI) to design, build, finance operates and transfer (DBFOT) or build, operate and transfer (BOT) national highways at various location on Hybrid annuity model (HAM) basis whereby the concessionaire has an unconditional right to receive fixed annuity after completion of construction during the operations period.

2. Basis of preparation of projections of revenue from operations and cash flow from operating activities

The projection of revenue from operations and cash flows from operating activities of Trust Group, Trust and SPV Group ("Projections") for the years ended March 31, 2026, 2027 and 2028 ("Projected period") along with the basis of preparation, other explanatory information and the significant assumptions (the "Statement of Projections") have been compiled by Investment Manager for the Trust and has been approved by the Board of Directors of the Investment Manager to the Trust solely for inclusion in the draft offer document/offer document/ final offer document in connection with the proposed initial public issue of units of the Trust in accordance with requirement of InvIT regulation and SEBI Circular dated October 20, 2016. Therefore, the use of this Statement of Projections is not appropriate and should not be used or relied upon for any purpose other than as described above.

The Statement of Projections have been prepared based on the accounting policies for recognition and measurement used for preparation of the Special Purpose Combined Financial Statements of the SPV Group in accordance with Indian Accounting Standards as defined in Rule 2(1)(a) of the Companies (Indian Accounting Standards) Rules, 2015 prescribed under Section 133 of the Companies Act, 2013 ("Ind AS") read with InvIT Regulations and the Guidance Note on Combined and Carve-Out Financial Statements issued by the Institute of Chartered Accountants of India ("Guidance Note"). Though the aforesaid Projections are prepared under the Ind AS framework, they do not provide all the detailed disclosures as required under Ind AS.

Projected operating cash flows of the Trust Group, Trust and SPV Group have been calculated using the indirect method under Ind AS 7 - Statement of Cash Flows and is computed by deducting the projected operating expenses from the projected revenue from operations and adjusted for projected working capital changes and non-cash expenses (if any). Projected cash flow from operations do not include any items pertaining to financing or investing nature. Cash flow from operating activities are reported after taxes.

The Statement of Projections are presented in Indian rupees which is also the functional currency of the Trust Group. All values are rounded to the nearest Million rupees, unless otherwise indicated.

The Statement of Projections have been prepared based on the assumption that once the proposed initial public issue of units of the Trust is complete, the Trust will acquire aforesaid equity interests in the SPV group. Thus, the net proceeds of the issue will be used to provide loans to the SPV Group for repayment/ pre-payment of outstanding loans from banks (including any accrued interest) availed by SPV Group and for issue related expenses and general corporate purpose expenses to be incurred by Sponsor/Investment Manager.

The Trust Group follows March 31 as its accounting year end. Accordingly, the projections are prepared for the financial years ending March 31, 2026, 2027 and 2028. However, the assumed date of acquisition may be postponed and accordingly, the actual result in the first financial period post completion of listing process may be different from the Projections Period in the Statement of Projections.

It is clarified that the Statement of Projections have been prepared on the basis of best-estimate (i.e. assumptions as to future events which are expected to take place and the actions expected to take place as of the date the information is prepared) and hypothetical assumptions (about future events and actions which may or may not necessarily take place), which are, by their nature, subject to significant risks and uncertainties. Events and circumstances may not occur as expected since the actual future results or performance of the Trust and the SPV Group will be affected by numerous factors. Even if the events anticipated under the hypothetical assumptions described in the Statement of Projections occur, actual results and performance of the SPV Group are still likely to be different from those stated in the Statement of Projections since other anticipated events frequently do not occur as expected and the variation may be material. The actual results may therefore differ materially from those forecasted and projected.

3. Significant assumptions for the projections:

The Projections have been prepared based on the significant assumptions summarized below. These are Investment Manager's best estimate assumptions and have been prepared by the Investment Manager solely for inclusion in the draft offer document/offer document/ final offer document in connection with the proposed initial public issue of units of the Trust in accordance with the requirements of the InvIT Regulations. The Investment Manager considers the assumptions to be appropriate and reasonable as at the date of the report. However, the investors should consider these assumptions as well as the Projections and make their own assessment of the future performance of Trust.

i. Revenue from Operations

SPV Group

Revenue from operations primarily consist of Construction Income, Operation and maintenance income and finance income on financial assets recognised in accordance with Ind AS 109.

(a) Construction Income

All the construction work for the SPVs has been completed and accordingly no construction income will arise in the projection period.

(b) Operation and Maintenance Income

O& M income relates to the income earned by the SPV group during the operations period of the concession which is based on the relevant clause forming part of the concession agreement.

(c) Interest/Finance Income on financial assets

SPV group constructs or upgrades infrastructure (construction) used to provide to public service and operates and maintains that infrastructure (operation service) for a specified period of time as per the concession agreement. Such arrangement consists of Design-Build-Operate-Transfer (DBOT) contracts on Hybrid Annuity Model (HAM) basis whereby the concessionaire provides unconditional right to receive fixed annuity after the construction period including interest thereon.

Considering above, SPV group has recognised financial asset to the extent that it has an unconditional contractual right to receive fixed annuity including interest thereon as per the requirement of Appendix C to Ind AS 115 – Service Concession Arrangements whereby Finance Income to be recognised on the financial assets is based on effective interest rate. To determine effective interest rate, contractual inflow and outflow for entire concession period are estimated.

Revenue projections do not include any other income (operating or otherwise) or income from interest / dividend from short term investments as these sources of revenue have not been material historically and not likely to be material in projected future as part of operating revenue.

Trust**(a) Interest on loan**

Interest income relates to interest earned by the Trust on the loans given to the SPVs.

(b) Dividend

Dividend income is earned by the Trust on the declaration of dividend by the SPVs.

ii. Operation and Maintenance Cost:**SPV Group****Operation and maintenance expenses and major repair cost**

The operation and maintenance cost includes routine maintenance costs, major maintenance costs, insurance costs, electricity charges, manpower costs, independent engineer's cost, project management fees and administrative charges, including, but not limited to, road and site work expenses, employee benefit expenses and other operating and maintenance costs. These costs are projected based on the Investment Manager's estimates of costs assumptions considering the inputs and other factors from the reports provided by the Independent Technical Consultant (the "Technical Due Diligence Report") for the respective SPVs.

Trust

Investment Manager fees

The fee will be payable by the Trust or the Project SPVs to the Investment Manager ("**Management Fee**") in accordance with the Investment Management Agreement, from the funds of the Trust, or by any or all of the Project SPVs, in such proportion, as may be determined from time to time. The Management fee will be Up to (i) 2.2% of the revenue generated by the Trust during every financial quarter, payable at the end of every financial quarter; (ii) Up to 1.5% of the revenue generated by the Trust during every financial quarter, which shall be utilised towards employee expenses such that the fees does not exceed ₹ 500 million, until the time the Trust's asset under management is ₹ 7,50,000 million, payable at the end of every financial quarter. In the event the Trust's asset under management exceeds ₹ 7,50,000 million, the fee will be revised in accordance with the terms of the Investment Management Agreement; (iii) A one time fee of 0.5% of the enterprise value of assets acquired by the Trust other than (a) the Project SPVs and (b) any assets that are acquired by the Trust from DBL. Such fee is payable after completion of acquisition of the asset by the Trust.

Project Manager Fees

The annual fee payable to the Project Manager ("**Fee**") will be payable by the Trustee from the funds of the InvIT and/or SPVs, either to the Project Manager or directly to any Agent appointed in this regard, as the case may be.

For the period beginning from the date of listing of the Units, the Project Manager and/or its Agents, as the case may be, shall be paid a Fee equivalent to up to 1.6% of the revenue generated by the InvIT during every financial quarter, payable at the end of every financial quarter in accordance with the Project Implementation and Management Agreement.

In the event the Project Manager is required to perform any service which is not covered within the scope set out in the Project Implementation and Management Agreement, the Project Manager shall provide such service on terms (including, in relation to costs) to be mutually agreed to between the Parties.

Other Trust Expenses:

Other expenses for the Trust include audit fees, credit fees and surveillance fees, valuer's fees, legal/professional fees and other miscellaneous expenses and are primarily estimated based on the quotes (to the extent available) and SPV Group Management's experience and best judgment of Investment Manager.

iii. Changes in working capital

SPV Group

The changes in working capital are the difference in the net working capital amount from one accounting period to the next. Net working capital is defined as Receivable under service concession, trade receivable, other financial and non-financial assets minus trade payable, other financial and non-financial liabilities. Receivable under service concession are based on estimated receivables as per the financial models. Other components i.e. trade receivable, other

financial and non-financial assets minus trade payable, other financial and non-financial liabilities are based on Investment manager estimation and assumed to remain constant over the period of projections.

Trust

Working Capital for the Trust consist mainly of Loans and Advances (including interest accrued) given to the SPVs and serving of debt. These are not significant and assumed to remain constant over the period of projections.

iv. Direct Taxes (net of refunds)

SPV Group

Income taxes have been computed at income tax rates applicable for the year ended March 31, 2025 which are expected to apply for the entire Projections period. The taxes have been computed as per the provisions of the Income Tax Act 1961 (IT Act), after hypothetical assumptions (including change in organization structure), as described in Note 2. Expected tax losses arise during the projected period, if any, have been carried forward and considered for set-off as per the provisions of Chapter VI of the IT Act. It has been assumed that SPV Group shall discharge their tax liability on the same basis in future years as well, subject to the effect of any change in the organisation structure. It has been assumed that refund of tax deducted at source for any given financial year will be received in the immediately next financial year.

Trust

It has been assumed that Trust will receive interest income and / or dividends from the SPV Group which is considered exempt under the IT Act. No income other than above has been assumed in the Trust. Hence, no income tax expense / cash flow is assumed during the Projection period. The transaction of receipt of interest / dividend income will stands eliminated in the Statement of Profit and Loss and in the Cashflow Statement of the Trust Group. It has been assumed that refund of tax deducted at source for any given financial year will be received in the immediately next financial year.

v. Indirect Taxes:

GST on annuities, Interest on annuities, O&M payments etc. have been considered at 18% i.e. prevailing GST rate as at date.

vi. Other Assumptions:

The Investment Manager has made the following additional assumptions in preparing the Statement of Projections:

- a. The initial portfolio of SPV group is assumed to remain unchanged throughout the Projection period.
- b. No further assets (apart from SPV group) are assumed to be acquired, or no assets are assumed to be divested during the projections period.

- c. No further capital is assumed to be raised during the Projection period.
- d. It has been assumed that no outflows on account of any litigation related matters including current pending litigations / contingent liabilities is expected to become due during the Projection Period.
- e. It has been assumed that no liability or liquidated damages on account of default in concession agreement shall devolve upon the Trust/SPV group during the Projections Period.
- f. It has been assumed for the purpose of Projections that there will be no material change in taxation legislation or other applicable legislation during Projection Period.
- g. No change in fair value of all financial instruments has been assumed during the Projection period.
- h. It has been assumed the relevant tax exemptions and tax provision remain valid and applicable and that the terms and conditions thereto are complied with.
- i. The Projections have been prepared using Ind AS standards and interpretations that are effective for the Ind AS financial statements for the nine month period ended December 31, 2024. The Statement of Projections do not take into account the impact of any new Ind AS standards or interpretation not effective as on December 31, 2024. Ind AS standards or interpretations issued but not effective or not issued as on December 31, 2024, which may become effective during the Projections period may have an impact on the Projections and to that extent the actual figures may vary from the Projections.
- j. The data considered is based on independent technical due diligence report and may differ from that considered therein.
- k. The Projections are based on assumptions and are subject to a number of factors. Investors should be aware that future events which cannot be predicted with any certainty and there may be deviations from the figures projected in the Projections.

**For and on behalf of Board of Directors of Alpha Alternatives Fund-Infra
Advisors Private Limited
(As Investment Manager of Anantam Highways Trust)**

Jignesh Shah
Director
DIN: 01587849
Date: March 28, 2025
Place: Mumbai

Naresh Kothari
Director
DIN: 00012523
Date: March 28, 2025
Place: Mumbai