National Highways & Infrastructure Development Corporation Limited

(MINISTRY OF ROAD TRANSPORT AND HIGHWAYS)

GOVT. OF INDIA

NATIONAL COMPETITIVE BIDDING

(THROUGH E-TENDERING MODE)

"Performance Based Maintenance Contracts (PBMC) for Strengthening and Maintenance on (i) NH-717 for highway starting from its junction with NH-17 near Baradighi connecting NH-27 near Mainaguri, Cangrabandha and terminating at Indo/Bangladesh Border in the State of West Bengal and (ii) NH-317A for highway starting from its junction with NH-317 near Hasimara connecting Jaigaon and terminating at Indo/Bhutan Border in the state of West Bengal during the FY 2026-2027 (3rd Call)."

VOLUME-I

Regional Office - Siliguri (West Bengal)
National Highway & Infrastructure Development Corporation Ltd.
Unit 402, Quantum Building, Parivahan Nagar,
P.O & P.S. Matigara, Pin Code 734010.
Email: edp-siliguri@nhidcl.com

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SECTION-I

NOTICE INVITING TENDER

BID PACKAGE NO. NHIDCL/PMU-Kalimpong/NH-717/PBMC/2026-27 DATED: 03.08.2026

1. RFP for **"Performance Based Maintenance Contracts (PBMC) for Strengthening and Maintenance on (i) NH-717 for highway starting from its junction with NH-17 near Baradighi connecting NH-27 near Mainaguri, Cangrabandha and terminating at Indo/Bangladesh Border in the State of West Bengal and (ii) NH-317A for highway starting from its junction with NH-317 near Hasimara connecting Jaigaon and terminating at Indo/Bhutan Border in the state of West Bengal during the FY 2026-2027 (3rd Call)."**

2. The Ministry of Road Transport & Highways, Government of India through the National Highways and Infrastructure Development Corporation Ltd. (NHIDCL), is engaged in the development of National Highways and as part of this endeavor, it has been decided to undertake "Performance Based Maintenance Contracts (PBMC) for Strengthening and Maintenance on (i) NH-717 for highway starting from its junction with NH-17 near Baradighi connecting NH-27 near Mainaguri, Cangrabandha and terminating at Indo/Bangladesh Border in the State of West Bengal and (ii) NH-317A for highway starting from its junction with NH-317 near Hasimara connecting Jaigaon and terminating at Indo/Bhutan Border in the state of West Bengal during the FY 2026-2027 (3rd Call).

3. National Highways and Infrastructure Development Corporation Ltd. (NHIDCL) hereby invites bids (Percentage Rate and Work Order Basis) through "e-tendering mode" from experienced firms/organizations (hereinafter referred to as the "Bidders") to bid for the works detailed in the table as mentioned below from the eligible bidders, excluding those firms who have been declared as Non-Performer by MoRTH/NHAI/NHIDCL/Any of State PWD/BRO or black listed/debarred for specified period by MoRTH/NHAI/NHIDCL/Any of State PWD/BRO.

Sl. No.	Sections	Length (km)	Estimated Bid Cost (in Rs.)	Bid Security (in Rs.)	Bid Document Fee (in Rs.)	Contract Duration (month)
1	Performance Based Maintenance Contracts (PBMC) for Strengthening and Maintenance on (i) NH-717 for highway starting from its junction with NH-17 near Baradighi connecting NH-27 near Mainaguri, Cangrabandha and terminating at Indo/Bangladesh Border in the State of West Bengal and (ii)	60.400 km. (Chalsa to Maynaguri) &. (Indiramore to Changrabandha) + 17.551 km. (Hasimara to Jaigoan) =Total Length 77.951 km.	**111,15,75,613/-**	**1,11,16,000/-**	**20,000 + 18% GST**	**60 Months**

	NH-317A for highway starting from its junction with NH-317 near Hasimara connecting Jaigaon and terminating at Indo/Bhutan Border in the state of West Bengal during the FY 2026-2027 (3rd Call).					

4. The complete BID document can be viewed / downloaded from official portal of the CPPP website from 03.08.2026 to 17.08.2026 at 17:00 hrs. Bidder must submit its Financial Bid and Technical Bid at on or before Bid Due Date i.e. 17.08.2026 at 17:00 hrs. Bids received online shall be opened on 18.08.2026 at 17:00 hrs.
5. Bid through any other mode shall not be entertained. However, originals of Bid Security, document fee, Power of Attorney and Joint Bidding Agreement etc. shall be submitted physically by the Bidders as per NIT.
6. The Pre-Proposal Conference shall be held at the Regional Office - Siliguri (West Bengal) National Highway & Infrastructure Development Corporation Ltd., Unit 402, Quantum Building, Parivahan Nagar, P.O & P.S. Matigara, Pin Code 734010. & through video conferencing on 06.08.2026 at 12:00 hrs

   The display boards giving details of the project shall be provided as per guidelines issued vide Ministry's letter no. RWAIH-3304411012001-S&R(R), dated 12.08.2002 of MoRT&H.

   Subsequent corrigendum/addendum if required shall only be available at the tender portal. Please note that the NHIDCL reserves the right to accept or reject all or any of the BIDs without assigning any reason whatsoever.

Regional Office - Siliguri (West Bengal)
National Highway & Infrastructure Development Corporation Ltd.
Unit 402, Quantum Building, Parivahan Nagar,
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Email: edp-siliguri@nhidcl.com

7. Schedule of Bidding Process

Sl. No.	Event Description	Date
1.	Invitation of RFP (NIT)	03.08.2026
2.	Last date for receiving queries	05.08.2026 upto 15:00 hrs.
3.	Date and Time of Pre-BID meeting with the intending bidders at venue & through Video Conferencing	06.08.2026 at 12:00 hrs.
4.	Authority response to queries latest by	06.08.2026 at 17:00 hrs.
5.	Date & Time for starting of Submission of Tender	07.08.2026 at 11:00 hrs.
6.	Last Date & Time to download BID document	17.08.2026 at 15:00 hrs.
7.	Last Date & Time of physical submission of hard copies (offline) of the 'Cost of Bid Documents' and 'Bid Security' & other documents as stated in RFP	17.08.2026 at 15:00hrs.
8.	Closing Date and Time for Submission of "Tender" (online) i.e. BID Due Date (Technical & Financial Proposals)	17.08.2026 at 17:00 hrs.
9.	Date & Time of opening of Technical Bids (online) at office of the Executive Director (P), RO- Siliguri, West Bengal	18.08.2026 at 17:00 hrs.
10.	Declaration of eligible / qualified Bidders	To be notified later on.
11.	Date & Time of Opening of Financial BID (online)	To be notified later on.
12.	Letter of Acceptance (LOA)	To be notified later on.
13.	Return of signed duplicate copy of LOA	To be notified later on.
13.	Validity of BID	120 days from Bid Due Date
14.	Submission of Performance Security (PS) and Additional Performance Security (APS), if any	Within 30 days of receipt of LOA.
15.	Signing of Agreement	Within 10 days from the receipt ofPerformance Security and Additional Performance Security, if any.

Executive Director (P)
Regional Office - Siliguri (West Bengal)
National Highway & Infrastructure Development Corporation Ltd.
Unit 402, Quantum Building, Parivahan Nagar,
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Email: edp-siliguri@nhidcl.com

DISCLAIMER

The information contained in this Request for Proposal document (the "RFP") or subsequently provided to Bidder(s), whether verbally or in documentary or any other form by or on behalf of the Authority or any of its employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an Agreement and is neither an offer nor invitation by the Authority to the prospective Bidders or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in making their financial offers (BIDs) pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by the Authority in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP may not be appropriate for all persons, and it is not possible for the Authority, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in the Bidding Documents, may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations, inspections and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Bidder(s) is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Authority accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

The Authority, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Applicant or Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way for participation in this BID Stage.

The Authority also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this RFP. The Authority may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this RFP.

The issue of this RFP does not imply that the Authority is bound to select a Bidder or to appoint the Selected Bidder JV or Contractor, as the case may be, for the Project and the Authority reserves the right to reject all or any of the Bidders or BIDs without assigning any reason whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its BID including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by the Authority or any other costs incurred in connection with or relating to its BID. All such costs and expenses will remain with the Bidder and the Authority shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the BID, regardless of the conduct or outcome of the Bidding Process.

SECTION – 2

INSTRUCTIONS TO BIDDERS

(ITB) AND APPENDIX TO ITB

SECTION - 2
INSTRUCTIONS TO BIDDERS (ITB)

TABLE OF CLAUSES

Clause	A. General	Clause	
1.	Scope of Bid	20.	Deadline for Submission of Bids
2.	Source of Funds	21.	Late Submission of Documents in Physical Form
		22.	Modification and Withdrawal of Bids
3.	Eligible Bidders		**E. Bid Opening, Clarification of bids and Evaluation**
4.	Qualification of the Bidder	23.	Bid Opening, Clarification of Bids and Evaluation
5.	One Bid per Bidder	24.	Process to be Confidential
6.	Cost of Bidding	25.	Contacting the Employer
7.	Site Visit	26.	Examination of Bids and Determination of Responsiveness
	B. Bidding Documents	27.	Deleted
8.	Content of Bidding Documents	28.	Evaluation and Comparison of Financial Bids
9.	Clarifications on Bidding Documents		**F. Award of Contract**
10.	Amendment of Bidding Documents	29.	Award Criteria
	C. Preparation of bids	30.	Employer's Right to Accept any Bid and to Reject any or all Bids
11.	Language of Bid	31.	Notification of Award and Signing of Agreement
12.	Documents Comprising the Bid	32.	Performance Security
13.	Bid Prices	33.	Advances
14.	Currencies of Bid and Payment		**G. Corrupt or Fraudulent Practices**
15.	Bid Validity	34.	Corrupt or Fraudulent Practices
16.	Earnest Money / Bid Security / Forfeiture / Debarment		**H. Labour Laws and Fundamental breach**
17.	Alternative Proposals by Bidders	35.	Labour Laws and Regulations
18.	Format and Signing of Bid	36.	Fundamental Breach and other Obligations
	D. Submission of bids		
19.	Marking of Bids		**Appendix to ITB**

A. GENERAL

1. Scope of bid

1.1 The Employer (as defined in the Appendix to ITB) invites Bids for Performance-Based Maintenance of Roads through e-tendering from experienced firms / organizations for operation and maintenance works and activities for the following sections of the National Highways as described in these documents and referred to as "the Works". The name and identification number of the Works is as defined in the **Appendix** to ITB.

1.2 The successful Bidder will be expected to complete the Works by the intended Completion Date specified in the Contract Data.

1.3 Throughout these Bidding Documents, the terms "bid" and "tender" and their derivatives (bidder/tenderer, bid/tender, bidding/tendering, etc.) are synonymous.

2. Source of Funds

2.1 The expenditure under this contract will be met by [Name of Organization].

3. Eligible bidders

3.1 This Invitation for Bids is open to all bidders meeting the qualification requirements prescribed in **Clause 4** of ITB.

3.2 In case the Bidder is a Joint Venture, it shall comply with the following additional requirements:

(a) Number of members in a Joint Venture shall not exceed 2 (two) for projects of cumulative length less than or equal to 80 km and shall not exceed 3(Three) for projects of cumulative length more than 80 km;

(b) Subject to provisions of clause (a) above, the Bid should contain the information required for each Member of the Joint Venture;

(c) Members of the Joint Venture shall nominate one member as the lead member (the "**Lead Member**"). Lead Member shall meet at least 60% requirement of Bid Capacity, Technical and Financial Capacity. The nomination(s) shall be supported by a Power of Attorney, as per the format in RFP, signed by all the other Members of the Joint Venture. Other Member(s) shall meet at least 20% requirement of Bid Capacity, Technical and Financial Capacity requirement and the JV as a whole shall cumulatively/collectively fulfill the 100% requirement;

(d) The Bid should include a brief description of the roles and responsibilities of individual members, particularly with reference to financial, technical and defect liability obligations;

(e) The Lead Member shall itself undertake and perform at least 51(fifty-one) per cent of the total length of the Project Highway,

(f) Members of the Joint Venture shall have entered into a binding Joint Bidding Agreement, substantially in the form specified in the RFP (the "Jt. Bidding Agreement"), for the purpose of making the Application and submitting a Bid. The Jt. Bidding Agreement, Uploaded on e-Tendering portal along with the Application, shall, inter alia:

(i) Convey the commitment(s) of the Lead Member in accordance with this RFP, in case the contract to undertake the Project is awarded to the Joint Venture; and clearly outline the proposed roles & responsibilities, if any, of each member;

(ii) Commit the approximate share of work to be undertaken by each member conforming to sub-clause (e) mentioned above;

(iii) Include a statement to the effect that all members of the Joint Venture shall be liable jointly and severally for all obligations of the Contractor in relation to the Project until the Defect Liability Period is achieved in accordance with the Contract; and

(g) Except as provided under this RFP, there shall not be any amendment to the Jt. Bidding Agreement.

3.3 Any entity which has been blacklisted or barred **or declared Non-Performer by the Ministry of Road Transport & Highways or its implementing agencies; NHAI/ NHIDCL/State PWDs/BRO or any other Govt. entity**, from participating in any project, and the bar subsists as on the Bid due date, shall not be eligible to submit the bid.

3.4 It is mandatory for all the Bidders to have class-III Digital Signature Certificate (DSC) (in the name of Authorized Signatory / Firm or Organization/ Owner of the Firm or Organization) from any of the licensed Certifying Agency (Bidders can see the list of licensed CAs from the link www.cca.gov.in) to participate in e-tendering of Employer.

3.5 DSC should be in the name of the authorized signatory as authorized in Appendix III of this RFP or person executing/delegating such Appendix III in favor of Authorized Signatory. It should be in corporate capacity (that is in Bidder capacity / in case of JV in the Lead Member capacity, as applicable). The Bidder shall submit document in support of the class III DSC. In other cases, the bid shall be considered Non-responsive.

4. Qualification of the Bidder

4.1. All bidders shall furnish the following information [as sought from 4.1(a) to 4.1(j)] and documents with their Bids as in **Section-3**, Qualification Information strictly as per formats given in Appendix-IA of Section-3, unless otherwise stated in the **Appendix** to ITB.

a) Scanned copies of original documents defining the constitution or legal status, place of registration, and principal place of business; scanned copy of written power of attorney of the signatory of the Bid to commit the

Bidder; and original copy of Written Power of Attorney to be submitted in the envelope of physicalform by the bidders. (refer **Clause 12.2** of ITB).

b) Scanned copy of total monetary value of civil engineering construction and maintenance works performed for the last five years;

c) Scanned copy of experience certificate in works of a similar nature of the last five years with certificates from the concerned officer of the rank of Executive Engineer or equivalent or higher;

d) Scanned copy of evidence of availability (either owned or leased or rented) of items of construction and maintenance equipment named in **Clause 4.1 j (1)**.

e) Scanned copy of details of the technical personnel proposed to be employedfor the Contract having the qualifications defined in **Clause 4.1 j (2).**

f) Scanned copy of reports on the financial standing of the Bidder, and a certificate from Chartered Accountant as a proof of turnover for the last five years;

g) Scanned copy of information regarding any litigation or arbitration during the last five years in which the Bidder is involved, the parties concerned, the disputed amount, and the present status;

h) Undertaking that the bidder is not affiliated to the firm or entity that has been hired or employed by the Employer for preparation of bid documents or to supervise the contract.

i) Each bidder must upload the scanned copies of following documents along with the submission of online bid:

(1) An affidavit on a Stamp Paper, duly attested from the Notary Public, that the information furnished with the bid documents is correct in all respects; and

(2) Such other certificates as defined in Section-3.

Failure to submit the certificates/ documents specified above shall make the bid Non-responsive.

j) Each bidder must undertake the:

(1) List of Equipment as mentioned in Appendix to Section – 2: Instructions to Bidders (ITB).

(2) Availability of personnel **through an undertaking (each key personnel to submit signed undertaking that they are available for deployment on instant project) by the individual key personnel** with qualification and experience as stated in the Appendix to ITB. Failure to comply the same would lead to not meeting the management performance standards and the contractor would be penalized for the same as per Conditions of the Contract as provision of Clause 9.1

4.2 BID Capacity

Bidders who *inter alia* meet the minimum qualification criteria will be qualified only if their available BID capacity is more than the estimated bid cost (value as mentioned in NIT). The available BID capacity will be calculated as per following, based on information mentioned at Annexure-VI of Appendix-IA:

Assessed Available BID capacity = (A*N*2.5 – B + C), Where

N= Number of years prescribed for completion of work for which Bid is invited.
A = Maximum value of civil engineering works excluding the amount of bonus received, if any, in respect of EPC Projects executed in any one year during thelast five years (updated to the price level of the year indicated in table at Note-3below) taking into account the completed as well as works in progress. For this purpose, the **EPC projects** include turnkey project/ Item rate contract/ Construction / Maintenance works.

B = Value (updated to the price level of the year indicated in table at Note-3 below) of existing commitments, works for which the bidder has emerged as the winner of the bids or on-going works to be completed during the period of completion of the works for which BID is invited. For the sake of clarification, it is mentioned that works for which bidder has emerged as the winner of the bids but LOA has not been issued as on the day before opening the financial bids shall alsobe considered while calculating value of B.

C = The amount of bonus received, if any, in EPC Projects during the last 5 years (updated to the price level of the year indicated in table at Note-3 below).

Note:

1. The Statement showing the value of all existing commitments, works for which the contractor has emerged as the winner of the bid is given by bidder and ongoing works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Client or its Engineer-in-charge not below the rank of Executive Engineer or equivalent in respect of EPC Projects **or** Concessionaire / Authorised Signatory of SPV in respect of BOT Projects and verified by Statutory Auditor.

2. The amount of bonus received, if any, in EPC Projects should be countersigned by the Client or its Engineer-in-charge not below the rank of Executive Engineer or equivalent in respect of EPC Projects.

3. The factor for the year for updation to the price level is indicated as under:

Year	Year-1	Year-2	Year-3	Year-4	Year-5
Up-dation factor	1.00	1.05	1.10	1.15	1.20

4. The Bid capacity status of the bidder to be updated as on the day before opening the financial bids.

4.3 Technical Capacity

(i) For demonstrating technical capacity and experience (the "Technical Capacity"), the Bidder shall, over the past 5 (five) financial years preceding the Bid Due Date, have received payments for construction of Eligible Project(s), or has undertaken construction works by itself in a PPP project, such that the sum total thereof, as further adjusted in accordance with clause 4.6 (i) & (ii), is more than the tendered/Bid value of Rs. 111,15,75,613.00/-, (Rupees One Hundred Eleven Crore Fifteen Lakh Seventy-Five Thousand Six Hundred Thirteen Only). (the "Threshold Technical Capacity").

(ii) For normal Highway projects:
Provided that at least one similar work of 20% of Estimated bid Cost shall have been completed from the Eligible Projects in Category 1 and/or Category 3 specified in Clause 4.6. For this purpose, a project shall be considered to be completed, if more than 90% of the value of work has been completed and such completed value of work is equal to or more than 20% of the tendered/ Bid value. However, for 4 lane or above configurations projects, experience of the Eligible Projects in Category 1 and/or Category 3 shall be of 2 lane or more. For projects with lane configuration upto 2 lane with paved shoulder, all experienceof the Eligible Projects in Category 1 and/or Category 3 shall be considered irrespective of lane configurations.

(iii) The updation factor to update the price of the eligible projects for the year indicated in table below:

Year	Year-1	Year-2	Year-3	Year-4	Year-5
Up-dation factor	1.00	1.05	1.10	1.15	1.20

4.4 Financial Capacity:
(i) The Bidder shall have a minimum Net Worth (the **"Financial Capacity"**) of 5% of the tendered / Bid value at the close of the preceding financial year.

(ii) The Bidder shall have a minimum Average Annual Turnover (updated to the price level of the year based on factors indicated in table below) of 15% of the estimated bid cost (value as mentioned in NIT) for the last 5 (five) financial years.

Year	Year-1	Year- 2	Year-3	Year-4	Year-5
Updation factor	1.00	1.05	1.10	1.15	1.20

Note: Notwithstanding anything to the contrary contained herein, in the event that the bid due date falls within three months of the closing of the latest financial years, it shall ignore such financial year for the purpose of the bid and furnish annual financial turnover w.r.t. 5 years preceding in last financial year.

4.5 In case of a Joint Venture:

(i) The Bid Capacity, Technical Capacity and Financial Capacity of all the Members of Joint Venture would be taken into account for satisfying the above conditions of eligibility. Further, Lead Member shall meet at least 60% requirement of Bid Capacity, Technical and Financial Capacity and each of other JV members shall meet at least 20% requirement of Bid Capacity, Technical and Financial Capacity individually. For avoidance of doubt it is further clarified that the Joint Venture must collectively and individually satisfy the above qualification criteria i.e. JV shall cumulatively/collectively fulfill the 100% requirement.

(ii) For requirement of 4.3 (ii), one similar work of 20% of the estimated bid cost should have been completed from the Eligible Projects in Category 1 and/or Category 3 specified in Clause 4.6 individually by any of the JV members as a single work.

4.6 Categories and factors for evaluation of Technical Capacity:

(i) Subject to the provisions of Clause 4 the following categories of experience would qualify as Technical Capacity and eligible experience (the **"Eligible Experience"**) in relation to eligible projects as stipulated in Clauses 4.7 (i) & (ii)(the **"Eligible Projects"**). In case the Bidder has experience across different categories, the experience for each category would be computed as per weight of following factors to arrive at its aggregated Eligible Experience:

Category	Project / Construction experience on EligibleProjects	Factors
1	Project in highways sector that qualify under Clause 4.7 (i)	1
2	Deleted	deleted
3	Construction in highways sector that qualify under Clause 4.7 (ii)	1
4	Deleted	deleted

(ii) The Technical capacity in respect of an Eligible Project situated in a developed country which is a member of OECD shall be further multiplied by a factor of 0.5 (zero point five) and the product thereof shall be the Experience Score for such Eligible Project.

(iii) For the purpose of this RFP:

(a) Highways sector would be deemed to include highways, expressways, bridges, tunnels, runways; and

(b) Deleted.

(I) In case of projects executed by applicant under category 1 or 3 as a member of Joint Venture, the project cost should be restricted to the share of the applicant in the joint venture for determining eligibility as per provision under clause 4.3 (ii). In case Statutory Auditor certifies that, the work of other

member(s) is also executed by the applicant, then the total share executed by applicant can be considered for determining eligibility as per provision under clause 4.3 (ii).

(II) Maintenance works are considered as eligible project for evaluation under Technical capacity 4.3 (i) and for singly completed works 4.3 (ii). As such works nomenclature like IRQP, PR, OR, FDR, SR, site / micro grading, surface renewal, resurfacing work, Tarring, B.T. surface work, temporary restoration, urgent works, periodic maintenance, repair & rehabilitation, one time maintenance, permanent protection work of bank, short term / long term OMT contract, any performance based maintenance contract, etc. shall be considered.

(III) Project in Highway sector shall constitute the following for the purpose ofconsideration under category 1 or 3 as applicable, if:

(i) Widening / reconstruction / up-gradation works on NH / SH or on any category of road taken up under CRF, ISC / EI, SARDP, LWE
(ii) Widening/ re-construction / up-gradation works on MDRs.
(iii) Widening/ reconstruction / up-gradation work of roads in Municipal corporation limits, construction of Bypasses,
(iv) Construction of stand- alone bridges, ROBs, tunnels.
(v) Long term OMT works of MoRT&H/ NHAI/ NHIDCL
(vi) Performance based maintenance contract in states.

(IV) The projects with the title of RIDF, PMGSY road, link road, city roads, rural road, sector / municipality road, Bridges for railway line, work of metro rails (bridges/ tunnel), which demonstrate road development/construction bridges or culverts may be considered for overall technical capacity only.

(V) In case both the estimated cost of project and revised cost of project are provided, the revised cost of project shall be considered for evaluation.

4.7 Eligible Experience on Eligible Projects in respect of each category:

(i) For a project to qualify as an Eligible Project under Categories 1:

(a) It should have been undertaken as a PPP project on BOT, BOLT, BOO, BOOT or other similar basis for providing its output or services to a public sector entity or for providing non-discriminatory access to users in pursuance of its charter, concession or contract, as the case may be. For the avoidance of doubt, a project which constitutes a natural monopoly such as an airport or port should normallybe included in this category even if it is not based on a long-term agreement with a public entity;

(b) the entity claiming experience should have held, in the company owning the Eligible Project, a minimum of 26% (twenty-six per cent) equity during the entire year for which Eligible Experience is being claimed;

(c) the capital cost of the project should be more than 5% of the amount specified as the estimated bid cost (value as mentioned in NIT) and

(d) the entity claiming experience shall, during the last 5 (five) financial years preceding the Bid Due Date, have itself undertaken the construction/maintenance of the project for an amount equal to at least one

half of the Project Cost of eligible projects, excluding any part of the project for which any contractor, sub-contractor or other agent was appointed for the purposes of construction.

(ii) For a project to qualify as an Eligible Project under Category 3, the Bidder should have received payments from its client(s) for construction/maintenance works executed, fully or partially, or work executed and certified by the Engineer-in- charge/Independent Engineer/Authority's Engineer during the 5 (five) financial years immediately preceding the Bid Due Date, and only the amounts (gross) actually received/ work executed, during such 5 (five) financial years shall qualify for purposes of computing the Experience Score. However, receipts of or work executed amount less than 5% of the estimated bid cost (value as mentioned in NIT) shall not be reckoned as receipts for Eligible Projects. For the avoidance of doubt, construction/maintenance works shall not include supply of goods or equipment except when such goods or equipment form part of a turn-key construction contract / EPC contract for the project. Further, the cost of land and also cost towards pre-construction activities (like shifting of utilities etc.) shall not be included hereunder.

(iii) The Bidder shall quote experience in respect of a particular Eligible Project under any one category only, even though the Bidder (either individually or along with a member of the Joint Venture) may have played multiple roles in the cited project. Double counting for a particular Eligible Project shall not be permitted in any form.

(iv) Experience for any activity relating to an Eligible Project shall not be claimed by two or more Members of the Joint Venture. In other words, no double counting by a Joint Venture in respect of the same experience shall be permitted in any manner whatsoever.

4.8 Submission in support of Technical Capacity

(i) The Bidder should furnish the details of Eligible Experience for the last 5 (five) financial years immediately preceding the Bid Due Date.
(ii) The Bidder must provide the necessary information relating to Technical Capacity as per format at Annex-II of Appendix-IA.
(iii) The Bidder should furnish the required Project-specific information and evidence in support of its claim of Technical Capacity, as per format at Annex - IV of Appendix-IA.

4.9 Submission in support of Financial capacity

(i) The Technical Bid must be accompanied by the Audited Annual Reports of the Bidder (of each Member in case of a Joint Venture) for the last 5 (five) financial years, preceding the year in which the bid is submitted.
(ii) In case the annual accounts for the latest financial year are not audited and therefore the Bidder cannot make it available, the Bidder shall give an undertaking to this effect and the statutory auditor shall certify the same. In such a case, the Bidder shall provide the Audited Annual Reports for 5 (five)

years preceding the year for which the Audited Annual Report is not being provided.

(iii) The Bidder must establish the minimum Net Worth specified in Clause 1.3, and provide details as per format at Annex-III of Appendix-IA.

4.10 The Bidder shall enclose with its Technical Bid, to be uploaded one – tendering portal as per the format at Appendix-IA, complete with its Annexes, the following:

(i) Certificate(s) from its statutory auditors$ or the concerned client(s) stating the payments received or in case of a PPP project, the construction/maintenance carried out by itself, during the past 5 years, in respect of the Eligible Projects.

In case a particular job/ contract has been jointly executed by the Bidder (as part of a Joint Venture), it should further support its claim for the payments received or construction carried out by itself in PPP Projects as applicable the share in work done for that particular job/ contract by producing a certificate from its statutory auditor or the client; and

(ii) Certificate(s) from its statutory auditors specifying the net worth of the Bidder, as at the close of the preceding financial year, and also specifying that the methodology adopted for calculating such net worth conforms to the provisions ofthis Clause 4.10 (ii). For the purposes of this RFP, net worth (the "Net Worth") shall mean the aggregate value of the paid-up share capital and all reserves created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, butdoes not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation.

4.11 Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

i) Made misleading or false representations in the forms, statements, affidavits and attachments submitted in proof of the qualification requirements; and/or

ii) Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc. or debarring from work etc. as per the available record of the Ministry or its Executing Agency.

$ In case duly certified audited annual financial statements containing explicitly the requisite details are provided, a separate certification by statutory auditors would not be necessary in respect of Clause 4.10 (i). In jurisdictions that do not have statutory auditors, the firm of auditors which audits the annual accounts of the Applicant may provide the certificates required under this RFP.

5. One bid per bidder

5.1 Each Bidder shall submit only one Bid for the Works. A Bidder who submits more than one Bid will cause such bids to be disqualified.

6. Cost of bidding

6.1 The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will, in no case, be responsible or liable for those costs.

7. Site Visit

7.1 The Bidder, at his own cost, responsibility and risk, is encouraged to visit, examine and familiarise himself with the Site of Works and its surroundings including source of earth, water, road aggregates, availability of labour etc. andobtain all information that may be necessary for preparing the Bid and entering into a contract for undertaking the maintenance Works. The costs of visiting thesite shall be at the Bidder's own expense. For this purpose, he may contact theperson whose contact details are given in the Appendix to ITB.

B. BIDDING DOCUMENTS

8. Content of bidding Documents

8.1 The set of bidding documents comprises the documents listed below and addenda (if any) issued in accordance with Clause 10:

Section 1: Notice Inviting Tender

Section 2: Instructions to bidders (ITB) and Appendix to ITB

Section 3: Qualification Information

Section 4: Forms of Bank Guarantees for Bid Security, Performance Security & Advance Payment, Letter of Application, Letter of Acceptance (LOA), Form of Agreement, Format for POA for Signing of Bid, Format for POA for Lead Member of JV, Format for JBA, Integrity Pact

Section 5: General Conditions of Contract and Contract Data Section 6: Addendum to General Conditions of Contract

Section 7: Road Maintenance Standards and Specifications for Road Maintenance Work, Part-I and Part-II

Section 8: Drawings and Schedule of Drawings

Section 9: Financial bid form and bill of Quantities

Section 10: Summary of Assets

8.2 The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, scope, road maintenance Standards and Specifications, bill of quantities, etc. in the Bid Documents. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. Pursuant to **Clause 26** hereof, Bids, which are not substantially responsive to the requirements of the Bid Documents, shall be rejected.

9. Clarifications on Bid Documents

9.1 A prospective Bidder requiring any clarification on the Bid Documents may notify the Employer in writing or through e-tender portal at the Employer's address indicated in the notice inviting Tender. The Employer will respond to any such request for clarification received prior to the pre bid meeting. Copies of the Employer's response will be hosted on website including a description of the queries but without identifying its source.

9.2 Pre-Bid Meeting

9.2.1 The Bidders authorised representative is invited to attend a pre-bid meeting, if it is indicated in the **Appendix** to ITB. The purpose of the pre-bid meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

9.2.2 The bidder is requested to submit any questions in writing so as to reach the Employer not later than the pre-bid meeting date and time

9.2.3 Minutes of the meeting, including the text of the questions raised (without identifying the source of the enquiry and name of the participant) and the responses given will be posted without delay on website. Any modifications of the bid documents listed in **Clause 8.1**, which may become necessary as a result of the pre-bid meeting or which are required in the opinion of the Employer shall be made by the Employer exclusively through the issue of an Addendum pursuant to **Clause 10** and not through the minutes ofthe pre-bid meeting.

9.2.4

Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

10 Amendment of bidding Documents

10.1 Before the deadline for submission of bids, the Employer may modify the Bidding Documents by issuing addenda.

10.2 Any addendum thus issued shall be part of the Bidding Documents andshall be hosted on e-tendering portal. Bidders are advised to keep themselves updated of all the addenda issued on e-tendering portal by daily checking the e-tendering portal and the Employer does not assume any responsibility in case the bidder fails to do so and does not take any action, if required, with respect to any relevant addendum.

10.3 To give prospective bidders reasonable time to take an addendum into account in preparing their bids, the Employer shall extend, as necessary, the deadline for submission of bids, in accordance with **Clause 20.3**

C. PREPARATION OF BIDS

11 Language of bid

11.1 All documents relating to the Bid shall be in English.

12 Documents comprising the bid

12.1 The e-bid submitted by the bidder shall be in two separate parts namely Part-I and Part-II. Part-I shall be named Technical Bid and shall comprise of information submitted in **Section-3 as well as forms given in Section-4 of Bid document**. Part-II shall be named Financial Bid and shall comprise of Bill of Quantities (Bill no.1 to 4).

12.2 Original Documents in physical form must be submitted by the bidder on or before the dates specified in the NIT.

The Bidder shall submit the following documents physically:

(a) Original Power of Attorney for signing the BID as per format at Section-4;

(b) if applicable, Original Power of Attorney for Lead Member of Joint Venture as per the format at Section-4;

(c) if applicable, Original Joint Bidding Agreement (JBA) for Joint Venture as per the format at Section-4;

(d) BID Security of Rs. 1,11,16,000.00/-, (Rupees One Crore Eleven Lakh Sixteen Thousand Only). in the form of Original Bank Guarantee/ Electronic Bank Guarantee (E-BG) in the format at Section-4 from a Scheduled Bank;.

(e) The e – Bank Guarantee shall be transmitted through SFMS Gateway to NHIDCL RO Siliguri's Bank.

(f) The Bidders shall submit Cost Document Fee (Tender Fee) for **Rs. 23,600.00 [Rupees Twenty Three Thousand Six Hundred only]** (including GST) through online payment methods such as NEFT / RTGS in account of [NHIDCL RO Siliguri] as mentioned, as cost of bidding document. The bank details are as under:

Name of Bank ::: Canara Bank
Account Number ::: 120035355901
IFSC Code ::: CNRB0019716
Entity id ::: NCTGC2571P (For e-BG Purpose only)
Branch & P.O. ::: Shivmandir Branch & Kadamtala, Siliguri

(g) Deleted;

(h) Bidder shall comply with the provisions of Office Memorandum No. RW/ NH-37010/ 4 / 2010 / PIC – EAP (Printing) dated 22.02.2016 and its subsequent amendments if any issued by MoRT&H (Section-4) regarding Integrity Pact (IP) and the Integrity

Pact (IP) duly signed by Authorized signatory shall be submitted by the Bidder with the RFP Bid & shall be part of the Contract Agreement; and

(i) An undertaking from the person having PoA referred to in Sub. Clause-(a) above that they agree and abide by the Bid documents uploaded by MoRT&H/AGENCIES and amendments uploaded, if any

12.3 The following documents, which are not submitted with the bid, will be deemed to be part of the bid.

i) Notice Inviting Tender

ii) Instructions to the Bidders and Appendix to ITB

iii) General Conditions of Contract and Contract Data

iv) Addendum to General Conditions of Contract

v) Road Maintenance Standards and Specifications for Road Maintenance Works, Part-I and Part-II

vi) Drawings and Schedule of Drawings

13 Bid Prices

13.1 The Contract shall be for the whole Works, as described in **Clause 1. 1** based on the Bill of Quantities- Bill no. 1 to 4 (Financial Bid Form).

13.2 The bidder shall make its own assessment of Cost for execution of the Initial rectification (IR), periodic maintenance (PM) and Routine Maintenance (RM). Emergency works are indicative in nature with fixed cost and quantities to be executed in case of emergency as directed by the Engineer. Contractor may take guidance from the indicative BOQ attached by the Employer in the Bill of Quantities Chapter. The Bidder shall only be required to quote the single percentage (%) above or below in the Summary Abstract of Bid Cost Form of the Financial Bid Form. The same discount/premium so quoted shall be applicable on payments of all RM, IR, PM and Emergency works.

13.3 All duties, taxes (excluding GST), royalties and other levies payable by the Contractor under the Contract, or for any other cause, shall be included in the rates, prices, and total bid price submitted by the Bidder.

13.4 The rates and prices quoted by the Bidder shall be fixed for the duration of the Contract, save except for price adjustment as per clause 17 of Contract data.

13.5 The rates and bid prices quoted by the contractor shall be deemed inclusive of all labour, materials, Plants, Equipment, machinery, management, supervision, overheads etc., including other miscellaneous charges associated for execution of works

14 Currencies of bid and Payment

All payments shall be made in Indian Rupees.

15 Bid Validity

15.1 Bids shall remain valid for a period of 120 days after the deadline date for bid submission specified in **Clause 20**. A bid valid for a shorter period shall be rejected by the Employer as non- responsive.

15.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the Bidders may extend the period of validity for a specified additional period. The request and the Bidders' responses shall be made in writing. A Bidder may refuse the request without forfeiting his bid security. A Bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his bid security for a period of the extension, and in compliance with Clause 16 in all respects.

16 Earnest Money/bid Security/Forfeiture/Debarment

16.1 A Bidder is required to submit, along with its BID, a BID Security[1] of Rs. 1,11,16,000.00/-, (Rupees One Crore Eleven Lakh Sixteen Thousand Only). (the "BID Security"), refundable not later than 150 (One hundred fifty Only) days from the BID Due Date, except in the case of the Selected Bidder whose BID Security shall be retained till it has provided a Performance Security and Additional Performance Security (if any) as per the provision of this RFP and LOA. Bid Security shall be submitted in the form of Electronic Bank Guarantee (e-Bank Guarantee) only. The e-Bank Guarantee shall be transmitted through SFMS Gateway to NHAI/MORTH /State PWD/ NHIDCL/BROs Bank.

Name of Bank ::: Canara Bank
Account Number ::: 120035355901
IFSC Code ::: CNRB0019716
Entity id ::: NCTGC2571P (For e-BG Purpose Only)
Branch & P.O. ::: Shivmandir Branch & Kadamtala,

16.2.

A. Bank Guarantee, in the name of the Employer, from following banks would be accepted: -

i) State Bank of India or its subsidiaries,

ii) Any Indian Nationalized Bank

iii) IDBI / ICICI Bank

iv) A Foreign Bank (issued by a branch outside India) with a counter guarantee from SBI or its subsidiaries or any Indian Nationalized Bank.

v) Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs. 1000 crore as per the latest Annual Report of the Bank. In the case ofa Foreign Bank (issued by a branch in India), the net worth in respect of the Indian operations shall only be taken into account.

B. The acceptance of the guarantees shall also be subject to the conditions that the capital adequacy of the Bank shall not be less than the latest norms prescribed by RBI.

C. The bank guarantee issued by a Cooperative Bank shall not be accepted.

16.3 Any Bid not accompanied by an acceptable Bid Security, shall be rejected by the Employer as non-responsive.

16.4 The Earnest Money/ Bid securities of the unsuccessful bidders will be returned latest by 7th Day from the date of LOA.

16.5 Bid security / Earnest Money shall be refunded to the successful bidder on receipt of a performance security and signing of Contract Agreement.

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[1] The Bid Security shall be an amount equivalent to 1% of the Estimated Project Cost. However, the Authority may, in its discretion, prescribe a higher Bid Security not exceeding 2% of the Estimated Project Cost. In case of a project having an Estimated Project Cost of Rs. 2,000 cr. or above, the Authority may, in its discretion, reduce the Bid Security, but not less than 0.5% of the Indicative Project Cost in any case.

[2] The cost of RFP document may be determined at the rate of Rs. 10,000 for every Rs. 100 crore or part thereof comprising the Estimated Project Cost. Thus, the cost of an RFP document for a project of Rs. 200 crores shall be Rs. 20,000.

16.6 *The Bid Security/ Earnest Money will be forfeited:*

(a) If the Bidder withdraws the Bid after Bid due date.

(b) Impairs or derogates from the tender in any respect within the period of validity of the tender.

(c) If the bidder does not accept the correction of his bid price during evaluation;and

(d) If the successful bidder fails to sign the contract or furnish the required performance security within the specified period

16.7 In case of forfeiture of bid security, the bidder shall also be debarred from participation in the works of MoRTH and its Agencies for a period of one year.

17 Alternative Proposals by bidders

17.1 Bidder shall submit offers that fully comply with the requirement of the Bidding Documents. Conditional offer or alternate offer will not be considered further in the process of evaluation and such a bid will be declared non- responsive.

18 Format and signing of bid

18.1 The Bidder shall submit e-bid comprising the documents as described in **Clause 12** of the ITB.

18.2 The documents as uploaded on the E-tender Portal are required to be submitted in the Physical Form **by the bidder.** All the pages of the documents as mentioned here shall be signed by the person / persons signing the Bid. Documents as mentioned here shall contain no overwriting, alterations or additions, except those to comply with instructions, issued by the Employer or as necessary to correct errors made by the Bidder, in which case such corrections shall be made by scoring out the cancelled portion, writing the correction and signing and dating it along with the stamp by the person or persons signing the Bid

18.3 It is mandatory for all the Bidders to have class-III Digital Signature Certificate (DSC) (in the name of Authorized Signatory / Firm or Organisation/ Owner of the Firm or Organization) from any of the licensed Certifying Agency (Bidders can see the list of licensed CAs from the link www.cca.gov.in) to participate in e-tendering of Employer.

18.4 DSC should be in the name of the authorized signatory as authorized in Appendix III of this RFP or person executing/delegating such Appendix III in favor of Authorized Signatory. It should be in corporate capacity (that is in Bidder capacity / in case of JV in the Lead Member capacity, as applicable). The Bidder shall submit document in support of the class III DSC. In other cases, the bid shall be considered Non-responsive.

D. SUBMISSION OF BIDS

19 Marking of bids

19.1 The documents to be submitted in physical form by the bidder as per Clause 12.2 of ITB shall be submitted in a sealed Envelope super scribed as "Documents in Physical Form" at the top left corner. All bidders have to submit the scanned copies of the bid documents online on the e-tender portal.

20 Deadline for Submission of bids

20.1 The Bidder shall ensure that the complete e-Bid is uploaded on the e-tender portal on or before the Bid Due Date and time as specified in NIT/e-portal. Original documents to be submitted in physical form by the bidders as per NIT at the address (as mentioned in Appendix to ITB) failing which the bidder will be considered as non-responsive and his / her bid will not be considered for further evaluation. Please note that the (Ministry / Authority / Executing Agency) reserves the right to accept or reject all or any of the BIDs without assigning any reason whatsoever.

20.2 The Employer assumes no responsibility for inability of a bidder to submit bids through the Employer's e-tendering portal on account of delay in submission at bidder's end. Bidders shall ensure that they submit the bid well before the "Bid Due Date and Time of Bid-Submission". The Employer shall not be responsible if bidder is not able to submit the bid on account of failure in network/internet connection or any other reason whatsoever.

20.3 The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with **Clause 10**, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

20.4 A Bidder is required to submit, along with its technical BID, a self- certification that the item offered meets the local content requirement for 'Class – I local Supplier' / 'Class – II local Supplier', as the case may be. The self-certification shall also have details of the location(s) at which the local value addition is made. In case, bidder has not submitted the aforesaid certification the bidder will be treated as 'Non- Local Supplier'. In the above pretext, the Class – I Local Supplier, Class – II Local Supplier and the Non- Local Supplier are defined as under:

(i) 'Class – I local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content as prescribed for 'Class – I local Supplier' under this RFP. The 'local content' requirement to categorize a supplier as 'Class – I local Supplier' is minimum 50%.
(ii) 'Class – II local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content as prescribed for 'Class – II local Supplier' under this RFP. The 'local content' requirement to categorize a supplier as 'Class – II local Supplier' is minimum 20%.

(iii) 'Non - local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than that prescribed for „Class – II local supplier" under this RFP.

(iv) 'Local content' means the amount of value added in India which shall be the total value of item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

In case of procurement for a value in excess of Rs. 10 crores, the 'Class – I local supplier' / 'Class – II local supplier' shall provide a certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

20.5 All Orders of Ministry of Finance/DPIIT/any other Government agencies, as applicable and prevalent on the date of LOA, shall be applicable.

20.6 Entities of countries which have been identified by Ministry of Road Transport & Highways as not allowing Indian companies to participate in their Government procurement for any item related to Ministry of Road Transport & Highways shall not be allowed to participate in Government procurement in India for all items related to Ministry of Road Transport & Highways, except for the list of items published by the Ministry of Road Transport & Highways permitting their participation.

20.7 For determining the eligibility of Bidder from a country which shares a land border with India the following shall apply:

(i) Any Bidder from a country which shares a land border with India will be eligible to bid, only if the Bidder is registered with the Competent Authority, specified in Annexure I of Order (Public Procurement No. 1) issued by Ministry of Finance, Department of Expenditure Public Procurement Division vide F. No. 6/18/2019-PPD, dated: 23rd July 2020, which shall form an integral part pf RFP and DCA (Copy enclosed).

(ii) "Bidder from a country which shares a land border with India" means:

a) An entity incorporated, established or registered in such a country, or
b) A subsidiary of an entity incorporated, established or registered in such a country; or
c) An entity substantially controlled through entities incorporated, established or registered in such a country; or
d) An entity whose beneficial owner is situated in such a country; or
e) An Indian (or other) agent of such an entity; or
f) A natural person who is a citizen of such a country; or
g) A Consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

(iii) Beneficial owner for the purpose of (ii) above means:

1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one

or more judicial person, has a controlling ownership interest or who exercises control through other means.

Explanation:
a) "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company.
b) "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholding agreements or voting agreements;

2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or one or more juridical person: has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individual;

4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

(i) An Agent is a person employed to do any act for another, or to represent another in dealings with third person.

(ii) The Selected Bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. The definition of "contractor from a country which shares a land border with India" shall be as in Clause 20.7 (ii) above.

Certificate regarding Compliance:
A certificate on the letterhead of the Bidder shall be required to be submitted by the bidders certifying the following in the format prescribed as under:

"I/We have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries;
I/We certify that this bidder is not from a country or, if from such a country, has been registered with the Competent Authority as defined in Public Procurement Order no. F.no.6/18/2019- PPD dated 23rd July 2020 and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority;
I/We hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered."

It may be noted that in case the above certification is found to be false, this would be a ground for immediate rejection of Bid/termination and further legal action in accordance with law.

Validity of Registration:
In respect of RFP, registration should be valid at the time of submission of bids and at the time of acceptance of bids. If the Bidder was validly registered at the time of acceptance, registration shall not be a relevant consideration during contract execution.

20.8 The Bidder, including an individual or any of its Joint Venture member, should not be a non- performing party on the bid submission date. The Bidder, including any Joint Venture Member, shall be deemed to be a non-performing party' if it attracts any or more of the following conditions in any of its ongoing or completed project:

(i) Fails to set up institutional mechanism and procedure as per Contract.

(ii) Fails to mobilize key construction equipment within a period of 4 months from the appointed date;

(iii) Fails to complete or has missed any milestone and progress not commensurate with contiguous unencumbered project length /ROW available even after lapse of 6 months from respective project milestone /Schedule Completion date, unless Extension of Time has been granted due to Authority's Default of Force Majeure;

(iv) Fails to achieve progress commensurate with funds released from Escrow Account (Equity +Debt + Grant) in BOT or HAM project and variation is more than 25% in the last 365 days;

(v) Fails to achieve target progress or complete the project as per schedule agreed at the time of sanctioning of funds under One Time Funds Infusion (OTFI) or relaxations to contract conditions to improve cash flow solely on account of Concessionaire's/contractor's failure/default;

(vi) Fails to complete rectification (excluding minor rectifications) as per time given in non-conformity reports (NCR) in design/completed works/maintenance or reported in Inspection Reports issued by Quality Inspectors deployed by the Authority or Officers of the Authority.

(vii) Fails to complete minor rectifications exceeding 3 instances in a project as per time given in non-conformity reports (NCR) in design/completed works/maintenance;

(viii) Fails to fulfil its obligations to maintain a highway in a satisfactory condition in spite of two rectification notices issued in this regard;

(ix) Damages/penalties recommended by Independent/ Authority's Engineer during O&M Period and remedial works are still not taken up;

(x) Fails to complete Punch List items even after lapse of time for completion of such items excluding delays attributable to the Authority;

(xi) Occurrence of minor failure of structures/highway due to construction defect wherein no causalities are reported (causalities include injuries to human being/ animals);

(xii) Occurrence of major failure of structures/highway due to construction defect wherein no casualties are reported (causalities include injuries to human being/ animals;

(xiii) Occurrence of major failure of structures/highway due to construction defect leading to loss of human lives besides loss of reputation etc. of the authority;

(xiv) Fails to make premium payments excluding the current instalment in one or more projects;

(xv) Fails to achieve financial closure in two or more projects within the given or extended period (which shall not be more than six months in any case);

(xvi) Fails to submit the Performance Security within the permissible time period in more than one project;

(xvii) Rated as an unsatisfactory performing entity/ non-performing entity by an independent third-party agency and so notified on the website of the Authority.

(xviii) Failed to perform for the works of Expressways, National Highways, ISC & EI works in the last 2(two) years, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitral award against the Bidder, including individual or any of its Joint Venture Member, as the case may be.

(xix) Expelled from the contract or the contract terminated by the Ministry of Road Transport & Highways or its implementing agencies for breach by such Bidder, including individual or any of its Joint Venture Member; Provided that any such decision of expulsion or termination of contract leading to debarring of theBidder from further participation in bids for the prescribed period should have been ordered after affording an opportunity of hearing to such party.

(xx) Fails to start the works or causes delay in maintenance & repair/overlay of the project.

In case, any debarred/declared non performer firm submits, the bid, the same will be ignored. In case such firm is lowest (L-1), next lowest firm shall be considered as L-1

21. Late Submission of Documents in Physical Form:

21.1 Deleted.

22. Modification and Withdrawal of Bids

22.1 Bidders may modify or withdraw their e-bids as directed on the e-tendering portal, before the Bid Due Date and time as prescribed in **Clause 20**.

22.2 *No bid may be modified after the deadline for online submission of bids.*

22.3 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in **Clause15.1** or as extended pursuant to **Clause 15.2** shall result in the forfeiture of theBid Security pursuant to **Clause 16**.

22.4 Bidders may modify the prices of their bids before deadline of online submission of bid.

22.5 No Late and delayed bids after Bid Due Date and time shall be permitted in e-tendering portal System. Time being displayed on e-Tendering Portal shall be final and binding on bidders and bids have to be submitted by bidders considering this time only and not the time as per their location/country.

E. BID OPENING, CLARIFICATION OF BIDS AND EVALUATION

23. Bid Opening, Clarification of Bids and Evaluation

23.1 Bid opening shall be carried out in two stages. Firstly, Part-I "Technical Bid" of all the Bidders received shall be opened on the date and time mentioned in Notice Inviting Tender (NIT). Part-II" Financial Bid" of those bidders whose technical bid has been determined to be substantially responsive shall be opened on a subsequent date through online process of e-tendering, which will be notified to such bidders.

23.2 In all cases, the amount of Earnest Money, forms and validity shall be announced. Thereafter, the Employer at the opening as the Employer may consider appropriate, will announce the Bidders" names and such other details.

23.3 The Employer will prepare minutes of the Bid opening, including the information disclosed to those present in accordance with this **Clause 23**.

23.4 The bids accompanied with valid bid security, bid document fee, will be taken up for evaluation with respect to the Qualification Information and other information furnished in Part I of the bid pursuant to **Clause 12.1**.

As soon as possible, the Employer will finalize the list of responsive bidders whose financial bids are eligible for consideration. However, to assist in the examination, evaluation of technical bids, the Employer may at his discretion, ask any bidder for clarification of his bid, however, no additional documents in support of clarification will be entertained.

23.5 The Employer shall inform the bidders about the result of technical evaluation by uploading on the web portal giving 7 days" time for objections, if any, from the bidders. The Employer shall finalize the evaluation of technical bids after due consideration of objections received and intimate the bidders, whose Technical Bids are found responsive, of the date, time and place of opening of the Financial Bids. The Bidders so informed, or their representative, may attend the event of opening of Financial Bids.

23.6 At the time of the opening of the "Financial Bid", the names of the bidders whose bids were found responsive in accordance with Clause 23.5 will be announced. The financial bids of only these bidders will be opened. The responsive bidders' names, the Bid prices, the total amount of each bid, pursuant to Clause 22 and such other details as the Employer may consider appropriate will be announced by the Employer at the time of bid opening.

23.7 The Employer shall prepare the minutes of the opening of the Financial Bids.

24. Process to be Confidential

24.1 Information relating to the examination, clarification, evaluation, and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other person not officially concerned with such process until the award to the successful Bidder has been announced. From the time of bid opening to the time of contract award, no bidder shall contact the Employer on any matter related to the bid, except on request and prior written

permission. Any attempt by a Bidder to influence the Employer's processing of bids or award decisions may result in the rejection of his Bid.

25. Contacting the Employer

25.1 Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders' bid.

26. Examination of bids and Determination of Responsiveness

26.1 During the detailed evaluation of "Technical Bids", the Employer will determine whether each Bid

(a) meets the eligibility criteria defined in **Clauses 3** and **4**;

(b) contains the required documents as per format given in RFP and the documents uploaded by the bidder are in order; and

(c) is substantially responsive to the requirements of the Bidding Documents.

(d) Self-Certification and Certificate regarding Compliance.

Self- certification by the Bidder that its Bid meets the Local Content requirement for 'Class – I Local supplier'/ 'Class – II Local supplier', as the case may be. The Self-certification shall also have details of the location(s) at which the local value addition is made. In case, bidder do not submit the aforesaid Certification, the bidder will be summarily treated as 'Non-Local Supplier'.

In case of procurement for a value in excess of Rs. 10 crores, the 'Class – I Local supplier' / 'Class – II Local supplier' shall have to provide a Certificate from the Statutory Auditor or Cost Auditor of the Company (in case of Companies) or from a practicing Cost Accountant or practicing Chartered Accountant (in respect of Suppliers other than Companies) giving the percentage of Local Content upon Construction of the Project.

Certificate regarding Compliance:
A certificate on the letterhead of the Bidder shall be required to be submitted by the bidders certifying the following in the format prescribed as under:

"I/We have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries;

I/We certify that this bidder is not from a country or, if from such a country, has been registered with the Competent Authority as defined in Public Procurement Order no. F.no.6/18/2019- PPD dated 23rd July 2020 and will not sub-contract any work to a

contractor from such countries unless such contractor is registered with the Competent Authority;

I/We hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered."

It may be noted that in case the above certification is found to be false, this would be a ground for immediate rejection of Bid/termination and further legal action in accordance with law.

(e) It is mandatory for all the Bidders to have class-III Digital Signature Certificate (DSC)(in the name of Authorized Signatory / Firm or Organisation/ Owner of the Firm or Organization) from any of the licensed Certifying Agency (Bidders can see the list of licensed CAs from the link www.cca.gov.in) to participate in e- tendering of Employer.
DSC should be in the name of the authorized signatory as authorized in Appendix III of this RFP or person executing/delegating such Appendix III in favor of Authorized Signatory. It should be in corporate capacity (that is in Bidder capacity / in case of JV in the Lead Member capacity, as applicable). The Bidder shall submit document in support of the class III DSC. In other cases, the bid shall be considered Non-responsive.

27. Deleted

28. Evaluation and Comparison of Financial bids

28.1 The Employer will evaluate and compare only the bids determined to be substantially responsive in accordance with **Clause 26.**

28.2 If the Bid of the successful Bidder is seriously unbalanced in relation to the Employer's estimate of the cost of work to be performed under the contract, the Employer may require that the amount of the Performance Security set forth in Clause 32 be increased and an additional Performance Security may be obtained at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract. The amount of the additional increased Performance Security as decided by the Employer shall be final, binding and conclusive on the bidder. Additional Performance Security (the "Additional Performance Security") for an amount calculated as under:

(i) where the bid price is below 10% but not below 20% of the project cost put to bid, the additional performance guarantee/security percentage shall be incremented by 0.1% for every percentage of bid price below 10% of the project cost put to bid starting at 11 % with the additional bid performance guarantee being 0.1% and this additional performance guarantee percentage shall be applied on the bid price;

(ii) **where the bid price is 20% or more below 30% of the project cost put to bid**, the additional performance guarantee percentage shall be incremented by 0.2% for every percentage of bid price below 20% of the project cost put to bid in addition to 1% of the bid price and this additional performance guarantee percentage shall be applied on the bid price.

(iii) **the Additional Performance Security for the bids where the bid price is 30% or more below of the project cost put to bid,** shall be incremented by 0.5% for every percentage of bid price below 30% of the project cost put to bid in addition to 3% of the bid price and this additional performance guarantee percentage shall be applied on the bid price.

(iv) The additional performance guarantee percentage shall be rounded off to the next Lower percentage based on whether the decimal point of the percentage of bid price is below 0.5% or next higher percentage based on whether the decimal point of the percentage of bid price is 0.5% or more.

(v) The Additional Performance Security shall be treated as part of the Performance Security

F. AWARD OF CONTRACT

29. Award Criteria

29.1 Subject to Clause 31, the Employer will award the Contract to the Bidder whose Bid has been determined to be substantially responsive according to the bidding documents and who has offered the lowest evaluated Bid price. The value of Bid Price shall be inclusive of amount of Emergency Works.

29.2 The Bidder shall be declared as the selected Bidder (the "Selected Bidder") in pursuance to the procedure defined hereunder:

Among all the responsive bidder, the lowest bidder will be termed as L1. If L1 is "Class-I Local Supplier", the contract will be awarded to L1.

If L1 is not "Class - I local supplier" the lowest bidder among the "Class - I local supplier", will be invited to match L1 price subject to Class I local supplier's quoted price falling within the margin of purchase preference, and the contract will be awarded to such "Class - I local supplier" subject to matching the L1 price.

In case such lowest eligible 'Class - I local supplier' fails to match the L1 price, the "Class - I local supplier" with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly.

In case none of the 'Class - I local supplier' within the margin of purchase preference matches the L1 price, the contract shall be awarded to the L1 bidder.

'Margin of purchase preference" means the maximum extent to which the price quoted by a 'Class - I local supplier' may be above the L1 for the purpose of purchase preference. The margin of purchase preference shall be 20%.

30. Employer's Right to accept any bid and to reject any or all bids

30.1 Notwithstanding **Clause 29**, the Employer reserves the right to accept or reject any Bid, and to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Employer's action.

31. Notification of Award and Signing of Agreement.

31.1 The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by e-mail or facsimile confirmed by registered letter. This letter (hereinafter and in the Part I *General Conditions of Contract* called the "Letter of Acceptance") will state the sum that the Employer will pay to the Contractor in consideration of the execution, completion of maintenance Works (Initial rectification works, periodical maintenance works, Routine maintenance works and Emergency works) by the Contractor as prescribed in the Contract (hereinafter and in the Contract called the "Contract Price"). The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 32.

For avoidance of doubt Contract Price and Bid Price are same and inclusive of Emergency Works

31.2 The Agreement will incorporate all agreements between the Employer and the successful Bidder. It will be signed by the Employer and the successful Bidder after the performance security is furnished.

31.3 Upon furnishing of the Performance Security by the successful Bidder, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

32. Performance Security

32.1 Within 30 (Thirty) days after receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer in the form of insurance surety bond in the format at Appendix-IA Annexure XII, Account Payee Demand Draft, Bankers Cheque, an irrevocable and unconditional guarantee e-Bank Guarantee from a Bank in the form set forth in Section-4 (the "Performance Security") of 3% (three) percent of the Contract Price plus any additional security for unbalanced Bids in accordance with ITB Clause 28.2 , valid for the period of 60 days after the expiry of defect liability period and sign the contract. The validity shall account for additional 3 months' time for Bank Guarantee verification, signing of contract and start date.

(A) The performance security in form of Bank Guarantee, in the name of the Employer, from following banks would be accepted: -

i) State Bank of India or its subsidiaries,

ii) Any Indian Nationalized Bank

iii) IDBI/ICICI Bank

iv) A Foreign Bank (issued by a branch outside India) with a counter guarantee from SBI or its subsidiaries or any Indian Nationalized Bank.

v) Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs. 1000 crore as per the latest Annual Report of the Bank. In the case ofa Foreign Bank (issued by a branch in India), the net worth in respect of the Indian operations shall only be taken into account.

(B) This Guarantee shall be transmitted through SFMS Gateway to Authority's Bank.

(C) The acceptance of the guarantees shall also be subject to the conditions that the capital adequacy of the Bank shall not be less than the latest norms prescribed by RBI.

(D) The bank guarantee issued by a Cooperative Bank shall not be accepted.

32.2 The agreement will be executed within 10 days of receipt of Performance Security.

32.3 Failure of the successful bidder to comply with the requirement of ITB **Clause 32.1** shall constitute sufficient ground for cancellation of the award and forfeiture of the Bid Security and debarment for a period as specified in ITB **Clause 16.7**.

33. Advances

33.1 The Employer will provide Mobilization Advance as provided in General Conditions of Contract (GCC).

G. CORRUPT OR FRAUDULENT PRACTICES

34. Corrupt or Fraudulent Practices

34.1 The bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the bidding process. Notwithstanding anything to the contrary contained herein, the Employer may reject any bid without being liable in any manner whatsoever to the bidder if it determines that the bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the bidding process.

34.2 Without prejudice to the rights of the Employer under Clause 34.1 hereinabove, if any bidder is found by the Employer to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the bidding process, such bidder shall not be eligible to participate in any tender issued by the Employer during a period of 2 (two) years from the date such bidder is found by the Employer to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.

34.3 For the purposes of this Clause 34, the following terms shall have the meaning hereinafter respectively assigned to them:

a) "Corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the bidding process (for avoidance of doubt, offering of employment to, or employing, or engaging in any manner whatsoever, directly or indirectly, any official of the Employer who is or has been associated in any manner, directly or indirectly, with the bidding process or has dealt with matters concerning the Contract or arising therefrom, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Employer, shall be deemed to constitute influencing the actions of a person connected with the bidding process); engaging in any manner whatsoever, whether during the bidding process or after the award or after the execution of the Contract, as the case may be, any person in respect of any matter relating to the Works, who at any time has

been or is a legal, financial or technical adviser of the Employer in relation to any matter concerning the Works;

b) "fraudulent practice" means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the bidding process;

c) "coercive practice" means impairing or harming or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the bidding process;

d) "undesirable practice" means establishing contact with any person connected with or employed or engaged by the Employer with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the bidding process; and "restrictive practice" means forming a cartel or arriving at any understanding or arrangement among bidders with the objective of restricting or manipulating a full and fair competition in the bidding process.

The Employer requires the Bidder/Contractor to strictly observe the laws against fraud and corruption enforced in India, namely Prevention of Corruption Act, 1988.

H. LABOUR LAWS AND FUNDAMENTAL BREACH

35. Labour Laws and Regulations

35.1 The Bidders shall be aware of the provisions of various Labour Laws, Regulations and Welfare Measures applicable for Construction Workers in India, and other obligations stated in the Conditions of Contract.

36. Fundamental breach and other obligations

36.1 The Bidders shall be aware of the provisions of Fundamental Breach and other obligations stated in the Conditions of Contract.

SECTION-2

Appendix to ITB

ITB Clause Reference

The Employer is Regional Office - Siliguri (West Bengal), National Highway & Infrastructure Development Corporation Ltd., Unit 402, Quantum Building, Parivahan Nagar, P.O & P.S. Matigara, Pin Code 734010.

Name and identification number of Works and services under this contract shall be as below:

Performance Based Maintenance Contracts (PBMC) for Strengthening and Maintenance on (i) NH-717 for highway starting from its junction with NH-17 near Baradighi connecting NH-27 near Mainaguri, Cangrabandha and terminating at Indo/Bangladesh Border in the State of West Bengal and (ii) NH-317A for highway starting from its junction with NH-317 near Hasimara connecting Jaigaon and terminating at Indo/Bhutan Border in the state of West Bengal during the FY 2026-2027 (3rd Call).

The Works and Services under the contract will cover the Roads indicated above and will consist of:

a) Rzoutine Maintenance (RM) Services or "Services" consisting of all interventions on the Roads which are to be carried out by the contractor in order to achieve and keep the Road performance standards defined by the Service Level included in Section 5, Specifications for Works and Services of this bidding document, and all activities related to the management and evaluation of the road network under contract;

b) Initial Rectification (IR) works, as indicated in the Section 7 for the sections of the Road(s), consisting of specific types of civil works described in the Specifications; however, contractor is to make his own assessment for minimum works required to be executed to bring the road condition within the defined service levels in first six months as per the contract document

c) Periodic Maintenance (PM) works to be executed when requested in the Section 7 for the sections of the Road(s), consisting of specific types of civilworks described in the Specifications;

d) Emergency Works consisting of activities needed to do the temporary restoration of roads, structures and other Assets in the right of way which has been damaged as a result of natural phenomena with imponderable consequences, such as strong storms, flooding, and earthquakes

[(4.1 j (1)][3] The key equipment to be deployed on contract work shall be as per requirement of the work as decided by the Engineer & incorporated in the Maintenance Program

3 Indicative and Employer would need to change the same to suite the requirements of the project

Name of the Equipment **Quantity**

(a) For bituminous/concrete pavement and earthwork:

1. 2 Nos of Mobile Maintenance Unit with necessary equipment –

S. No.	Project Length for maintenance	No. of Mobile units*
1	Up to 50 km	1
2	More than 50 km and up to 150 km	2
3	More than 150 km and up to 300 km	3

(*)- Project length specified in Table above is indicative. The Employer while inviting bids may review for making appropriate provision about number of mobile units required.

The MMU shall be a new truck or already purchased (minimum 6 tonne) well fabricated and GPS enabled to meet the requirement, painted and labelled appropriately for safety and public awareness to the Employer's satisfaction. **Each MMU shall have as a minimum requirement:**

i. 1 No. Patrol Foreman
ii. 1 No Heavy Vehicle Driver
iii. 5 No. Maintenance Workers
iv. MMU to be equipped with 2 no Mobile Phone
v. Geotag Enabled Camera for video recording the section in Full HD quality (1920 x 1080 pixels)
vi. 1 No. Jack Hammer
vii. 1 No. Compressor
viii. 1 No. Vibrating Plate Compactor
ix. 1 No. Chainsaw
x. 2 No. Portable grinders
xi. 2 No. steel wire brush
xii. 5 No. Putty knife
xiii. 1.0. m3 Cold Storable Bituminous Premix and 0.5 m3 of sand
xiv. 25 kg of General Purpose, Non-shrink Cementitious Grout
xv. 5 kg Epoxy Grout
xvi. 0.25 m^3 GSB Grade-V/VI (MoRTH specification 401)
xvii. 0.25 m^3 WMM (MoRTH specification 406)
xviii. Cold Poured Joint Sealing Compound (MoRTH specification 602.2.10)
xix. 2 No. "Half Road Closed" Signs
xx. 2 No. "Roadworks Ahead Signs"
xxi. 12 No. 300 mm plastic "high visibility" colored traffic cones
xxii. 200 kg drum of Bitumen Emulsion
xxiii. A hand (or electric) Emulsion Spray Pump
xxiv. A Portable Electric Air Blower

xxv. 200 litre drum of Water
xxvi. 2 No. Rakes
xxvii. 2 No. Long Handle Shovels
xxviii. 2 No. Long Handle Heavy Duty Brooms
xxix. 2 No. Picks
xxx. High Visibility Jackets (Uniform) for all the MMU crew
xxxi. Foldable aluminum ladder.
xxxii. Operational Flashing amber lights fitted to the Patrol Truck
xxxiii. Mobile Maintenance Unit (MMU) Vehicle Identification visibly painted on Vehicle (Contractor's Name, Client's Name, Road Names, Unit No., and Emergency Contact Phone No.)
xxxiv. Grass Cutter
xxxv. 1 No. Patrol Vehicle
xxxvi. 1 No. Ambulance
xxxvii. 1 No. Tow Away Crane

Incident Management deployed by the Contractor shall be in compliance to (For Ambulance, Tow Away Crane) MoRTH Circular regarding ToR for Incident Management no. RW/G-23012/01/2019-W&A (Pt.III) dated 22.03.2021 and (For Patrol Vehicle) NHAI Policy Circular No. 12.36 dated 12.012.2024.

The MMU shall also be the "Initial Emergency Response Unit" along with Route Patrol Vehicle and shall have the capability of the following:

- Capable to hold a half cubic metre of sand (or other suitable absorptive or granular material depending on the nature of the requirement);
- After hour response a minimum two-person crew;
- Emergency kit of temporary warning signs, flashing lights, barriers, safety clothing, shovels and brooms.

Also, the MMU must carry at all times the Emergency No. of Police, Fire, Ambulance, Medical/Hospital Centre along entire route to facilitate help in event of accidents and emergency encountered. A listing of all emergency contact phone numbers shall be circulated by the Contractor to all relevant officers, including the Contractor's staff and the Employer prior to the Start Date.

2.	** Batch Type HMP (100 – 120 TPH)	2
3.	** Sensor Paver	3
4.	Pneumatic Tyre Roller (12 – 15 T)	4
5.	** Vibratory Roller (8/10 T)	4
6.	Static Roller (8/10 T)	2
7.	Small Roller/ Compacter	2
8.	Bitumen / Emulsion Sprayer	3
9.	Mechanical Broom (1250 sqm per hour)	3
10.	Air compressor (450)	3
11.	Grader (self-propelled/inbuild)	3

12.	Backhoe Loader (self-propelled/inbuild)	4
13.	Excavator	5
14.	Water Tanker (self-propelled/inbuild)	4
15.	Dewatering Pumps	4
16.	Tipper/dumper Truck	8
17.	Front end loader (self-propelled/inbuild)	4
18.	Self-loading concrete mixture (1-3 cum capacity)	4
19.	String Line Set	3
20.	Spot Mix Hot mix plant (4-10 TPH Capacity)	2
21.	Automatic Pot Hole filing, Compacting & Patching Machine as per specifications given in the Maintenance Manual of NHAI has been circulated vide NHAI Policy Circular No. 9.4.31 /7025 dated 27.09.2025.	1
22.	Mechanized Road Sweeping Machine as per specifications given in the Maintenance Manual of NHAI has been circulated vide NHAI Policy Circular No. 9.4.31 /7025 dated 27.09.2025.	2
23.	Road Milling Machine	1

Note: (**) - Equipment to be included if periodic maintenance is also included in the contract.

➢ **Specifications for Automatic pot hole filing, compacting and patching machine as provided in NHAI Maintenance Manual:** Repair of potholes, surface patches, cracks, minor ruts and undulations with Bituminous Mixes/Sealants of suitable grade as per applicable specifications of MoRTH should be done using automated Machine/Equipment as the use of automated Machine/Equipment improves the quality control of the repair and takes lesser time.

(i) Generic Specifications of Automatic pot hole filing, compacting and patching machine:

• The equipment should be contained in a single vehicle with operator/Driver cabin with electronic controls and proper instrumented control panels for monitoring and controlling patch repair operations.

• The Machine should be able to fill the potholes and seal the cracks mechanically, in a fully automated process that should include cleaning the damaged area with a jet blast of air, spray emulsion on the patch from an in-built spraying gun, dispense Hot Asphalt Mix from an in-built chamber with heating arrangement and should have in-built vibratory compactor. The machinery should be such that it causes minimum disturbances to the movement of vehicular traffic on road.

• The Machine shall be capable of working with bituminous mixes of suitable grade, after removal of all failed materials, cleaning of surface, applying tack coat, compacting and finishing the surface to form a smooth, continuous surface and filling of cracks with bituminous emulsion using fully automated machine including removal of unusable materials / leftovers etc. The machine should have in-built provision of Cutter, Blower, Tack Coat Sprayer, Hot Asphalt Dispenser and Vibratory Roller capable of combining mechanically the processes of cutting the distressed surface to required size and depth, cleaning the surface, applying tack coat, dispensing asphalt mix and rolling.

• The equipment should be capable of pothole filling, surface repair and crack filling, rectification

of spalled areas, depressions and ravelled areas of damaged pavement edges in roadway surfaces.

• The machine should have pneumatic cutter-breaker to remove loose rocks/stones, air blower to clean the damaged area, emulsion container of minimum 150 litres tank capacity with arrangement to spray, hot bituminous container of minimum 5 tons capacity with dispensing system and proper controls to ensure dispensing of right quantity, at the recommended temperature of 90-100 degrees centigrade and 8-10 tons vibratory compactor which can exert hydraulic pressure for proper compaction of mix. Safe cabin for the driver/operator, Traffic control indicator lights when the work is in progress and work lights mounted on the vehicle making it capable of working in the night.

• The equipment shall be completely controlled by one person from the driver's position of the equipment's cab with no support equipment must be used. The machine must be capable of patching while moving forward or reverse, must be capable to perform all patching functions with transmission engaged and in motion.

• The machine should also be able to capture the GPS locations as well as photographs of the repaired The Equipment should be capable of doing the road repairs during night time to avoid traffic disturbance in the day time.

• Width and height of the equipment to meet RTO requirements without requiring oversize Permits.

• Additional Features: Lights, Day time running lights, Map light, turn signal/hazard, 12-volt power outlet, Air, Coolant, Fuel, Temperature Gauge, Speed-o-meter C Trip meter, Tachometer, back up alarm, tinted glass, Tool box mounted on the equipment.

(ii) Specifications of Material to be used in the machine:

All Material used in the machine shall conform to specifications for BITUMINOUS WORK IN CONNECTION WITH MAINTENANCE AND REPAIR as per latest edition of Specifications for Road and Bridge Works issued by the Ministry of Road Transport & Highways (MORT&H), Government of India and published by the Indian Roads Congress (IRC) Specifications and Material Specifications items.

- **Minimum Tentative Specifications for Mechanised Road Sweepers as provided in NHAI Maintenance Manual**

Description	Generic Specifications
Purpose	Road Vacuum Sweeping, Street Sweeping
Vehicle Engine	BS 6 or better
Drive	RHD
Type	Truck Mounted Vacuum Road Sweeping Machine
Sweeping Area/Hr	36000 Sq. Mtr/Hr at a speed of 12 km/h. (Including side Brushes) (If the brushes are opened from 2 sides)
Debris Hopper Capacity	Effective 10 Cu. Mt for each 100 km of 4/6 lane NH
Number of Main Brushes	Total 3 brushes: 1 Central brush and 2 side brushes
Additional Front Brushes with High pressure washing system	There will be two additional brushes in front of the vehicle with the high pressure washing spraying system with mist technology
Sweeping Side Brushes	Two side brushes of dia 600 mm made of Nylon bristles. All Brushes are driven directly by hydraulic motors

Description	Generic Specifications
Sweeping Central Brush	One horizontal brush min 1200 mm long with Dia 400 mm. To avoid conical wearing, It should not be carried by the truck chassis directly, but by a 3-point bracket, 2 points of which are carried by the axle of the truck.
Manual Sweeping with Wander House	Hand held vacuum with a wander house with A 5mt-long flexible suction hose which is 150mm diameter with nozzle to be provided at the rear of machine for manual cleaning of areas where the machine cannot reach. It's equipped with hanger apparatus with pneumatic system.
Sweeping Width without front brushes	3000 mm with One Centre Brush+ Two side rotary brushes
Sweeping Speed	0 To 20 Km/hr depending on road conditions
Suction Fan	High efficiency multi bladed dynamically balanced vacuum Fan impeller is driven by the auxiliary engine via a disc type clutch which is of automotive type for availability and gear box for ensuring sufficient Vacuum Power for sweeping system at low noise Levels
Suction Power	Shall be capable of 17500 m3/hour at 1350 rpm/min
Suction Rating	Min. 260 M3/Minute.
Suction Nozzles	Operated openings for large objects capable of lifting stones up to 100 mm, leaves, sand and other material from the road
Hydraulic System	Reservoir capacity 80 Lt. Hydraulic pump PTO driven with protection relief valve Control Valve-Solenoid Operated from the control panel. Filtration system 28 micron
Water tank	900 lt made of stainless steel. The water tank must be suitable for entering in and cleaning the mud inside it thoroughly which is very likely to precipitate in time, even the garbage tank is full with garbage.
Water Pump Pressure	150 bar
Lights For Night Work	Search lights on side brushes and rear of the machine to be provided.
Sweeping Controls	All sweeping and unloading controls are provided on control panel. Brushes up down and on off is controlled from the Cabin with the help of a remote control
Control Panel	PLC control system with touch screen which enables all operations plus additional mechanical control buttons in the vehicle cab for running brushes
Filtration Standard	Sweepers must have PM2.5 label as certified by National/International Certification Agencies
Cleaning System	With Water sprinkling nozzles at minimum 25 places
CCD Camera System	Atleast 700TVL CMOS Cameras, one on Sweeping Head and Second at rear of machine to be provided to monitor the sweeping and ensuring safe reversing of machine
Washing Gun	10 metre washing gun with min.150 bar

Description	Generic Specifications
Controls and Others	Easily accessible PLC Touchpad Screen and keypad on control panel mounted in front of operator that controls the following: 1) Suction Fan Drive ON/OFF 2) Roller C Rotary Brush ON/OFF 3) Sweeping Head C Brush UP/Down 4) Debris Hopper Tipping 5) Water Spray ON/OFF 6) LCD Monitor 7) Equipment Lights ON/OFF 8) Emergency Stop 9) Air Pressure Gauge 10) Floodlights for easy sweeping

(a) For Concrete pavement:

Other Equipment to be deployed as per the Requirement of the Work items besides as listed in (a) above.

(b) For culverts, bridges and structures:

Mention Equipment to be deployed as per the Requirement of the Work items

(c) Other equipment:

As per Requirement of the Works

Note: All the equipment as above shall be factory fitted equipment and equipment with outside factory modifications shall not be considered for evaluation. All the equipment as above shall be of minimum specifications as provided in (i) POCKET BOOK FOR ROAD CONSTRUCTION EQUIPMENT (2018) published by IRC (ii) NHAI Maintenance Manual or other IRC specifications. The bidder must upload scanned copy of the documentary evidence in support of his owning/ leased/rented of the above equipment along with fitness certificates. In case the bidder proposes to hire or take the above equipment on lease, he should, along with the lease/rent agreement, attach the proof of ownership of this equipment with the company/entity from whom the equipment is proposed to be hired on lease/rent. Any conditional evidence of deployment of above equipment or inadequate proof as required for any of the equipment shall make the bid non-responsive and financial bid shall not be opened.

[4.1 j (2)][4] The Number of Technical Personnel, Qualifications and Experience will be as follows:

Sl. No.	Personnel	Qualification	Particular Experience (minimum requirement)	No. of Persons
1	Project Manager	Degree in Civil Engineering	8 years as Project Manager/ Team Leader of Consultancy Contract on Highway, Bridge construction/ Maintenance works	1
2	Site Engineer-cum-Surveyor Engineer cum Material Engineer	Degree in Civil Engineering	4 years on Highway Construction/ Maintenance works	3
3	Incident cum Road Property Manager cum Route Operation Manager	Graduate from a recognized University	3 years on Highway Property Management and Maintenance	2
4	Road Safety Auditor	Road Safety Audit Certificate from appropriate approved Govt. agency	5 years' experience	1 (3 days in every 3 months)

Note: The signed CVs (each CV must be signed by concerned key personnel and the bidder) must be uploaded along with undertaking by the bidder and individual undertaking by each key personnel confirming their availability for the project. **Non-compliance of the above or non- furnishing of the CV as above or conditional deployment of any of the above personnel or proposal to employ lesser number of personnel than above shall make the bid non-responsive and financial bid shall not be opened.** All such CVs are subject to the acceptance by the Concerned Project Director/s.

---

4 Indicative and Employer would need to change the same to suite the requirements of the project

[NIT] and Clause 20:- The contact person is:

Executive Director (P)
Regional Office - Siliguri (West Bengal)
National Highway & Infrastructure Development Corporation Ltd.
Unit 402, Quantum Building, Parivahan Nagar,
P.O & P.S. Matigara, Pin Code 734 010.
Email: edp-siliguri@nhidcl.com

[9.2.1] Pre-bid meeting shall be held as per NIT.

SECTION – 3

QUALIFICATION INFORMATION

The information to be filled in by the Bidder in this section and documents submitted in physical form by the lowest Bidder will be used for the purposes of post qualification as provided for in **Clause 4** of the Instructions to Bidders. This information will not be incorporated in the Contract.

Appendix-IA

ANNEX-I

Details of Bidder

1.

(a) Name:

(b) Country of incorporation:

(c) Address of the corporate headquarters and its branch office(s), ifany, in India:

(d) Date of incorporation and/ or commencement of business:

2. Brief description of the Bidder including details of its main lines of business and proposed role and responsibilities in this Project:

3. Details of individual(s) who will serve as the point of contact/ communication for the Authority:
   a. Name:
   b. Designation:
   c. Company:
   d. Address:
   e. Telephone Number:
   f. E-Mail Address:
   g. Fax Number:

4. Particulars of the Authorised Signatory of the Bidder:
   a. Name:
   b. Designation:
   c. Address:
   d. Phone Number:
   e. Fax Number:
   f. Class III Digital Signature Certificate ID number

5. In case of a Joint Venture:
   a. The information above (1-4) should be provided for all the Members of the Joint Venture.
   b. A copy of the Jt. Bidding Agreement, as envisaged in Clause 3.2 (f) should be attached to the Application.
   c. Information regarding the role of each Member should be provided as per table below:

Sl.	**Name of Member**	**Role*** {Refer Clause 3.2 (d)} [$]	**Share of work in the Project** {**Refer** Clauses 3.2(a), (f) & (g)}
1.			
2.			
3.			

$ All provisions contained in curly parenthesis shall be suitably modified by the Applicant to reflect the particulars relating to such Applicant.

* The role of each Member, as may be determined by the Applicant, shouldbe indicated in accordance with instruction 4 at Annex-IV.

d. The following information shall also be provided w.r.t clause 3.3 for each Member of the Joint Venture:

Name of Applicant/ member of Joint Venture:

Sl. No.	Criteria	Yes/No
1.	Has the Bidder/ constituent of the Joint Venture been **barred** by the Ministry of Road Transport & Highways or its implementing agencies for the works of Expressways, National Highways, ISC and El works, from participating in bidding?	
2	If the answer to 1 is yes, does the bar subsist as on BID due date.	

6(a) I/ We certify that in the last two years, we/ any of the JV partners have neither failed to perform for the works of Expressways, National Highways, ISC & EI works, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitral award against us, nor been expelled or terminated by Ministry of Road Transport & Highways or its implementing agencies for breach on our part.

(b) I/ We certify that we/ any of the JV partners do not fall in any of the categories of being a Non-Performing entity given at Clause 3.3 of Instructions to Bidders in the projects of Expressways, National Highways, ISC and EI works of Ministry of Road Transport & Highways or its implementing agencies and furnished the complete details.

7(a) I/ We further certify that no investigation by a regulatory authority is pending either against us/any member of Joint Venture or our sister concern or against our CEO or any of our directors/managers/employees.

(b) I/ We further certify that no investigation by any investigating agency in India or outside is pending either against us/ any member of Joint Venture or our sister concern or against our CEO or any of our directors/managers/employees.

A statement by the Bidder and each of the Members of its Joint Venture (where applicable) disclosing material non-performance or contractual non-compliance in current projects, as on bid due date is given below (attach extra sheets, if necessary) w.r.t. Clause 3.3.

Name of the Bidder /Member of JV:

Sr. No.	Categories of Non-Performer	Name of the Projects (s)
(i)	Fails to set up institutional mechanism and procedure as per Contract.	
(ii)	Fails to mobilize key construction equipment within a	
	period of 4 months from the appointed date	
(iii)	Fails to complete or has missed any milestone and progress not commensurate with contiguous unencumbered project length /ROW available even after lapse of 6 months from respective project milestone / Schedule Completion date, unless Extension of Time has been granted due to Authority's Default of Force Majeure;	
(iv)	Fails to achieve progress commensurate with funds released from Escrow Account (Equity +Debt + Grant) in BOT or HAM project and variation is more than 25% in the last 365 days;	
(v)	Fails to achieve target progress or complete the project as per schedule agreed at the time of sanctioning of funds under One Time Funds Infusion (OTFI) or relaxations to contract conditions to improve cash flow solely on account of Concessionaire's/contractor's failure/default;	
(vi)	Fails to complete rectification (excluding minor rectifications) as per time given in non-conformity reports (NCR) in design/completed works/maintenance or reported in Inspection Reports issued by Quality Inspectors deployed by the Authority or Officers of the Authority.	
(vii)	Fails to complete minor rectifications exceeding 3 instances in a project as per time given in non- conformity reports (NCR) in design/completed works/maintenance;	
(viii)	Fails to fulfil its obligations to maintain a highway in a satisfactory condition in spite of two rectification notices issued in this regard;	
(ix)	Damages/penalties recommended by Independent/ Authority's Engineer during O&M Period and remedial works are still not taken up;	
(x)	Fails to complete Punch List items even after lapse of time for completion of such items excluding delays attributable to the Authority;	
(xi)	Occurrence of Minor failure of structures/highway due to construction defect wherein no causalities are reported (causalities include injuries to human being/animals);	
(xii)	Occurrence of major failure of structures/highway due to construction defect wherein no casualties are reported (causalities include injuries to human being/ animals;	
(xiii)	Occurrence of major failure of structures/highway due to construction defect leading to loss of human lives	

Sr. No.	Categories of Non-Performer	Name of the Projects (s)
	besides loss of reputation etc. of the authority;	
(xiv)	Fails to make premium payments excluding the current instalment in one or more projects;	
(xv)	Fails to achieve financial closure in two or more projects within the given or extended period (which shall not be more than six months in any case);	
(xvi)	Fails to submit the Performance Security within the permissible time period in more than one project;	
(xvii)	Rated as an unsatisfactory performing entity/ non-performing entity by an independent third-party agency and so notified on the website of the Authority.	
(xviii)	Failed to perform for the works of Expressways, National Highways, ISC & EI works in the last 2(two) years, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitral award against the Bidder, including individual or any of its Joint Venture Member, as the case may be.	
(xix)	Expelled from the contract or the contract terminated by the Ministry of Road Transport & Highways or its implementing agencies for breach by such Bidder, including individual or any of its Joint Venture Member;Provided that any such decision of expulsion or termination of contract leading to debarring of the Bidder from further participation in bids for the prescribed period should have been ordered after affording an opportunity of hearing to such party.	
(xx)	Fails to start the works or causes delay in maintenance & repair/overlay of the project.	

I/ We certify that the list is complete and covers all the projects of Expressways, National Highways, ISC and EI works of Ministry of Road Transport & Highways or its implementing agencies and that we/ any of the JV partners do not fall in any of the above categories of being a Non-Performing entity.

(Signature, name and designation of the authorised signatory)

For and on behalf of .....

ANNEX-II

Technical Capacity of the Bidder@

(*Refer to Clauses 4.3, 4.6 and 4.8 of the RFP*)

Applicant Type	**Project Code***	**Cate-gory$**	**Experience** (Equivalent Rs. crore) $**		**Technical Experience £**
			Payments received for construction/ maintenance of Eligible Projects in Categories 3	Value of self-construction/ maintenance in Eligible Projects in Categories 1	
(1)	(2)	(3)	(4)	(5)	(6)
Single entity Bidder or Lead Member including other members of the Joint Venture	A				
	B				
	C				
	D				
	E				
	F				
				Aggregate Technical Experience =	

@ *Provide details of only those projects that have been undertaken by the Applicant, or its Lead member including members in case of joint venture, under its own name separately and/ or by a project company eligible under Clause 4.7(i)(b). In case of Categories 1 and 2, include only those projects which have an estimated capital cost exceeding the amount specified in Clause 4.7 (i)(c) and for Categories 3 and 4, include only those projects where the payments received exceed the amount specified in Clause4.7(ii).*

** Refer Annex-IV of this Appendix-I. Add more rows if necessary.*

* *Refer Clause 4.6 (i)*

*** Construction shall not include supply of goods or equipment except when such goods or equipment form part of a turn-key construction contract/ EPC contract for the project.In no case shall the cost of maintenance and repair, operation of Highways and land be included while computing the Experience Score of an Eligible Project.*

*$$ For conversion of US Dollars to Rupees, the rate of conversion shall be Rupees ** (**)*[5] *to a US Dollar.*

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[5]*The conversion rate of USD into Rupees shall be the daily representative exchange rates published by the Reserve Bank of India for the relevant date. Where relevant date should be as on the date 28 (twenty-eight) days prior to the Application Due Date.*

£. *In the case of an Eligible Project situated in an OECD country, the Experience Score so arrived at shall be further multiplied by 0.5, in accordance with the provisions of Clause*
(ii) and the product thereof shall be the Experience Score for such Eligible Projects.

NOTE: In case of a Joint Venture, information in Annex-II and Annex-IV of Appendix-IA shall be provided separately for other Members so as to establish that each such Member has 20 percent or more of the Threshold Technical Capacity. (Refer Clause 4.5).

ANNEX-III

Financial Capacity of the Bidder

(*Refer to Clauses 4.4, 4.10(i), 4.9(iii) of the RFP*)

(In Rs. crore[$])

Bidder type	**Net Cash Accruals**					**Net Worth[£]**
	Year1	**Year2**	**Year3**	**Year4**	**Year5**	**Year 1**
Single entity Bidder or Lead Member including other members of the Joint Venture						
TOTAL						

Bidder type	**Annual Turnover**										**Average Annual Turnover (In Rs. crore$)**
	Year 1		**Year 2**		**Year 3**		**Year 4**		**Year 5**		
	(Rs.)	Updation factor	(Rs.)	Updation factor	(Rs.)	Updation factor	(Rs.)	Updation factor	(Rs.)	Updation factor	
1	2	3	4	5	6	7	8	9	10	11	(2x3+4x5+6x7+8x9+10x11)/5
Single entity Bidder or Lead Member including other members of the Joint Venture		1.00		1.05		1.10		1.15		1.20	

Name & address of Bidder's Bankers:

[$] For conversion of other currencies into rupees, see note below Annex-II of Appendix-I.

[£]The Bidder should provide details of its own Financial Capacity.

Instructions:

1. The Bidder shall attach copies of the balance sheets, financial statements and Annual Reports for 5 (five) years preceding the Bid Due Date. The financial statements shall:

(a) reflect the financial situation of the Bidder;
(b) be audited by a statutory auditor;
(c) be complete, including all notes to the financial statements; and
(d) correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

2. Net Cash Accruals shall mean Profit After Tax + Depreciation.

3. Net Worth (the "Net worth") shall means the aggregate value of the paid-up share capital and all reserves created out of the profits and securities premiumaccount, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation.

4. Year 1 will be the latest completed financial year, preceding the bidding. Year 2 shall be the year immediately preceding Year 1 and so on. In case the Bid Due Date falls within 3 (three) months of the close of the latest financial year, refer to Clause 4.4.

5. In the case of a Joint Venture, a copy of the Jt. Bidding Agreement shall be submitted in accordance with Clause 3.2 (f) of the RFP document.

6. The Bidder shall also provide the name and address of the Bankers to the Bidder.

7. The Bidder shall provide an Auditor's Certificate specifying the net worth of theBidder and also specifying the methodology adopted for calculating such net worth in accordance with Clause 4.10 (ii) of the RFP document.

ANNEX-IV

Details of Eligible Projects

(*Refer to Clauses 4.3, 4.6 and 4.8 of the RFP*)

Project Code: **Entity: Self/Members:**

Item	**Refer Instruction**	**Particulars of the Project**
Title & nature of the project		
Category	5	
Year-wise (a) payments received for construction/ maintenance or work executed and certified by the Engineer-in-charge/Independent Engineer/Authority's Engineer, and/or (b) revenues appropriated for self-construction/ maintenance under PPP projects	6	
Entity for which the project was constructed /maintained	7	
Location		
Project cost	8	
Date of commencement of project/ contract		
Date of completion/ commissioning	9	
Equity shareholding (with period during which equitywas held)	10	

Instructions:

1. Bidders are expected to provide information in respect of each Eligible Projects in this Annex. The projects cited must comply with the eligibility criteria specified in Clause 4.7 (i) and 4.7 (ii) of the RFP, as the case may be. Information provided in this section is intended to serve as a backup for information provided in the Application. Applicants should also refer to the Instructions below.
2. The Project Codes would be a, b, c, d etc.
3. A separate sheet should be filled for each Eligible Project.
4. In case the Eligible Project relates to other Members, write "Member".
5. Refer to Clause 4.6 of the RFP for category number.
6. The total payments received and/or revenues appropriated for self-construction/ maintenance for each Eligible Project are to be stated in Annex-II of this Appendix- I. The figures to be provided here should indicate the break-up for the past 5 (five) financial years. Year 1 refers to the financial year immediately preceding the Bid Due Date; Year 2 refers to the year before Year 1, Year 3 refers to the year before Year 2, and so on (Refer Clause 4.3). For Categories 1 and 2, expenditure on construction/maintenance of the project by the Applicant itself should be provided, but only in respect of projects having an estimated capital cost exceeding the amount specified in Clause 4.7 (i)(c). In case of

Categories 3 and 4, payments received only in respect of construction/ maintenance should be provided, but only if the amount received exceeds the minimum specified in Clause 4.7(ii). Receipts for construction works include capital expenditure, as well as expenditure on maintenance & repair and operation of Highways.

7. In case of projects in Category 1, particulars such as name, address and contact details of owner/ Authority/ Agency (i.e. concession grantor, counter party to concession, etc.) may be provided. In case of projects in Category 3, similar particulars of the client need to be provided.
8. Provide the estimated capital cost of Eligible Project. Refer to Clauses 4.7 (i) and 4.7 (ii)
9. For Category 1, the date of commissioning of the project, upon completion, should be indicated. In case of Categories 3, date of completion of construction should be indicated. In the case of projects under construction, the likely date of completion or commissioning, as the case may be, shall be indicated.
10. For Category 1, the equity shareholding of the Bidder, in the company owning the Eligible Project, held continuously during the period for which Eligible Experience is claimed, needs to be given (Refer Clause 4.7 (i)).
11. Experience for any activity relating to an Eligible Project shall not be claimed twice. In other words, no double counting in respect of the same experience shall be permitted in any manner whatsoever.
12. Certificate from the Bidder's statutory auditor[$] or its respective clients must be furnished as per formats below for each Eligible Project. In jurisdictions that do not have statutory auditors, the auditors who audit the annual accounts of the Bidder may provide the requisite certification.
13. If the Bidder is claiming experience under Categories 1[£], it should provide a certificate from its statutory auditor in the format below as per Clause 4.7 (i) (d)

Certificate from the Statutory Auditor regarding PPP projects[Φ]

Based on its books of accounts and other published information authenticated by it, this is to certify that …….. *(name of the* Bidder*)* is/ was an equity shareholder in …….. *(title of the project company)* and holds/held Rs. …… cr. (Rupees …….. crore) of equity (which constitutes ……..%[€] of the total paid up and subscribed equity capital) of the project company from ……... *(date)* to …….. *(date)*[¥] The project was/is commenced on ……(date) and likely to be commissioned on ….....*(date of commissioning of the project)*.

We further certify that the total estimated capital cost of the project is Rs.....cr. (Rupees ……crore), of which the applicant has itself undertaken the construction/ Maintenance of project of Rs. ……(Rupees ……. Crores) excluding any part of the project Appointed for the purpose of construction/ maintenance by the aforesaid Applicant itself, during the past five financial years as per year-wise details noted below:

……

……

Name of the audit firm:

Seal of the audit firm (Signature, name and designation Date: of the authorised signatory)

[$] In case duly certified audited annual financial statements containing the requisite details are provided, a separate certification by statutory auditors would not be necessary.

[£] Refer Clause 4.6 of the RFP.

Φ Provide Certificate as per this format only. Attach Explanatory Notes to the Certificate, if necessary. Statutory auditor means the entity that audits and certifies the annual accounts of the company.

[€] Refer instruction no. 10 in this Annex-IV.

[¥] In case the project is owned by the Applicant company, this language may be suitably modified to read: "It is certified that ..... (name of Applicant) constructed and/ or owned the.....(name of project)

from ..... (date) to .....(date)."

14. If the Bidder is claiming experience under Category 3 & 4, as per Clauses 4.6 and 4.7 (ii) of the RFP, it should provide a certificate from its Statutory Auditor/client/ Engineer-in charge/ Independent Engineer/Authority's Engineer in the format below:

Certificate regarding construction/ maintenance works[Φ]

Based on its books of accounts and other published information authenticated by it, This is to certify that .....(name of the Bidder) was engaged by .....(title of the project company) to execute ..... (name of project) for .....(nature of project). The construction/ maintenance of the project commenced on .....(date) and the project was/ is likely to be commissioned on ..... (date, if any). It is certified that Bidder received payments from its Clients for Construction/ Maintenance Works executed by them or work executed and certified by the Engineer-in-charge/Independent Engineer/Authority"s Engineer, in the aforesaid construction works.

We further certify that the total estimated capital cost of the project is Rs cr. (Rupees .....crore), of which the Applicant received or has executed the work as certified by the Engineer-in-charge/Independent Engineer/Authority"s Engineer Rs. ..... cr. (Rupees ..... crore), during the past five financial years as per year-wise details noted below:

.....

.....

It is further certified that the receipts indicated above are restricted to the share of the Applicant who undertook these works as a partner or a member of joint venture.♠

We further certify that applicant has a share of _% in the Joint Venture/Consortium.

(Authorized Signatory)

Date:

15. It may be noted that in the absence of any detail in the above certificates, the information would be considered inadequate and could lead to exclusion of the relevant project in computation of Experience.

❖ Refer Clauses 4.6 and 4.7(ii) of the RFP.

❖ Provide Certificate as per this format only. Attach Explanatory Notes to the Certificate, if necessary. Statutory auditor means the entity that audits and certifies the annual accounts of the company. However, in case the work of other member(s) is also executed by the applicant, then this fact should also be certified by the Statutory Auditor and accordingly the language may be suitably modified.

❖ This certification should be strike out in case of jobs/ contracts, which are executed a sole firm. The payments indicated in the certificate should be restricted to the share of Applicant in such partnership/ joint venture. This portion may be omitted if the contract did not involve a partnership/ joint venture. In case where work is not executed by partnership/ joint venture, this paragraph may be deleted.

ANNEX-V

Statement of Legal Capacity

(To be forwarded on the letter head of the Applicant/ Lead Member of Joint Venture)

Ref. Date:

To,
(_____
_____)
Dear Sir,

We hereby confirm that we/ our members in the Joint Venture (constitution of which has been described in the application) satisfy the terms and conditions laid out in the RFP document.

We have agreed that .....(insert member's name) will act as the Lead Member of our Joint Venture. *

We have agreed that ……..(insert individual's name) will act as our representative/ will act as the representative of the Joint Venture on its behalf* and has been duly authorized to submit the RFP. Further, the authorized signatory is vested with requisite powers to furnish such letter and authenticate the same.

Thanking you,

Yours faithfully,

(Signature, name and designation of the authorized signatory)

For and on behalf of .....

**Please strike out whichever is not applicable.*

Appendix - IA
Annexure-VI

Information required to evaluate the BID Capacity under clause 4.2:

To calculate the value of "A" and "C"

1. A table containing value of Civil Engineering Works in respect of EPC Projects (Turnkey projects / Item rate contract/ Construction works) undertaken by the Bidder during the last 5 years is as follows (the amount of bonus received, if any, shall be indicated separately):

2.

Sl. No.	Year	Value of Civil Engg. Works undertaken w.r.t. EPC Projects including bonus, if any (Rs. in Crores)	Amount of bonus (Rs. in Crores)	Net Value excluding bonus (Rs. in Crores)
1	2025-26/2025			
2	2024-25/2024			
3	2023-24/2023			
4	2022-23/2022			
5	2021-22/2021			

3. Maximum value of projects that have been undertaken during the F.Y. out of the last 5 years and value excluding amount of bonus thereof is Rs. Crores (Rupees). Further, value updated to the price level of the year indicated in Appendix is as follows:

Rs._____Crores x_____(*Updation Factor as per Appendix*) = Rs._____Crores (Rupees_____)

4. Amount of bonus received, if any, in EPC Projects during the last 5 years (updated to the price level of the year indicated in Appendix):

Sl. No.	F.Y. / Calendar Year	Amount of Bonus(Rs. in Crores)	Updation Factor	Updated Amount of Bonus (Rs. in Crores)
1	2025-26/2025		1.00	
2	2024-25/2024		1.05	
3	2023-24/2023		1.10	
4	2022-23/2022		1.15	
5	2021-22/2021		1.20	
			Total (C)=	

…… …… Name of the Statutory Auditor's firm: Seal of the audit firm: (Signature, name and designation and Membership No. of authorized signatory)	…….. …….. Signature, name and designation of Authorized Signatory For and on behalf of ……(*Name of*

Date: Place:_____

To calculate the value of “B”

A table containing value of all the existing commitments and on-going works to be completed during the next “N” years (i.e. 5 / 7 years as the case may be) is as follows:

Sl. No.	Name of Project /Work	Percentage of participate on of Bidder in the project	Dater of start / appointed date of project	Construct on period as per Agreement / LOA	Value of contract as per Agreem ent /LOA	Value of work completed	Balance value of work to be completed	Anticipate ed date of completion	Balanc evalue of work at 2025-26/2025 price level
					Rs. in Crore	Rs. in Crore	Rs. in Crore		Rs. in Crore
1	2	3	4	5	6	7	8= (6-7)	9	10(3x 8x #)

Updation Factor as given below:

For Year	F.Y. / Calendar Year	Updation Factor
1	2025-26/2025	1.00
2	2024-25/2024	1.05
3	2023-24/2023	1.10
4	2022-23/2022	1.15
5	2021-22/2021	1.20

The Statement showing the value of all existing commitments, anticipated value of work to be completed in the period of construction of the project for which bid is invited and ongoing works as well as the stipulated period of completion remaining for each of the works mentioned above is verified from the certificate issued that has been countersigned by the Client or its Engineer-in-charge not below the rank of Executive Engineer or equivalent in respect of EPC Projects or Concessionaire / Authorized Signatory of SPV in respect of BOT Projects. No awarded / ongoing works has been left in the aforesaid statement which has been awarded to M/s ..... individually / and other member M/s …….. and M/s ....., as on bid due date of this RFP.

…….. …….. Signature, name and designation of Authorised Signatory For and on behalf of..... (*Name of the Bidder)*	…… ……. Name of the Statutory Auditor's firm: Seal of the audit firm: (Signature, name and designation and Membership No. of authorised signatory)

Date:
Place:

Date:
Place:

β In case balance period of construction is less than the value of period of maintenance of the projectfor which bid is invited, then full value of contract as per Agreement/LOA to be mentioned, else, anticipated value of work to be completed in the period of construction of the project for which bid isinvited is to be mentioned. In the absence of the anticipated value of work to be completed, the proportionate value shall be considered while evaluating the Assessed Available Bid Capacity.

APPENDIX-IA
Annexure VII

Guidelines of the Department of Disinvestment

(Refer Clause1.2.1)

No. 6/4/2001-DD-II
Government of India
Department of Disinvestment

Block 14, CGO Complex
New Delhi.
Dated 13th July, 2001.

OFFICE MEMORANDUM

Sub: Guidelines for qualification of Bidders seeking to acquire stakes in Public Sector Enterprises through the process of disinvestment

Government has examined the issue of framing comprehensive and transparent guidelines defining the criteria for Bidders interested in PSE-disinvestment so that the parties selected through competitive bidding could inspire public confidence. Earlier, criteria like net worth, experience etc. used to be prescribed. Based on experience and in consultation with concerned departments, Government has decided to prescribe the following additional criteria for the qualification/disqualification of the parties seeking to acquire stakes in public sector enterprises through disinvestment:

(a) In regard to matters other than the security and integrity of the country, any conviction by a Court of Law or indictment/ adverse order by a regulatory authority that casts a doubt on the ability of the Bidder to manage the public sector unit when it is disinvested, or which relates to a grave offence would constitute disqualification. Grave offence is defined to be of such a nature that it outrages the moral sense of the community. The decision in regard to the nature of the offence would be taken on case to case basis after considering the facts of the case and relevant legal principles, by the Government of India.

(b) In regard to matters relating to the security and integrity of the country, any charge-sheet by an agency of the Government/ conviction by a Court of Law for an offence committed by the bidding party or by any sister concernof the bidding party would result in disqualification. The decision in regard to the relationship between the sister concerns would be taken, based on the relevant facts and after examining whether the two concerns are substantially controlled by the same person/ persons.

(c) In both (a) and (b), disqualification shall continue for a period that Government deems appropriate.

(d) Any entity, which is disqualified from participating in the disinvestment process, would not be allowed to remain associated with it or get associated merely because it has preferred an appeal against the order based on which it has been disqualified. The mere pendency of appeal will have no effect on the disqualification.

(e) The disqualification criteria would come into effect immediately and would apply to all Bidders for various disinvestment transactions, which have not been completed as yet.

(f) Before disqualifying a concern, a Show Cause Notice why it should not be disqualified would be issued to it and it would be given an opportunity to explain its position.

(g) Henceforth, these criteria will be prescribed in the advertisements seeking Expression of Interest (EOI) from the interested parties. The interested parties would be required to provide the information on the above criteria, along with their Expressions of Interest (EOI). The Bidders shall be required to provide with their EOI an undertaking to the effect that no investigation by a regulatory authority is pending against them. In case any investigation is pending against the concern or its sister concern or against its CEO or any of its Directors/ Managers/ employees, full details of such investigation including the name of the investigating agency, the charge/ offence for which the investigation has been launched, name and designation of persons against whom the investigation has been launched and other relevant information should be disclosed, to the satisfaction of the Government. For other criteria also, a similar undertaking shall be obtained along with EOI.

sd/-
(A.K. Tewari)
Under Secretary to the Government of India

Appendix - IA
Annexure-VIII

Details of ongoing works

S. No.	Name of the work	Contract Price (INR Cr)	Appointed Date	Original Scheduled Completion Date	Likely Date of Completion	Reason for Delay#
1						

(In the event that the Bidder had failed to achieve the Completion of any project within a period of 90 (ninety) days from the Schedule Completion Date of the project, unless such failure had occurred due to Force Majeure or for reasons solely attributable to the Authority, the Bidder shall be deemed to be ineligible for bidding this project (under bidding), both as the sole party or as one of the parties of Joint Venture/ Consortium, if any, during the period from Scheduled Completion Date to issuance of Completion Certificate for that project. This restriction is applicable if the contract value of the delayed project was not less than Rs. 300 Crore.)

#To be supported with valid certificate issued from Independent Engineer / Authority's Engineer / Supervision Consultant / Engineer-in-charge

I / We certify that all the information furnished above is true in all respects.

…… Name of the Bidder

Signature of the authorised signatory:

Name of the Authorised Signatory:

Date:

Place:

In addition, Bidders should upload the scanned copy of the following affidavits/undertakings as per formats enclosed hereinafter and also send original copy of Affidavit/Undertakings: -

i) Affidavit (it should be on stamp paper attested by Notary Public)

ii) Deleted

iii) Undertaking that the Bids shall remain valid for the period specified in **Clause 15.1**.

Appendix-IA

Annexure-IX

AFFIDAVIT

(To be submitted by each JV Member)

1. I, the undersigned, do hereby certify that all the statements made in the enclosed attachments are true and correct.

2. The undersigned also hereby certifies that neither our firm M/s

_____ have abandoned any work in India nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this bid.

3. The undersigned hereby Authorize(s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Employer to verify this statement or regarding our competence and general reputation.

4. The undersigned understands and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the Employer and within the prescribed time.

_____

(Signed by an Authorized Representative of the Firm)

_____

Name of the Representative

_____

Name of Firm

_____

Date

Appendix-IA
Annexure-X

UNDERTAKING FOR BID VALIDITY

I, the undersigned do hereby undertake that our firm M/s

_____

_____agree to abide by this bid for a period of _____daysafter the date fixed for receiving the same and it shall be binding onus and may be accepted at any time before the expiration of that period.

_____

(Signed by an Authorised Representative of the Firm)

_____

Name of the Representative

_____

Name of Firm

_____

Date

SECTION – 4

FORMS OF BANK GUARANTEES LETTER OF ACCEPTANCE (LOA) AND AGREEMENT

FORM OF BANK GUARANTEES FOR BID SECURITY

B.G. No. Dated:

1. In consideration of you, Regional Office - Siliguri (West Bengal) National Highway & Infrastructure Development Corporation Ltd., having its office at "Unit 402, Quantum Building, Parivahan Nagar, P.O & P.S. Matigara, Pin Code 734010. (hereinafter referred to as the "Authority", which expression shall unless it be repugnant to the subject or context thereof include its, successors and assigns) having agreed to receive the BID of …… and having its registered office at (and acting on behalf of its JV) (hereinafter referred to as the "Bidder" which expression shall unless it be repugnant to the subject or context thereof include its/their executors, administrators, successors and assigns), for the "Performance Based Maintenance Contracts (PBMC) for Strengthening and Maintenance on (i) NH-717 for highway starting from its junction with NH-17 near Baradighi connecting NH-27 near Mainaguri, Cangrabandha and terminating at Indo/Bangladesh Border in the State of West Bengal and (ii) NH-317A for highway starting from its junction with NH-317 near Hasimara connecting Jaigaon and terminating at Indo/Bhutan Border in the state of West Bengal during the FY 2026-2027 (3rd Call)" maintenance Project on PBMC basis (hereinafter referred to as "the Project") pursuant to the Bid Document dated …… issued in respect of the Project and other relate documents including without limitation the draft contract Agreement (hereinafter collectively referred to as "Bidding Documents"), we (Name of the Bank) having our registered office at …… and one of its branches at (hereinafter referred to as the "Bank"), at the request of the Bidder, do hereby in terms of Clause 16 read with Clause 32.3 of the Bid Document, irrevocably, unconditionally and without reservation guarantee the due and faithful fulfilment and compliance of the terms and conditions of the Bidding Documents (including the Bid Document) by the said Bidder and unconditionally and irrevocably undertake to pay forthwith to the Authority an amount of Rs. xx,xxx.00 Lakhs (xxxxxx only) (hereinafter referred to as the "Guarantee") as our primary obligation without any demur, reservation, recourse, contest or protest and

without reference to the Bidder if the Bidder shall fail to fulfil or comply with all or any of the terms and conditions contained in the said Bidding Documents.

2. Any such written demand made by the Authority stating that the Bidder is in default of the due and faithful fulfilment and compliance with the terms and conditions contained in the Bidding Documents shall be final, conclusive and binding on the Bank.

3. We, the Bank, do hereby unconditionally undertake to pay the amounts due and payable under this Guarantee without any demur, reservation, recourse, contest or protest and without any reference to the Bidder or any other person and irrespective of whether the claim of the Authority is disputed by the Bidder or not, merely on the first demand from the Authority stating that the amount claimed is due to the Authority by reason of failure of the Bidder to fulfil and comply with the terms and conditions contained in the Bidding Documents including failure of the said Bidder to keep its BID open during the BID validity period as set forth in the said Bidding Documents for any reason whatsoever. Any such demand made on the Bank shall be conclusive as regards amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs. xx,xx.00 Lakhs (Rupees xxxx only).

4. This Guarantee shall be irrevocable and remain in full force for a period of 150 (one hundred and fifty) days from the BID Due Date inclusive of a claim period of 60 (sixty) days or for such extended period as may be mutually agreed between the Authority and the Bidder, and agreed to by the Bank, and shall continue to be enforceable till all amounts under this Guarantee have been paid.

5. We, the Bank, further agree that the Authority shall be the sole judge to decide as to whether the Bidder is in default of due and faithful fulfilment and compliance with the terms and conditions contained in the Bidding Documents including, inter alia, the failure of the Bidder to keep its BID open during the BID validity period set forth in the said Bidding Documents, and the decision of the Authority that the Bidder is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the Authority and the Bidder or any dispute pending before any Court, Tribunal, Arbitrator or any other Authority.

6. The Guarantee shall not be affected by any change in the constitution or winding up of the Bidder or the Bank or any absorption, merger or amalgamation of the Bidder or the Bank with any other person.

7. In order to give full effect to this Guarantee, the Authority shall be entitled to treat the Bank as the principal debtor. The Authority shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee from time to time to vary any of the terms and conditions contained in the said Bidding Documents or to extend time for submission of the BIDs or the BID validity period or the period for conveying acceptance of Letter of Acceptance by the Bidder or the period for fulfilment and compliance with all or any of the terms and conditions contained in the said Bidding Documents by the said Bidder or to postpone for any time and from time to time any of the powers exercisable by it against the said Bidder and either to enforce or forbear from enforcing any of the terms and conditions contained in the said Bidding Documents or the securities available to the Authority, and the Bank shall not be released from its liability under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the said Bidder or any other forbearance, act or omission on the part of the Authority or any indulgence by the Authority to the said Bidder or by any change in the constitution of the Authority or its absorption, merger or amalgamation with any other person or any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of releasing the Bank from its such liability.

8. Any notice by way of request, demand or otherwise hereunder shall be sufficiently given or made if addressed to the Bank and sent by courier or by registered mail to the Bank at the address set forth herein.

9. We undertake to make the payment on receipt of your notice of claim on us addressed to [name of Bank along with branch address] and delivered at our above branch which shall be deemed to have been duly authorised to receive the said notice of claim.

10. It shall not be necessary for the Authority to proceed against the said Bidder before proceeding against the Bank and the guarantee herein contained shall be

enforceable against the Bank, notwithstanding any other security which the Authority may have obtained from the said Bidder or any other person and which shall, at the time when proceedings are taken against the Bank hereunder, be outstanding or unrealised.

11. We, the Bank, further undertake not to revoke this Guarantee during its currency except with the previous express consent of the Authority in writing.

12. The Bank declares that it has power to issue this Guarantee and discharge the obligations contemplated herein, the undersigned is duly authorised and has full power to execute this Guarantee for and on behalf of the Bank.

13. For the avoidance of doubt, the Bank's liability under this Guarantee shall be restricted to Rs. xx,xx Lakhs (Rupees xxxxxxx only). The Bank shall be liable to pay the said amount or any part thereof only if the Authority serves a written claim on the Bank in accordance with paragraph 9 hereof, on or before [*** (indicate date falling 210 days after the BID Due Date)].

14. This guarantee shall also be operatable at our .....Branch at **West Bengal,** from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.

15. The guarantor/bank hereby confirms that it is on the SFMS (Structural Finance Messaging System) platform & shall invariably send an advice of this Bank Guarantee to the designated bank of [Ministry/NHAI/NHIDCL/State PWD/BRO], details of which is as under:

Particulars	**Details**
Name of the Beneficiary	National Highways and Infra Dev. Corp. Ltd.
Beneficiary Bank Account No.	120035355901
Beneficiary Bank Branch	CNRB0019716
Beneficiary Bank Branch Name	Canara Bank
Beneficiary Bank Address	Shivmandir Branch & Kadamtala,Siliguri ,Siliguri
Entity id	NCTGC2571P (For e-BG Purpose only)

Signed and Delivered by.....Bank

By the hand of Mr./Ms ……., its ..... and authorised official.

(Signature of the Authorised Signatory)

(Official-Seal)

FORM OF BANK GUARANTEES FOR PERFORMANCE SECURITY

[Performance Security/Additional Performance Security]

To

_____[name of Authority]
_____[address of Authority]

WHEREAS_____[name and address of Contractor]
(hereafter called the "Contractor") has undertaken, in pursuance of Letter of Acceptance (LOA) No._____Dated_____for maintenance project on PBMC Basis_____[name of the Project] (hereinafter called the "Contract").

AND WHEREAS the Contract requires the Contractor to furnish an {Performance Security/ Additional Performance Security} for due and faithful performance of its obligations, under and in accordance with the Contract, during the {Defects Liability Period and Contract Period} in a sum of Rs….. cr. (Rupees.....crore) (the "**Guarantee Amount**"[6]).
AND WHEREAS we, …….. through our branch at ..... (the "Bank**") have agreed to furnish this Bank Guarantee (**hereinafter **called the** "Guarantee**")by way of Performance Security.**
NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably**, guarantees and affirms as follows:**

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Contractor's obligations during the {Defects Liability Period and Contract Period} under and in accordance with the Contract, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of [Superintending Engineer of Ministry of Road Transport & Highways or equivalent Officer of NHAI/NHIDCL/BRO], that the Contractor has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Contract shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Contract and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.

3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

---

[6] Guarantee Amount for Performance Security and Additional Performance Security shall be calculated as per Contract.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.

5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Contract or to extend the time or period for the compliance with, fulfillment and/ or performance of all or any of the obligations of the Contractor contained in the Contract or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Contract and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Contract or for the fulfillment, compliance and/or performance of all or any of the *obligations* of the Contractor under the Contract.

7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period *specified* in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on ****[$]. Unless a demand or claim under this Guarantee is made in *writing* before expiry of the Guarantee, the Bank shall be discharged from its liabilities hereunder.

9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

[$]Insert date: 60 days beyond the contract period or DLP expiry whichever is later

11. This Guarantee shall come into force with *immediate* effect and shall remain in force and effect for up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Contract.

12. This Guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

Signed and sealed this ……. day of ……., 20…… at

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code Number)

(Address)

BANK GUARANTEE FOR ADVANCE PAYMENT

[Ministry of Road Transport & Highways Transport Bhawan, New Delhi] WHEREAS:

(A) [name and address of contractor] (herein after called the "**Contractor**") has executed an agreement (hereinafter called the "**Agreement**") with the [name and address of the authority], (hereinafter called the "**Authority**") for the maintenance of the ***** section of [National Highway No. **] on Performance Based Maintenance Contract (the "**PBMC**") basis, subject to and in accordance with the provisions of the Agreement

(B) In accordance with Clause 44 of the Agreement, the Authority shall make to the Contractor an interest bearing *@Bank Rate + 3%* advance payment (herein after called "**Advance Payment**") equal to 10% (ten per cent) of the Contract Price; and that the Advance Payment shall be made in single instalment subject to the Contractor furnishing an irrevocable and unconditional guarantee by a scheduled bank for an amount equivalent to 110% (one hundred and ten percent) of such installment to remain effective till the complete and full repayment of the installment of the Advance Payment as security for compliance with its obligations in accordance with the Agreement. The amount of
{first/second} installment of the Advance Payment is Rs. ------ cr. (Rupees
crore) and the amount of this Guarantee is Rs. ------- cr. (Rupees ------ crore)
(the **"Guarantee Amount")[$].**

(C) We, …….. through our branch at ..... (the "**Bank"**) have agreed to furnish this bank guarantee (*hereinafter called the "***Guarantee"**) for the Guarantee Amount.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful repayment on time of the aforesaid instalment of the Advance Payment under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

   A letter from the Authority, under the hand of an officer not below the rank of [General Manager in the National Highways Authority of India and NHIDCL and Superintending Engineer in case of MoRTH / BRO/State PWD], that the Contractor has committed default in the due and faithful performance of all or any of its obligations for the repayment of the instalment of the Advance Payment under and in accordance with the Agreement shall be conclusive, final and binding on the Bank.

[$] The Guarantee Amount should be equivalent to 110% of the value of the applicable instalment.

The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.

2. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

3. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.

4. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Advance Payment or to extend the time or period of its repayment or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

5. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Advance Payment.

[$] Insert a date being 90 (ninety) days after the end of six months from the date of payment of the Advance payment to the Contractor (in accordance with Clause 44 of the Agreement).

6. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

7. The Guarantee shall cease to be in force and effect on ****.[$] Unless a demand or claim under this Guarantee is made in writing on or before the aforesaid date, the Bank shall be discharged from its liabilities hereunder.

8. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

9. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

10. This Guarantee shall come into force with immediate effect and shall remain in force and effect up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

Signed and sealed this ……. day of ……., 20…… at SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by: (Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

(i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.

(ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

Appendix-IA
FORM OF LETTER OF APPLICATION

To,

[Address of Employer]

DESCRIPTION OF WORKS: BID FOR [Name of Work]

Dear Sir,

Having examined the Bid Document, Instructions to Bidders, Qualification Information, Scope of Works, etc. for the subject work and after visiting the site& conducting all requisite engineering studies we hereby submit our bid for the subject work.

It is certified that the information furnished in this document is true and correct. The proposal is unconditional and unqualified. We undersigned accept that the Employer reserves the right to reject any or all applications without assigning any reason.

Thanking you,

Yours faithfully,

(Authorized Signatory)

For and on behalf of M/s_____

FORM OF LETTER OFACCEPTANCE

Letter No. …… Dated .....

To

M/s…….

Sub.: ……. Name of Work ……
Tender ID: ……
UPC/Sanction Code/Job No.: ……

Sir,

Based on your bid submitted on .....in compliance of bidding document of [the Employer] for execution of the works of, it is hereby notified that your bid for a Contract Price of **Rs.....(Rupees in words…) which is at a premium/discount of ___% from the estimated project cost** has been accepted for and on behalf of [the Employer]

You are hereby requested to furnish Performance Security plus additional security in the form detailed in **Clause 32.1** of ITB for an amount equivalent to **Rs ..... (Rupees in words…)** within 30 days and as per provisions of **Clause 32.2** of ITB of the biddocument, sign the contract agreement failing which the actions as stipulated in **Clause-32.3** of ITB shall be taken.

Thanking you,

Yours faithfully,

(.....) Employer

FORM OF AGREEMENT

AGREEMENT

This agreement made the_____day of_____ between the
---------- (hereinafter called "the Employer" of the one part and _____(here inafter called "the Contractor") of the other part.

AND WHEREAS the Employer invited bids from eligible bidders for the maintenance of certain National Highway Section/ MoRTH, viz……

AND WHEREAS pursuant to the bid submitted by the Contractor, vide___(here in after referred to as the "BID" or "OFFER") for the execution of works and maintenance of the subject project, the Employer by his letter of acceptance dated _____accepted the offer submitted by the Contractor for the execution and completion of such works, maintain the subject project and remedying of any defects thereon, on terms and conditions in accordance with the documents listed in **Para 2** below. The Contractor has further represented to the effect that it has delivered to the Authority a legal opinionwith respect to the authority of the Contractor to enter into this Contract Agreement and the enforceability of the provisions thereof.

AND WHEREAS the Contractor by a deed of undertaking dated_____has agreed to abide by all the terms of the bid, including but not limited to the amount quoted for the execution of Contract, as stated in the bid, and also to comply with such terms and conditions as may be required from time to time.

AND WHEREAS the Contractor has agreed to undertake such works and has furnished aPerformance Security pursuant to **Clause 32** of ITB (**Section-2**).

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this agreement, words and expressions shall have the same meaning as are respectively assigned to them in the conditions of contract hereinafter referred to;
2. The following documents shall be deemed to form and be read and construed as part of this agreement viz.
   a) Agreement;
   b) Letter of Acceptance;
   c) Contractor's Bid;
   d) Contract Data;
   e) General Conditions of Contract;
   f) Addendum to General Conditions of Contract;
   g) Road Maintenance Standards and Specifications for Road Maintenance Works;

h) Drawings, if any;

i) Bill of Quantities; and

j) Any other document listed in the Contract Data.

3. The foregoing documents shall be construed as complementary and mutually explanatory one with another. Should any ambiguity or discrepancy be noted, then the order of precedence of these documents shall be subject to the order as listed above and interpreted in the above order of priority.

4. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the IR and PM works, maintain the subject project and remedy any defects therein in conformity in all respects with the provisions of the contract.

5. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the works and remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS WHEREOF the parties here to have caused this agreement to be executed the day and year above written. Signed, sealed and delivered by the said Employer through his Authorized Representative and the said Contractor through his Power of Attorney holder.

binding Signature of Employer **binding Signature of Contractor**

For and on behalf of_____ For and on behalf of M/s ----------

In the presence of

A. Name : .....

Address:

B. Name : .....

Address:

In the Presence of

1. Name:

Address:

2. Name:

Address:

APPENDIX-III

Format for Power of Attorney for signing of BID

(Refer Clause 4.1 (a))

Know all men by these presents, We..... (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms. (name), ... son/daughter/wife of …… and presently residing at., who is presently employed with us/ the Lead Member of our Joint Venture and holding the position of …… , as our true and lawful attorney (hereinafter referred to as the "Attorney") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our BID for the Project proposed for maintenance on PBMC basis by the [Ministry of Road Transport & Highways/National Highways Authority of India or Name of tender issuing agency] (the "Authority") including but not limited to signing and submission of all applications, BIDs and other documents and writings, participate in Pre-BID and other conferences and providing information/ responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts including the agreement and undertakings consequent to acceptance of our BID, and generally dealing with the Authority in all matters in connection with or relating to or arising out of our BID for the said Project and/ or upon award thereof to us and/or until the entering into of the PBMC Contract with the Authority.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, ..., THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS …… DAY OF ……. 2

For .....

(Signature, name, designation and address)
of person authorized by Board Resolution
(in case of Firm/ Company)/
partner in case of Partnership firm

Witnesses:
1.
2.
Accepted
……
(Signature)
(Name, Title and Address of the Attorney)
(Notarised)

Person identified by me/ personally appeared before me/ Attested/ Authenticated*
(*Notary to specify as applicable)
(Signature Name and Address of the Notary)

Seal of the Notary
Registration No. of the Notary
Date: .....

Notes:

- *The mode of execution of the Power of Attorney should be in accordance with* ***the*** procedure*, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure*.

- *Wherever required, the Bidder should submit for verification the extract of the charter* documents *and documents such as a board or shareholders' resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.*

- *For a Power of Attorney executed and issued overseas, the document will also haveto be legalised by the Indian Embassy and notarised in the* jurisdiction *where the Powerof Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Appostille certificate.*

APPENDIX-IV

Format for Power of Attorney for Lead Member of Joint Venture

(Refer Clause 3.2 (c))

Whereas the_____("the Authority") has invited BIDs for the ***** Project (the "Project").

Whereas, ……..., ……..., and …….. (collectively the "Joint Venture") being Members of the Joint Venture are interested in bidding for the Project in accordance with the terms and conditions of the Request for Proposal (RFP) and other BID documents including agreement in respect of the Project, and

Whereas, it is necessary for the Members of the Joint Venture to designate one of them as the Lead Member with all necessary power and authority to do for and on behalf of the Joint Venture, all acts, deeds and things as may be necessary in connection with the Joint Venture's BID for the Project and its execution.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS

We, …… having our registered office at ....., M/s …….. having our registered office at …, M/s. … having our registered office at ….., and ……. having our registered office at…… , (hereinafter collectively referred to as the "Principals") do hereby irrevocably designate, nominate, constitute, appoint and authorize M/S …….. having its registered office at…… ..... , being one of the Members of the Joint Venture, as the Lead Member and true and lawful attorney of the Joint Venture (hereinafter referred to as the "Attorney"). We hereby irrevocably authorize the Attorney (with power to sub- delegate) to conduct all business for and on behalf of the Joint Venture and any one of us during the bidding process and, in the event the Joint Venture is awarded the contract, during the execution of the Project and in this regard, to do on our behalf and on behalf of the Joint Venture, all or any of such acts, deeds or things as are necessary or required or incidental to the pre-qualification of the Joint Venture and submission of its BID for the Project, including but not limited to signing and submission of all applications, BIDs and other documents and writings, participate in pre BID and other conferences, respond to queries, submit information/ documents, sign and execute contracts and undertakings consequent to acceptance of the BID of the Joint Venture and generally to represent the Joint Venture in all its dealings with the Authority, and/ or any other Government Agency or any person, in all matters in connection with or relating to or arising out of the Joint Venture's BID for the in all respect Project and/ or upon award thereof till the PBMC Contract is entered into with the Authority & Compelled.

AND hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us/ Joint Venture.

IN WITNESS WHEREOF WE THE PRINCIPALS ABOVE NAMED HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS ……. DAY OF ……. 2

For ..... (Signature) ……. . (Name & Title)	For ..... (Signature) ……. . (Name & Title)	For ..... (Signature) ……. . (Name & Title)

(Executants)

(To be executed by all the Members of the Joint Venture)

Witnesses:

1.

2.

Notes:

- *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law* and *the charter documents of the executant(s) and when it is so required, the same should be under common seal affixedin accordance with the required procedure*.

- *Also, wherever required, the Bidder should submit for verification the extract of thecharter documents and documents such as a board or shareholders' resolution/ power ofattorney in favor of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.*

- *For a Power of Attorney executed and issued overseas, the document will also haveto be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Appostille certificate.*

APPENDIX V

Format for Joint Bidding Agreement (JBA) for Joint Venture

(Refer Clause 3.2 (f))

(To be executed on Stamp paper of appropriate value)

THIS JOINT BIDDING AGREEMENT is entered into on this the …… day of 20…

AMONGST

1. {…… Limited, and having its registered office at } (hereinafter referred to as the "**First Part**" which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

2. {…… Limited, having its registered office at }and (hereinafter referred to as the "**Second Part**" which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

3. {…… Limited, and having its registered office at } (hereinafter referred to as the "**Third Part**" which expression shall, unless repugnant to the context include its successors and permitted assigns)

The above-mentioned parties of the FIRST, {SECOND and THIRD} PART are collectively referred to as the **"Parties"** and each is individually referred to as a **"Party**"

WHEREAS,

(A) [THE MINISTRY OF ROAD TRANSPORT & HIGHWAYS / ,] (hereinafter referred to as the "Authority" which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) has invited bids (the Bids") by its Request for Proposal No. …… dated ……(the "RFP") for maintenance of***** Project (the "Project") through an PBMC Contract.

(B) The Parties are interested in jointly bidding for the Project as members of a JointVenture and in accordance with the terms and conditions of the RFP document and other bid documents in respect of the Project, and

(C) It is a necessary condition under the RFP document that the members of the Joint Venture shall enter into a Joint Bidding Agreement and furnish a copy thereof with the Application.

NOW IT IS HEREBY AGREED as follows:

1. Definitions and Interpretations

In this Agreement, the capitalized terms shall, unless the context otherwise requires, have the meaning ascribed thereto under the RFP.

2. Joint Venture

The Parties do hereby irrevocably constitute a Joint Venture (the "**Joint Venture**") for the purposes of jointly participating in the Bidding Process for the Project.

The Parties hereby undertake to participate in the Bidding Process only through this Joint Venture and not individually and/ or through any other Joint Venture constituted for this Project, either directly or indirectly.

3. Covenants

The Parties hereby undertake that in the event the Joint Venture is declared the selected Bidder and awarded the Project, it shall enter into a PBMC with the Authority for performing all its obligations as the Contractor in terms of the PBMC for the Project.

4. Role of the Parties

The Parties hereby undertake to perform the roles and responsibilities as described below:

(a) Party of the First Part shall be the Lead member of the Joint Venture and shall have the power of attorney from all Parties for conducting all business for and on behalf of the Joint Venture during the Bidding Process and for performing all its obligations as the Contractor in terms of the PBMC for the Project;

(b) Party of the Second Part shall be {the Member of the Joint Venture; and}

(c) Party of the Third Part shall be {the Member of the Joint Venture.}

5. Joint and Several Liability

The Parties do hereby undertake to be jointly and severally responsible for all obligations and liabilities relating to the Project and in accordance with the terms of the RFP and the PBMC, till such time as the completion of the Project is achieved under and in accordance with the PBMC.

6. Share of work in the Project

The Parties agree that the proportion of construction in the PBMC to be allocated amongthe members shall be as follows:

First Party:
Second Party:
{Third Party:}

Further, the Lead Member shall itself undertake and perform at least 51 (fifty-one) per cent of the total length of the project highway if the Contract is allocated to the Joint Venture.

7. Representation of the Parties

Each Party represents to the other Parties as of the date of this Agreement that:

(a) Such Party is duly organized, validly existing and in good standing under the laws ofits incorporation and has all requisite power and authority to enter into this Agreement;

(b) The execution, delivery and performance by such Party of this Agreement has been authorised by all necessary and appropriate corporate or governmental action and a copy of the extract of the charter documents and board resolution/ power of attorney in favour of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the Joint Venture Member is annexed to this Agreement, and will not, to the best of its knowledge:

(i) require any consent or approval not already obtained;

(ii) violate any Applicable Law presently in effect and having applicability to it;

(iii) violate the memorandum and articles of association, by-laws or other applicable organizational documents thereof;

(iv) violate any clearance, permit, concession, grant, license or other governmental authorization, approval, judgment, order or decree or any mortgage agreement, indenture or any other instrument to which such Party is a party or by which such Party or any of its properties or assets are bound or that is otherwise applicable to such Party; or

(v) create or impose any liens, mortgages, pledges, claims, security interests, charges or Encumbrances or obligations to create a lien, charge, pledge, security interest, encumbrances or mortgage in or on the property of such Party, except for encumbrances that would not, individually or in the aggregate, have a material adverse effect on the financial condition or prospects or business of such Party so as to prevent such Party from fulfilling its obligations under this Agreement;

(c) this Agreement is the legal and binding obligation of such Party, enforceable in accordance with its terms against it; and

(d) there is no litigation pending or, to the best of such Party's knowledge, threatened to which it or any of its Affiliates is a party that presently affects or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfillment of its obligations under this Agreement.

8. Termination

This Agreement shall be effective from the date hereof and shall continue in full force and effect until Project completion or expiry of the “Defects Liability Period” whichever is achieved under and in accordance with the PBMC, in case the Project is awarded to the Joint Venture. However, in case the Joint Venture is either not pre- qualified for the Project or does not get selected for award of the Project, the Agreement will stand terminated in case the Applicant is not pre-qualified or upon return of the Bid Security by the Authority to the Bidder, as the case may be.

IN WITNESS WHEREOF THE PARTIES ABOVE NAMED HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.SIGNED, SEALED AND DELIVERED

For and on behalf of			
LEAD MEMBER by:		SECOND PART	THIRD PART
	(Signature)	(Signature)	(Signature)
	(Name)	(Name)	(Name)
	(Designation)	(Designation)	(Designation)
	(Address)	(Address)	(Address)
In the presence of:			

9. Miscellaneous

This Joint Bidding Agreement shall be governed by laws of {India}.

The Parties acknowledge and accept that this Agreement shall not be amended by the Parties without the prior written consent of the Authority.

Notes:

1. The mode of the execution of the Joint Bidding Agreement should be in accordance with the procedure, if any, laid down by the Applicable Law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
2. Each Joint Bidding Agreement should attach a copy of the extract of the charter documents and documents such as resolution / power of attorney in favor of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the Joint Venture Member.
3. For a Joint Bidding Agreement executed and issued overseas, the document shall be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney has been executed.

APPENDIX-VI

INTEGRITY PACT

Draft Integrity Pact Format applicable for works having value of Rs. 5 Cr and above

(_____Division)

Tender No._____

This Integrity Pact is made at_____on this_____day of_____2026

BETWEEN

_____{Authority},_Address, hereinafter referred to as "The Principal", which expression shall unless repugnant to the meaning or contract thereof include its successors and permitted assigns.

and

hereinafter referred to as "The Bidder/ Contractor/ Contractor/ Consultant" and which expression shall unless repugnant to be meaning or context thereof include its successors and permitted assigns.

Preamble

Whereas, the Principal intends to award, under laid down organizational procedures contract/s for One Time repair and maintenance of {Name of the Project}. The Principal values full compliance with all relevant laws of the land, rules of land, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s) and for Contractor(s)/Contractor(s)/Consultant(s).

And whereas in order to achieve these goals, the Principal will appoint an external Monitor (IEM), who will monitor the tender process and the execution of the contract for compliance with the Principles mentioned above.

And whereas to meet the purpose aforesaid, both the parties have agreed to enter into this Integrity Pact (hereafter referred to as Integrity Pact) the terms and conditions ofwhich shall also be read as integral part and parcel of the Tender documents and contract between the parties. Now, therefore, in consideration of mutual covenants stipulated in this pact, the parties hereby agree as follows and this pact witnesses asunder:-

Article-1-Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principle: -

(a) No employee of the Principal, personally or through family members, will in connection with the Tender for, or the execution of a contract, demand

take a promise for or except for self or third person any material or immaterial benefit Which the person is not legally entitled to.

(b) The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

(c) The Principal will exclude all known prejudiced persons from the process.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act or any other Statutory Acts or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions as per its internal laid down Rules/ Regulations.

Article-2 Commitments of the Bidder(s)/ Contractor(s)/ Contractor(s)/Consultant(s)

The Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

(a) The Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principals employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

(b) The Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission or bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

(c) The Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) will not commit any offence under the relevant IPC / PC. Act and other Statutory Acts; further the Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) will not use improperly for purposes of completion or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

(d) The Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) of foreign origin shall disclose the name and address of the Agents/ representatives in India. If any similarly the Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) of Indian Nationality shall furnish the name and address of the foreign principle, if any.

Further details as mentioned in the „Guidelines on Indian Agents of Foreign Suppliers‟ shall be disclosed by the Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s). Further, all the payments made to the Indian Agent /Representative have to be Indian Rupees only.

(e) The Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract. He shall also disclose the details of services agreed upon for such payments.

(f) The Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

(g) The Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) will not bring any outside influence through any Govt. bodies/quarters directly or indirectly on the bidding process in furtherance of his bid.

(h) The Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) who have signed a Integrity pact shall not approach the court while representing the matter to IEMs and shall wait for their decision in the matter.

Article 3 Disqualification from tender process and exclusion from future contracts

(1) If the Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) before award or during execution has committed a transgression through a violation of any provision of Article-2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s)/ Contractor(s)/ Consultant(s) from the tender process.

(2) If the Bidder/Contractor/Contractor/Consultant has committed a transgression through a violation of Article-2 such as to put his reliability or credibility into question, the Principal shall be entitled to exclude including blacklist and put on holiday the Bidder/Contractor/Contractor/Consultant for any future tenders/contract award process. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the Principal taking into consideration the full facts and circumstances of each case particularly taking into account the number of transgressions, the position of the transgressors within the company hierarchy of the Bidder/Contractor/Contractor/Consultant and the amount of the damage. The exclusion will be imposed for a minimum period of 6 months and maximum period of 2 years.

(3) A transgression is considered to have occurred if the Principal after due consideration of the available evidence concludes that “On the basis of facts available there are no material doubts”.

(4) The Bidder/ Contractor/Contractor/Consultant will its free consent and without any influence agrees and undertakes to respect and uphold the Principal‟s absolute

rights to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining legal advice.

(5) The decision of the Principal to the effect that a breach of the provisions of this Integrity Pact has been committed by the Bidder/ Contractor/Contractor/Consultant shall be final and binding on the Bidder/ Contractor/Contractor/Consultant, however, the Bidder/ Contractor/ Contractor/ Consultant can approach IEM(s) appointed for the purpose of this Pact.

(6) On occurrence of any sanctions/ disqualification etc. arising out from violation of integrity pact, Bidder/ Contractor/Contractor/Consultant shall not be entitled for any compensation on this account.

(7) Subject to full satisfaction of the Principal, the exclusion of the Bidder/Contractor/Contractor/Consultant could be revoked by the Principal if the Bidder/ Contractor/Contractor/Consultant can prove that he has restored/recouped the damage caused by him and has installed a suitable corruption prevention system in his organization.

Article 4 Compensation for Damages

(1) If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Article-3, the Principal shall be entitled to suspend the bidderfor participation in the tendering process for the works of MoRTH/NHAI/NHIDCL and works under other Centrally Sponsored Schemes for a period of One Year from the bid due date of this work apart from any other legal right that may have accrued to the Principal.

(2) In addition to above, the Principal shall be entitled to take recourse to the relevant provisions of the contract related to Termination of Contract due to Contractor/Contractor/Consultant's Default. In such case, the Principal shall be entitled to forfeit the Performance Bank Guarantee of the Contractor/Contractor/Consultant and/or demand and recover liquidated and all damages as per the provisions of the contact/Contract agreement against Termination.

Article 5 Previous Transgression

(1) The Bidder declares that no previous transgression occurred in the last 3 years immediately before signing of this integrity pact with any other Company in any country conforming to the anticorruption/Transparency International (TI) approach or with any other Public Sector Enterprise/Undertaking in India or any Government Department in India that could justify his exclusion from the Tender process.

(2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action for his exclusion can be taken as mentioned under Article-3 above for transgression of Article-2 and shall be liable for compensation fordamages as per Article-4 above.

Article 6 Equal treatment of all Bidders/ Contractors/ Contractors/Consultants/ Subcontractors

(1) The Bidder(s)/Contractor(s)/Contractor(s)/Consultant(s) undertake(s) to demand from all sub-contractors a commitment in conformity with this integrity Pact, and to submit it to the Principal before contract signing.

(2) The Principal will enter into agreements with identical conditions as this one withall Bidders/Contractors/Contractor/Consultant and Subcontractors.

(3) The Principal will disqualify from the Tender process all Bidders who do not sign this Pact violate its provisions.

Article 7 Criminal charges against violating Bidder(s)/ Contractor(s)/Contractor(s)/Consultant(s)/ Sub-contractor(s)

If the Principal obtains knowledge of conduct of a Bidder/Contractor/Contractor/Consultant or Subcontractor, or of an employee or a representative or an associate of a Bidder/Contractor/Contractor/Consultant or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Article 8 External Monitor (IEM)

(1) The Principal has appointed (i) Shri and (ii) as External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

(2) The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the Chairman, NHAI / MD NHIDCL / DG(RD)&SS/DGBR.

(3) The Bidder/Contractor/Contractor/Consultant accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Bidder/ Contractor/ Contractor/ Consultant. The Bidder/ Contractor/ Contractor/ Consultant will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his Project documentation. The same is applicable to Subcontractors.

(4) The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Contractor(s)/Subcontractors(s) with confidentiality. The Monitor has also signed on „Non-disclosure of Confidential Information" and of „Absence of Conflict of Interest". In case of any conflict of interest arising at a later date, the IEM shall inform the Authority and recuse himself/herself from that case.

(5) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact

on the contractual relations between the Principal and the Bidder/Contractor/ Contractor/Consultant. The parties offer to the Monitor the option to participate in such meetings.

(6) As soon as the Monitor notices, or believes to notice any transgression as given in Article-2, he may request the Management of the Principal to take corrective action, or to take relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

(7) The Monitor will submit a written report to the Authority within 8-10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

(8) If the Monitor has reported to the Authority, a substantiated suspicion of an offence under relevant IPC/PC Act or any other Statutory Acts, and the Authority has not, within the reasonable time taken visible action to proceed against such offence or reported it the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

(9) The word 'Monitor' would include both singular and plural.

Article 9 Pact Duration

This Pact begins when both parties have legally signed it (in case of PBMC i.e. for projects funded by Principal and consultancy services). It expires for the Contractor/Consultant 12 months after his Defect Liability Period is over or 12 months after his last payment under the contract whichever is later and for all other unsuccessful Bidders 6 months after this Contract has been awarded (In case of BOT projects). It expires for the Contractor 24 months after his Contract period is over and for all other unsuccessful Bidders 6 months after this Contract has been awarded. Any violation of the same would entail disqualification of the bidder and exclusion from future dealings.

If any claim is made/lodged during this time, the same shall be biding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged determined by Authority.

Article 10 Other Provisions

(1) This pact is subject to Indian Law, Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi.

(2) Changes and supplements as well as termination notices need to be made in writing.

(3) If the Bidder/Contractor/Contractor/Consultant is a partnership or a Joint Venture partner, this pact must be signed by all partners or members.

(4) Should one or several provisions of this agreement turn out to be invalid, the reminder of this agreement remains valid, in this case, the parties will strive to come to an agreement to their original intentions.

(5) Issue like warranty / Guarantee etc. shall be outside the purview of IEMs.

(6) In the event of any contradiction between the Integrity Pact and its Annexure, the clause in Integrity Pact shall prevail.

(7) Any dispute/differences arising between the parties with regard to term of this Pact, any action taken by the Principal in accordance with this Pact or interpretation thereof shall not be subject to any Arbitration.

(8) The actions stipulated in the integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

(9) In witness whereof he parties have signed and executed this pact at the place and date first done mentioned in the presence of following witnesses:-

_____ _____

(For & On behalf of the (Principal) (For & On behalf of Bidder/Contractor/ Contractor/Consultant

(Office Seal)

Place

Date

Witness 1:

(Name & Address)

_____

_____

Witness 2:

(Name & Address)

_____

SECTION – 5
GENERAL CONDITIONS OF CONTRACT (GCC) AND CONTRACT DATA

SECTION 5
GENERAL CONDITIONS OF CONTRACT

(GCC)

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A. GENERAL

1. Definitions

Terms which are defined in the Contract Data but not defined in the Conditions of Contract keep their defined meanings. Capital initials are used to identify defined terms.

Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.

Certificate of Completion is the document issued by the Engineer upon the full completion of works, or parts thereof as applicable in accordance with **Clause 47**.

Compensation Events are those defined in **Clause 40**.

Contract is the Contract between the Employer and the Contractor to maintain the road assets and to execute, complete, and maintain the Works. It consists of the documents listed in **Clause 2.3**.

Contract Data defines the documents and other information, which comprise the Contract.

Contractor is a person or corporate body whose Bid to carry out the Road Maintenance Works and Activities has been accepted by the Employer.

Contractor's bid is the completed Bidding Document submitted by the Contractor to the Employer.

Contract Price is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days; months are calendar months.

Defect is any part of the Maintenance Works and Activities not completed in accordance with the Contract Specifications whether communicated by Employer or Engineer through any Application, Portal, Website, email or physical inspection/correspondence or any other method as described by the Employer before the commencement of services.

Defects Liability Certificate is the certificate issued by the Engineer, after the Defects Liability Period has ended and upon correction of Defects by the Contractor.

Defects Liability Period means the period so stipulated in the Contract Data, calculated from the Completion Date, during which the Contractor remains responsible for the rectification of any defect in the Works he has undertaken.

Emergency Works is a set of necessary and sufficient activities to reinstate the Road and reconstruct its structure or right of way strip damaged as a result of natural phenomena with imponderable consequences, such as strong storms, flooding and earthquakes. The need for execution of Emergency Works is identified by the Engineer for starting of execution of Emergency Works and shall also issue a Work Order.

Employer (or Authority) is the party as defined in the Contract Data, who employs the Contractor to carry out the Works. The Employer may delegate any or all functions to a person or body nominated by him for specified functions.

Engineer is the person named in the Contract Data (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Engineer) who is responsible for supervising the execution of the Works and administering the Contract on behalf of the Employer.

Equipment is the Contractor's machinery and vehicles brought to the Site to execute the Maintenance Works and Activities.

Deleted

"Key Personnel" means the positions (if any) of the Contractor's personnel that are stated in the Specification.

Initial rectification works are the set of civil works the Contractor needs to carry out to bring a road to the required Service Level.

Intended Completion Date is the date, as given in contract data, on which it is intended that the Contractor shall complete the Works as per scope under the contract. The intended Completion Date may be revised only by the Engineer by issuing an Extension of Time after approval from the Employer.

Letter of Acceptance means the formal acceptance of the Bid by the Employer.

Materials are all supplies, including consumables, used by the Contractor for incorporation in the Maintenance Works and Activities.

Maximum Response Time means the maximum permissible time within which remedial action must be completed prior to a defect exceeding the permissible tolerance. Maximum Response Time commences from the time of earliest detection of the defect by

(i) observation of the defect by the Contractor, or (ii) notification of the defect by the Engineer, or (iii) intimation of the defect by a road user.

Notice to Proceed (also commencement notice/letter) means the notice issued by the Engineer / Employer to the Contractor to proceed with the work after signing of the contract pursuant to **Clause 32.1** of ITB.

Periodic Maintenance [PM] Works consists of providing a bituminous wearing course on an existing bituminous surface, it may be preceded by a levelling course to correct the transverse profile of the existing road. For rigid pavements, either partially bonded overlay or fully bonded overlay shall be considered as PM work. Periodic Maintenance works also includes Road Markings, provision of reflective Road Studs, Gravel filling to match the Shoulder level with carriageway after laying renewal coat PM Works are specific works defined in the Contract Data.

Permissible Tolerance means the maximum permissible amount or quantity of a defect in road-asset condition that will not be exceeded at any time. If any defect exceeds the permissible tolerance, it shall be treated as "non-compliance" and the Contractor shall be paid in accordance with the relevant provisions in this contract.

Project Manager is a person appointed by the Contractor who is in charge of managing all activities of the Contractor under the Contract. He is also the Contractor's Representative for the purpose of this Contract.

Rectification Standards

The Contractor shall maintain the Road Assets in proper condition that comply with the Road Maintenance Standards and ensure road users safety and comfort. The maintenance activities shall be so planned that the defects are repaired well before they reach maximum condition as per the permissible tolerance

Deleted

Road means the Road or package of roads in network or scattered for which the Maintenance Works and Activities are to be carried out under the Contract.

"Road Assets" include the following:

i) Main carriageway with shoulders (paved and/or earthen), medians, slip roads, service roads;
ii) Road embankment including slopes, protection works, kerbs and chute drains;
iii) Roadway in cutting including slopes protection works, drains;
iv) Culverts, Bridges, Over/Underpasses, retaining walls, Guide bunds, Floor protection works;
v) Road signs, road markings, road delineators, guard rails, safety barriers, railings, fencings, parapets, kilometre stones, 200 m stones, road boundary stones;
vi) All types of drains, trees, plantations and erosion control measures;
vii) Road land;
viii) Any other project facility or asset forming integral part of the road(s).

Road inventory and condition data reports are those, are compiled during inventorisation of road assets by the contractor during the inspection jointly with Engineer/ Employer within 01 months from the start date about the condition of road, Cross Drainage works and road signs etc. at the site. It shall also include all surveys and reports as defined in Clause 5.1 of Section-7, Part-I.

The Road Management Office is the location indicated by the Contractor from which the Project Manager operates, and where the Contractor shall receive notifications.

Road Maintenance Standards is the collective term for parameters which define the condition in which the road assets are required to be maintained and other requirements regarding safety and quality of works to be complied with by the Contractor.

Road Maintenance Works and Activities to be carried out by Contractor shall include:

Maintenance of the road assets and incident management specified in the BOQ and section 7 and executing other items of road maintenance works as ordered by the Engineer. Incident Management deployed by the Contractor shall be in compliance to (For Ambulance, Tow Away Crane) MoRTH Circular regarding ToR for Incident Management no. RW/G-23012/01/2019-W&A (Pt.III) dated 22.03.2021 and (For Patrol Vehicle) NHAI Policy Circular No. 12.36 dated 12.012.2024.

Routine Maintenance of Road assets means regular maintenance of all road assets in respect of Roads under the Contract to the Road Maintenance Standards and for the period specified in the Contract Data.

Site is the area defined as such in the Contract Data, where maintenance works are to be executed.

Specifications means the Specifications of the Maintenance Works including the Road Maintenance Standards as per the Contract.

Start Date is the date notified by the contractor to the Engineer after issuance of Commencement. It is the date when the Contractor actually commence execution of the Works. In no case shall the Start Date shall be beyond 15 days after the date of issue of the Notice to proceed.

Service Level means the defined condition in which the road assets are to be maintained by the Contractor as per Annexure-E.

Sub-Contractor is a person or corporate body who has a Contract with the Contractor to carry out a work under the Contract, which includes part of the agreed scope of works at the Site with due approval of Authority / Employer.

Temporary Works are the temporary works designed, constructed, installed and removed by the Contractor that are necessary & incidental for implementation for Scope of Work as defined in the Contract or for site regulations and safety.

Time for Completion means the duration for completing the execution of maintenance works and passing the tests on completion of the Works or any Section or part thereof as stated in the Contract Data or as extended by the Engineer by issuing an Extension of Time after the approval from the Employer.

Variation is an instruction given by the Engineer in writing which varies the scope of Maintenance Works as defined in Clause 6.2 of Part-II of Section-7.

Work Order is an order issued by the Engineer to the Contractor for execution of certain Emergency works, specifying the time limits which may be in variance with the approved programme or in variation to the scope of work depending upon the site requirement.

2. Interpretation

In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract Unless specifically defined. The Engineer will provide instructions clarifying queries about these Conditions of Contract.

If part completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date and the Intended Completion Date apply to any part of the Works (other than references to the Completion Date and Intended Completion Date for the whole of Works).

The following documents shall be deemed to form and be read and construed as part of the Contract. In case any ambiguity or discrepancy is noted, then the Contractshall be interpreted in the following order of priority:

i) Agreement;

ii) Notice to Proceed with the Work;

iii) Letter of Acceptance;

iv) Contractor's Bid;

v) Contract Data;

vi) General Conditions of Contract;

vii) Road Maintenance Standards and Specifications for Road Maintenance Works, Part I and Part II.

viii) Priced Bill of Quantities; and

ix) Any other documents listed in the Contract Data.

3. Language and Law

The language of the Contract shall be in English and the law governing the Contract as given in Contract Data.

4. Engineer's Decisions

The Employer shall designate and notify to the Contractor in writing the name of the Engineer.

Except where otherwise specifically stated, the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer. The Engineer shall have no authority to relieve the Contractor of any of his obligations under the Contract.

5. Delegation

The Engineer, duly informing the Employer, may delegate any of his duties and responsibilities to his Team leader, after notifying the Contractor and may cancel any delegation under intimation to the Contractor.

6. Communications

Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered as per Indian Law.

7. Subcontracting

7.1 The Contractor may subcontract any portion of work, up to a limit specified in Contract Data, with the approval of the Employer in writing. Subcontracting shall neither alter the Contractor's obligations, nor relieve the Contractor from any liability or obligation under the Contract.

7.2 The Contractor shall not be required to obtain any consent from the Employer for:

a) the sub-contracting of any part of the Works for which the Sub- Contractor is named in the Contract;

b) the provision for labour, or labour component;

c) the purchase of Materials which are in accordance with the standards specified in the Contract.

7.3 Beyond what has been stated in Clauses 7.1 and 7.2, if the Contractor proposes sub-contracting of any part of work during execution of the Works, because of some unforeseen circumstances to enable him to complete the Works as per terms of the Contract, the Employer will consider the following before according approval:

a) The Contractor shall not sub-contract the whole of Works.

b) The Contractor shall not sub-contract any part of the Work without prior consent of the Employer. Any such consent shall not relieve the Contractor from any liability or obligation under the Contract and he shall be fully responsible for the acts, defaults and neglects of any of his sub-Contractor, his agents or workmen as if they were the acts, defaults or neglects of the Contractor, his agents and workmen.

7.4. The Engineer should satisfy himself before recommending to the Employer whether

a) the circumstances warrant such sub-contracting; and

b) the sub-Contractor so proposed for the Work possess the experience, qualifications and equipment necessary for the job proposed to be entrusted to him in proportion to the quantum of Works to be sub- contracted.

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other Contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as referred to in the Contract Data. The Contractor shall also providefacilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors and shall notify the Contractor of any such modification. The Contractor shall cooperate in such situations as well.

8.2 The Contractor should take up the works in convenient reaches as decided by the Engineer to ensure that there is least hindrance to the smooth flow of traffic including movement of vehicles and equipment of other Contractors till the completion of Works.

9. Personnel and Equipment

9.1 The Contractor shall employ the technical personnel named in the Contract Data or other technical persons approved by the Engineer. These numbers as specified in the contract are minimum and contractor has to employ the adequate technical personnel required for execution of works. The Engineer will approve any proposed replacement of technical personnel only if their relevant qualifications and abilities are substantially equal to or better than those of the personnel stated in the Contract Data. If the personnel stated in the Contract Data are not deployed on site by the Contractor within 15 days of issue of notice to proceed with the work, a penalty of Rs 2000/- per day per person shall be levied for next 30 days, beyond which it shall be treated as a breach of Contract and action will be taken as per Clause 51. The replacement of Project Manager will be approved by the Employer.

9.2 The Contractor shall use the equipment identified in the bid along with competent operators and adequate stock of spares for smooth operations.

9.3 If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the Works under the Contract.

9.4 The Contractor shall establish, within his own organizational structure, a 'planning unit, laboratory unit etc., staffed with suitably qualified personnel. The team will be headed

by a Project Manager who will be assisted by his representatives, i.e. Site Engineer, Survey Engineer, Material Engineer as defined ITB. The task of this unit will be:

9.5 To plan, and to verify continuously the degree of compliance by the Contractor with the specified Road Maintenance Standards and report the same to the Engineer in the format acceptable to the Engineer.

9.5.1 To maintain and update the road condition inventory regularly.

9.5.2 To assist the Engineer in verification of the compliance.

9.6 The Contractor's planning unit mentioned under **Sub-clause 9.4** shall report the level of compliance with the required Service Levels in the standard formats acceptable to the Engineer.

10 . Employer's and Contractor's Risks

The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's Risks

The Employer is responsible for the expected risks which are in so far as they directly affect the execution of the Maintenance Works and Activities included in the Contract, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot, commotion or disorder (unless restricted to the Contractor's employees), natural calamities and contamination from any nuclear fuel or nuclear waste or radioactive toxic, explosive.

12. Contractor's Risks

All risks of loss of or damage to physical property and of personal injury and death, which arise during and in consequence of the performance of the Contract other than the excepted risks, referred to in **Clause 11.1**, are the risks of the Contractor.

13. Insurance

13.1 The Contractor at his cost shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the completion of defect liability period, in that amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:

a) Loss of or damage to the Works and Materials

b) Loss of or damage to Equipment

c) Loss of or damage to property (except the Works Materials and Equipment) in connection with the Contract

d) Third Party Liability Insurance

e) Automobile Liability Insurance

f) Workers" Compensation

g) Employer's Liability

h) Other Insurances

13.2 Insurance policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the Start Date. All such insurance shall provide for compensation to be payable in Indian Rupees to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may affect the insurance which the Contractor should have provided and recover the premiums the Employer had paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due from the Contractor.

13.4 Alterations to the terms of insurance shall not be made without the approvalof the Engineer.

13.5 Both parties shall comply with any conditions of the insurance policies. The Contractor shall ensure that wherever applicable, its Sub-Contractor(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for works executed by them under the Contract unless such Sub-Contractor(s) is/are covered by the policies taken out by the Contractor.

14. Site Investigation Reports

The Contractor, in preparing the Bid, may rely at his own risks and liability on any Site Investigation Reports referred to in the Contract Data, supplemented by any other information available to him.

15. Queries about the Contract Data

The authorized representative of the Employer as stated in the Contractdata will clarify queries on the Contract Data.

16. Contractor to Maintain the Highways

The Contractor's obligations cover the carrying out of all Maintenance Works and Activities as defined in the Contract for keeping the roads in accordance with the Road Maintenance Standards. The Contractor shall construct, install and maintain the Works in accordance with the Specifications and Drawings.

The Contractor [Class I Local Supplier/ Class II Local Supplier/ Non Local Supplier] shall submit an undertaking to ensure minimum Local Content in the Project Highway of at least [50% / 20%] duly complying with the provisions of Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, Government of India Order No. P-45021/2/2017-PP (BE- II) dated September 16, 2020, as amended or modified till Bid Due Date and the provisions under Rule 144(xi) of GFR, 2017.

17. The Works to be completed by the Intended Completion Date

17.1 The Contractor shall commence execution of the Maintenance Works and Activities on the Start Date. The Contractor shall conduct NSV, FWD, Condition survey and inspections jointly with Engineer/ Employer within 01 months from the start date and finalise the necessary maintenance measures (wherever required to achieve Service Level) on the highway pavement and structures to be completed by the Contractor as part of Initial Rectification (IR) within 06 months from the date of start. The contractor shall carry out the scheduled Works in accordance with the Programme as submitted, and updated with the approval of the Engineer, and complete them by the Intended Completion Date.

17.2 Work orders

a) The Contractor shall proceed with the execution of Emergency Work in accordance with the details provided with the Work Order and in conformity with the Technical Specifications and in compliance with thestated time table.

b) Notwithstanding the requirements of Sub-Clause 17.2, the Contractor shall remain prepared to immediately initiate maintenance works in the case of any work order issued by the Engineer for Emergency Works.

18. Approval by the Engineer

18.1 The Contractor shall prepare/propose the Operation and Maintenance Manual as per relevant applicable Standards and Specifications and existing policies/guidelines/practices and get the same approved from the Engineer/Employer.

18.2 The Contractor shall submit Specifications and Drawings showing the proposed Permanent /Temporary Works to the Engineer, who is to approve them if they comply with Specifications and drawings.

18.3 The Contractor shall be responsible for design of all Permanent/ Temporary Works.

18.4 The Engineer's approval shall not alter the Contractor's responsibility for design of the Permanent/ Temporary Works.

18.5 The Contractor shall obtain approval of third parties to the design of Permanent/ Temporary Works submitted to the Engineer.

18.6 All Drawings prepared by the Contractor for the execution of temporary or permanent Works, are subject to prior approval by the Engineer before their use.

19. Site Regulations and Safety

The Contractor shall be responsible for the safety of all activities on the Site, including arrangements for smooth flow of traffic at his own cost as per guidelines of the IRC/Ministry of Road Transport & Highways. He shall provide proper barricading, diversion boards, etc. He shall be fully responsible for the safety of workers and staff at site and provide safety helmets, reflective jackets and other PPE to the workers, inspecting officers and supervisors.

20. Discoveries

Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor shall notify the Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

21. Possession of the Site

The Employer shall give possession of all parts of the Site to the Contractor on or before the start date of the Contract.

22. Access to the Site

The Contractor shall allow access to the Site and to any place where work in connection with the Contract is being carried out, or is intended to be carried out to the Engineer and any person/persons/agency authorized by:

a) The Engineer

b) The Employer

23. Instructions

The Contractor shall carry out all instructions of the Engineer pertaining to the maintenance works which comply with the applicable laws where the Site is located.

The Contractor shall permit the Engineer/Employer to inspect the Contractor's contemporary records in respect of invoice of bitumen, cement, aggregates and steel, if so desired by the Engineer.

24. Procedure for Dispute Resolution

24.1 Dispute resolution

24.1.1 In the event of any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the "Dispute") shall, in the first instance, be attempted to be resolved amicably.

24.1.2 The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith, and further agree to provide each other with reasonable access during normal business hours to all non-privileged records, information and data pertaining to any Dispute.

24.2 Escalation of Dispute

In the event of any Dispute(s) between the Parties remains unresolved within 30 (thirty) days of the notice in writing referred to in Clause 1.1 or such longer period as may be mutually agreed by the Parties, either Party may refer the Dispute to Arbitration or Conciliation in accordance with the provisions of Clause 3.

24.3 Arbitration, Conciliation and Adjudication of Dispute

24.3.1 Any Dispute between the Parties the sum of which is of value less than Rupees 10 Crores which remains unresolved between the Parties through the mechanisms available/

prescribed in the Agreement, which has not been agreed upon/ reached settlement by the Parties, will be referred either to SAROD, (a Society registered under Society's Act, 1860 vide Registration no. S/RS/SW1049/2013) duly represented by Government/ Authority and National Highways Builders Federation (NHBF) or to India International Arbitration Centre ("IIAC").

24.3.1.1 The appointment of Tribunal, Code of conduct for Arbitrators and fees and expenses of SAROD/IIAC and the Arbitral Tribunal shall also be governed by the Rules of SAROD as amended from time to time or the India International Arbitration Centre Act 2019 and the regulations framed thereunder as amended from time to time. The rules of SAROD are placed at Appendix III.

24.3.1.2 Subject to the provisions of The Limitation Act, 1963, as amended from time to time, Arbitration may be commenced during or after the Concession Period, provided that the obligations of Authority and the Concessionaire shall not be altered by reason of the Arbitration being conducted during the Concession Period.

24.3.1.3 The venue of Arbitration shall be New Delhi or a place selected by governing body of SAROD or IIAC, as the case may be, and the language for all documents and communications between the Parties shall be English.

24.3.1.4 Each Party shall bear its own costs and expenses incurred in connection with the arbitral proceedings.

24.3.1.5 The arbitrators shall make a reasoned award (the "Award"). Any Award made in any arbitration held pursuant to this Article / shall be final and binding on the Parties as from the date it is made, and the Concessionaire /Contractor and the Authority agree and undertake to carry out such Award without delay.

24.3.1.6 The Concessionaire/Contractor and the Authority agree that the Award may be enforced against the Concessionaire /Contractor and/or the Authority, as the case may be, and their respective assets wherever situated.

24.3.2 Any Dispute between the Parties, the sum of which is of value Rupees 10 Crores or above, which remains unresolved between the Parties through the mechanisms available or

prescribed in the Agreement, which has not been agreed upon/ reached settlement by the Parties, will be resolved by Conciliation as per the Arbitration and Conciliation Act, 1996.

24.3.3 The Concessionaire/Contractor and the Authority agree that the Award or a settlement agreement may be enforced against the Concessionaire/Contractor and/or the Authority, as the case may be, and their respective assets wherever situated.

24.3.4 This Agreement and the rights and obligations of the Parties shall remain in full force and effect, pending the Award in any Arbitration hereunder. Further the Parties unconditionally acknowledge and agree that notwithstanding any Dispute between them, each Party shall proceed with the performance of its respective obligations, pending resolution of Dispute in accordance with this Article.

24.3.5 This provision relating to Conciliation under the Arbitration and Conciliation Act, 1996 shall cease to apply once the provisions relating to substitution of conciliation process by mediation are notified under Mediation Act, 2023. Thereafter “Conciliation” herein be referred to as Mediation as per the provisions of the Mediation Act 2023.

24.3.6 Notwithstanding anything to the contrary contained in the Agreement, it is agreed that any Dispute between the Parties the sum of which is of value equal to or above Rupees 10 Crores shall not be referred to Arbitration. It is further agreed that all declaratory disputes or non-monetary disputes shall not be referred to Arbitration. For the avoidance of doubt, it is clarified that nothing herein shall prevent the Parties from seeking resolution of such Disputes through civil courts.

B. TIME CONTROL

25. Programme

25.1 The Contractor shall submit to the Engineer for approval a work programme within period specified in the contract data showing the requirement of manpower, machinery and material along with required cash flow inputs, general methods, arrangements, order, and timing etc. for all the maintenance works and activities.

25.2 The Engineer may issue the work order for Emergency Works in stages specifying the time limit for the same as and when required except the performance-

based maintenance items. To be clear, no separate work orders shall be issued for Routine Maintenance/Periodic Maintenance/Initial rectification works.

25.3 An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of progress achieved on the timing of the remaining Works, including any changes to the sequence of activities.

25.4 The Contractor shall submit to the Engineer for approval an updated Programme at intervals. If the Contractor does not submit an updated Programme within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Programme has been submitted.

25.5 The Engineer's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Engineer again at any time. A revised Programme shall show the effect of Variations and Compensation Events.

26. Extension of the Intended Completion Date

26.1 The Engineer shall extend the Intended Completion Date only after approval of the Employer if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining Works, which would cause the Contractor to incur additional cost.

26.2 The Engineer, within 14 days of receiving full justification from the Contractor for extension of Intended Completion Date, will refer to the Employer his recommendation. The Employer shall, in not more than 21 days from the date of receipt of Engineer"s recommendation, communicate to the Engineer the acceptance or otherwise. The Engineer shallconvey the decision of the Employer to the Contractor.

27. Delays Ordered by the Engineer

27.1 The Engineer may instruct the Contractor to delay the start or progress of any activity within the Works. Delay/delays totaling more than 30 days will require prior written approval of the Employer.

28. Management Meetings

28.1 The Engineer may require the Contractor to attend a management meeting. The business of a management meeting shall be to review the plans and progress for the Maintenance Works.

28.2 The Engineer shall record the business of management meetings and provide copies of the record to those attending the meeting including Authority. The responsibility of the parties for actions to be taken shall be decided by the Engineer either during the management meeting or after the management meeting and to be intimated in writing toall those who attended the meeting.

28.3 Engineer and Contractor will mandatorily hold a meeting with the Employer at least once in a month.

C. QUALITY CONTROL

29. Identifying Defects

29.1 The Engineer shall check the Contractor's work and notify the Contractor of any Defects those are found. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to uncover and test any work that the Engineer considers may have a Defect. The Contractor shall raise Request for Inspection (RFI) or Information for Inspection (IFI) for all day to day activities of Routine Maintenance of road asset, Periodical Maintenance, Initial Rectification and emergency works to ensure quality of all the day to day activity and progress of the maintenance work. For release of payment enclosure of RFI/ IFI is mandatory.

30. Tests

The Contractor shall set up a field laboratory within 30 days period from the date of Notice to Proceed the work stated in Contract Data and shall be solely responsible for:

a) Carrying out the mandatory tests prescribed in Technical Specifications and

b) For the correctness of test/procedures, whether preformed in his laboratory or elsewhere.

30.1 If the Engineer instructs the Contractor to carry out a test not specified in the Specifications to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the testing charges and for any number of samples. Otherwise, the Employer shall pay for the testing charges.

31. Correction of Defects noticed during the Defects Liability Period

31.1 The works carried out shall be of very high standard, requiring no major repairson the road for at least, during defects liability period, after the date of completion of works.

31.2 If any defects including shrinkage, cracks, other faults appear in the works within the period specified hereunder rectification of defects as per required specifications and good industry practice may be undertaken. In case defects still prevails, the Engineer shall give notice to the Contractor of any defects before the end of the Defects Liability Period after issue of "Taking over" certificate. The Defects Liability Period shall be extended foras long as the defects remain to be corrected.

31.3 Every time notice of a defect is given, the Contractor shall correct the notified defect as per relevant specifications and good industry practice at his own cost within the length of time specified in the Engineer's notice.

31.4 The Defects Liability Period shall be as given in the Contract Data, counted from the Date of Completion stated in the Certificate of Completion issued in pursuance of **Clause 47**. The defect liability period is not applicable for works of routine maintenance such as pot holes/ patch repairs/ruts repairs under performance based BOQ items.

31.5 If during the Defects Liability Period any defect is found in the design, engineering, materials and workmanship of the Works and Services executed by the Contractor, then the Contractor shall promptly, in consultation and agreement with the Engineer, appropriately remedy such defects at its cost, or repair, replace or otherwise make good (as the Contractor shall, at its discretion, determine) such defects as well as any damage to the Road caused by such defects.

31.6 The Contractor's obligations under this Clause 31 shall not apply to:

a) any material that is supplied by the Employer, and normally consumed in maintenance, or have a normal life shorter than the Defects Liability Period stated herein;

b) any design, Specification or other data, supplied or specified by or on behalf of the Employer or any matter for which the Contractor has disclaimed responsibility herein;

31.7 The Employer shall offer the Contractor all reasonable opportunity to inspect the defect(s) Noticed, as well as provide all necessary access to the Facilities and the Siteto enable him to perform his obligations under this **Clause 31**.

The Contractor may remove from the Site any Plant and Equipment or any part of the Facilities that are defective, if the nature of the defect, and/or any damage to the Facilities caused by the defect, is such that repairs cannot be expeditiously carried out at the Site.

32. Work to be executed on Risk & Cost of Contractor for Uncorrected Defects

32.1 If the Contractor fails to correct a Defect as per relevant specifications and good industry practice, to the satisfaction of the Engineer, within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected. The Contractor will pay to the Employer this amount or the Engineer may deduct such amount from any sums due to the Contractor, on correction of the Defect together with 20 percent additional costs as the damages.

32.2 In case of any non-compliance/delayed compliance of maintenance standards, the damages/reduction in payment shall be applicable as provided under Road Maintenance Standards Part – I.

D. COST CONTROL

33. Bill of Quantities

33.1 The Bill of Quantities shall contain

i) Lump-sum price per km per month for Routine Maintenance of Road Asset;

ii) Lump sum price for Initial rectification works which are required to bring the road to service levels

iii) Lump sum price per km for Periodical Maintenance works the description of items, units, rates and amount.

iv) Unit rate for Emergency works

33.2 In case of Routine Maintenance, Initial rectification works and periodical maintenance works, the indicated BOQ items are provisional and the Bidder/ Contractor is required to assess the items, quantities and the cost for quoting the Bid in percentage above/ below the indicative amount by the Employer. The Bidder shall have no claim whatsoever in case the quantities executed are in excess than the provisions in the BOQ.

In case of Emergency Works, the Engineer / Employer shall provide the details of items to be executed along with quantities, rates and amounts. The payment will be made as per actual work executed and measured at site.

In case of variation in quantities, the payment will be made as per agreement rates i.e. applicable SOR adjusted with quoted and accepted percentage of the Bidder on overall indicated amount of the Work by the Employer. If necessity of additional work items is warranted the payment for such work will be admissible at applicable SOR/ Market rates adjusted with quoted and accepted percentage of the Bidder on overall indicative amount of work by the Employer.

In case of Routine Maintenance for Electric lights at locations of Project Highway Stretch(es), the Electricity consumption Bill (s) as raised by the concerned Utility Providing Agencies in the name of Employer will be paid by the Employer, however all such utility services assets are to be maintained by the Contractor in the serviceable condition.

33.3 Routine Maintenance Works shall be measured and billed separately and will be remunerated by lump-sum amount after making adjustments for deductions for lapses in maintaining the defined service levels during the entire period of contract as stated in the BOQ.

33.4 Initial rectification works and Periodical Maintenance works are to be paid on thebasis of the lengths completed in accordance with the approved programme.

33.5 Emergency works will be taken up and paid on the basis of work order issued by the Engineer/ Employer which will include quantities of various items to be executed with reference to the unit rates provided in the BOQ.

34. Measurement for Payments

34.1 Routine Maintenance of Road assets will be measured per km per month. However, payment for Routine Maintenance of road assets shall be affected by compliance with the Maintenance Standards pursuant to Maintenance Activities and shall be billed in fixed monthly amounts (lump-Sum amount), as per the Bill of Quantities for Maintenance Activities, beginning from the Start Date. Payments will be made with reduction if the Maintenance standards are not achieved as defined in the specifications. The reductions for non-compliance with the Maintenance standards will be applied on the basis of monthly inspection, in accordance with the methodology specified in the Road Maintenance Standards and Specifications (Section 7).

34.2 Initial rectification works and Periodical Maintenance Works will be measured based on the actual work outputs (completed per km length) as defined in the Specifications andcompleted by the Contractor in compliance with the Specifications.

34.3 Emergency works will be taken up and paid on the basis of work order issued by the Engineer/Employer which will be in accordance with the unit of measurement used for product unit price included in the Bill of Quantities. The prices shall be those stated in the Bill of Quantities.

35. Variations

35.1 The Engineer may order Variations, with the prior approval of the Employer, he considers necessary or advisable during the progress of the Works. Such Variations shall form part of the Contract and the Contractor shall execute the varied works. Oral orders of the Engineer for Variations, unless followed by written confirmation, shall not be taken into account. Further, no variation to Routine Maintenance, Initial Rectification and Periodic Renewal Works are acceptable, except as specified in Clause 6.2 of Part-II of Section-7 (Specifications for Road Maintenance Works and Operational Procedures).

36. Payments for Variations

36.1 If rates for Variation items are specified in the Bill of Quantities, the Contractor shall carry out such work at the same rate.

36.2 If the rates for Variation are not specified in the Bill of Quantities under Emergency works, the Engineer shall derive the rate from SOR applicable at the time of bidding.

36.3 If the rate for Variation item under Emergency works cannot be determined in the manner specified in **Clause 36.1** or **36.2**, the Contractor shall, within 14 days of the issue of order of Variation work, inform the Engineer the rate which he proposes to claim, supported by analysis of the rates. The Engineer shall assess the quotation and determine the rate based on prevailing market rates within seven days of the submission of the claim by the Contractor and approval from the Employer shall be taken. As far as possible, the rate analysis shall be based on the Standard Data Book and the current Schedule of Rates of the district public works division. The decision of the Employer on the rate so determined shall be final and binding on the Contractor.

37. Cash Flow Forecasts

37.1 When the Programme is updated, the Contractor shall provide the Engineer with an updated cash flow forecast.

38. Payment Certificates

38.1 The Contractor shall submit to the Engineer monthly statements of the value of the work executed less the cumulative amount certified previously, supported with detailed measurement of the items of work executed.

38.2 The Engineer shall check the Contractor's monthly statement within 07 days andcertify the amount to be paid to the Contractor after taking into account any credit or debit for the month in question.

38.3 The value of work executed shall be determined, based on measurements by the Engineer.

38.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.

38.5 The value of work executed shall also include the valuation of Variations and Compensation Events.

38.6 The Engineer/Employer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of latest information.

38.7 The final bill shall be submitted by the Contractor within one month of the actual date of completion of the work; otherwise, the Engineer's certificate of the measurement and of the total amount payable for work accordingly shall be final and payment made accordingly within a period of sixty days as far as possible. It shall also comprise of all the test reports conducted during the work.

39. Payments

39.1 Payments shall be adjusted for deductions for Output Performance measures, advance payments, security deposit, other recoveries in terms of the Contract and taxes at source, as applicable under the law. The deduction and payment methodology are described in Clause 5.2 of Part-II of Section-7 (Specifications for Road

Maintenance Works and Operational Procedures). The Employer shall pay the Contractor the amounts theEngineer had certified, within 28 days of the date of each certificate after submission of the monthly statement by Contractor.

39.2 Monthly statement for routine maintenance, Initial Rectification Works and Periodic Maintenance shall be raised on monthly basis. The authorized representative of the Employer shall make the payment certified by the Engineer.

39.3 deleted.

39.4 **Price Adjustment** - Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the Contract Data. If so provided, the amounts certified in each payment certificate, after deducting for Advance Payment (if any), shall be adjusted by applying the respective price adjustment factor to the payment amounts. Formula as below shall be applied:

P = A + B Imc/Ioc
where:

P is the adjustment factor for the amount payable

A and B are coefficients[7] specified in the Contract Data, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable and

Imc is the index prevailing at the end of the month being invoiced and Ioc is the index prevailing twenty-eight (28) days before Bid due date for inputs payable;

If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected, and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

40. Compensation Events

40.1 The following shall be Compensation Events unless they are caused by the Contractor:

a) The Engineer orders a delay or delays exceeding a total of 30 days;

b) The effects on the Contractor of any of the Employer's Risks.

[7] The sum of the two coefficients A and B should be 1 (one) in the formula for each currency. Normally, both coefficients will be the same in the formulae for all currencies, since coefficient A, for the nonadjustable portion of the payments, which is 0.15 to take account of fixed cost elements or other nonadjustable components. The sum of the adjustments for each currency is added to the Contract Price.

40.2 If a Compensation Event would prevent the Works being completed before the Intended Completion Date, the Intended Completion Date shall be extended. The Engineer shall decide whether and by how much the Intended Completion Date shall be extended after approval of the Employer.

40.3 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having cooperated with the Engineer/Employer.

41. Taxes and Currencies for Payments

41.1 The rates quoted by the Contractor shall be deemed to be exclusive of the GST but including other levies, duties, royalties, cess, toll, and other taxes of Central and State

Governments, local bodies and authorities that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.

41.2 All payments shall be made in Indian Rupees.

42. Security Deposit/Retention Money

42.1 The Employer shall retain security deposit of five (05) percent of the amount from each payment due to the Contractor until Completion of the whole of the Works. However, Govt. Policies and orders at the time of Bidding will prevail.

42.2 The security deposit/retention money and the performance security will be released to the Contractor when the Defects Liability Period is over, and the Engineer has certified that the Defects, if any, notified by the Engineer to the Contractor before the end of this period have been corrected. Also refer clause 16 of Contract Data.

42.3 If the Contractor so desires, then the Security Deposit/retention money can be released on submission of unconditional Bank Guarantee at the following two stages:-

a) At a point after the progress of work in financial term (gross value of work done) has reached 50% of the contract amount

b) After the retention money has been deducted to the full value (5% of the contract amount).

43. Liquidated Damages

43.1 The Contractor shall pay liquidated damages to the Employer at the rate or part thereof stated in the Contract Data for each day for Initial Rectification works (beyond six month) and Periodical Maintenance works (beyond 2/4 years as the case may be).

The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's other liabilities. The Contractor shall also pay the liquidated damages for any delay in completing the emergency work as stated in the work order issued by the Engineer.

43.2 Both the parties expressly agree that the liquidated damages payable by the Contractor are mutually agreed, genuine, pre-estimated loss and without any proof of actual damages likely to be suffered and incurred by the Employer and the Employer is entitled to receive the same and are not by way of penalty.

43.3 Deleted.

44. Advance Payment

44.1 The Employer will make an interest-bearing advance payment to the Contractor only for Initial Rectification Works and Periodic Maintenance works against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable tothe Employer in amounts equal to the 110% advance payment maximum up to 10% of Contract Price. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. The Contractor shall take the above advance before 2nd running bill and if the contractor delays seeking the advance, the same is not payable.

44.2 The Contractor is to use the advance payment only to pay for Equipment, plant and mobilization expenses required specifically for execution of the Works. The Contractor shall demonstrate that the advance payment has been used in this way by supplying copies of invoices or other documents to the Engineer within 6 months from date of start.

44.3 The advance payment shall be repaid with interest @ Bank Rate + 3% applicable onthe date of release of mobilization advance, by deducting from payments otherwise due tothe Contractor. The mobilization advance will be recovered from third running bill up to 8th running bill in six equal instalments and the interest will be recovered from 9th bill. In any case, the mobilization advance with interest must be recovered within ten months from the date of agreement. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, Compensation Events, orLiquidated Damages.

45. Performance Security

45.1 Subject to further condition in Contract Data, the Performance Security equal to three percent of the Contract Price shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in the form given in the Contract Data and by a prescribed bank. The Performance Security shall be valid until a date 60 days after the expiry of Defects Liability Period or Contract Period whichever is later.

46. Cost of Repairs

46.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Liability Period shall be remedied/rectified by the Contractor at his cost if the loss or damage arises from the Contractor's acts or omissions.

E. FINISHING THE CONTRACT

47. Completion

47.1 The Contractor shall request the Engineer to issue a certificate of Completion of the Works, and the Engineer will do so upon deciding that the Works are completed as per specifications and standards given in the Contract and as per approved design.

48. Taking Over

48.1 The Employer shall take over the Site and the Works by preparing of detailed inventory of all road assets, median plantation, road side plantation and road furniture, and other project facilities etc., verified by the Third Party Agency engaged for the purpose by the Employer and such taking over Report/ Detailed statement to be signed by the representative of the Contractor, Engineer and Authority within seven days of the Engineer's issuing a certificate of Completion.

49. Final Account

49.1 The Contractor shall supply to the Engineer with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Engineer shall issue a Defects Liability Certificate (DLC) and certify any final payment that is due to the Contractor within 28 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer shall issue within 28 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to the Contractor and issue a payment certificate within 28 days of receiving the Contractor's revised account

49.2 Upon submission of the Final Statement, the Contractor shall give to the Employer, with a copy to the Engineer, a written discharge confirming that the total of the Final Statement represents full and final settlement of all monies due to the Contractor arising out of or in respect of the Contract. Provided that such discharge shall becomeeffective only after payment due under the Final Payment Certificate issued pursuant to Sub-Clause 49.1 has been made.

50. Operation and Maintenance Manual

50.1 If "as built" Drawings and/or operation and maintenance manuals are required relating to construction work carried out, the Contractor shall supply them within 28 days from the date of issue of certificate of completion.

50.2 If the Contractor does not supply the Drawings and/or manuals by the stipulated date or they do not receive the Engineer approval, the same shall be got prepared by the third-party agency at its Risk & Cost and such cost along with damages of Rs 5 Lakhs in addition to aforementioned cost would be recovered from the Contractor.

50.3 Termination: The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

50.4 Fundamental breaches of Contract include, but shall not be limited to, the following:

A) Fundamental Breaches by the Contractor

a) the Contractor stops work or grossly neglects Routine Maintenance Works and Services for 28 days when no stoppage of work is shown on the current programme and the stoppage has not been authorized by the Engineer;

b) the Contractor is declared as bankrupt or goes into liquidation other than for approved reconstruction or amalgamation;

c) the Engineer/Employer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to remedy the defect and correct it within the period of time determined by the Engineer;

d) the Contractor does not maintain a Security Deposit as per clause;

e) the Contractor has delayed the completion of Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in **Clause 43**;

f) the aggregate liability of the Contractor to the Employer, exceeds the total amount specified in the Contract Data, provided that this limitation shall not apply to the cost of repairing or replacing defective works andequipment;

g) the Contractor fails to provide insurance cover as required under **Clause 13**;

h) if the Contractor, in the judgement of the Employer, has engaged in the corrupt or fraudulent practices as defined in **Clause 34** of the Instructions to Bidders in competing for or in executing the Contract;

i) if the Contractor fails to set up a field laboratory with the prescribed equipment, within the period specified in the Contract Data;

j) if the Contractor does not deploy any of the personnel stated in Contract Data within 45 days of issue of notice to proceed;

k) The Contractor violates the provisions of Child Labour (Prohibition & Regulation) Act, 1986;

l) Breach as described in note 5 of Clause 5.2 of Part II of Specification for Road Maintenance works and Operational Procedures as action for repeated non compliances.

m) Any other fundamental breaches as specified in the contract data.

50.5 Without prejudice to any other right or remedies which the Employer may have under this contract upon occurrence of a Contractor's fundamental breach of contract, the Employer shall be entitled to terminate this contract by issuing a Termination Notice to the Contractor provided that before issuing the Termination Notice, the Employer shall by a Notice inform the Contractor of its intention to issue such Termination Notice and grant 15 days to the Contractor 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.

50.6 Notwithstanding the above, the Employer may Terminate/ Foreclose the Contract forits convenience.

50.7 If the Contract is terminated/ Foreclosed, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

51. Payment upon Termination/ Foreclosure

51.1 If the Contract is terminated because of a fundamental breach of Contract by theContractor, the Engineer shall issue a certificate for the value of work done and Materials ordered less advance payments received up to the date of issue of the certificate and less the percentage to apply to the value of the work not completed, as indicated in the Contract Data. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer and Employer may recover the same from Performance Bank Guarantee.

51.2 Employer may foreclose the contract in the event of start of any new development work or situation warrants otherwise. If the Contract is foreclosed at the Employer's convenience, the Engineer shall issue a certificate for the value of work done, and a pre- determined amount specified in the contract data to cover the reasonable cost of removal of Equipment and repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's profit due on the works not executed (in any case notmore than 10% on the remaining work value) and less advance payments received

up to the date of the certificate, less other recoveries due in terms of the Contract, and less taxes due to be deducted at source as per applicable law.

52. Property

52.1 All Materials on Site, Plant, Equipment, Temporary Works and Works shall be deemed to be the property of the Employer for use for completing balance work if the Contract is terminated because of the Contractor's default.

53. Release from Performance

53.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of the Employer or the Contractor, the Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.

F. OTHER CONDITIONS OF CONTRACT

54. Labour

54.1 The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport; and for compliance of various labour laws/regulations.

54.2 The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on Site and such other information as the Engineer may require.

54.3 The Contractor's personnel including equipment operators shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer may require the Contractor to remove or cause to be removed any person employed on the site or the works, including the Contractor's representative, if applicable, who

a) Persists in any misconduct or lack of care;

b) Carries out duties incompetently or negligently;

c) Falls to conform with any provision of the contract;

d) Persists in any conduct which is prejudicial to safety, health or protection of the environment.

If appropriate, the contractor shall then appoint or cause to be appointed a suitable replacement person

55. Compliance with Labour Regulations

55.1 During continuance of the Contract, the Contractor and his sub-Contractors shall abide at all times by all existing labour enactments and rules made thereunder, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. (Salient features of some of the major labour laws that are applicable to construction industry are given in Addendum to General Conditions of Contract.) The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made thereunder, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye taws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

In no case shall the employees of the Contractor and the Sub-Contractor be treated as the employees of the Employer at any point of time.

56. Drawings and Photographs of the Works

56.1 The Contractor shall do photography/video photography of the site firstly before the start of work, secondly mid-way in the execution of different stages of work and lastly after the completion of each item of work. No separate payment will be made to the contractor for this. The contractor shall also carry out the Drone survey as per extent Authority policies and shall upload the output data on the Data Lake portal or any other portal as decided by Authority by 07th of each succeeding month.

56.2 The Contractor shall not disclose details of Drawings furnished to him and works on which he is engaged without the prior approval of the Engineer in writing. No photograph of the works or any part thereof or plant employed thereon, except those permitted under Clause 57.1, shall be taken or permitted by the Contractor to be taken by any of his employees or any employees of his sub-Contractors without the prior approval of the Engineer in writing. No photographs/video photography shall be published or otherwise circulated without the approval of the Engineer in writing.

57. The Apprentices Act, 1961

57.1 The Contractor shall duly comply with the provisions of the Apprentices Act, 1961 (Illof 1961), the rules made there under and the orders that may be issued from time to time under the said Act and the said Rules and on his failure or neglect to do so, he shall be subject to all liabilities and penalties provided by the said Act and said Rules.

CONTRACT DATA

Items marked "N/A" do not apply in this Contract.

1. The Employer is Executive Director (P) and Regional Officer, Siliguri, having its office at "Regional Office - Siliguri (West Bengal), National Highway & Infrastructure Development Corporation Ltd. Unit 402, Quantum Building, Parivahan Nagar, P.O & P.S. Matigara, Pin Code 734 010.

   [Cl.1.1 of ITB]

   [Competent Authority, Designation and Address]

   Name of authorized Representative: Executive Director (P), Regional Office - Siliguri (West Bengal), NHIDCL,

2. The Engineer is: (Will be intimated later) **[Clause 1.1 of GCC]**

   Designation:

   Address: **[Cl.1.1]**

3. The Intended Completion Date for the whole of the Works is [60 months from Start Date]

   [Cl.1.1, 17&26 of GCC]

4. The Site is located at **"**Performance Based Maintenance Contracts (PBMC) for Strengthening and Maintenance on (i) NH-717 for highway starting from its junction with NH-17 near Baradighi connecting NH-27 near Mainaguri, Cangrabandha and terminating at Indo/Bangladesh Border in the State of West Bengal and (ii) NH-317A for highway starting from its junction with NH-317 near Hasimara connecting Jaigaon and terminating at Indo/Bhutan Border in the state of West Bengal during the FY 2026-2027 (3rd call)**."** [**Sr no. 1 of NIT**]

   The roads and road sections including service roads, all cross drainage works and all other project facilities as defined in Section 10 of the Bid document.

   The responsibility of the Contractor ("the Site") is all roads and road sections included in the section 10, including

- the Right-of-Way of the road;
- all junctions, intersections, and interchanges, including slip lanes and (unless otherwise stipulated in the Contract) the first 50 meters of the connecting roads; and
- for all river or stream beds the Contractor's responsibilities extend (unless otherwise stipulated in the contract) for 100 meters upstream and downstream from the road or the relevant bridge or drainage structure.
- for all paved side roads, the Contractor's responsibilities extend (unless otherwise stipulated in the contract) for maximum of 60 meters.

Service Roads running in parallel to the road are included in the contract and the details to be mentioned in the asset details and service levels mentioned in this section.

5. The Start Date shall be within 15 days after the date of issue of the Notice to proceed [Cl.1.1 of GCC]

6. (a) The name and identification number of the Contract is

Performance Based Maintenance Contracts (PBMC) for Strengthening and Maintenance on (i) NH-717 for highway starting from its junction with NH-17 near Baradighi connecting NH-27 near Mainaguri, Cangrabandha and terminating at Indo/Bangladesh Border in the State of West Bengal and (ii) NH-317A for highway starting from its junction with NH-317 near Hasimara connecting Jaigaon and terminating at Indo/Bhutan Border in the state of West Bengal during the FY 2026-2027 (3rd call). **[Cl. 1.1 of ITB]**

7. (a) The law which applies to the Contract is the law of Union of India. **[Cl.3.1 of GCC]**

8. The limit of subcontracting is NIL of initial contract price **[Cl.7.1 of GCC]**

9. Schedule of other Contractor- ……. **[Cl.8.1 of GCC]**

10. The Technical Personnel are ……. **[Cl. 9.1 of GCC & Cl. 1.3]**

Sl. No.	Personnel	Qualification	Particular Experience (minimum requirement)	No. of Persons
1	Project Manager	Degree in Civil Engineering	8 years as Project Manager/ Team Leader of Consultancy Contract on Highway, Bridge construction/ Maintenance works	1
2	Site Engineer-cum-Surveyor Engineer cum Material Engineer	Degree in Civil Engineering	4 years on Highway Construction/ Maintenance works	3
3	Incident cum Road Property Manager cum Route Operation Manager	Graduate from a recognized University	3 years on Highway Property Management and Maintenance	2
4	Road Safety Auditor	Road Safety Audit Certificate from appropriate approved Govt. agency	5 years' experience	1 (3 days in every 3 months)

11. Amount for insurance are: …….. **[Cl.13.1 of GCC]**

[8] The team proposed is for guidance and it is bare minimum and shall be considered indicative and Employer to change the same in line with project requirements

a. For Loss/ Damages to Works and Materials – Amount equivalent to 60% of Contract Price.
b. For Loss/ Damages to Equipment – Amount equivalent to 10% of Contract Price.

c. For Loss/ Damages to Property in connection with Contract except Works/ Materials/ Equipment – Amount equivalent to 5% of Contract Price

d. For Third Party Liability Insurance – Amount equivalent to 5% of Contract Price

e. For Automobile Liability Insurance - Amount equivalent to 5% of Contract Price

f. For Worker's Compensation - Amount equivalent to 5% of Contract Price

g. For Employer's Liability - Amount equivalent to 5% of Contract Price

h. For other Insurances - Amount equivalent to 5% of Contract Price

The said insurance shall include all liabilities as per **Clause 13.1** and shall be deductible as per premium rate.

12. Site Investigation Report – NIL **[Cl 14.1 of GCC]**

13. The period for submission of the programme for approval of Engineer shall be 30 days from the issue of Letter of Commencement/ Approval of the design by the Engineer (whichever is later) **[Cl. 17.1 & Cl.25.1 of GCC]**

14. Amount to be withheld for delays in submission of updated programme: 1% of value of work corresponding to the updated programme. **[Cl. 25.4 of GCC].**

15. The period for setting up a field laboratory with the prescribed equipment relevant to items of work in BOQ is 30 days from the date of notice to start work **[Cl. 30.1 of GCC]**

16. The Defect Liability Period will be upto 30 days beyond the Contract expiry or 36 months from the date of Completion of work items whichever is later for periodic renewal. **[Cl. 31 of GCC]**

Further, asset items such as sign boards, cat eyes, road studs, delineators, solar blinkers, street lighting, metal beam crash barriers, median planation, ATMS equipment etc. as inventoried after Initial Rectification/ Periodic Renewal should be available on site in good condition. Further, all service levels should be within

acceptable criteria as per Annexure-E. Cost of Items missing or non-serviceable before issuance of DLC shall be recovered as damages from the contractor either through PBG or otherwise as deemed fit by the authority. Rates for such recovery shall be as per BOQ attached in the financial proposal (without tender discount) after application of price adjustment or latest SOR whichever is available for that item.

17. Price Adjustment: Price Adjustment will be Applicable after 01 Year i.e. Effective from 13th Month from the Start Date as per details below:

(i) Routine Maintenance cost to be adjusted in line with WPI where Non-Adjustable Portion will be 0.15 (A) and Adjustable Portion will be 0.85 (B). The Base WPI (All Commodities) is to be considered 28 days before the bid due date.

(ii) Periodical Maintenance and Emergent works cost to be adjusted for Bitumen prices, Fuel prices to be considered as 0.40 & 0.12 coefficient respectively and for other materials/ labour for a coefficient of 0.33 on WPI (All Commodities) totaling to 0.85 (B) whereas, for Non-Adjustable Portion, coefficient is to be 0.15 (A). The indices for bitumen and fuel are to be considered as per the actual price of Bitumen from nearest Refinery and Diesel from Indian Oil Corporation Ltd. [Cl. 39.4 of GCC]

18. LIQUIDATED DAMAGES for delay in Completion of Work items:

Calculation of Damages for delay in completion of Periodical Maintenance Works/Emergency works/Initial Rectification works based on Individual cost component as under:

a. Amount of liquidated damages for delay in completion of Initial rectification and Periodical Maintenance work	0.1 (zero decimal one) percent of the value of Initial rectification And Periodical Maintenance work to be executed as per Maintenance Program, rounded off to the nearest thousand, per day with the minimum of Rs. 10000/- per day

b. Maximum limit of liquidated damages for delay in completion of Initial rectification and Periodical Maintenance work.	10 percent of the value of Initial rectification and Periodical Maintenance work rounded off to the nearest thousand [**Clause.43 of GCC**]
c. Amount of liquidated damages for delay in completion of Emergency work	contractor fails to complete the emergency work as directed by the Engineer within the prescribed time limit then liquidated damages will be 0.1 (zero decimal one) percent of the value of Emergency work per day of delay subject to maximum 10% of the value of emergency works

19. The standard form of Performance Security acceptable to the Employer shall be an unconditional Bank Guarantee of the type as specified in the Bidding Documents. **[Cl. 45.1 of GCC]**

20. The percentage to apply to the value of work not completed representing the Employer's additional cost for completing the work shall be 20 percent. The Performance Security shall also be forfeited if the Contract is terminated because of a fundamental breach of Contract by the Contractor. [Cl.52.1 of GCC]

21. The reasonable cost of removal of equipment and repatriation of the Contractor's personnel employed solely on the works in the event of termination of the contract at the Employer's convenience or because of a fundamental breach of contract by the Employer is to be treated as assessed by the Engineer but in nocase more than 1% of the Contract price. **[Cl. 52.2 of GCC]**

SECTION – 6

ADDENDUM TO GENERAL CONDITIONS OF CONTRACT

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORKS.

a) **Workmen Compensation Act, 1923:** The Act provides for compensation in case of injury by accident arising out of and during the course of employment.

b) **Payment of Gratuity Act; 1972:** Gratuity is payable to an employee under the Act on satisfaction of certain conditions if an employee has completed the prescribed minimum years (five years) of service or more or on death the rate of prescribed minimum days" (15 days) wages for every completed year of service. The Act is applicable to all establishments employing the prescribed minimum number (10) or more employees.

c) **Employee's P.F. and Miscellaneous Provision Act 1952:** The Act provides for monthly contributions by the Employer plus workers at the prescribed rate (10 percent or 8.33 percent). The benefits payable under the Act are:

   i) Pension or family pension on retirement or death as the case may be.

   ii) Deposit linked insurance on the death in harness of the worker.

   iii) Payment of P.F. accumulation on retirement/death etc.

d) **Maternity Benefit Act, 1961:** The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

e) **Contract Labour (Regulation & Abolition) Act, 1970:** The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ minimum prescribed (20 or more) numbers of contract labour.

f) **Minimum Wages Act, 1948:** The Employer is to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of buildings, roads, runways are scheduled employment.

g) Payment of Wages Act, 1936: It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of workers.

h) **Equal Remuneration Act, 1979:** The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against female employees in the matters of transfers, training and promotions etc.

i) **Payment of bonus Act, 1965:** The Act is applicable to all establishments employingminimum prescribed (say, 20 or more) number of workmen. The Act provides forpayments of annual bonus within the prescribed range of percentage of wages to employees drawing up to the prescribed amount of wages, calculated in the prescribed manner. The Act does not apply to certain establishments. The newly set- up establishments are exempted for five years in certain circumstances. States may have different number of employment size.

j) **Industrial Disputes Act, 1947:** The Act lays down the machinery and procedure for resolution of industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

k) **Industrial Employment (Standing Orders) Act, 1946:** It is applicable to all establishments employing minimum prescribed number of persons (say, 100, or 50).The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get these certified by the designated Authority.

l) **Trade unions Act, 1926:** The Act lays down the procedure for registration of trade unions of workmen and employees. The Trade Unions registered under the Act havebeen given certain immunities from civil and criminal liabilities.

m) **Child Labour (Prohibition & Regulation) Act, 1986:** The Act prohibits employment of children below 14 years of age in certain occupations and processes and providesfor regulations of employment of children in all other occupations and processes. Employment of child labour is prohibited in building and construction industry.

n) **Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act, 1979:** The Act is applicable to an establishment which employs minimum prescribed number of labour (say, five or more) inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in an establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as Housing, Medical-Aid, Travelling expenses from home up to the establishment and back etc.

o) **The building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and the Cess Act of 1996:** All the establishments who carry on any building or other construction work and employ the minimum prescribed (say, 10 or more) number of workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2 percent of the cost of construction as may be notified by the Government. As per current notification, one percent of the cost of construction is payable by the Employer of the establishment. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-aid facilities, ambulance, housing accommodations for workers near to the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

p) **Factories Act, 1948:** The Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing the minimum prescribed number of persons (say, 10 persons or more)with aid of power or another minimum prescribed number of persons (say, 20 or more persons) without the aid of power engaged in manufacturing process.

SECTION – 7

ROAD MAINTENANCE STANDARDSAND SPECIFICATIONS FOR ROAD MAINTENANCE WORKS,

PART-I AND PART-II

PREAMBLE

The Road Maintenance Standards and Specifications shall be read in conjunction with all other documents constituting the Contract viz. Notice Inviting Tender, Instructions to Bidders; Conditions of Contract, Bill of Quantities and other related documents mentioned in the Bid Documents.

General

The Standards and Specifications for the Road Maintenance Works and Activities as described hereinafter shall comprise of the following:

PART-I : Road Maintenance Standards and Performance Measures

PART-II : Specifications for Road Maintenance Works and Operational Procedures

Carbon foot prints shall be evaluated during the execution of project. If approved bythe Employer, the environment friendly machinery like Infrared Recycling Road Maintenance as approved by CRRI/IRC/MoRTH shall be got deployed.

PART-I

ROAD MAINTENANCE STANDARDSAND PERFORMANCE MEASURES

1. Performance Measures and Indicators

The Contact assignment needs to meet the strategic objectives of the Employer. To ensure this is achieved, The Contract include two classes of performance measures, namely *Operational Performance Measures (OPM's)* and *Management Performance Measures (MPM's):*

- **Operational Performance Measures** relate directly to the quality of the road andtherefore to the results of the Contractor's maintenance activities. The required minimum acceptable road conditions and Service Levels are defined through the OPM"s,and these are used to define and measure the compliance of the Contractor with the specified requirements. The defined *Operational Performance Measures* and indicators are thus the accepted minimum thresholds for the quality levels of the roads for which the Contractor is responsible.

- **Management Performance Measures** describe contractual requirements that are not directly related to road conditions and performance. Most MPM's relate to information that the Contractor needs to deliver to the Employer, so that the Employer can control certain aspects of the contract and the road asset, to operate its Road Asset **Management** System – RAMS (if such a system exists) and to facilitate the preparation of the next contracts for the roads. The contract also defines MPM requirements to include activities such as: (i) delivery of various types of reports to the Employer; (ii) inventory updates and other data sharing requirements; and, (iii) maintenance history (so subsequent tenderers can price the work).

The OPMs cover essential aspects of the roads and take account of the fact that different roads within the contract area might require different Service Levels. Each contract will be unique as the OPMs reflect the Employer's strategic goals for the specific roads covered by the contract.

For *paved roads*, OPM criteria refer mostly to Road User Service and Comfort measures,which can be expressed in terms such as:

- Road Roughness
- Road and lane width
- Rutting
- Vegetation control
- Cleanliness of the road and its Right-of-way
- Visibility of road signs and markings
- Availability of traffic lanes for vehicle traffic
- Response times to rectify defects
- Maintenance of other Road assets including utility /

2. Services under this Contract

Under this contract, the Contractor would be responsible to provide maintenance service, periodical maintenance, and execute work orders for emergency works. Maintenance Service would have two parts the first one Routine Maintenance Services which would be paid in the form of the amount of the monthly lump-sum payment as per the rate quoted by the bidder according to the conditions of contract; second part of maintenance service include Initial Rectification Works, which would mainly be id in the form of a lump-sum amount while indicating the quantities of measurable outputs (completed per km length) to be executed in order that the road achieves the performance standards;

Periodic Maintenance Works, for specified section would be paid in the form of lump-sum rate/ amount per km completed length that will be measured and paid in accordance with the progress in the execution of those measured outputs (completed per km length). Periodic Maintenance works also includes Road Markings, provision of reflective Road Studs, Gravel filling to match the Shoulder level with carriageway after laying renewal coat, which will be paid on measured inputs basis.

Unit prices are provided for Emergency Works in the form of a Schedule of Prices. Payments will be made for each Emergency on a case-to-case basis, on actual execution and value determined by the Contractor and approved by the Engineer/ Employer on the basis of the quantities executed.

2.1 Maintenance Services

Maintenance Services consist of all interventions on the Roads and their right- of-way that are to be carried out on a regular or occasional basis by the Contractor in order to attain and maintain the defined Service Levels for the roads included in the contract. They also include numerous required and necessary activities related to the management and patrolling of the roads included in the Contract, throughout the entire contract duration.

Routine Maintenance services include (but are not limited to) the following:

- Repairing road defects (such as potholes, rutting, raveling, cracking in pavement, edge break, etc.);
- Maintenance of shoulders, verge, intersections, junctions with other roads,roundabouts, overpasses and other road surface areas;
- Repair works in embankment and cut slopes;
- Removing the landslides / boulders from the road section and keeping the road lane clean for traffic flow
- Drainage system cleaning, maintenance, and repairs;

- Maintenance of bridges and other structures (such as retaining walls, culverts, etc.);
- Road cleaning and removal of trash and debris;
- Vegetation control (cutting vegetation);
- Maintenance of existing vegetation, such as trees (if required);
- Cleaning and maintenance of road signs and road markings, including theirreplacement needed due to wear and tear, minor damages, etc.;
- Maintaining traffic flows and road safety during Works carried out on the roads;
- Regular patrolling of the roads in line with the requirements;
- Establishing and operating the Contractor's Self-Control Unit;
- Road condition data collection and monthly reporting;
- Other types of reporting as required by the Contract;
- Providing assistance to road users in emergency situations resulting from traffic accidents or incidents, extreme weather events, natural disaster, etc.

2.1.1 Routine Maintenance (RM) Services

The Contractor shall maintain each asset item to the specified Intervention Criteria and service levels as part of the Contract Lump Sum for the criteria.

- Main carriageway/ Roadway along with Service/ Slip Road – including Pavement crust, Embankment, Shoulder, Kerb, Median, Drainage, Footpath, Separator
- Road Furniture – Barriers, Guard Rails, Anti glares, Road studs, Rumble strips, Signboards, Traffic blinkers, Pavement marking, Noise Barriers, Object Markers, Attenuators, Delineators
- Structures – Wearing coat and Expansion joint, deck slab, beams/girders of super structure, bearings, substructures, foundation, protection works, retaining wall, culverts
- Project Facilities – Bus bays, Truck Lay Byes, Toilet Blocks, Highway lighting
- Miscellaneous Assets – O&M Centre, Material testing laboratory
- Emergency Response System – Ambulance, Route Patrol Vehicle & Crane. Above must be integrated with 1033/112 helpline no and its Central Command Unit in NHAI.
- Work zone safety
- Encroachment

- Overall Cleanliness including use of mechanical equipment's, project cleanliness and innovative technologies
- The Contractor is deemed to have carried out preliminary surveys of the relevant Roads prior to bidding in order to evaluate all Routine Maintenance (RM) related obligations and to assess the annual Lump Sum cost of RM.
- The Routine Maintenance (RM) shall be carried out on all Roads covered by the Contract to the specified service quality levels for a contract period, including:
- The provision of management services as required for the duration of the Contract,
- Undertaking regular condition surveys and testing; NSV, FWD, Road Reflectometer etc., at periodicity as defined in Annexure-E and uploading the Test Reports on Data Lake Portal on NHAI website (or any other portal specified by the Employer) including regular monitoring and reporting of the condition of all Roads under the Contract. NSV survey has to be mandatorily be done by the contractor at every 6 months periodicity.
- Undertaking inspections at the frequencies required (as a minimum) and identifying defects and carrying out maintenance works,
- Establishing programs for Routine Maintenance based on meeting required intervention standards,
- Scheduling maintenance work to meet the required maintenance standards.
- Providing effective traffic management for all works undertaken to ensure public safety and the safety of the Contractor's workforce,
- Maintaining records of all work undertaken,
- Provide a Quality Plan for the Engineer's approval within 8 weeks of the Start Date and implement all quality management requirements.
- Specifications of service level to be maintained for intervention, the method of measurement and the maximum response time for each activity is explained in detail in Clause 3 of Operation Performance Measures (OPM"s).

2.1.2 Provisions for Pre/Post/On-going Monsoon as part of Routine Maintenance:

As part of Routine Maintenance, the Contractor has to ensure that requisite inspections and preventive actions as per the following:

(i) Ministry's Circular no. No. PL-67(29)/76-NH-VI dated 28.06.1979, NHIII/P/13/79 dated 08.08.1979 dt. 07.08.1980, 04.08.1981 and RW/N.17/KNT/32/w dt. 25.04.1982.

(ii) Ministry's Circular no. No. RW-33044/10/2000-S&R (R) dated 12.06.2022 NH-18014/7/2000-Pl dated 05.07.2002, RW/NH-33044/10/2002/S&R(R) dated 22.01.2003 and RW/NH-33044/10/2000-S&R (R) dated 13.01.2003

(iii) RW/NH-33044/10/2002-S&R (R) dated 31.01.2003 and RW/NH-34059/2/2001-S&R (B) dated 31.01.2003.

(iv) Ministry's Circular no. No. RW/NH-12037/39/2019-Misc/Z-III dated 23.07.2019.

(v) IRC Codes (SP-113-2018 on Flood Disaster Mitigation, 34-2011 on road construction in areas affected by water logging, flooding etc., IRC: SP: 35: 1990 Guidelines for Inspection and Maintenance of Bridges.)

Any failure by the contractor to comply with the above, after intimation in this regardby the Engineer, shall lead to deduction of 50% of the total RM payment payable that month apart from other deductions as per non-compliance of service levels given in Annexure-E.

Copy of all the circulars are attached with the Contract document.

2.2 Initial Rectification works

Initial Rectification Works are those activities that are beyond Routine Maintenance Activities, but not defined for Periodic Maintenance Works that are needed at the initial stage of the Contract to bring the road in the service level as defined in the contract.

The Contractor shall engage such additional resources necessary to complete the specified Initial Rectification Works. The Contractor shall not utilize resources specified in this Contract as being committed to Routine Maintenance activities

The Contractor is to make an estimate of the Initial Rectification Works which in his view are necessary interventions to bring the roads at par with the service level to be met within the 6 months Milestone, and include the cost for those works in the item for Initial Rectification Works in his bid. It also includes other works needed to bring roads up to the required service levels, which are beyond the scope of Routine Maintenance at the commencement of the project, but which are not included in the items of Initial Rectification and Periodic Maintenance Works, shall be included by the bidders in the lump sum price for IR Services. **Contractors are solely responsible for estimating the type and quantity of Initial Rectification Works needed to meet the requirements of the contract.**

In the initial stage, for the contractor to meet the service level compliance it will be necessary for the Contractor to undertake Initial Rectification Works for the repair ofsurface defects (raveling, stripping, de-laminations, rejuvenation of oxidized surface, fine hair cracking repair, etc.) in bitumen roads:

- All Pavement repairs using BC, DBM to correct large areas of Roughness, Rutting, Depressions
- Application of Tack Coat for Pavement repairs.

- Repair minor dig Outs and Failed pavement sections,
- Apply 7mm Light Surface Sealing for slurry seal to correct cracks > 5mm,
- Applying 5mm Slurry Seal for cracks <5mm
- Supply & spreading of granular material for Unsealed shoulder repairs to correct edge drop off to carry roadside repairs,
- Clearing and Grubbing
- Remove Land Slips/Debris/Unsuitable soil.
- Edge repairs to correct edge breaks,
- Providing and constructing Coping, Plastering, Pointing, Apron, Masonry, Grouted Revetment and White washing for CD and structural works
- Application of road marking paints, fixing of road studs, sign boards, Kilometer stone, hectometer stone and boundary / guard/ Guide stone.

For Rigid Pavements this will include, e.g. repair of cracks, spalls, joint sealed effects corner racks, levelling, potholes, polished surface, faulting in cracks and joints, healand bump, blow up or buckling, drop off, pumping and ponding, etc.

The Initial Rectification Works indicated above may not be interpreted to be comprehensive and sufficient in order to assure compliance with any of the Service Levels required by the contract.

The following estimated quantities for Initial Rectification Works are the Employers estimate to be able to achieve the desired Service Level for the entire road and has been provided as a Guide to assist the Contractor in determining his Lump Sum for Initial Rectification Works. Work locations have not been defined and the works to absorb the quantities below will need to be assessed by the Contractor himself, be programmed and completed within 6 months of start date.

The following works to be taken during the Initial Rectification Works on NH-717 2-Lane section from Km 0+000 to 40+000 (Chalsa to Maynaguri) & 2/4 lane with PS from Indiramore to Changrabandha 20.4 Km:

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
1	**Clearing Grass and Removal of Rubbish**: By Manual Means Clearing grass and removal of rubbish up to a distance of 50 metres outside the periphery of the area. (Reference to MoRT&H's specification clause 201) 2 **time, as and when required.** For, Both Side of the Road,	Ha.	24.16
1 i	**Removal of Unserviceable Soil with Disposal upto 1000 metres.**	Cum	120800.00
2	**2 Lane Stretch (40000 m)**		
2 i	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	cum	1680.00
2 ii	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	sqm	70000.00
2 iii	**Filling Pot Holes** with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) **Potholes repair @10% of 2 lane section with BC specification i.e. 40000 m**	cum	1120.00
2 iv	**2 Lane + Paved Shoulder Stretch (17400 m)**		
	Filling Pot Holes with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) Potholes repair @10% of 2 lane section + PS with BC specifiaction i.e. 17400 m	cum	**696.00**
2 v	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.		
	Pothole repair 10% of total projects	sqm	17400.00
			17400.00
2 vi	**4 Lane section (3000m)**		
2 vii	**Filling Pot Holes** with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) **Potholes repair @10% of 4 lane section with BC specification i.e. 3000 m**	cum	204.00
2 viii	**Providing and applying tack coat** with Cationic bitumen emulsion (RS1) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm. (Repair Pot Hole)	sqm	5100.00
3	**"Thrie" metal beam crash barrier** Providing and erecting a "Thrie" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 85 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 2 m high with 1.15 m below ground level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a space of channel section 150 x 75 x 5 mm, 546 mm long complete as per clause 811.	Rm	1500

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
4	**Road Delineators-** 8 m @spacing **(50% of TL)** Supplying and Installation of delineators (road way indicators, hazard markers, object markers) confirming to IRC 79, 80 to 90 cm high above ground level with about 200 to 300mm base which can be anchored on to the ground. The delineator shall have an ellipsoidal or circular shape made of mild steel with pure polyester powder coating with minimum thickness of powder coating of not less than 40 micron. The delineator shall have minimum three reflective sheeting bands of 150mm height confirming to Type XI sheeting specifications as per IRC 67.	Nos	3775.00
	Road Delineators- 12 m @spacing **(25% of TL)** Supplying and Installation of delineators (road way indicators, hazard markers, object markers) confirming to IRC 79, 80 to 90 cm high above ground level with about 200 to 300mm base which can be anchored on to the ground. The delineator shall have an ellipsoidal or circular shape made of mild steel with pure polyester powder coating with minimum thickness of powder coating of not less than 40 micron. The delineator shall have minimum three reflective sheeting bands of 150mm height confirming to Type XI sheeting specifications as per IRC 67.	Nos	1258.33
5	**Painting Two Coats on New Concrete Surfaces** Painting two coats, after filling the surface & applying a sealing primer, with synthetic enamel paint in all shades on new plastered concrete surfaces as per MORTH's specification 803.6.2.(Reference to MORT&H's specification 803) including If required plastering in roof & walls and new tile laying on floors shall be done during Intial rectification before painting as per requirement notified by the Engineer		
	Bus Shelter (13 Nos)	sqm	702.00
	Culvert Parapet (30 nos. of Culvert X 2 for the both side of parapet)		120.00
	Culvert with Railing (10 nos. of Culvert)		92.40
	Median Kerb		536.25
	ROB (1st)- (i) Railing		184.80
	(ii) Crash Barrier (ROB Portion)		184.80
	(iii) Crash Barrier Approach Portion		2948.00
	ROB (2nd)- (i) Railing		242.00
	(ii) Crash Barrier (ROB Portion)		484.00
	(iii) Crash Barrier Approach Portion		2816.00
	Bridge Railing (15 nos. of Bridge)		10725.00
			19035.25
6	**Longitudinal Road Marking with Hot Applied Thermoplastic Compound** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-in-charge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.		
	Both edges of MCW for 50% of the Project Length (2 lane)	sqm	8610.00
	Both edges of MCW for 50% of the Project Length (4 lane)		900.00
	Center line of MCW for 50% of the Project Length (2 lane)		8610.00
	Center line of MCW for 50% of the Project Length (4 lane)		900.00
			19020.00

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
7	**Supplying & fixing of Raised Pavement Markers/Road Studs/Cats Eye** Providing and fixing of Reflective Pavement Markers (RRPM), i.e. road studs shall be prismatic retro-reflective type conforming to ASTM D-4280. The Plastic body of RPM/road stud shall be moulded from ASA (Acrylic Styrene Acrylonitrite) or HIPS (Hi-impact Polystyrene) or Acrylonitrile Butadiene Styrene (ABS). The marker height shall not be less than 10mm and shall not exceed 20mm and its width shall not exceed 130mm. The markers shall support a load of 13,635 kg tested in accordance with ASTM D 4280. The Reflective panels shall consist of number of lenses containing single or dual prismatic cubes capable of providing total internal reflection of the light entering the lens face. Lenses shall be moulded of methyl methecrylate conforming to ASTM D 788 or equivalent. The optical performance of road studs shall be confirming to clause 804.4 of MORTH specifications.		
	6 mtr C/C both side and center line. (20% for 8000 m 2 lane)	Nos	1401.00
	9 mtr C/C both side and center line. (20% for 8000 m 2 lane)	Nos	399.00
	6 mtr C/C both side and center line. (35% for 3000 m 4 lane)	Nos	1050.00
8	**Retro Reflectorised Traffic Signs for (i) to (iii) & (v)** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For signs above 600mm size, retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting vide or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. For signs above 600mm sizes, sign shall be fixed over back support frame of minimum 35 x 35x 3 mm angle Frame. For signs above 600mm size, Signs shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength bolts, washers nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retro-reflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from an Government laboratory/ Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital. printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards from (i) to (iv)		
(i)	90cm Equilateral Triangle	Nos	70
(ii)	80cm*60cm Rectangular	Nos	30
(iii)	75 cm circular	Nos	80

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
(iv)	Chevron Sign 60 cm x 50 cm rectangular - Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works (5th Revision) IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For Signs up 600mm size, retro reflective sheet shall be fixed over 1.5mm Thick aluminium sheeting vide or 3mm thick Aluminium composite material vide clause 801 of MORTH Specifications for Roads & Bridge Works. For signs upto 600mm sizes, sign shall be fixed over back support frame of minimum 25x25x 3 mm Angle Frame. For signs upto 600mm size, Signs shall be supported on GI circular pipe 65 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength nuts, washers & bolts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retroreflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retroreflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro re-flective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from a Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67-2022 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	Nos	80
(v)	Route marker (80 cm x 60 cm rectangular)	Nos	26
(vi)	**Direction and Place Identification Signs** with size more than 0.9 sqm size Board. Providing and fixing of retro-reflectorised direction and place identification sign as per clause 801 of MoRTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro - reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retro-reflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Signs shall be supported on two or more GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Adequate bracing shall be provided to hold firmly GI support pipes. The sign supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including angle frame, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The	sqm	77.76

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.		
(vii)	**Speed Limit Sign Board** with size 2130 mm x 1140 mm size Board. Providing and fixing of retro-reflectorised direction and place identification sign as per clause 801 of MoRTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro - reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retro-reflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Signs shall be supported on two or more GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Adequate bracing shall be provided to hold firmly GI support pipes. The sign supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including angle frame, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	Sqm	155.52
9	**Supplying & fixing of Hazard Marker**s of size : 30cm X 90 cm as per IRC :79-1981 (The above is inclusive of vertical post)	Nos.	280
10	**Providing & fixing Solar blinkers -**Supplying and erecting red /yellow unbreakable polycarbonate body Solar Blinker 300mm dia. LED lamp confirming to IRC:93 and IS:7537. It shall have Light Emitting Diode (LED) Hi Bright technology (Compliant to EN12368 or equivalent BIS standard). The Signal Switching shall be Solid State, with Opto-isolation. The Automatic operation mode shall have functional flashing rate available at 50% Duty Cycle 50 or 60 Flashes/minutes. The Electrical Power Supply shall be solar	Nos.	36

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	based 12 VDC operating at Ambient Temperature 0° to 55°C. The solar power system shall have in-built charge Controller - Low/High cut out, Solar SPV Module 60 Watts, Maintenance Free Battery (60AH) (having back up for operating blinker for 72 Hrs in absence of Sun or during rainy or foggy days. The Solar System shall be housed in a weatherproof pole mounting cabinet with clamp and mounting accessories. The Solar Blinker shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239, 3m above the Finish Road level. GI circular pipe shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawing. Alternate white and yellow bands (Minimum four bands) of Type XI retro-reflective sheeting shall be pasted @ 0.5m c/c starting from a height of 0.5 m above the finish road level.		
11(i)	**(2Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of 5 mm high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	Sqm	1890.00
11(ii)	**(4Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of 5 mm high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	Sqm	367.20
12	**Road Distance Indicator (Km stones) Reinforced cement concrete M15 grade kilometre stone of standard design as per IRC:8, fixing in position including painting and printing etc**		
(i)	5th Kilometre Stone(Precast)	Nos	12
(II)	Ordinary Kilometre Stone(Precast)		50
13	**Supply & Fixing Median marker** Made up of tough, impact resistant thermoplastic body, reflectorized on both side using approximate. 85 x 85 mm (for square shape or equivalent in case of round shape Fluorescent yellow prismatic sheeting (type-XI) reflective surface should be incline to approximate 20 degree to vertical to provide maximum reflective. Height & width of median marker shall be approximate by 110 mm complete with all fixing arrangements. Median Marker shall be of tough, high impact resistant, injection - moulded, thermoplastic body with property of flexibility to provide high durability and U shape structure having rebound / bounce back property. @ 6m c/c of for 4 Lane section	Sqm	1666.67

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
14	**Providing and fixing of retro-reflectorised stickers** as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The sticker shall have NHIDCL Logo digitally printed with colour specification confirming to Sl no. 5.2 of NHIDCL Policy Circular 4.37/2025 dated 11th Nov 2025. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the sticker supplied by reflective sheet manufacturer. Retro-Reflective sticker shall be fixed on alternate barrier posts with pressure sensitive adhesive. Sticker fixing shall be done after wiping the surface with a clean cloth soaked in isopropyl alcohol (IPA) or mild detergent, Remove all dust/ oil / grease /rust and moisture and allow surface to dry completely. If required use a heat gun or blower to dry surface if ambient humidity is high. Fix sticker on the prepared surface by removing the sticker liner slowly to avoid curling or contamination, preposition the sticker to ensure correct orientation and alignment, fix the sticker gently, use a felt-edge squeegee hammer or roller to apply uniform pressure from centre to outward, ensure no air bubbles or wrinkles remain, apply pressure across the entire surface to fix sticker firmly. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC (Size- 100 mm x 70 mm).	Nos	2500
15	**Provide and fixing Tubular markers 700 mm ht (mini.)** and having minimum dia. of 75mm. Tubular Marker shall be made up of polyurethane and flexible in nature. The tubular marker shall be confirming to IRC SP 55, to divide opposing lanes traffic, or to divided vehicular traffic lanes when two or more lanes of moving vehicular traffic are kept operating in the same direction, and to delineate the edge of a pavement drop-off where space limitations do not allow the use of larger devices. A tubular marker shall be attached to the pavement such as to display the minimum 50mm width of 2 no. reflective bands to the approaching road users. The reflective bands shall be provided with white colour retro reflective sheeting Type XI as per IRC: 67	Nos	350
16	**Providing and erecting overhead sign made of Class -C Micro Prismatic Sheeting of Type XI** **retro reflective sheeting as per IRC 67.** Aluminium Alloy Plate for Over Head Sign (Gangtry) Unit rate vide item no. 7B, page no.145 West Bengal pwd sor R&B 2019-20 Providing and fixing overhead gantry mounted signs as per clause 801 & 802 of MORTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MORTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retroreflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367. The sign shall be fixed with vertical clearance of 6.0m from the highest finished level of entire carriageway including paved shoulder. For Cantilever mounted signs, the center of the sign is typically located over the carriageway edge line; however the left edge of sign shall be positioned no further left than the left edge of paved shoulder. On Gantry mounted signs, when number of signs are erected, the outer edges of signs shall not extend beyond the outer edge of paved shoulders on left side and paved edge strip on median side. Overhead Signs shall be placed on structurally sound gantry or cantilever structure made of GI pipes confirming to IS 1239. The lateral clearance of the gantry sign supports shall be confirming to clause 802.3 of MORTH specifications. The sign supports shall be firmly fixed to the ground by means of properly designed foundation as per approved drawing. All Components of signs and supports including gantry, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around gantry support posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall	Sqm	165.00

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs anp directions boards.		
17	**Painting Lines, Dashes, Arrows etc on Roads (Tranverse marking, Hazard Marking, Block Marking, Arrow marking etc.)-** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.	Sqm	2000.00

The following works to be taken during the Initial Rectification Works on NH 317A 2Lane with PS section from Km 0+000 to 14+500 & 4 lane with PS from Km 14+500 to 17+551:

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
1	**Clearing Grass and Removal of Rubbish**: By Manual Means Clearing grass and removal of rubbish up to a distance of 50 metres outside the periphery of the area. (Reference to MoRT&H's specification clause 201) 2 **time, as and when required.** For, Both Side of the Road,	Ha.	7.02
1 i	**Removal of Unserviceable Soil with Disposal upto 1000 metres.**	Cum	35102.00
2	**2 Lane with PS Stretch**		
2 i	**Filling Pot Holes** with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) **Potholes repair @20% of 2 lane section with BC specification i.e. 14500 m**	cum	1160.00
2 ii	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.		
	Pothole repair 30% of total projects (4 lane)	sqm	15560.10
	Pothole repair 20% of total projects (2 lane)	sqm	29000.00
			44560.10
2 iii	**4 Lane section from Km 14500 to 17551 = 3051 m**		
2 iv	**Filling Pot Holes** with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) **Potholes repair @30% of 4 lane section with BC specification i.e. 3051 m**	cum	622.40
3	**"Thrie" metal beam crash barrier** Providing and erecting a "Thrie" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 85 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 2 m high with 1.15 m below ground level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a space of channel section 150 x 75 x 5 mm, 546 mm long complete as per clause 811.	Rm	500
4	**Road Delineators-** 8 m @spacing **(50% of TL)** Supplying and Installation of delineators (road way indicators, hazard markers, object markers) confirming to IRC 79, 80 to 90 cm high above ground level with about 200 to 300mm base which can be anchored on to the ground. The delineator shall have an ellipsoidal or circular shape made of mild steel with pure polyester powder coating with minimum thickness of powder coating of not less than 40 micron. The delineator shall have minimum three reflective sheeting bands of 150mm height confirming to Type XI sheeting specifications as per IRC 67.	Nos	1096.94
4 i	**Road Delineators-** 12 m @spacing **(25% of TL)** Supplying and Installation of delineators (road way indicators, hazard markers, object markers) confirming to IRC 79, 80 to 90 cm high above ground level with about 200 to 300mm base which can be anchored on to the ground. The delineator shall have an ellipsoidal or circular shape made of mild steel with pure polyester powder coating with minimum thickness of powder coating of not less than 40 micron. The delineator shall have minimum three reflective sheeting bands of 150mm height confirming to Type XI sheeting specifications as per IRC 67.	Nos	365.65

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
5	**Painting Two Coats on New Concrete Surfaces** Painting two coats, after filling the surface & applying a sealing primer, with synthetic enamel paint in all shades on new plastered concrete surfaces as per MORTH's specification 803.6.2.(Reference to MORT&H's specification 803) including If required plastering shall be done during Intial rectification before plainting as per requirement notified by the Engineer		
	Bus Shelter (5 Nos)	sqm	270.00
	Culvert Parapet (16 nos of Culvert X 2 for the both side of parapet)		64.00
	Median Kerb		375.38
	ROB		1907.40
	Bridge Railing (6 nos of Bridge)		1940.40
			4557.18
6	**Longitudinal Road Marking with Hot Applied Thermoplastic Compound** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.		
	Both edges of MCW for 50% of the Project Length (2 lane)	sqm	2175.00
	Both edges of MCW for 50% of the Project Length (4 lane)		915.30
	Center line of MCW for 50% of the Project Length (2 lane)		2175.00
	Center line of MCW for 50% of the Project Length (4 lane)		1830.60
			7095.90
7	**Supplying & fixing of Raised Pavement Markers/Road Studs/Cats Eye** Providing and fixing of Reflective Pavement Markers (RRPM), i.e. road studs shall be prismatic retro-reflective type conforming to ASTM D-4280. The Plastic body of RPM/road stud shall be moulded from ASA (Acrylic Styrene Acrylonitrite) or HIPS (Hi-impact Polystyrene) or Acrylonitrile Butadiene Styrene (ABS). The marker height shall not be less than 10mm and shall not exceed 20mm and its width shall not exceed 130mm. The markers shall support a load of 13,635 kg tested in accordance with ASTM D 4280. The Reflective panels shall consist of number of lenses containing single or dual prismatic cubes capable of providing total internal reflection of the light entering the lens face. Lenses shall be moulded of methyl methecrylate conforming to ASTM D 788 or equivalent. The optical performance of road studs shall be confirming to clause 804.4 of MORTH specifications.		
	6 mtr C/C both sideand center line. (20% for 14500 m 2 lane)	Nos	1449.00
	9 mtr C/C both sideand center line. (20% for 14500 m 2 lane)	Nos	966.00
	6 mtr C/C both sideand center line. (35% for 3051 m 4 lane)	Nos	714.00
8	**Retro Reflectorised Traffic Signs for (i) to (iv)** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class - C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For signs above 600mm size, retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting vide or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. For signs above 600mm sizes, sign shall be fixed over back support frame of minimum 35 x 35x 3 mm angle Frame. For signs above 600mm size, Signs shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength bolts, washers nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall		

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retro-reflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from an Government laboratory/ Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital. printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards from (i) to (iv)		
(i)	90cm Equilateral Triangle	Nos	30
(ii)	80cm*60cm Rectangular	Nos	10
(iii)	75 cm circular	Nos	20
(iv)	Route marker (80 cm x 60 cm rectangular)	Nos	8
(v)	Chevron Sign 60 cm x 50 cm rectangular - Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works (5th Revision) IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For Signs up 600mm size, retro reflective sheet shall be fixed over 1.5mm Thick aluminium sheeting vide or 3mm thick Aluminium composite material vide clause 801 of MORTH Specifications for Roads & Bridge Works. For signs upto 600mm sizes, sign shall be fixed over back support frame of minimum 25x25x 3 mm Angle Frame. For signs upto 600mm size, Signs shall be supported on GI circular pipe 65 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength nuts, washers & bolts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retroreflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retroreflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro re-flective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from a Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67-2022 annexure VII,	Nos	40

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.		
(vi)	**Direction and Place Identification Signs** with size more than 0.9 sqm size Board. Providing and fixing of retro-reflectorised direction and place identification sign as per clause 801 of MoRTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro - reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retro-reflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Signs shall be supported on two or more GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Adequate bracing shall be provided to hold firmly GI support pipes. The sign supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including angle frame, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	Sqm	34.56

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
(vii)	**Speed Limit Sign Board** with size 2130 mm x 1140 mm size Board. Providing and fixing of retro-reflectorised direction and place identification sign as per clause 801 of MoRTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro - reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retro-reflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Signs shall be supported on two or more GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Adequate bracing shall be provided to hold firmly GI support pipes. The sign supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including angle frame, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	Sqm	51.84
9	**Supplying & fixing of Hazard Marker**s of size : 30cm X 90 cm as per IRC :79-1981 (The above is inclusive of vertical post)	Nos.	108
10	**Providing & fixing Solar blinkers -**Supplying and erecting red /yellow unbreakable polycarbonate body Solar Blinker 300mm dia. LED lamp confirming to IRC:93 and IS:7537. It shall have Light Emitting Diode (LED) Hi Bright technology (Compliant to EN12368 or equivalent BIS standard). The Signal Switching shall be Solid State, with Opto-isolation. The Automatic operation mode shall have functional flashing rate available at 50% Duty Cycle 50 or 60 Flashes/minutes. The Electrical Power Supply shall be solar based 12 VDC operating at Ambient Temperature 0° to 55°C. The solar power system shall have in-built charge Controller - Low/High cut out, Solar SPV Module 60 Watts, Maintenance Free Battery (60AH) (having back up for operating blinker for 72 Hrs in absence of Sun or during rainy or foggy days. The Solar System shall be housed in a weatherproof pole mounting cabinet with clamp and mounting accessories. The Solar Blinker shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239, 3m above the Finish Road level. GI circular pipe shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawing. Alternate white and yellow bands (Minimum four bands) of Type XI retro-reflective sheeting shall be pasted @ 0.5m c/c starting from a height of 0.5 m above the finish road level.	nos	12
11			

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
(i)	**(2Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of 5 mm high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	sqm	576.00
(ii)	**(4Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of 5 mm high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	sqm	244.80
12	**Road Distance Indicator (Km stones) Reinforced cement concrete M15 grade kilometre stone of standard design as per IRC:8, fixing in position including painting and printing etc**		
(i)	5th Kilometre Stone(Precast)	Nos	4
(II)	Ordinary Kilometre Stone(Precast)		15
13	**Supply & Fixing Median marker** Made up of tough, impact resistant thermoplastic body, reflectorized on both side using approximate. 85 x 85 mm (for square shape or equivalent in case of round shape Fluorescent yellow prismatic sheeting (type-XI) reflective surface should be incline to approximate 20 degree to vertical to provide maximum reflective. Height & width of median marker shall be approximate by 110 mm complete with all fixing arrangements. Median Marker shall be of tough, high impact resistant, injection - moulded, thermoplastic body with property of flexibility to provide high durability and U shape structure having rebound / bounce back property. @ 6m c/c of for 4 Lane section	Sqm	1166.67
14	Providing and fixing of retro-reflectorised stickers as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The sticker shall have NHIDCL Logo digitally printed with colour specification confirming to Sl no. 5.2 of NHIDCL Policy Circular 4.37/2025 dated 11th Nov 2025. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the sticker supplied by reflective sheet manufacturer. Retro-Reflective sticker shall be fixed on alternate barrier posts with pressure sensitive adhesive. Sticker fixing shall be done after wiping the surface with a clean cloth soaked in isopropyl alcohol (IPA) or mild detergent, remove all dust/ oil / grease /rust and moisture and allow surface to dry completely. If required use a heat gun or blower to dry surface if ambient humidity is high. Fix sticker on the prepared surface by removing the sticker liner slowly to avoid curling or contamination, preposition the sticker to ensure correct orientation and alignment, fix the sticker gently, use a felt-edge squeegee hammer or roller to apply uniform pressure from centre to outward, ensure no air bubbles or wrinkles remain, apply pressure across the entire surface to fix sticker firmly. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC (Size- 100 mm x 70 mm).	Nos	1000

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
15	Preformed continuous chloroprene elastomer or closed cell foam sealing element with high tear strength, vulcanized in a single operation for the full length of a joint to ensure water tightness. (**for the expansion joint of the Bridges**)	Meter	176
16	Provide and fixing Tubular markers 700 mm ht (mini.) and having minimum dia. of 75mm. Tubular Marker shall be made up of polyurethane and flexible in nature. The tubular marker shall be confirming to IRC SP 55, to divide opposing lanes traffic, or to divided vehicular traffic lanes when two or more lanes of moving vehicular traffic are kept operating in the same direction, and to delineate the edge of a pavement drop-off where space limitations do not allow the use of larger devices. A tubular marker shall be attached to the pavement such as to display the minimum 50mm width of 2 no. reflective bands to the approaching road users. The reflective bands shall be provided with white colour retro reflective sheeting Type XI as per IRC: 67	Nos	75
17	**Providing and erecting overhead sign made of Class -C Micro Prismatic Sheeting of Type XI** **retro reflective sheeting as per IRC 67.** Aluminium Alloy Plate for Over Head Sign (Gantry) Unit rate vide item no. 7B, page no.145 West Bengal pwd sor R&B 2019-20 Providing and fixing overhead gantry mounted signs as per clause 801 & 802 of MORTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MORTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retroreflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367. The sign shall be fixed with vertical clearance of 6.0m from the highest finished level of entire carriageway including paved shoulder. For Cantilever mounted signs, the center of the sign is typically located over the carriageway edge line; however, the left edge of sign shall be positioned no further left than the left edge of paved shoulder. On Gantry mounted signs, when number of signs are erected, the outer edges of signs shall not extend beyond the outer edge of paved shoulders on left side and paved edge strip on median side. Overhead Signs shall be placed on structurally sound gantry or cantilever structure made of GI pipes confirming to IS 1239. The lateral clearance of the gantry sign supports shall be confirming to clause 802.3 of MORTH specifications. The sign supports shall be firmly fixed to the ground by means of properly designed foundation as per approved drawing. All Components of signs and supports including gantry, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around gantry support posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs anp directions boards.	SQM	132.00

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
18	**Painting Lines, Dashes, Arrows etc on Roads (Tranverse marking, Hazard Marking, Block Marking, Arrow marking etc.)-** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.	SQM	1000.00

Note: These above-mentioned quantities are indicative as determined by the Employer and should not be interpreted as the contractual requirement for these activities. The Contractor will need to assess the current road conditions and determine what works are needed to meet the intervention criteria service levels, however for avoidance of any doubt, contractor has to execute the above minimum work under IR.

All works and materials are to be in accordance with the relevant sections as defined in Section 7, Part II of this Technical specification

There is no individual Performance Criteria and Service level requirement for Initial Rectification Works. The Initial Rectification Works is for the purpose of assisting the Contractor to bring the road below the intervention standard within 6 (six) months of the start date. Failure to bring the road below intervention standard by the stated time period will result in Payment Reductions in the Routine Maintenance Lump Sum after the Initial Rectification Works completion date. On completion of the Initial Rectification Works the Contractor is to maintain the road under Routine Maintenance.

Payment for the Initial Rectification works shall be made as details in Bill of Quantities Chapter section 9.

2.2.1 Contractor shall carry out the monthly geotagged drone videography of the entire stretch in the first week of month and prepare a comparative video with the previous month. Drone VIDEO shall be prepared in accordance with MoRTH Circular No. 144.28 dated 10.03.2026 regarding Implementation of Drone Survey and Aerial Imaging on National Highways and use of Drone Analytics Monitoring System (DAMS)

2.3 Periodic Maintenance (PM) Works

Periodic Maintenance works are the pavement resurfacing activities that are beyond Routine Maintenance Activities. Entire Project Section, if specifically mentioned by Employer to be covered under Periodic Maintenance under this contract, shall be provided with a renewal coat within the timeline specified by the Engineer/ Employer but in any case, before completion of 02 Years from the start date of the work unless

otherwise decided by the Employer. However, in case the roughness of the road is within the specified service level, the PM works can be deferred to be completed before expiry of fourth year from start date. Such deferment shall be approved by Engineer only after analyzing the latest NSV survey report. The Defect Liability Period (DLP) for such works will be for the remaining Contract Duration or 36 months from the date of completion of such work items whichever is later. In case of failure of Contractor to execute Periodic Maintenance work items within two/four years (as the case may be) from the start date of Contract, Liquidated damages shall be paid by the Contractor. If Contractor fails to complete the PM works even beyond 100 days after 2/4 years of start of work, then Employer will initiate action for termination of contract by giving suitable cure period notice and work shall be executed at the risk and cost of the contractor through third party.

The periodic maintenance activities have to be carried out in order to restore the project condition to meet all the relevant standards. The Contractor is to make an estimate of the Periodic Maintenance Work quantities including camber/profile corrections, which in his view are necessary to bring the roads to the required service level (Roughness Index) and include the cost for those works in the item for Periodic Maintenance Works. The Contractor would need to plan the periodic maintenance toensure that at the time of handover the remaining life of the road sections are meeting the requirements mentioned in this contract. Prior to commencement of an overlay, the Contractor is to notify the Engineer of the impending commencement ofthe Works for inspection in accordance with the General Conditions.

If it is felt that IR works is not sufficient to being the road to the service level condition with due satisfaction of the Engineer and employer, then PM works may be carried out within the 6 months period also with prior approval of the Engineer. Such decisions must be supported with NSV data or FWD data.

As a guide to assist the Contractor in his bid, the following is the Employer's estimate of the Periodic Maintenance works: **NH-717 2-Lane section from Km 0+000 to 40+000 (Chalsa to Maynaguri) & 2/4 lane with PS from Indiramore to Changrabandha 20.4 Km:**

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
1	**Cold Milling** Cold Milling of Bituminous Pavement surface upto the required depth by mechanical means using milling machine, without disturbing the under lying layers, to proper line and level, cleaning the surface properly after milling and removing the loose materials, stacking the milled materials for re-use, necessary guarding, barricading & lighting, including hire charges of machinery, cost of fuel and labour and other incidental charges all complete and as per direction of Engineer-in-Charge. For depth upto 100mm **(2 Lane)**	Sqm	5600.00
1 i	**Cold Milling** Cold Milling of Bituminous Pavement surface upto the required depth by mechanical means using milling machine, without disturbing the under lying layers, to proper line and level, cleaning the surface properly after milling and removing the loose materials, stacking the milled materials for re-use, necessary guarding, barricading & lighting, including hire charges of machinery, cost of fuel and labour and other incidental charges all complete and as per direction of Engineer-in-Charge. For depth upto 100mm **(2 Lane + PS)**	Sqm	2400.00
1 ii	**Cold Milling** Cold Milling of Bituminous Pavement surface upto the required depth by mechanical means using milling machine, without disturbing the under lying layers, to proper line and level, cleaning the surface properly after milling and removing the loose materials, stacking the milled materials for re-use, necessary guarding, barricading & lighting, including hire charges of machinery, cost of fuel and labour and other incidental charges all complete and as per direction of Engineer-in-Charge. For depth upto 100mm **(4 Lane)**	Sqm	2040.00
2	**2 Lane Stretch (40000 m)**		

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
2 i	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg. size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg. size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	cum	5600.00
2 ii	**Dense Graded Bituminous Macadam** Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @4.0% (min.) for Grading 1 & 4.5% (min.) for Grading 2 by weight of total mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause No. 505.4 complete in all respects (Reference to MORT&H's specification clause 505)	Cum	8400.00
2 iii	**Providing and applying primer coat with cationic bitumen emulsion SS1** grade conforming to IS:8887 on prepared porous granular surface including Clearing of road surface and spraying primer using mechanical means (Reference to MORT&H's specification clause 502).	sqm	105000.00
2 iv	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	sqm	189700.00
2 v	**Mastic Asphalt, (With Pakur Variety stone materials.)**		
	Providing and laying 25mmthick mastic asphalt wearing course with approved grade bitumen meeting therequirementsgivenintable500 39, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine-grained hard stone chipping of 13.2mmnominal size attherateof0.005cumper10sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces isnotlessthan100°C,protruding1 mm to 4 mm over mastic surface, all complete as per clause516(Reference to MORT&H's specificationclause516alongwith IRC:107). (With Pakur Variety stone materials.) From Km 8000 to 9500	sqm	21700.00
2 vi	**Filling Pot Holes** with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) **Potholes repair @10% of 2 lane section with BC specification i.e. 40000 m**	cum	1120.00
	2 Lane + Paved Shoulder Stretch (17400 m)		
2 vii	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	cum	2400.00
2 viii	**Dense Graded Bituminous Macadam** Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @4.0% (min.) for Grading 1 & 4.5% (min.) for Grading 2 by weight of total mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause No. 505.4 complete in all respects (Reference to MORT&H's specification clause 505)	cum	1600.00
2 ix	**Providing and applying primer coat with cationic bitumen emulsion SS1** grade conforming to IS:8887 on prepared porous granular surface including Clearing of road surface and spraying primer using mechanical means (Reference to MORT&H's specification clause 502).	cum	20000.00
2 x	**Providing and applying tack coat** with Cationic bitumen emulsion (RS1) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	cum	77400.00

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
2 xi	**Filling Pot Holes with bituminous concrete for Grading 2** (13.2 mm nominal size) (layer thickness 40mm) Potholes repair @10% of 2 lane section + PS with BC specification i.e. 17400 m	cum	696.00
2 xii	**4 Lane section (3000m)**		
2 xiii	**Providing and applying primer coat with cationic bitumen emulsion SS1** grade conforming to IS:8887 on prepared porous granular surface including Clearing of road surface and spraying primer using mechanical means (Reference to MORT&H's specification clause 502).	sqm	25500.00
2 xiv	**Providing and applying tack coa**t with Cationic bitumen emulsion (RS1) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	sqm	51000.00
2 xv	**Dense Graded Bituminous Macadam** Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @4.0% (min.) for Grading 1 & 4.5% (min.) for Grading 2 by weight of total mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause No. 505.4 complete in all respects (Reference to MORT&H's specification clause 505).	cum	2040.00
2 xvi	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	Cum	2040.00
3	**"Thrie" metal beam crash barrier** Providing and erecting a "Thrie" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 85 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 2 m high with 1.15 m below ground level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a space of channel section 150 x 75 x 5 mm, 546 mm long complete as per clause 811.	Rm	2000
4	**Longitudinal Road Marking with Hot Applied Thermoplastic Compound** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.		
	Both edges of MCW for Full Project Length (2 lane)	sqm	17250.00
	Both edges of MCW for Full Project Length (4 lane)		1800.00
	Center line of MCW for Full Project Length (2 lane)		17250.00
	Center line of MCW for Full Project Length (4 lane)		1800.00
			38100.00

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
5	**Supplying & fixing of Raised Pavement Markers/Road Studs/Cats Eye** made of polycarbonate moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face which shall support a load of 13635 kg tested in accordance to ASTM D 4280 Type H and compling to Specifications of Category A of MoR&TH Circular No. RW/NH/33023/10-97 - DO III Dt. 11.06.1997 & MoRT&H's specification for Road &Bridge Works (Fifth Rev.)		
	6 mtr C/C both sideand center line. (57500 m 2 lane)	Nos	9583.00
	6 mtr C/C both sideand center line. (3000 m 4 lane)	Nos	333.00
5 i	**Solar Powered Road marker (Solar Stud)**: Supplying and installation of Solar Raised Pavement Markers made of polycarbonate moulded body with circular shape, solar powered, LED self-illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face in passive mode. The marker shall support a load of 20000 kg tested in accordance to ASTM D 4280. Its water resistance shall meet the requirements of IP 65 in accordance with IS:12063:1987 Category 2 for protection against water ingress. Colour of lighting could be provided in red or yellow (amber) or green or blue or combination as per requirement. It shall have super bright LEDs so as to provide long visibility from a distance of more than 800 m. Its flashing rate shall not be less than 1 Hz. It should be able to give the prescribed performance in the temperature range of -40°C to +55°C. Its life shall be not less than 3 years. The full charge should provide for a minimum autonomy of 50 hours operation. The height, width and length of the marker shall not be less than 10mm x 100mm x 100mm. Also, the surface diameter of the marker shall not be less than 100mm respectively. The weight of marker shall not exceed 0.5 kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive and complete as directed by the Engineer (10 % of total project length 60400 m)	Nos	1006.67
6	**Painting Two Coats on New Concrete Surfaces** Painting two coats, after filling the surface & applying a sealing primer, with synthetic enamel paint in all shades on new plastered concrete surfaces as per MORTH's specification 803.6.2.(Reference to MORT&H's specification 803)		
	Bus Shelter (13 Nos)	sqm	702.00
	Culvert Parapet (30 nos of Culvert X 2 for the both side of parapet)		120.00
	Culvert with Railing (10 nos of Culvert)		92.40
	Median Kerb		536.25
	ROB (1st)- (i) Railing		184.80
	(ii) Crash Barrier (ROB Portion)		184.80
	(iii) Crash Barrier Approach Protion		2948.00
	ROB (2nd)- (i) Railing		242.00
	(ii) Crash Barrier (ROB Portion)		484.00
	(iii) Crash Barrier Approach Protion		2816.00
	Bridge Railing (15 nos of Bridge)		10725.00
			19035.25

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
7	**Retro Reflectorised Traffic Signs for (i) to (iii)** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For signs above 600mm size, retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting vide or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. For signs above 600mm sizes, sign shall be fixed over back support frame of minimum 35 x 35x 3 mm angle Frame. For signs above 600mm size, Signs shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength bolts, washers nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retro-reflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from a Government laboratory/ Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital. printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards from (i) to (iv)		
(i)	90cm Equilateral Triangle	Nos	40
(ii)	80cm*60cm Rectangular	Nos	30
(iii)	75 cm circular	Nos	30
(iv)	**60cm*50 cm Chevron-** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works (5th Revision) IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For Signs up 600mm size, retro reflective sheet shall be fixed over 1.5mm Thick aluminium sheeting vide or 3mm thick Aluminium composite material vide clause 801 of MORTH Specifications for Roads & Bridge Works. For signs upto 600mm sizes, sign shall be fixed over back support frame of minimum 25x25x 3 mm Angle Frame. For signs upto 600mm size, Signs shall be supported on GI circular pipe 65 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength nuts, washers & bolts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retroreflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retroreflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency	Nos	50

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	shall submit 10 years warranty for satisfactory field performance for type XI retro re-flective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from a Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67-2022 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.		
8 (i)	**(2Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **5 mm high**, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	Sqm	1260.00
8 (ii)	**(4Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **5 mm high**, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	Sqm	367.20
8 (iii)	**(2Lane Section) -** Providing and Laying of **10mm** high Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **10 mm** high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @ 250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete**.**	Sqm	1260.00
8 (iv)	**(4Lane Section) -** Providing and Laying of **10mm** high Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **10 mm** high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @ 250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night	Sqm	367.20

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.		
9	**Painting Lines, Dashes, Arrows etc on Roads (Tranverse marking, Hazard Marking, Block Marking, Arrow marking etc.)-** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.	Sqm	8000.00
10	**Overhead Signs (Gantry**) Remarks Serial No Item Unit Providing and erecting overhead signswithacorrosionresistant2mm thick aluminium alloy sheet reflectorised with high intensity retro-reflective sheeting of encapsulated lens type with vertical and lateral clearance given in clause 802.2and802.3andinstalledasper clause802.6overadesignedsupport system of aluminium alloy or galvanised steel trestles and trusses of sections and type as per structural design requirements and approved plans (Reference to MORT&H's specification 802) Unit rate vide item no. 7B, page no.145 West Bengal pwd sor R&B 2019-20		
10 i	Truss and Vertical Support	tonne	12.00
10 ii	**Providing and erecting overhead sign made of Class -C Micro Prismatic Sheeting of Type XI retro reflective sheeting as per IRC 67.** Providing and fixing overhead gantry mounted signs as per clause 801 & 802 of MORTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MORTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retroreflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367. The sign shall be fixed with vertical clearance of 6.0m from the highest finished level of entire carriageway including paved shoulder. For Cantilever mounted signs, the center of the sign is typically located over the carriageway edge line; however the left edge of sign shall be positioned no further left than the left edge of paved shoulder. On Gantry mounted signs, when number of signs are erected, the outer edges of signs shall not extend beyond the outer edge of paved shoulders on left side and paved edge strip on median side. Overhead Signs shall be placed on structurally sound gantry or cantilever structure made of GI pipes confirming to IS 1239. The lateral clearance of the gantry sign supports shall be confirming to clause 802.3 of MORTH specifications. The sign supports shall be firmly fixed to the ground by means of properly designed foundation as per approved drawing. All Components of signs and supports including gantry, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around gantry support posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation	sqm	99

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs anp directions boards.		
11	**Planting flowering plants and shrubs** in central verge (rate has been considered from WB PWD NH SOR 2019-20, item no 8(a), Pg No 174: Specification for saplings for Median Plantation Height- Around 60 Cm Collar Girth- 4 Cm Polybag Size- 15 Cm x 25 Cm Potting Mixture- 1:2:4 (Sand : FYM: Soil Mix) Half of the length of the seeding should have branches and leaves.	Km	3
12	**Supply and installation of Solar Integrated Street LED Light System (Single Arm) on existing pole - Street Light (Hybrid) 150 WATTs for each lighting fixture** Specification for Solar Semi Integrated Street Light (AC + DC- Hybrid) 150 WATTs - (Battery 1500 WH Minimum), IP Rating: IP 65, Efficiency >92%, Solar PV Module Mono Cell 200W 36V, H&T accessories panel clamp luminary arm, Warranty 5 years for Complete system.; lifetime of LED lamp of 50000 hrs; Charge Time – 6 hours by Sun, Discharge time – 2 Rainy days; High end energy storage with more than 2000 cycles; Peak lighting efficiency 150-180 lm/watt. Specifications specified herein are minimum. Including rectification or replacement of existing wires & panels so that Integrated Street Light is functional with both power sources & maintaining for entire contract period.	Nos	365.00
13	**Supply and installation of Solar Integrated High Mast LED light on existing pole (Hybrid)- Specification Solar Semi Integrated Street LED Light (Hybrid) 500 WATTs for each lighting fixture in each High Mast Light -** Specification Solar Semi Integrated Street Light (AC + DC- Hybrid) 500 WATTs (Battery 7500 WH Minimum), IP Rating: IP 65, Efficiency >92%, Solar PV Module Mono Cell 1000W 36V, Warranty 5 years for Complete system.; lifetime of LED lamp - 50000 hrs; Charge Time – 6 hours by Sun, Discharge time – 2 Rainy days; High end energy storage with more than 2000 cycles; Peak lighting efficiency 150-180 lm/watt. Specifications specified herein are minimum. Including rectification or replacement of existing wires & panels so that Integrated Street Light is functional with both power sources & maintaining for entire contract period.	Nos	5.00
14	**Centralized Web-Based Street Light Monitoring Portal (CCMS)-** Supply, installation, testing and commissioning (CCMS) men on also three phase. Centralized Controlling & Monitoring System for Street/High Mast Lights with Control Panel. Digital Control 6 Inputs Isola on Voltage 12/24 V DC Digital Control 4 Outputs Relay type Digital Controlling & monitoring of Parameters controller Run hour, - Hz, Voltage, Current, PF, KVA, KVAH, KW, KWH Under voltage / over voltage automatically cut of Modbus Communication RS-485 with multiple energy meter connectivity. Web based monitoring Selector Switch for Local/Remote opera on RYB Indica ng Lamp Panel size as per requirement SIM CARD For Data transfer to server for monitoring over Main Control Room One SIM card facility. Software facility for cloud based for online monitoring any me any ware with mobile & desktop login. Smart Lighting Automation: 1-Year CCMS Performance Report Available Anytime, Anywhere" Foundation Stand for CCMS Panel. Providing the foundation Size as pre required Stand With bolts as per specification mentioned below. The Foundation should have sufficient space for passing electricals cable from the bottom of the electric pole**.** Including maintenance for the entire contract period. Specifications specified herein are minimum. It shall be Contractor's responsibility of Implementation of Smart Street Lighting through Centralized Web-Based CCMS on the project in accordance with SOP circulated vide NHAI Circular dated 23.03.2026.	Nos	15.00

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
15	**Shoulder Restoration (M20)**- Construction of shoulders by providing and laying M20 grade cement concrete, including cleaning, subgrade preparation, watering, compacting, curing, and finishing to required levels and cambers.		
15 i	Construction of Subgrade and Earthen Shoulders cum 212.70 Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2 (Reference to MoRT&H's specification clause 305).	cum	1200.00
15 ii	PCC (M20)- Construction of shoulders by providing and laying M20 grade cement concrete, including cleaning, subgrade preparation, watering, compacting, curing, and finishing to required levels and cambers	Cum	1800.00
16	Plain/Reinforced cement concrete in open foundation complete all including vibrating and compacting, finishing, curing, sampling, testing etc. as per drawing and Technical Specifications (Reference to MORT&H's specifications 1500, 1700 & 2200). G. **RCC Grade M30**		
16 i	Box Drain Top Precast drain Cover	Cum	225.00
16 ii	Bottom Slab	Cum	225.00
16 iii	Side Wall	Cum	300.00
16 iv	Supplying, binding, fixing etc. including initial straightening, cutting to requisite length, hooking and bending to correct shape, placing in proper position of uncoated HYSD reinforcement bar in open foundation as per drawing and Technical Specifications (Reference to MORT&H's specifications 1600 & 2200).	Tonne	88.31
17	**Expansion joint**		
17 i	Supplying, binding, fixing etc. including initial straightening, cutting to requisite length, hooking and bending to correct shape, placing in proper position of uncoated HYSD reinforcement bar in sub-structure complete as per drawing and Technical Specification	MT	1.48
17 ii	Dismantling of Structures Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantle	Cum	25.20
17 iii	Supplying. preparing and placement of ready mix non shrink cementious microconcrete having no metalic aggregate or chlorides for repairing and \iackting of damagedR.C.C.members. Themicro concrete should achieve a compressive strength not less than 10 MPaa	Cum	18.90
17 iv	Strip Seal Expansion Joint Providing and laying of a strip seal expansion joint catering to maximum horizontal movement upto 80 mm manufactured by MORT&H ,GOI Approved/Empanelled manufacturer and complete as per approved drawings and standard specificatio	Rm	280.00

The following works to be taken during the Periodical Maintenance on NH 317A 2Lane with PS section from Km 0+000 to 14+500 & 4 lane with PS from Km 14+500 to 17+551:

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
1	**Cold Milling** Cold Milling of Bituminous Pavement surface upto the required depth by mechanical means using milling machine, without disturbing the under lying layers, to proper line and level, cleaning the surface properly after milling and removing the loose materials, stacking the milled materials for re-use, necessary guarding, barricading & lighting, including hire charges of machinery, cost of fuel and labour and other incidental charges all complete and as per direction of Engineer-in-Charge. For depth upto 100mm	Sqm	5200.00
1 i	**Cold Milling** Cold Milling of Bituminous Pavement surface upto the required depth by mechanical means using milling machine, without disturbing the under lying layers, to proper line and level, cleaning the surface properly after milling and removing the loose materials, stacking the milled materials for re-use, necessary guarding, barricading & lighting, including hire charges of machinery, cost of fuel and labour and other incidental charges all complete and as per direction of Engineer-in-Charge. For depth upto 100mm	Sqm	2074.68
2	**2 Lane with PS Stretch**		
2 i	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	cum	5200.00
2 ii	Dense Graded Bituminous Macadam Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @4.0% (min.) for Grading 1 & 4.5% (min.) for Grading 2 by weight of total mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause No. 505.4 complete in all respects (Reference to MORT&H's specification clause 505).	cum	2000.00
2 iii	**Providing and applying primer coat** with cationic bitumen emulsion SS1 grade conforming to IS:8887 on prepared porous granular surface including Clearing of road surface and spraying primer using mechanical means (Reference to MORT&H's specification clause 502)	sqm	25000.00
2 vi	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	sqm	145000.00
2 v	**Mastic Asphalt, (With Pakur Variety stone materials.)**		

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	Providing and laying 25mmthick mastic asphalt wearing course with approved grade bitumen meeting therequirementsgivenintable500 39, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine-grained hard stone chipping of 13.2mmnominal size attherateof0.005cumper10sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces isnotlessthan100°C,protruding1 mm to 4 mm over mastic surface, all complete as per clause516(Reference to MORT&H's specificationclause516alongwith IRC:107). (With Pakur Variety stone materials.) From Km 8000 to 9500	sqm	15000.00
2 vi	**4 Lane section from Km 14500 to 17551 = 3051 m**		
2 vii	**Providing and applying primer coat with cationic bitumen emulsion SS1** grade conforming to IS:8887 on prepared porous granular surface including Clearing of road surface and spraying primer using mechanical means (Reference to MORT&H's specification clause 502).	sqm	42500.00
2 viii	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	sqm	51867.00
2 ix	**Dense Graded Bituminous Macadam** Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @4.0% (min.) for Grading 1 & 4.5% (min.) for Grading 2 by weight of total mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause No. 505.4 complete in all respects (Reference to MORT&H's specification clause 505).	cum	3400.00
2 x	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	Cum	2074.68
3	V-Drain/ Lined Drain by using PCC Grade-M-15	cum	961.07
4	**"Thrie" metal beam crash barrier** Providing and erecting a "Thrie" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 85 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 2 m high with 1.15 m below ground level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a space of channel section 150 x 75 x 5 mm, 546 mm long complete as per clause 811.	Rm	1500

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
5	**Longitudinal Road Marking with Hot Applied Thermoplastic Compound** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-in-charge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.		
	Both edges of MCW for Full Project Length (2 lane)	sqm	4350.00
	Both edges of MCW for Full Project Length (4 lane)		1830.60
	Center line of MCW for Full Project Length (2 lane)		4350.00
	Center line of MCW for Full Project Length (4 lane)		1830.60
			12361.20
6	**Supplying & fixing of Raised Pavement Markers/Road Studs/Cats Eye** made of polycarbonate moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face which shall support a load of 13635 kg tested in accordance to ASTM D 4280 Type H and compiling to Specifications of Category A of MoR&TH Circular No. RW/NH/33023/10-97 - DO III Dt. 11.06.1997 & MoRT&H's specification for Road &Bridge Works (Fifth Rev.)		
	6 mtr C/C both side and center line. (14500 m 2 lane)	Nos	**2416.67**
	6 mtr C/C both side and center line. (3051 m 4 lane)	Nos	**508.50**
6 i	**Solar Powered Road marker (Solar Stud)**: Supplying and installation of Solar Raised Pavement Markers made of polycarbonate moulded body with circular shape, solar powered, LED self-illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face in passive mode. The marker shall support a load of 20000 kg tested in accordance to ASTM D 4280. Its water resistance shall meet the requirements of IP 65 in accordance with IS:12063:1987 Category 2 for protection against water ingress. Colour of lighting could be provided in red or yellow (amber) or green or blue or combination as per requirement. It shall have super bright LEDs so as to provide long visibility from a distance of more than 800 m. Its flashing rate shall not be less than 1 Hz. It should be able to give the prescribed performance in the temperature range of -40°C to +55°C. Its life shall be not less than 3 years. The full charge should provide for a minimum autonomy of 50 hours operation. The height, width and length of the marker shall not be less than 10mm x 100mm x 100mm. Also the surface diameter of the marker shall not be less than 100mm respectively. The weight of marker shall not exceed 0.5 kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive and complete as directed by the Engineer (10 % of total project length 60400 m)	Nos	**166.67**
7	**Painting Two Coats on New Concrete Surfaces** Painting two coats, after filling the surface & applying a sealing primer, with synthetic enamel paint in all shades on new plastered concrete surfaces as per MORTH's specification 803.6.2.(Reference to MORT&H's specification 803) including If required plastering shall be done during Intial rectification before plastering as per requirement.		
	Bus Shelter (5 Nos)	sqm	270.00
	Culvert Parapet (16 nos of Culvert X 2 for the both side of parapet)		64.00
	Median Kerb		375.38
	ROB		1907.40
	Bridge Railing (6 nos of Bridge)		1940.40
			4557.18

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
8	**Retro Reflectorised Traffic Signs** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For signs above 600mm size, retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting vide or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. For signs above 600mm sizes, sign shall be fixed over back support frame of minimum 35 x 35x 3 mm angle Frame. For signs above 600mm size, Signs shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength bolts, washers nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retro-reflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from an Government laboratory/ Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital. printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards from (i) to (iii)		
(i)	90cm Equilateral Triangle	Nos	40
(ii)	80cm*60cm Rectangular	Nos	10
(iii)	75 cm circular	Nos	30
(iv)	**60cm*50 cm Chevron-** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works (5th Revision) IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For Signs up 600mm size, retro reflective sheet shall be fixed over 1.5mm Thick aluminium sheeting vide or 3mm thick Aluminium composite material vide clause 801 of MORTH Specifications for Roads & Bridge Works. For signs upto 600mm sizes, sign shall be fixed over back support frame of minimum 25x25x 3 mm Angle Frame. For signs upto 600mm size, Signs shall be supported on GI circular pipe 65 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength nuts, washers & bolts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retroreflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retroreflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by	Nos	40

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro re-flective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from a Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67-2022 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.		
8			
i	**(2Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **5 mm high**, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	sqm	576.00
ii	**(4Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **5 mm high**, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	sqm	244.80
iii	**(2Lane Section) -** Providing and Laying of **10mm** high Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **10 mm** high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @ 250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete**.**	sqm	576.00

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
iv	**(4Lane Section) -** Providing and Laying of **10mm** high Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **10 mm** high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @ 250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	sqm	244.80
9	**Painting Lines, Dashes, Arrows etc on Roads (Tranverse marking, Hazard Marking, Block Marking, Arrow marking etc.)-** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.	Sqm	3500.00
10	**Providing and erecting overhead sign made of Class -C Micro Prismatic Sheeting of Type XI retro reflective sheeting as per IRC 67. Aluminium Alloy Plate for Over Head Sign (Gangtry) Unit rate vide item no. 7B, page no.145 West Bengal pwd sor R&B 2019-20** Providing and fixing overhead gantry mounted signs as per clause 801 & 802 of MORTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MORTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retroreflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367. The sign shall be fixed with vertical clearance of 6.0m from the highest finished level of entire carriageway including paved shoulder. For Cantilever mounted signs, the center of the sign is typically located over the carriageway edge line; however, the left edge of sign shall be positioned no further left than the left edge of paved shoulder. On Gantry mounted signs, when number of signs are erected, the outer edges of signs shall not extend beyond the outer edge of paved shoulders on left side and paved edge strip on median side. Overhead Signs shall be placed on structurally sound gantry or cantilever structure made of GI pipes confirming to IS 1239. The lateral clearance of the gantry sign supports shall be confirming to clause 802.3 of MORTH specifications. The sign supports shall be firmly fixed to the ground by means of properly designed foundation as per approved drawing. All Components of signs and supports including gantry, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around gantry support posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the		

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs anp directions boards.		
10 i	Truss and Vertical Support	tonne	8.00
10 ii	Aluminium Alloy Plate for Over Head Sign	sqm	66.00
11	**Planting flowering plants and shrubs** in central verge (rate has been considered from WB PWD NH SOR 2019-20, item no 8(a), Pg No 174: Specification for saplings for Median Plantation Height- Around 60 Cm Collar Girth- 4 Cm Polybag Size- 15 Cm x 25 Cm Potting Mixture- 1:2:4 (Sand : FYM: Soil Mix) Half of the length of the seeding should have branches and leaves.	Km	3
12	**Dry Lean Cement Concrete Sub- base** Construction of zero slump dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate as per approved design mixed, aggregate cement ratio not to exceed 14:1 where OPC is used and 12:1 where PSC or PPC is used, aggregate gradation after blending to be as per table 600-1, cement content as per clause 601.2.2, cementitious material content not to be less than 140 kg/cum with use of mineral admixture if used to be as per clause. 3.4 of IRC:SP:49 (2014) optimum moisture content to be determined during trial length construction, concrete strength not to be less than 7 Mpa at 7 days as per Cl.4.1 of IRC:SP:49(2014), mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing (Reference to MORT&H's specification 601 along with IRC:SP:49).	Cum (PR)	273.00
12 i	**Cement Concrete Pavement** Construction of un-reinforced, dowel jointed, plain cement concrete pavement of specified grade with characteristic flexural strength of concrete not less than 4.5 MPa over a prepared sub base as per clause 602 of MORT&H's specification 2013 and cement content as per clause 602.3.2 , coarse and fine aggregate conforming to IS 383, using fine and coarse aggregates of approved variety combined gradation as per Table 600-3 of MORTH specification 2013, maximum size of coarse aggregate not exceeding 31.5 mm, mixed in a batch mix plant with weigh batching facility as per approved mix design done as per IRC:44, transported to site, laid with a slip form paver with electronic sensor , spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant as per IRC:57, debonding strip, dowel bar, tie bar, admixtures as approved, tinning, texturing, curing, finishing to lines and grades as per drawing (Reference to MORT&H's specification 602 along with IRC 15).	Cum	546.00
12 ii	Plain/Reinforced cement concrete in open foundation complete all including vibrating and compacting, finishing, curing, sampling, testing etc. as per drawing and Technical Specifications (Reference to MORT&H's specifications 1500, 1700 & 2200). G. **RCC Grade M30**		
	Pre-cast BOX Culvert (5 x 25) Top Slab & Invert, with top slab to be provisioned for water inlet	Cum	79.50

Sl. No	Brief Description of Item of Work	Unit	Total Qty.
	Side walls		35.00
	Catch pit along all the culverts and cascade drops -guide wall (Back+front wall)		3.18
	Catchpit Invert		1.06
			118.74
	Supplying, binding, fixing etc. including initial straightening, cutting to requisite length, hooking and bending to correct shape, placing in proper position of uncoated HYSD reinforcement bar in open foundation as per drawing and Technical Specifications (Reference to MORT&H's specifications 1600 & 2200).	Tonne	13.98
12 iii	**Design Review Charge:** 5% of the respective item cost from S. no. 12 to S. No. 12ii. The detailed design and drawings shall be prepared in accordance with site conditions and will be vetted by IIT.		
13	**Supply and installation of Solar Integrated Street LED Light System (Single Arm) on existing pole - Street Light (Hybrid) 150 WATTs for each lighting fixture** Specification for Solar Semi Integrated Street Light (AC + DC- Hybrid) 150 WATTs - (Battery 1500 WH Minimum), IP Rating: IP 65, Efficiency >92%, Solar PV Module Mono Cell 200W 36V, H&T accessories panel clamp luminary arm, Warranty 5 years for Complete system.; lifetime of LED lamp of 50000 hrs; Charge Time – 6 hours by Sun, Discharge time – 2 Rainy days; High end energy storage with more than 2000 cycles; Peak lighting efficiency 150-180 lm/watt. Specifications specified herein are minimum. Including rectification or replacement of existing wires & panels so that Integrated Street Light is functional with both power sources & maintaining for entire contract period.	Nos	46.00
13 i	**Supply and installation of Solar Integrated High Mast LED light on existing pole (Hybrid)- Specification Solar Semi Integrated Street LED Light (Hybrid) 500 WATTs for each lighting fixture in each High Mast Light -** Specification Solar Semi Integrated Street Light (AC + DC- Hybrid) 500 WATTs (Battery 7500 WH Minimum), IP Rating: IP 65, Efficiency >92%, Solar PV Module Mono Cell 1000W 36V, Warranty 5 years for Complete system.; lifetime of LED lamp - 50000 hrs; Charge Time – 6 hours by Sun, Discharge time – 2 Rainy days; High end energy storage with more than 2000 cycles; Peak lighting efficiency 150-180 lm/watt. Specifications specified herein are minimum. Including rectification or replacement of existing wires & panels so that Integrated Street Light is functional with both power sources & maintaining for entire contract period.	Nos	1.00
14	**Centralized Web-Based Street Light Monitoring Portal (CCMS)-** Supply, installation, testing and commissioning (CCMS) men on also three phase. Centralized Controlling & Monitoring System for Street/High Mast Lights with Control Panel. Digital Control 6 Inputs Isola on Voltage 12/24 V DC Digital Control 4 Outputs Relay type Digital Controlling & monitoring of Parameters controller Run hour, - Hz, Voltage, Current, PF, KVA, KVAH, KW, KWH Under voltage / over voltage automatically cut of Modbus Communication RS-485 with multiple energy meter connectivity. Web based monitoring Selector Switch for Local/Remote opera on RYB Indica ng Lamp Panel size as per requirement SIM CARD For Data transfer to server for monitoring over Main Control Room One SIM card facility. Software facility for cloud based for online monitoring any me any ware with mobile & desktop login. Smart Lighting Automation: 1-Year CCMS Performance Report Available Anytime, Anywhere" Foundation Stand for CCMS Panel. Providing the foundation Size as pre required Stand With bolts as per specification mentioned below. The Foundation should have sufficient space for passing electricals cable from the bottom of the electric pole**.** Including maintenance for the entire contract period. Specifications specified herein are minimum. It shall be Contractor's responsibility of Implementation of Smart Street Lighting through Centralized Web-Based CCMS on the project in accordance with SOP circulated vide NHAI Circular dated 23.03.2026.	Nos	4.00

Note 1: These above-mentioned quantities are indicative as determined by the Employer and should not be interpreted as the contractual requirement for these activities. The contractor will need to assess the current road conditions and determine what works are needed to meet the intervention criteria service levels, however for avoidance of any doubt, contractor has to execute the above minimum work under PM.
Note 2: In case of rigid pavement, an overlay may be considered either partially bondedoverlay or fully bonded overlay subject to fulfilment of overlays requirement as per para 11.6 of IRC: SP:83-2018.

The performance Criteria for Periodic Maintenance shall meet all the requirements of a newly laid pavement in respect of user comfort and quality of pavement and shoulders as per relevant MoRTH specifications.

The Roughness is to be measured at the beginning of the Contract as part of the Initial Road Condition Report to confirm the sections that do not meet this Service Level criteria.
On completion of each milestone, the roughness shall be taken as part of the Milestone Report.

If the measurement reveals that the road roughness is above the Service Level, the Engineer will establish a time frame for the Contractor to complete periodic maintenance works. That time frame should normally ensure that the corresponding works are completed within four months. The Engineer may however grant a longer period if, in the opinion of the Engineer, the circumstances warrant such longer period. Upon completion of the non-conforming section the relevant section roughness shall be measured again to confirm compliance. Liquidated Damages shall apply after the granted date until the non-conformance has been corrected.

Payment for the Periodic Maintenance works shall be made as per the details givenin the Bill of quantities Chapter section 9.

2.3.1 Authority's right to take remedial measures for non-execution of scheduled works: In the event the Contractor does not maintain and/or repair the Project Highway or any part thereof in conformity with the Major Maintenance Requirements as per the Maintenance Programme, and fails to commence remedial works within 15 (fifteen) days of cure period notice in this behalf from the Authority or the Engineer, as the case may be, the Authority shall, without prejudice to its rights under this Agreement including Termination thereof, be entitled to undertake such remedial measures at the risk and cost of the Contractor, and to recover its cost from the Contractor. In addition to recovery of the aforesaid cost, a sum equal to 20% (twenty per cent) of such cost shall be paid by the Contractor to the Authority as Damages. For the avoidance of doubt, the right of the Authority under this Clause 2.3.1 shall be without prejudice to its rights and remedies provided under Clause 2.3.

2.3.2 In the event of non –payment by Contractor of such delinquent amount forthwith and in any case within seven days of issue of written notice by Authority, the Authority shall have the right and the Contractor hereby expressly grants to the Authority the right to recover the costs and Damages a s specified in Contract Data sheet directly from the

Performance Bank Guarantee, and for that purpose, the Contractor hereby agrees to give irrevocable instructions to the Banker of the issuance of PBG to make payment from the Performance Bank Guarantee in accordance with the instructions of the Authority under this Clause 2.3.2.

2.4 Emergency Works

The total contract amount will include provisional quantities of Emergency Works during the contract period, in accordance with the bidding data provided that such Emergency Works are not covered/ included in the Insurance Cover. The actual payments for Emergency Work will be based on the tendered rates. In case additional work items/ material/ Labor/ Equipment/ are required, during currency of Contract over and above the stipulated quantities shall be required, same will be payable under variation at applicable SOR adjusted for plus/ minus quoted and accepted percentage by the Bidder or as decided by the Engineer based on market rates in case such rates cannot be derived from the tendered rates or applicable SOR.

3. Maintenance Standards for performance-based items

The Contractor's performance requirements for Maintenance Services are defined and measured according to (i) Operational Performance Measures (OPM's) and (ii) Management Performance Measures (MPM's), as set out below.

3.1 Operational Performance Measures (OPM's)

OPM's are a set of performance criteria listed below which relate to the physical condition of roads and allow to evaluate the Contractor's compliance with Service Level requirements. OPM's is to be monitored continuously and measured monthly by the Contractor as well as Engineer, as defined in the Operational Procedures. Results will be expressed and reported as either being "in compliance", or otherwise as "not in compliance" until the non-compliance has been remedied by the Contractor.

The OPM"s that are applied under the contract are the following:

1.	OPM-1	Main carriageway along with Service & Slip Road including Pavement crust, Embankment, Shoulder, Kerb, Median & Plantation, Drainage, Footpath, Separator
2.	OPM-2	Road Furniture including Barriers, Guard Rails, Road Signboards & Overhead Sign Structures, Traffic blinkers, Attenuators, Anti-Glare, Delineators, Noise Barriers, Object Markers, Road Studs & Rumble Strips, and Pavement Marking.
3.	OPM-3	Structures including wearing coat and expansion joint, deck slab, beam/ girders of super structure, bearings, substructures, foundation, protection works, retaining walls, culverts.
4.	OPM-4	Project facilities including bus bays, truck lay byes, toilet blocks,highway lighting.
5.	OPM-5	Miscellaneous Assets including O&M Centre, Material testing laboratory.
6.	OPM-6	Emergency Response System including Ambulance, Route Patrol Vehicle & Crane Services
7.	OPM-7	Work Zone Safety
8.	OPM-8	Encroachments
9.	OPM-9	Overall Cleanliness including use of mechanical equipment's, project cleanliness and innovative technologies
10.	OPM-10	Advance Traffic Management Systems (ATMS)

3.1.1 OPM-1: Main carriageway Roadway along with Service/ Slip Road. The Contractor must ensure that the Main carriageway Roadway along with Service/ Slip Road is in good condition. The items included in OPM-1 includes the following:

Sl. No.	Item for Flexible Pavement	Service Quality / Measurement/Detection/ Intervention on Criteria/ Time Limit forRectification
(a)	Potholes/ Patches	As per Annexure- E
(b)	Cracking in pavement	
(c)	Rutting	
(d)	Bleeding/Raveling/Stripping	
(e)	Corrugations and Shoving	
(f)	Edge Deformation/ Breaking	
(g)	Embankment	
(h)	Shoulder	
(i)	Median	
(j)	Kerb	
(k)	Drainage	
(l)	Foot path	
(m)	Separator	

Sl. No.	Item for Rigid Pavement	Service Quality/Measurement/Detection/ Intervention on Criteria /Time Limit forRectification
(a)	Cracks	As per Annexure- E
(b)	Spalls	
(c)	Corner Breaks	
(d)	Pot out and Potholes	
(e)	Faulting in cracks or joints	
(f)	Joint Seal defects	
(g)	Raveling/Honey combed surface type and scaling	
(h)	Polished Surface/Glazing	
(i)	Heave & Bump	
(j)	Depression	
(k)	Drop Off	
(l)	Blow up or buckling	
(m)	Ponding	
(n)	Pumping	
(o)	Embankment	
(p)	Shoulder	
(q)	Median	
(r)	Kerb	
(s)	Drainage	
(t)	Foot path	

3.1.2. OPM-2: Road Furniture

Service quality, measurement, response time and intervention criteria forthe items in road furniture are summarized below:

Sl. No.	Item	Service Quality/ Measurement / Detection / Intervention on Criteria /Time Limit forRectification
(a)	Sign boards including information, warning and mandatory boards median, bridge parapet walls/ railings, crash barriers, delineators, guard rails/posts and other road furniture	As per Annexure-E
(b)	Pavement Marking including Centre-line, edge-line, markings and other markings/paintings including those on median, bridge parapet walls, crash barriers, guard rails/ posts, kerbs, and other stretches	
(c)	Road Studs/ cats eyes, traffic cones, flexible lane dividers and other such road furniture on the road including that on median, bridge parapet walls etc.	
(d)	Object Markers Km stones, Hectometer stonesand boundary stones, guard stones, median kerbs etc. including painting & printing	
(g)	Crash Barriers/Parapets on Hill Roads	
(h)	Guard Rails	
(i)	Antiglare Sheet	
(j)	Traffic Blinkers	
(k)	Noise Barriers	
(l)	Object Markers	
(m)	Attenuators	
(n)	Guard Post & Delineator	

3.1.3. OPM-3: Structures

Service quality, measurement, response time and intervention criteria for the items in structures are summarized below:

Sl. No.	Item	Service Quality/ Measurement/Detection / Intervention on Criteria/Time Limit for Rectification
(a)	Pipe/box/slab culverts	As per Annexure-E
(b)	Wearing Coat and Expansion Joint	
(c)	Deck slab	
(d)	Beams/ Girder of Super Structure	
(e)	Substructure – Piers	As per Annexure – E
(f)	Substructure – Abutments	
(g)	Bearings	
(h)	Foundations – Raft Foundation	
(i)	Foundation – Pile Foundation	
(j)	Well foundation	As per Annexure-E
(k)	Protection Works	
(i)	Retaining wall/Reinforced Earth Structures	
(m)	Any growth of vegetation anywhere in the structure	

3.1.4. OPM-4: Project Facilities

Service quality, measurement, response time and intervention criteria for the items in project facilities are summarized below:

Sl. No.	Item	Service Quality/ Measurement / Detection / Intervention on Criteria /Time Limit for Rectification
(a)	Bus bays	As per Annexure – E. Highway lighting with CCMS shall be in accordance to NHAI Policy Circular guidelines No. NHAI/IT/CCMS/SOP/2026/ dated 23.03.2026.
(b)	Truck Lay Byes	
(c)	Toilet Block/Rest Area	
(d)	Highway Lighting & Smart Street Lighting through Centralized Web-Based CCMS	

3.1.5. OPM-5: Miscellaneous Assets

Service quality, measurement, response time and intervention criteria for the items in miscellaneous assets are summarized below:

Sl. No.	Item	Service Quality / Measurement /Detection/ Interventionon Criteria /Time Limit for Rectification
(a)	O&M Centre	Annexure - E

3.1.6. OPM-6: Emergency Response System

Service quality, measurement, response time and intervention criteria for the items in Emergency Response System are summarized below:

Sl. No.	Item	Service Quality/Measurement/Detection /Intervention on Criteria /Time Limit for Rectification
(a)	Ambulance Services	Annexure - E & MoRTH Circular (ToR for Incident Management) no. RW/G-23012/01/2019-W&A (Pt.III) dated 22.03.2021
(b)	Route Patrol	Annexure - E & NHAI Policy Circular No. 12.36 dated 12.012.2024
(c)	Crane Services	Annexure - E & MoRTH Circular (ToR for Incident Management) no. RW/G-23012/01/2019-W&A (Pt.III) dated 22.03.2021

3.1.7. OPM-7: Work Zone Safety

Service quality, measurement, response time and intervention criteria forthe items in work zone safety are summarized below:

Sl. No.	Item	Service Quality/Measurement/Detection/ Intervention on Criteria /Time Limit for Rectification
(a)	Work Zone Safety	As per Annexure -E

3.1.8. OPM-8: Encroachment

Service quality, measurement, response time and intervention criteria forthe items in encroachment are summarized below:

Sl. No.	Item	Service Quality/Measurement/Detection/Intervention on Criteria /Time Limit for Rectification
(a)	Encroachment	As per Annexure -E

3.1.9. OPM-9:Overall Cleanliness including use of mechanical equipment's, project cleanliness and innovative technologies

Service quality, measurement, response time and intervention criteria for the items in Overall Cleanliness are summarized below:

Sl. No.	Item	Service Quality/ Measurement/ Detection/ Intervention on Criteria/Time Limit for Rectification
(a)	Project Cleanliness	As per Annexure-E

3.1.10. Advance Traffic Management Systems (ATMS)

Service quality, measurement, response time and intervention criteria for the items in ATMS are summarized below:

Sl. No.	Item	Service Quality/ Measurement / Detection/ Intervention on Criteria /Time Limit for Rectification
(a)	Advance Traffic Management Systems (ATMS)	As per Annexure -E; Not part of this Contract

Annexure –E

OPM-1

Defects in Flexible Pavement

AssetType	Performance Parameter	Level of Service (LOS) on each side for each km (LHS/RHS) Acceptable	Frequencyof Inspection	Tools/ Equipment	Standards and Referencesfor Inspection And Data Analysis	Time limit for Rectification / Repair	Maintenance Specifications
Flexible Pavement – Routine Inspection (Pavement of MCW, Service Road, Approach of Grade structure, approaches of connecting roads, slip roads, lay byes etc. as applicable)	Potholes	Nil	Daily	Length Measurement Unit like Scale, Tape, visual etc.	IRC 82: 2015 and Distress Identification Manual for Long Term Pavement Performance Program, FHWA 2003	24-48 hours	MORT&H Specification 3004.2
	Cracking	No crack subject to limit of 0.5 sqm. for any 50m length	Daily	For isolated cracks more than 3 mm wide the cracked area will be measured as length of crack multiplied by 1 m width For multiple cracks less than 3mm the area of the rectangle enclosing the cracked portion plus 0.3 m on all sides shall be the area of cracking		3 days for cracks more than 3 mm wide 14 days for cracks less than 3 mm wide	MORT &H Specification 3004.3
	Rutting	<5mm (for any 12.5 m length of every km section)	Daily	Straight Edge		15 -30 days	MORT&H Specification 3004.2
	Corrugations and Shoving	0.1% of area	Daily	Length Measurement Unit like Scale,		2-7 days	IRC:82- 2015
	Deflection/ Remaining Life	More than the remaining contract duration	Annually	Falling Weight Deflectometer	IRC 115: 2014	180 days	IRC:11 5-2014

Defects in Rigid Pavement

Performance Parameter/ Defect	Level of service/ Acceptance Criteriafor each km (LHS/RHS)	Frequency of Inspection	Measurement/ Detection	Time limit for rectification	RectificationStandard*
Cracks in concrete Pavement	Cracked area shall not exceed one percent of the area in any sub-section 200 m length.	Daily	For isolated cracks more than 3 mm wide, the cracked area will be measured as length of crack multiplied by 1 m width. For multiple cracks the area of the rectangle enclosing the cracked portion plus 0.3 m on all sides shall be the area of cracking.	Cracks between 0.2 mm to 0.5 mm — one-month Cracks between 0.5 mm to 3.0 mm – 14 days Cracks more than 3.0 mm- 7 days	All cracks above 0.2 mm width shall be sealed as per rectification measures given in IRC Sp:83-2018 Table 4.5
Spalls in concrete Pavement	Spalling should not exceed 100 mm width and 10 mm depth, in 15% of aggregate length along: (a) Transverse joint in a panel (b) along longitudinal joint in a panel	weekly	Measure with ruler and measuring tape	Spalls of width less than 20 mm shall be repaired within 56 days Spalls of width above 20 mmshall be repaired within 28 days	All Spalls above 10 mm width to be repaired as per rectification measures given in IRC Sp:83-2018 Table 4.5
Joint Seal defects	Less than 25% of joint length in a panel and no allowance for water ingress and trapping of incompressible	weekly	Measure with measuring tape	Within 28 days	All joint s hall be maintained in serviceable conditions. To be repaired as per rectification measures given in IRC Sp:83-2018 Table 4.5
Corner Breaks	Maximum .....0.2 mm and one corner break	Weekly	By visual inspection and ruler	Within 28 days	No corner break to be allowed. To be repaired as per rectification measures given in IRC Sp:83-2018 Table 4.5

Performance Parameter/ Defect	Level of service/ Acceptance Criteriafor each km (LHS/RHS)	Frequency of Inspection	Measurement/ Detection	Time limit for rectification	RectificationStandard*
Raveling/ Honey Combing type surface and scaling	Not more than 2% of total surface area of slab and depth of damage not more than 5 mm should be affected	Weekly	By Inspection Visual	Within 56 days	Minimum Raveling/ Honey Combing type surface and scaling to be allowed. To be repaired as per rectification measures given in IRC Sp:83-2018 Table 4.5
Polished Surface/ Grazing	Average texture depth not less than 0.3 mm for texturing and not less than 1.5 mm for tinning shall be allowed	Monthly	Sand Patch method in case ofbrush texturing and 154 VernierCalliper method in case of tinning	Within months 6	Textured depth more than 1 mm for brushed texturing and 1.5 mm for timing to be maintained. To be repaired as per rectification measures given in IRC Sp:83-2018 Table 4.5
Pop-out and potholes	Pop-out diameter less than 50 mm, Depth less than 25 mm and not more than 1 no. per 5 m^2 of surface area of slab. No pothole is permissible	Daily	By visual counting and ruler	Pop-out- within 28 days Potholes-within 3 days	Pop-out less than 25 mm depth and more than 1 numbers per 5 m2 panel area not acceptable. No pothole is allowed. To be repaired as per rectification measures given in IRC Sp:83-2018 Table 4.5
Faulting in cracks or joints	Difference of level between two surfaces of slab across a joint or across the crack/slab shall be not more than 6 mm.	Weekly	By ruler	Within 8 weeks	To be rectified as per rectification measures given in IRC Sp:83-2018 Table 4.5
Heave and Bump	Vertical displacement should not be more than 5 mm	Weekly	By ruler and straight edge	Within 12 weeks	Not to exceed 5 mm. To be rectified as per rectification measures given in IRC Sp:83-2018 Table 4.5

Performance Parameter/ Defect	Level of service/ Acceptance Criteriafor each km (LHS/RHS)	Frequency of Inspection	Measurement/ Detection	Time limit for rectification	RectificationStandard*
Blow-up or buckling	Vertical displacement should not be more than 10 mm	Daily	By ruler and straight edge	Within 3 days	To be rectified as per rectification measures given in IRC Sp:83-2018 Table 4.5
Depression	Negative vertical displacement should not be more than 10 mm	weekly	By ruler and straight edge	Within 4 weeks	To be rectified as per rectification measures given in IRC Sp:83-2018 Table 4.5
Lane to Shoulder Drop-off	Difference of not more than 25 mm in 200 m aggregate length in 1 km	weekly	By ruler, measuring Tape and straight edge	Within 12 weeks	To be rectified as per rectification measures given in IRC Sp:83-2018 Table 4.5
Pumping	No tolerance allowed	Daily	By visual inspection	Same day	To be rectified as per rectification measures given in IRC Sp:83-2018 Table 4.5
Ponding	No tolerance allowed	Daily	By visual inspection	Same day	To be rectified as per rectification measures given in IRC Sp:83-2018 Table 4.5

***Generally, rectification of defects with degree of severity ranging from 0 to 3(degree of severity as defined in Table 4.5 Of IRC SP: 83-2018 Table 4.5) are to be considered under scope of routine maintenance to comply with Operational Performance Measures(OPM's)**

AssetType	PerformanceParameter	Level of Service (LOS) on each side for each km (LHS/RHS) Acceptable	requency of Inspection	Tools/ Equipment	Standards and References for Inspection	Time limit for Rectification/ Repair	Maintenance Specifications
Embankment/ Slope	Slope of camber / crossfall	Nil	Daily	Length Measurement Unit like Scale, Tape, odometer, etc.	IRC	7-15 days	MORT&H Specification
	Embankment Slopes	Nil	Daily		IRC	7-15 days	MORT&H Specification
	Embankment Protection	Nil	Daily	NA	IRC	7-15 days	MORT&H Specification
	Rain Cuts/ Gullies in slope	Nil	Daily Specially during Rainy Season	NA	IRC	7-15 days	MORT&H Specification
Shoulder	Edge drop atshoulders	Nil	Daily	Length Measurement Unit like Scale, Tape, odometer, etc.	IRC	7-15 days	MORT&H Specification
	Cut Section/Slope	Upon Noticing	Daily Specially during Rainy Season	NA	IRC	2-7 days	MORT&H Specification
	Unevenness on Shoulder	Upon Noticing	Daily	Measured with Ruler, with scale in mm. Visual Inspection shall beconducted to determine the condition.	IRC	2-7 Days	MORT&H Specification
	Vegetation Growth	Upon Noticing	Daily		IRC	2-7 Days	MORT&H Specification
	Water Stagnation	Upon Noticing	Daily Specially During Rainy Seas on		IRC	1 Days	MORT&H Specification
	Reduction in formation width by 20 cm – Formation width must be maintained as indicated in typical cross section drawings	Upon Noticing	Weekly	Visual Inspection and manual measurement	IRC	15-30 Days	MORT&H Specification
Kerb	Kerb Height	There should be no damaged or missing kerb stones	Bi- Annually	Use of distance measuring tape	IRC	Within 1 Month	IRC 86:2018/IRC: SP:99-2013

AssetType	PerformanceParameter	Level of Service (LOS) on each side for each km (LHS/RHS) Acceptable	requency of Inspection	Tools/ Equipment	Standards and References for Inspection	Time limit for Rectification/ Repair	Maintenance Specifications
	Kerb Painting	Functionality: Functioning of Kerb painting asintended	Daily	Visual Inspection with video/ image backup	IRC	Within 7- days	IRC 35:2015/ IRC: SP: 99-2013
Median	Cleanliness of Median (removal of vegetation & garbage, trimming, pruning and making basin, watering)	As per Specifications	Daily	Visual Inspection with video/ image backup	IRC	2-7 Days	IRC: SP: 99-2013, IRC: SP: 21-2009
	Availability of Safe Sight Distance	Maintenance of existing sight distance by proper trimming of median/avenue plantation and ensuring no obstruction on the carriageway	Daily	Visual Inspection along with video/ image backup	IRC	Removal of obstruction within 1 hour, in case of sightline affected by temporary objects such as trees, temporary encroachment. In case of permanent structure or design deficiency: * Speed Restriction boards and suitable traffic calming measures suchas transverse bar marking, blinkers, etc. shall b e applied during the period of rectification.	IRC: SP :99-2013
	Obstruction in a minimum head-room of 5.5 m above carriageway or Obstruction in visibility of road signs	No obstruction due to trees	Monthly	Visual Inspection with video/ image backup	Removal of trees	Immediate	RC: SP: 99-2013, IRC: SP: 21-2009

AssetType	PerformanceParameter	Level of Service (LOS) on each side for each km (LHS/RHS) Acceptable	requency of Inspection	Tools/ Equipment	Standards and References for Inspection	Time limit for Rectification/ Repair	Maintenance Specifications
	Vegetation affecting sight line and road structures	Sight line shall be free from obstruction by vegetation to maintain adequate set-back distance/sight distance	Daily	Visual Inspection with video/ image backup.	IRC	Immediate	IRC: SP:99 -2013, IRC: SP:21 -2009
	Number of missing plants	As per IRC: SP:99 -2013, IRC: SP:21 -2009	Daily		IRC	Within 30 days	IRC: SP:99 -2013, IRC: SP:21 -2009
	Deterioration in health of trees and bushes	Health of plantation shal be as per requirement of specifications and instructions issued by Authority from time to time.	Daily		Timely watering and treatment. Or replacement of Trees and Bushes.	Within 90 days	IRC: SP:99 -2013, IRC: SP:21 -2009
Drainage	Replacement of cover slabs over drain/ drain cum footpath	There should be no missing/damaged slabs	Weekly	Visual Inspection with video/ image backup.	IRC	7-15 Days	
	Physical Condition & Cleanliness (Removal of silt, garbage, sewage, etc.)	Maintenance of Entire length of Surface and Subsurface drains (including but not limited to: keeping drains free of obstructions, clearing vegetation and obstructions from water courses, maintaining free flow and maintaining proper lines and levels)	Daily	Visual Inspection with video/ image backup.	IRC	2-7 Days	
	Water stagnation onMCW/ SR/ Structures	There should be No standing water anywhere on the MCW/ SR/Structures on any length of the project.	Daily	Visual Inspection with video/ image backup.	IRC	12 hours	
Footpath	Physical Condition &Cleanliness	As per Specifications	Daily	Visual Inspection with video/ image	IRC	2-7 Days	IRC: SP: 84-2019

AssetType	Performance Parameter	Level of Service (LOS) on each side for each km (LHS/RHS) Accept able	Frequency of Inspection	Tools/ Equipment	Standards and References for	Time limit for Rectification/ Repair	Maintenance Specifications
	Repairs to damaged footpath (tiles/paver blocks)	As per Specifications	Daily		IRC	7-15 Days	IRC: SP: 84-2019
Separator	Physical Condition & Cleanliness	As per Specifications	Daily		IRC	2-7 Days	IRC: SP: 84-2019
	Maintenance of Separator (CC Barrier, IronGril, Metalfencing) including repair& replacement along with painting	There should be no stagnation of water missing crash barrier/grill/kerb with proper cleanliness and painting.	Daily	Visual Inspection with video/ image backup.	IRC	7-15 Days	IRC: 119
			OPM-2				
Road Signs	Shape and Position	Shape and Position as per IRC:67- 2012. Signboard should be clearly visible for the design speed of the section.	Daily	Visual Inspection with video/image backup.	Improvement of shape, in case if shape isdamage d. Relocation as per requirement	48 hours in case of Mandatory Signs, Cautionary and Informatory Signs (Single and Dual post signs), 15 Days in case of Gantry/ Cantilever Sign boards	IRC:67 -2012
	Retro reflectivity	As per specifications in IRC:67-2012	Bi-Annually	Testing ofeach signboard using Retro Reflectivity Measuring Device. In- accordance with ASTM D 4956-09.	Change of signboard	48 hours incase of Mandatory Signs, Cautionary and Informatory Signs (Singleand Dual post signs). 1 Month in case of Gantry/ Cantilever Sign boards	IRC:67 -2012
Reflective Pavement Markers (Road Studs)	Numbers and Functionality .	As per specifications in IRC: SP: 99-2013 and IRC: 35-2015, unless specified in Schedule- B	Daily	Counting	New Installation	Within 2 months	IRC: SP: 99-2013, IRC: 35-2015

Pedestrian Guardrail	Functionality: Functioning of guardrail as intended	Should be properly maintained with proper painting, repair of damaged portion and replacement of missing portion.	Daily	Visual Inspection with video/ image backup.	Rectification	Within 15 days	IRC: SP: 99-2013/ IRC:103 -2012
Traffic Safety Barrier s (including parapet walls fo rhill roads)	Functionality: Functioning of Safety Barriers as intended	The existing barriers as wel as barriers installed as part of Initial rectification should be adequately spaced, positioned with proper end treatment wherever required as per IRC 119. There should be no missing/damaged parapet walls in hill roads Any crack / breakage in Parapet wall shall be immediately repaired / reconstructed	Daily	Visual Inspection with video/ image backup.	Rectification	Within 7 days	IRC: SP: 99- 2013, IRC:11 9-2015
Attenuators	Functionality: Functioning of Attenuators as intended	As per Specifications	Daily	Visual Inspection with video/ image backup.	Rectification	Within 7 days	IRC: SP: 99- 2013, IRC:11 9-2015
Guard Posts and Delineator s	Functionality: Functioning of Guard Posts and Delineators as intended	As per Specifications	Daily	Visual Inspection with video/ image backup.	Rectification	Within 15 days	IRC:79 -2019
Overhead Sign Structure	Overhead sign structure shall be structurally adequate with requisite retroreflectivity	As per as per IRC:67	Daily	Visual Inspection with video/ image backup.	Rectification	Within 15 days	IRC:67
Traffic Blinkers	Functionality: Functioning of Traffic Blinkers as intended	As per Specifications	Daily	Visual Inspection with video/image backup.	Rectification	Within 7 days	IRC:SP :99- 2013

<table>
<tr><th>AssetType</th><th>Performance Parameter</th><th>Level of Service (LOS) on each side for each km (LHS/RHS) Accept able</th><th>requency of Inspection</th><th>Tools/ Equipment</th><th>Standards and References for</th><th>Time limit for Rectification/ Repair</th><th>Maintenance Specifications</th></tr>
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<tr><td>65 - 100</td><td>65 - 100</td><td>65 - 100</td></tr>
<tr><td>above 100</td><td>above 100</td><td>above 100</td></tr>
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Initial and Minimum Performance for Night Visibility under wet condition (Retro reflectivity):
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Minimum Threshold Level: 50 mcd/m2/lux</td><td>Initial and Minimum Performance for Dry Retro reflectivity during night time:</td><td>Initial and Minimum Performance for Dry Retro reflectivity During night time:</td><td>Re- Painting</td><td>Cat-1 Defect – within 24 hours Cat-2 Defect – within 2 months</td><td>IRC:35 -2015</td></tr>
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OPM-3

Asset Type	Performance Parameter	Level of Service (LOS)on each side for eachkm (LHS/RHS) Accept able	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
Pipe/ box/ slab culverts	Free waterway/ unobstructed flow section	85% of culvert normal flow area to available.	2 times in a year (before and after rainy season)	Inspection by Bridge Engineer as per IRC SP: 35- 1990 and recording of depth of silting and area of vegetation.	Cleaning silt up soils and debris in culvert barrel after rainy season, removal of bushes and vegetation, U/s of barrel, under barrel and D/s of barrel before rainy season.	15 days before onset of monsoon and within 30 days afterend of rainy season .	IRC 5-2015, IRC SP:40-2019 andIRC SP:13- 2004
	Leak- proof expansion joints if any	No leakage through expansion joints	Bi- Annually	Physical inspection of expansion joints as per IRC SP: 35-1990 if any, for leakage strains on walls atjoints.	Fixing with sealant suitably	30 days or before onset of rains whichever comes earlier	IRC: SP: 40-2019 and IRC: SP: 69-2011
	Structurally sound	Spalling of concrete not more than 0.25 sqm. Delamination of concrete not more than 0.25 sqm. Cracks wider than 0.3 mm not more than 1m aggregate length	Bi- Annually	Detailed inspection of all components of culvert as per IRC SP:35-1990 and recording the defects	Repairs to spalling, cracking, delamination, rusting shall be followed as per IRC: SP:40-2019.	15 days	IRC SP 40-2019 and MORTH Specifications clause 2800
	Protection works in good condition	Damaged of rough stone apron or bank revetment not more than3 sqm, damage to solid apron (concrete apron) not more than 1 sqm.	2 times in a year (before and after rainy season)	Condition survey as per IRC SP:35-1990	Repairs to damaged aprons and pitching	30 days after defect observation or2 weeks before onset of rainy season whichever is earlier.	IRC: SP 40-2019 and IRC: SP:13 - 2004.
Bridges including ROB's, Flyover and	Riding quality or user comfort	No pothole in wearingcoat on bridge deck	Daily	Visual inspection as per IRC SP:35-1990	Repairs to BC or wearing coat	15 days	MORT&H Specification 2811

Asset Type	Performance Parameter	Level of Service (LOS)on each side for each km (LHS/RHS) Accept able	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
Viaducts etc. as applicable							
Bridges including ROB's, Flyover and Viaducts etc. -Super Structure	Bumps	No bump at expansion joint	Daily	Visual inspection as per IRC SP:35-1990	Repairs with BC on either side of expansion joints, profile correction course on approach slab in case of settlement to approach embankment	15 days	MORT&H Specification 3004.2 & 2811
	User safety (condition of crash barrier and guard rail)	No damaged or missing stretch of crash barrier or pedestrian hand railing or parapet. The barriers should be adequately spaced, positioned with proper end treatment wherever required as per IRC 119.	Daily	Visual inspection and detailed condition survey as per IRC SP: 35- 1990	Repairs and replacement of crash barriers as the case may be	3days	IRC: 5-2015, IRC SP: 99-2013 and IRC SP: 40-2019 IRC 119
	Rusted reinforcement	Not more than 0.25 sqm.	Bi- Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit.	All the corroded reinforcement shall need to be thoroughly cleaned from rusting and applied with anti-corrosive coating before carrying out the repairs to affected concrete portion with epoxy mortar/ concrete.	15 days	IRC SP: 40-2019 and MORTH Specification 1600 IRC SP: 40-2019 and MORTH Specification
	Spalling of concrete	Not more than 0.50 sqm.					
	Delamination	Not more than 0.50 sqm.					
	Cracks wider than 0.30 mm	Not more than 1m total length	Bi- Annually	Detailed condition survey as per IRC SP: 35-1990using Mobile Bridge Inspection Unit.	Grouting with epoxy mortar, investigating causes for cracks or other defects development and carry out necessary rehabilitation.	48 Hours	IRC SP: 40-2019 and MORTH Specification 2800
	Rainwater seepage through deck slab	Leakage - nil	Quarterly	Detailed condition survey as per IRC SP: 35-	Grouting of deck slab at leakage areas, waterproofing, repairs to	1 month	MORTH specifications 2600 & 2700.

Asset Type	Performance Parameter	Level of Service (LOS)on each side for eachkm (LHS/RHS) Accept able	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications and Standards
				1990 using Mobile Bridge Inspection Unit.	drainage spouts		
	Deflection due to permanent loads and live loads	Within design limits.	Once in every 10 years for spans more than 40 m	Load test method	Carry out major rehabilitation works on bridge to retain original design loads capacity	6 months	IRC SP: 51-2015
	Vibrations in bridge deck due to moving trucks	Frequency of vibrations shall not be more than 5 Hz	Once in every 5 years for spans more than 30m and every 10 years for spans between 15 to 30	Laser displacement sensors or laser vibro-meters	Strengthening of super structure	4 months	AASHTO, LRFD specifications
	Leakage in Expansion joints	No damage to Elastomeric sealant compound in strip seal/ modular type expansion joint, no leakage of rain water through expansion joint in case of buried and asphalt plug and copper strip joint.	Bi- Annually	Detailed condition survey as per IRC SP: 35-1990. Using Mobile Bridge Inspection Unit.	Replacement o seal in expansionjoint. Replacement of sealing compoundin case of leakage l copper strip type joint.	15 days	MORTH specifications 2600 and IRC SP: 40-2019.
	Debris and dust in strip seal/ modular type expansion joint	No dust or debris in expansion joint gap.	Monthly	Detailed condition survey as per IRC SP: 35-1990.using Mobile Bridge Inspection Unit.	Cleaning of expansion joint gaps thoroughly	3 days	MORTH specifications 2600, IRC SP: 40-2019 and IRC:SP: 69 -2011
	Drainage spouts	No down take pipe missing/ broken below soffit of the deck slab. No silt, debris, clogging of drainage spout collection chamber.	Monthly	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit.	Cleaning of drainage spouts thoroughly. Replacement of missing/broken down take pipes with a minimumpipe extension of 500mm below soffit of slab. Providing sealant around the drainage spout if any leakages observed.	3 days	MORTH specification 2700

Asset Type	Performance Parameter	Level of Service (LOS)on each side for eachkm (LHS/RHS) Accept able	Frequency of Measurement	Testing Method	Recommended Remedial measures	Time limit for Rectification	Specifications Standards
Bridges including ROB's, Flyover and Viaducts etc.- Bridge Substructure	Cracks/ spalling ofconcrete/ rusted steel	No cracks, spalling of concrete and rusted steel	Bi- Annually	Detailed condition survey asper IRC SP:35-1990 using Mobile Bridge Inspection Unit.	All the corroded reinforcement shall need to bethoroughly cleaned from rusting andapplied with anti-corrosive coating before carryingout repairs to substructure by grouting/guiniting and micro concreting depending on type of defect noticed	30 days	IRC SP: 40-2019 and MORTH specification 2800
	Elastomeric Bearings	Delamination of bearing reinforcement not more than 5%, cracking or tearing of rubber not more than 2 locations per side, no rupture of reinforcement or rubber	Bi- Annually	Detailed condition survey as per IRC SP:35-1990 using Mobile Bridge Inspection Unit.	In case of failureof even onebearing on any pier / abutment,all the bearingson that pier abutment shall bereplaced, in orderto get uniform load transfer on to bearings	3 months	MORTH specification 2810, IRC: SP: 40-2019 andIRC:83 (Part-II)- 2018
	POT/PFFE and Spherical Bearing s	No locking of movable and rotationa parts, No Corrosion, Cleanliness	Bi- Annually	Detailed condition survey as per IRC SP: 35-1990 using Mobile Bridge Inspection Unit.	Unlocking of affected parts Cleaning of Rust and repainting. General Cleaning of bearings	30 days	IRC:83 (Part-III)- 2018, IRC:83 (Part-IV)- 2014
Bridges including ROB's, Flyover and Viaducts etc.- Bridge Foundations	Scouring around Foundations	Scouring shall not be lower than maximum scour level for the bridge	Bi-Annually	Condition survey and visual inspection as per IRC SP:35-1990 using Mobile Bridge Inspection Unit. In case of doubt Underwater camera for inspection of deep wells in Major Rivers.	Suitable protection works around pier/abutment	1 month	IRC SP: 40-2019, IRC: 89- 2019, IRC:78-2014, MORTH specification 2500
	Protection works in good condition	Damage of / missing rough stone apron or bank revetment no more than 3 sqm. damage to solid apror (concrete apron) no more than 1 sqm.	2 times in a year (before and after rainy season)	Condition survey as per IRC SP:35-1990	Repairs to damaged aprons and pitching	30 days after defect observation or 2 weeks before onset of rainy season whichever is earlier.	IRC: SP 40-2019, IRC: SP:13-2004 and IRC:89- 2019

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Asset Type	Performance Parameter	Level of Service (LOS) on each side for each km(LHS/RHS) Accept able	Frequency of Inspection	Tools/ Equipment	Remedial Measure Standard	Time limit for Rectification	Maintenance Specifications
Bus Bay	Cleanliness & Painting	As per Specifications	Daily	Visual Inspection	Rectification	15 Days	IRC: SP: 99-2013 & IRC: SP: 84- 2019
Truck Lay Bye	Cleanliness & Repairing	As per Specifications	Daily	Visual Inspection	Rectification	15 Days	IRC: SP: 99-2013 & IRC: SP: 84-2019
Toilet Blocks at Rest Area/ Toll Plaza/ Truck Lay Bye	Physical Condition of Building	No user compliant	Daily	Visual Inspection	-	4 hours	-
	Regular Cleaning (24x7)						
	Condition of Basic Amenities						
	Repair of defects (electrical, water and sanitary installations)	No user compliant	Daily	Visual Inspection	Rectification	24 hours	-
	Continuous Water Supply						
Highway lighting & CCMS	Illumination: Minimum 40 Lux illumination on the road surface	As per Specifications & Highway lighting with CCMS shall be in accordance to NHAI Policy Circular guidelines No. NHAI/IT/CCMS/SOP /2026/ dated 23.03.2026.	Daily	The illumination level shall be measured with lux-meter.	IRC: SP: 99-2013	24 hours	IRC: SP: 99-2013
	No major/ minor failure in the lighting system		Daily		IRC: SP: 99-2013	24 hours/ 8 hours	IRC: SP: 99-2013
	Repair & Replacement of damaged poles/ lights		Daily	Visual Inspection with video/image backup.	IRC: SP: 99-2013	24 hours	IRC: SP: 99-2013

OPM-5

Asset Type	Performance Parameter	Level of Service (LOS) on each side for each km (LHS/RHS) Accept able	Frequency of Inspection	Tools/ Equipment	Remedial Measure Standard	Time limit for Rectification	Maintenance Specifications
O&M Center	Availability of Basic Construction Equipment	(i) Main control centre and Administrative block. Equipment for operation and maintenance and storage space for them. Storage space for equipment and material for traffic signs and markings. Workshop. (iii) General garage and repair shop. Testing laboratory. Parking space for minimum 4 number of large vehicles and for other expected vehicle during peak hours including those for working staff and visitors.	Monthly	Visual Inspection with video/ image backup.	IRC	Within 7 Days	IRC: SP: 84-2019
	Availability of Equipment and instrument in Lab with Calibration Certificate		Monthly	Visual Inspection with video/ image backup.	IRC	Within 7 Days	IRC: SP: 84-2019
	Functionality of Mobile Maintenance Unit		Weekly	Visual Inspection with video/ image backup.	IRC	2-7 Days	MMU shall be engaged full time per PMU for a minimum of 8 hours per day and minimum monthly running distance of three times of operational road length of package or all roads in a package to be covered within 10 days, will result in proportional payment deductions
	Availability of Bump Integrator on 24 hours notice		Monthly	Visual Inspection with video/ image backup.	IRC	Nil	IRC: SP: 84-2019

Asset Type	Performance Parameter	Level of Service (LOS) on each side for each km (LHS/RHS) Acceptable	Frequency of Inspection	Tools/ Equipment	Remedial Measure Standard	Time limit for Rectification	Maintenance Specifications
			OPM-6				
Emergency Response System *	Deployment of Ambulance Vehicle including staff	Response time within 15 minutes of reporting of incident for every incident within 20 km of station of Ambulance and on pro-rata basis for distance over 20 km.	Daily	1033 or 112Call Records/ Computer Aided Dispatch System ofEmployer if available	NA	Nil	The vehicle and staff deployed should be as per specifications mentioned in IRC: SP: 84-2019. Incident Management deployed by the Contractor shall be in compliance to MoRTH Circular (ToR for Incident Management) no. RW/G-23012/01/2019-W&A (Pt.III) dated 22.03.2021 and NHAI Policy Circular No. 12.36 dated 12.012.2024.
	Deployment of Route Patrol Vehicle including staff	Response time within 15 minutes of reporting of incident for every incident within 20 km of station of Ambulance and on pro-rata basis for distance over 20 km. Further, continuouspatrolling of the stretch with atleast coverage of thestretch 3 times in every 24 hours.	Daily	1033 or 112Call Records/ Computer Aided Dispatch System ofEmployer if available	NA	Nil	The vehicle and staff deployed should be as per specifications mentioned in IRC:SP: 84-2019 Incident Management deployed by the Contractor shall be in compliance to MoRTH Circular (ToR for Incident Management) no. RW/G-23012/01/2019-W&A (Pt.III) dated 22.03.2021 and NHAI Policy Circular No. 12.36 dated 12.012.2024..
	Functionality of Vehicle Tracking System (VTS)	GPS based Vehicle Tracking System to monitor its movement on 24 hrs x 7.	Daily	Visual Inspection	NA	Nil	As per AIS-140
	Deployment of crane of capacity not less than 25 MT	Response time within 45 minutes of reporting of incident for every incident within 20 km of station of Ambulance and on pro-rata basis for distance over 20 km.	Daily	1033 or 112Call Records/ Computer Aided Dispatch System of Employer if available	NA	Nil	The vehicle and staff deployed should be as per specifications mentioned in IRC:SP: 84-2019 Incident Management deployed by the Contractor shall be in compliance to MoRTH Circular (ToR for Incident Management) no. RW/G-23012/01/2019-W&A (Pt.III) dated 22.03.2021 and NHAI Policy Circular No. 12.36 dated 12.012.2024..
	Maintenance of Incident Management Register alongwith Customer Satisfaction Report	Hard bound numbered registerto be present all timealong with Computer Aided Dispatch System of Employerif available.	Daily	Visual Inspection	NA	Nil	IRC: SP: 99-2013& IRC: SP: 84-2019
			OPM-7				

Asset Type	Performance Parameter	Level of Service (LOS) on each side for each km (LHS/RHS) Accept able	Frequency of Inspection	Tools/ Equipment	Remedial Measure Standard	Time limit for Rectification	Maintenance Specifications
Work Zone Safety	Documentation of safety arrangements	An expert on safety or an engineertrained on work zone safety from a qualified company should be named to implement the work zone, including installing, operating, maintaining andremoving the work zone.	Daily	Measurement shall be through visual inspection and shall besupported by videoback-up.	IRC	24 Hours	IRC: SP: 55-2014
	Review of safety arrangement		Daily		IRC	24 Hours	IRC: SP: 55-2014
	Validation of documentation		Daily		IRC	24 Hours	IRC: SP: 55-2014

Asset Type	Performance Parameter	Level of Service (LOS) on each side for each km(LHS/RHS) Accept able	Frequency of Inspection	Tools/ Equipment	Remedial Measure Standard	Time limit for Rectification	Maintenance Specifications
OPM-8							
Asset Type	**Performance Parameter**	**Level of Service (LOS) on each side for each km(LHS/RHS) Accept able**	**Frequency of Inspection**	**Tools/ Equipment**	**Remedial Measure Standard**	**Time limit for Rectification**	**Maintenance Specifications**
Encroachment	Documentation of action against encroachment	Relevant Documents to be Submitted to Field Office.	Daily	Measurements shall be through visual inspection and shall be supported by videoback-up.	-	24-48 Hours	-
	Validation of documented temporary/ permanent encroachment				-		-

Asset Type	Performance Parameter	Level of Service (LOS) on each side for each km(LHS/RHS) Accept able	Frequency of Inspection	Tools/ Equipment	Remedial Measure Standard	Time limit for Rectification	Maintenance Specifications
			OPM-9				
Project Cleanliness	Cleanliness of entire ROW	No garbage, rubbish, dirt, rubble, dead plants, dead animals etc. should be present within the ROW.	Daily	Visual Inspection	Removal of garbage, rubbish, dirt, rubble, dead plants, dead animals etc.	12 hours	Use of Mechanical Equipment/ Manual Labour forremoval for garbage, rubbish, dirt, dead plants etc.
			OPM-10				
Advanced Traffic Management System (ATMS)[Not Applicable for this project]	Video Surveillance System	Failure of more than two Video Cameras or failure of their related transmission/control system which would render the cameras inoperative.	Daily	Measurements shall be through visual inspection	Repair must conform to clause 815; MoRT&H Specification.	2-3 Days	Clause 815; MoRT&H Specification.
	Mobile Radio Communication System	Should be in functional condition.	Daily	Measurements shall be through visual inspection		24-48 Hours	
	Video Incident Detection System (VIDS)	Failure of more than one Video Cameras or failure of their related transmission/control system which would render the cameras inoperative	Weekly	Measurement shall be through visual inspection		2-7 Days	
	Vehicle Actuated Speed Display System	Should be functional at all times	Daily	Measurement shall be through visual inspection		2-3 Days	

Asset Type	Performance Parameter	Level of Service (LOS) on each side for each km(LHS/RHS) Accept able	Frequency of Inspection	Tools/ Equipment	Remedial Measure Standard	Time limit for Rectification	Maintenance Specifications
	Emergency Roadside Telephone System	Failure of any three consecutive Cal boxes or failure o f their related transmission system which would render the call boxes inoperative.	Weekly	Measurements shall be through visual inspection		2-7 Days	
	Variable Message Sign (VMS) system	No display/Improper Display of VMS or failure of their related transmission/control system which would render the VMS inoperative	Weekly	Measurements shall be through visual inspection		2-7 Days	
	Meteorological Data System (MET)	Failure of more than one Met or failure of their related transmission system which would render the Met inoperative.	Weekly	Measurement shall be through visual inspection		2-7 Days	
	Automatic Traffic Counter-cum- Classifier	Failure of more than one ATCC or failure of their related transmission system which would render the ATCC inoperative	Daily	Measurement shall be through visual inspection		2-3 Days	

Note:

1. *Any structure / part of the structure component during entire Contract period which is found not complying with all /or either of the requirements of this table will be rehabilitated to achieve the desired level of services.*
2. *MoRT&H Specification for Roads and Bridge works (5th Revision) shall be applicable.*
3. *IRC Codes indicated above shall be applicable as per year of publication in consonance with the start of project implementation.*
4. *All project assets not mentioned above shall be repaired & maintained as per good industry practice in consultation with Engineer/ Employer.*
5. *All the parameters listed in Annexure-E shall be assumed to be part of the Payment Reduction Table as per clause 5.2 of Part-II of section-7 i.e. SPECIFICATIONS FOR ROAD MAINTENANCE WORKS AND OPERATIONAL PROCEDURES under the corresponding*

heads of the highway element and shall be liable for deduction in payment on account of non-compliance with the above stipulated service levels.

6. *In case the performance level or rectification time limit or testing method or frequency of measurement etc. is missing for any of the items from Annexure-E, the corresponding IRC code shall be referred for the same.*
7. *Include ATMS service levels only if available on the project stretch.*
8. *Include Ambulance/Patrol Vehicle/Cranes service levels only if not otherwise deployedon the stretch by the employer through any other agency and is part of the PBMC contract.*
9. *Add other project facilities in Annexure-E scheme if available on the project stretch and part of the scope of instant PBMC contract*

3.2. Gradual compliance with Service Levels

In order to respect the Contractor's initial mobilization period and taking into account the time needed by the Contractor to establish full compliance with all the OPM‟s over the entire road network included in the Contact, a schedule of gradual compliance with OPM‟s is established, as per the Table shown below.

During the period of phasing-in the full compliance with all OPM‟s as per the table below, the Contractor shall inform at the end of each month, as part of his Monthly Compliance Tables for Maintenance Services, the list of roads or road sections for which OPM‟s 1 to 10 are to be applied. The length of those roads or road sections must correspond to at least the percentage of the network indicated in the Table below for that month. During such gradual compliance of OPMs, the payment for Routine Maintenance shall be made corresponding to percentage compliance achieved in the OPMs, i.e. if 70% compliance of OPMs is achieved in the first month, then only 70% payment for routine maintenance shall be payable. Normal payment and penalty procedures for Routine Maintenance work, as defined in the document, shall start from the end of 6th month from Start Date.

No. months after Start Date *(at the end of the month)*	**OPM[9] Usability of theroad(s)** Compliance required on OPM 1 (a), 1 (i), 1 (k) for flexible pavement, OPM 1(d), 1 (m), 1 (q), 1 (s) for rigid pavement, OPM 4, OPM 6, OPM 7, OPM 8, OPM 9, OPM 10	**All remaining OPMs** Compliance required on *(% of total length of roads under contract)*
	(% of total length of roads under contract)	

[9] *Even those roads (or road sections) for which Initial Rectification Works are programmed tobe carried out under the contract have traffic and therefore require maintenance services. The pavements of those roads are however likely to be in a condition which does not allow the application of normal Service Levels. The OPM's listed below can typically not be complied with by the Contractor before these Works are completed.*

- OPM-1 Pavement Defects shall not be applied, except those specified above and "Cleanliness of Pavement Surface and Shoulders" which shall apply even before the initial rectification Works are carried out.

- OPM-1(h) Paved Shoulders.

No. months after Start Date *(at the end of themonth)*	**OPM[9] Usability of the road(s)** Compliance required on OPM 1 (a), 1 (i), 1 (k) for flexible pavement, OPM 1(d), 1 (m), 1 (q), 1 (s) for rigid pavement, OPM 4, OPM 6, OPM 7, OPM 8, OPM 9, OPM 10 *(% of total length of roads under contract)*	**All remaining OPMs** Compliance requiredon *(% of total length of roads under contract)*
1 and 2	100	60
3	100	70
4	100	80
5	100	90
6	100	100
Remaining contract period	100	100

3.3. Reduced Service Levels prior to Initial Rectification /Periodic Maintenance

For paved roads (or road sections) for which Initial Rectification Works are programmed to be carried out under the contract, the OPM´s listed below shall not apply until such time when such Works have been completed, as follows:

3.3.1. Minimum Service Level

A "Minimum Service Level" will be applied for specific road sections defined in the contract where (i) Initial Rectification Works are scheduled under the contract and (ii) where the pavement has deteriorated to such a poor condition that it cannot be maintained normally as a pavement prior to the Rectification works being completed; and for road sections where Initial Rectification works are actively underway.

Under the "Minimum Service Level", the following provisions apply:

- The contractor shall establish and maintain road conditions ensuring that light and heavy vehicles can travel with at least a minimum speed of 40 kilometers per hour along its entire length, and without the need anywhere to slow down to less than 25 kilometers per hour due to the state of the road surface.

- The contractor must ensure that there are no potholes and depressions more than 5 cm deep on the road surface.

- Road Marking under OPM-2(b): Thermoplastic markings shall not be required for roads or road sections which are programmed for Periodic Maintenance. In those cases, reflective paint can be used instead.

4. Management Performance Measures (MPM's)

MPM's is a set of performance criteria to be fulfilled by the Contractor that relate to the management of the road assets under contract. They include the quality and testing requirements to be fulfilled by the Contractor, as well as the collection and reporting of various types of data and timely information to the Engineer, which may be needed as input to the Employer's Road Asset Management System (RAMS). The applicable MPM‟s for this contract are summarized in the table below. The specific requirements under each MPM item are defined elsewhere in the Specifications.

Compliance with MPM‟s is measured either monthly or as otherwise defined in the Contract. Results are to be expressed as either being "in compliance" or "non-compliant". Incase of non-compliance, such non-compliance will continue to be recorded until compliance has been established by the Contractor to the satisfaction of the Engineer.

In case of non-compliance with MPMs, the monthly lump-sum payment to the Contractor for Maintenance Services shall be reduced by the amounts stated in the table below, multiplied by the duration (in calendar days) of the non-compliance.

	Item	**Compliance criteria**	**Payment reduction (INR)**
MPM-1	Delivery of regular monthly progress reports to the Road Controlling Authority	Must be complete and submitted by due date as per the Specifications. In case of comments, the revised document must be resubmitted within fourteen (14) days after the issuance of written comments by Engineer.	10,000
MPM-2	Asset Inventory Reports and updates	Must be complete and submitted by due date as per the Specifications. In case of Comments, the revised document must be resubmitted within fourteen (14) days after the issuance of written comments by the Engineer.	10,000
MPM-3	Quality Assurance Plan Reports (QAP)	Must be complete and submitted by due date as per the Specifications. In case of Comments, the revised document must be resubmitted within fourteen (14) days after the issuance of written comments by the Engineer.	10,000

	Item	Compliance criteria	Payment reduction (INR)
MPM-4	Program of Performance reports (POP)	Must be complete and submitted by due date as per the Specifications. In case of Comments, the revised document must be resubmitted within *fourteen (14) days* after the issuance of written comments by the Engineer.	5,000
MPM-5	Works Completion Reports	Must be complete and submitted by due date. Revision must be completed within *twenty-one (21) days* after the issuance of written comments by the Engineer.	5,000
MPM-6	(all reports listed under Section B.10.1)	Must be complete and submitted by due date. Revision must be completed within twenty-one (21) days after the issuance of written comments by the Engineer.	2,500
MPM-7	Submission of Designs	Initial Submission of complete design by due date. Revisions must be completed within fourteen *(14) days after* the issuance of written comments by the Engineer, or as agreed in writing with the Engineer.	5,000
MPM-8	Monthly Compliance Tables for Maintenance Services	Submission of complete Compliance Tables bydue date.	10,000
MPM-9	Monthly Progress Report for Rectification and Emergency Works	Initial Submission by due date. Revision and resubmission must be completed within *seven (7) days* after the issuance of written comments by the Engineer.	10,000
MPM-10	Road Asset Damage and Emergency Incident report	Submission by due date.	2,500
MPM-11	End of Contract Handover Report	Initial Submission of complete report by due date. Revision and resubmission must be completed within fourteen (14) days after the issuance of written comments by the Engineer.	5,000
MPM-12	Compliance with requirements in the areas of Environment, Social, Health and Safety of workers, and Traffic Management Plans	Contractor has to be in compliance at all times. Payment reduction is applied for each separate non-compliance, and for each day during which non-compliance persists.	30,000

[Note: It would not be reasonable to require the rather expensive reflective pavement markings if the pavement is to beremoved as part of the required pavement resurfacing.]

5. Data collection, reporting and documentation

The timely collection of data and presentation of reports are part of the Management Performance Measures (MPM"s). Some of the reports must be prepared periodically (typically monthly) while others are one-time reports to be submitted at specific times or at special occasions during the duration of the contract. The reports are listed in the table below and described in the sub-sections further below.

Report Title	Frequency / Periodicity
Road Asset Inventory Database and Condition Reports (MPM-2):	Initial Report Periodic updates as specified
Road Asset Damage Reports (MPM-10)	These are reports due each time when damages to road assets occur which require repairs for which the Contractor may be entitled to claim separate payment.
Design Reports (MPM-7)	These are required for all works requiring a detailed engineering design.
Monthly Compliance Tables for MaintenanceServices (MPM-8)	Monthly self-reporting by the Contractor on his own compliance with Service Level requirements which is the basis for the part of the Contractor Monthly Statement which relates to Maintenance Services.
Monthly Progress Report and Statement forWorks (MPM-9)	Monthly report on progress of rectification and Emergency Works, which is the basis for monthly invoicing by the Contractor for those works.
Works Completion Reports (MPM-5)	Separate reports for each specific rectification and Emergency Works.
Contract Completion Report (MPM-11)	One-time report.
Project Final Completion Report (MPM-11)	One-time report (update of Contract Completion Report)

The requirements for each of those reports are stated in the following sections.

5.1. Road Asset Inventory and Condition reports

The Contractor shall carry out several types of surveys for assessing the condition of the Road Assets included in the contract based on visual assessment. The surveys will cover in particular

- Pavement condition
- Road Furniture condition
- Large Structures condition

The Contractor will record the results of the surveys in an **electronic database** and shall report the Asset Inventory and Condition in

a) Initial Road Asset Inventory and Condition Report, which is to be submitted within 90 Days after the Start Date; and

b) Updated Road Asset Inventory and Condition Reports, to be submitted every 12 Months after the due date of the Initial Road Asset Inventory and Condition Report. The updated reports are to be based on new survey data collected by the Contractor within 120 days prior to the due date of the updated reports.

The information collected by the Contractor during those surveys shall be used both for the Contractor's own purposes and for the continuous updating of data used by the Employer for his Road Asset Management System (RAMS).

Electronic Road Asset Inventory Database: The Contractor shall record the information collected during the various surveys (and other information, which may be furnished by the Employer or by other third parties) in an electronic Road Asset Inventory database. In order to ensure compatibility of the electronic database with the Employer's Road Asset Management System (RAMS), the Contactor will propose the specific electronic format of the database for approval by the Engineer. If the Employer does not stipulate a specific format, the Contractor shall use an online database which can be accessed in real time by the Engineer.

The Contractor shall also provide hardcopies (printouts) of the information from the database to the Employer as reasonably requested. If so requested, the Contractor shall liaise with the Employer and arrange for the delivery of hardcopies.

The electronic Road Asset Inventory Database shall include asset data and condition data verified by the Contractor, covering the following:

- Pavements, including shoulders (Hard Shoulder / Emergency Lane)
- Slopes, Embankments and Cuttings Drainage facilities, gullies, culverts, lined channels, sumps etc.
- Signs, traffic signals and lighting installed
- Pavement markings
- Bridges and Major Structures
- All other road furniture (i.e. Safety Barriers, Lighting Points)

In the Road Asset Inventory database, the Contractor shall

- accurately record road asset data, which shall include the measurement of roughness (IRI) as well as pavement strength data obtained through FWD (for paved roads);
- update the data following completed Rectification or Emergency works affecting the asset inventory;

- take into account any changes resulting from maintenance interventions altering the inventory characteristics and condition data;

The Contractor shall transmit the updated Road Asset Inventory database to the Employer after each update or at least once annually.

The required surveys to be carried out and the data to be collected are described in the sub-sections below.

5.1.1. Pavement Condition Surveys

Pavement Condition Surveys must cover all the roads / road sections included in the contract, in order to obtain the following information:

- Road pavement strength, through deflection surveys, using FWD (on paved roads only) FWD shall be conducted by the Contractor as per SOP circulated vide NHAI Policy Circular No. 11.91 dated. 21.04.2026.
- Pavement Roughness in terms Bump Integrator (BI) or International Roughness Index (IRI) using Class-I laser profilometer or any superior technology
- General road condition description

Requirements for measuring pavement strength: Road Strength (deflection) data are required as input to the Employer's Road Asset Management System and for the Contractor to know the pavement condition and plan the needed interventions on the roads. If for any road there is no reliable data on its pavement structure, the deflection measurements shall be complemented with pavement structure data obtained by trial pits everyone 5 km to evaluate pavement construction and subgrade conditions. Output of the deflection measurements shall be the basis for the calculation of the residual life of the pavement in years, based on the expected total number of typical standard axles.

Measurement shall be by Falling Weight Deflectometer (FWD - Impulse Load Device). The FWD shall be equipped with air and surface temperature sensors and a GPS location device. The equipment to be used by the Contractor must be approved by the Engineer. Deflection measurements shall be taken at 200m intervals for each traffic lane throughout the paved network or as specified in IRC: 115.

Requirement for measuring road roughness: The Contractor shall measure the road roughness in terms of the International Roughness Index (IRI) or Bump Integrator (BI). The data is needed by the Employer for use under his Road Asset Management System and by the Contractor for planning any needed interventions on the road. The equipment and data required must comply to the following standards:

Class 1 Profilometer: ASTM E950(98):2004-Standard Test Method for measuring Longitudinal Profile of travelling surfaces with accelerometer established inertial profiling reference ASTM E 1656-94:2000-standard guide for classification of automatic pavement condition survey equipment

The measure of roughness is to be made in a continuous way in the wheel tracks of each lane of the carriageway. The measuring equipment must be calibrated/validated as per the manufacturer's recommendations and further calibration using several reference road sections is also to be carried out in coordination with the Engineer. All roughness measurements shall be executed under the supervision of the Engineer, utilizing a Class 1 precision Profile (ASTM E-950). They shall be reported as Bump Integrator (BI) in mm/km.

5.1.2. Road Furniture Condition Survey

This survey will record all existing road furniture and its current condition. It will cover all types of road furniture, such as horizontal and vertical traffic signs, guardrails, safety barriers and any other road safety equipment, traffic signals, road and street lighting, electrical installations, and equipment, etc. It will highlight any defects requiring replacement or repair and will also indicate all cases and locations where road furniture should be present according to applicable norms and legislation, but is in fact absent.

5.1.3. Cross Drainage and other structure's Condition Survey

For all Cross Drainage and other structures, the condition surveys to be conducted must be based on a visual inspection for evaluating and rating their structural and functional condition, and describing existing defects and shortcomings particularly the bearings, expansion joints, slope protection works and scoring around pillars if any. Use of MBIU is mandatory wherever necessary is mandatory.

5.2. Design Reports

Emergency Works, Design Reports are also required, unless the corresponding Work Orderstates otherwise. The Design Report shall accompany any engineering design elaborated and submitted for approval. It must provide information on the design standards applied, the main assumptions used, and the calculations made for the design of individual road sections, structures or works.

The Design Reports shall be submitted as attachments to each final detailed design, on the dates indicated in the Contractor's approved program. The quality and the on-time submission of the Design Report is a Management Performance Measure (MPM).

5.3. Monthly Compliance Tables for Maintenance Services

As described elsewhere in the contract, the Contractor's Self-Control Unit shall continuously verify the Contractor's own compliance with the Service Level and other requirements. On the last working day of each calendar month, the Contractor's Self Control Unit shall submit to the Employer the Monthly Compliance Tables for Maintenance Services for the same calendar month, reflecting road conditions and the Contractor's compliance with Service Level requirements at the end of the month. The Monthly Compliance Tables for Maintenance Services are the basis for the monthly Formal Inspection and for the part of the Contractor's Monthly Statement which relates to Maintenance Services. The Monthly Compliance Tables for Maintenance Services shall be comprised of:

- Standardized EXCEL tables in a format to be approved by the Engineer, showing separately for each road or road section the degree of compliance with Service Level requirements, representing accurately the situation at the end of the previous calendar month, and identifying any non-compliances that may exist.
- A brief description of the most important maintenance activities carried out during the month, including the locations.
- Information on any formal complaints received and how these were responded to (if applicable).
- Details of any major vehicle accidents that have occurred on project roads, in particular of all accidents involving death or injury (if applicable).

The quality and the on-time submission of the Monthly Compliance Tables for MaintenanceServices is a Management Performance Measure (MPM).

5.4. Monthly Progress Report for Works

This is the Contractor's monthly report on the progress of Rectification and Emergency Works carried out. It shall be the basis for the part of the Contractor's Monthly Statement which relates to those works. Submission of the Monthly Progress Report shall be a prerequisite for the acceptance of a payment claim for Initial Rectification, periodic maintenance and Emergency Works. The Monthly Progress Report shall describe the worksexecuted during the month, as well as the Quality and Quantity Control procedures applied and their results (testing, etc.).
The Monthly Progress Report shall also cover the Contractor's activities in response to contractual requirements for (i) environmental and social safeguards, and (ii) occupational health and safety. The Monthly Progress Report for any month must be submitted by the 10th calendar day of the following month as a supporting document to the Monthly Statement which is due on the same day.
The minimum information that the Monthly Progress Report must include is as follows:

- A description of the Progress achieved during the preceding month of all rectificationand Emergency Works, framed so as to enable the verification of any work to be claimed for payment.
- The proposed Interim Payment Certificate (IPC) for rectification and Emergency Works.
- All required Quality and Quantity Control reports on the works completed during the month clearly indicating, if applicable, any non-conformances with the Contractor's Quality Assurance Plan or any other requirements.
- Copies of correspondence between the Contractor and other agencies, if any.
- Minutes of all meetings held during the month between the Contractor and Employerand with any other stakeholders, including also the status of actions taken on complaints received and grievances brought forward at such meetings, if any.

- Detailed information on the Contractor's activities in response to contractual requirements for (i) environmental and social safeguards, and (ii) occupational health and safety.
- The status of all grievances that have been submitted to the Contractor, along with resolution rates.

5.5. Road Asset Damage Reporting

The Contractor shall report to the Employer any event such as vehicle accident, theft, act of vandalism, third-party intervention or any other event having caused damage to the road assets and requiring repairs or replacement. The report may have the form of a letter to the Employer and shall be submitted within 96 hours of occurrence of the event, or ofthe Contractor having gained knowledge of such event. The report shall

- describe the event and its circumstances;
- describe the nature and extent of damage to road assets, including photographs; cost estimate & timeline for repair/replacement of the damage's asset (at no extra cost to employer);
- describe the actions taken by the Contractor, such as inspections and investigations carried out, notifications made to the police and to other relevant authorities;
- Recommend measures to be taken to avoid similar events in the future.

For damages not already repaired by the Contractor, the Contractor shall propose the needed repairs, including any designs if necessary, and a program for carrying out the repairs.

It is also the Contractor's responsibility to report any event or incident of this nature to the relevant authorities (Police, local Municipality and/or other public authorities concerned) as soon as possible and to follow up on any actions taken by the police or other relevant public authorities. If the damage is caused by third party intervention on the road, the Contractor must also actively try to stop such intervention by informing the intervening party in writing (or verbally if writing is not feasible) of the damage being caused and the potential physical and legal consequences of the intervening party's action.

- The Contractor's risk limitation for bearing the cost of necessary repairs after such events shall be upto the limit of Insurance as stated in the Clause 11 of Contract Data. Repairs beyond such limit of the Insurance amount as stated in the Contract Data are the Employer's Risk, provided that the Contractor has performed his obligations as described above. In such cases the Contractor shall submit to the Employer a cost estimate with a breakdown of the cost for repair. The Employer may instruct the Contractor to repair the damage under a Change Order or a Work Order, as Emergency Works.

  The quality and the on-time submission of the "Road Asset Damage Report" is a Management Performance Measure (MPM).

5.6. Work Completion Reports

There is a two-step process for completing and handing over the Works by the Contractor to the Employer:

- Substantial completion: The first step is the "Taking-Over" of the Works by the Employer, which is meant to occur when the works are "substantially completed" and can be used safely for the intended purpose, and opened for traffic without risks of damage to the road structure or to road users. The Defects Liability Period starts at the time when the Contractor notifies "substantial completion" of the works to the Engineer, unless the Employer objects in writing to "Substantial Completion" having been achieved. After the "Taking-Over" is formalized through the issuance of the "Taking-over Certificate" by the Employer, the first half of the Retention Money is to be released to the Contractor by the Employer.
- **Certificate of Completion:** The second step is the end of the Defects Liability Period which will normally trigger the release of the second half of the Retention Money to the Contractor by the Employer, provided that the Contractor has presented a "Full Works Completion Report" and the Employer has issued the "Certificate of Completion", as described further below.

At the time of "Substantial Completion", the Contractor is required to issue a "Substantial Completion Report". This report shall include those parts of the information required (and listed below) for the "Full Works Completion Report" which are already available at the time of substantial completion. The "Substantial Completion Report" shall also list the items that are yet to be completed by the Contractor ("snag list"). It must be part of the Contractor's application for the Taking-Over of the works by the Employer as per GC 48. When the Contractor has addressed all items on the "snag list", he shall inform the Employer through an official letter. Not later than 28 days afterwards the Contractor must present a "Full Works Completion Report" and may also request the "Certificate of Completion". The Employer shall review the Full Works Completion Report. The Certificate of Completion cannot be issued if the Full Works Completion Report has not been submitted by the Contractor and accepted by the Engineer.

The "Full Works Completion Report" is essentially a supplement to the "Substantial Completion Report". It must present the information listed below, except those parts which have already been included in the "Substantial Completion Report" for the same Works. The "Full Works Completion Report" may make reference to the "Substantial Completion Report" previously issued by the Contractor, for all the information, which was already presented there, without having to present it again.

The Full Works Completion Report shall include as a minimum:

- Site location and details;
- Construction start and end dates;
- As built Drawings and photographs;
- Details of all Quality and Quantity Control measures carried out by the Contractor;
- Details of any works carried out after substantial completion to remedy pending items on the "snag list";

- Design Calculations;
- Topography survey results;
- Setting out data and control points;
- Hydrology of the site (if applicable);
- Structures; description of original and rehabilitated condition, (if applicable);
- Pavement design and results of IRI measurements, (if applicable);
- Geology and Geotechnical features (if applicable);
- Environment Management Compliance Report; and
- Summary of future inspection and maintenance requirements e.g. required frequency of inspections, environmental monitoring needs, specific routine, and periodic maintenance needs, etc.

The Employer shall review the "Substantial Completion Report" and the "Full Works Completion Report" within 14 days after receipt and provide comments, if any. If there are comments requiring changes to the Report, a revised Report shall be submitted by the Contractor within 14 days of receiving the comments. The "Certificate of Completion", which is a prerequisite for the repayment of the second half of the retention money at the end of the Defects Liability Period, cannot be issued if the Full Works Completion Report has not been submitted and approved.

5.7. End of Contract – Handover Report

The Contractor must provide an End of Contract Handover Report on the first day of thesixth month prior to the end of the Contract. The purpose of the Handover Report is to provide a smooth transition to the next contract and ensure that the next Contractor andthe Employer are aware of any outstanding issues. The handing over report will be subject to verification of details of work completed vis-à-vis Contract scope by the Third-Party Agency to be engaged by the Authority for the purpose. This report shall provide: For the contract as a whole:

A summary of the activities carried out (works and services), outcomes achieved, lessons learnt, suggested good practices and recommendations to the Employer for improvements for any future maintenance contracts covering the same roads.

For each road included in the contract:

(i) A history of the works carried out during the contract period; this shall include information on:

- Site location and details
- Construction start and end dates;
- As built Drawings and photographs
- Details of all Quality Control Tests
- Design Calculations
- Topography survey results
- Setting out data and control points
- Hydrology of the site
- Structures; original and rehabilitated condition
- Pavement design

- Traffic data, if available
- Geology
- Geotechnical features
- Environmental and Social issues encountered and how they were dealt with
- Summary of future inspection and maintenance requirements e.g., required frequency of inspections, on-going environmental monitoring needs, specific on- going maintenance needs etc.

(ii) A brief description of the current condition of the road, including the expected remaining service life of the pavement, and

(iii) Suggestions on the works that are considered necessary to be executed in the nextyears in order to keep the road asset at the same Service Level. The assessment of thepavement residual life of the contract roads must be supported by information on the results of the pavement deflection and roughness (IRI) surveys executed during the contract.

The quality and the on-time submission of the "End of Contract - Handover Report" is a Management Performance Measure (MPM).

5.8. Project's Final Completion Report

On completion of the entire Contract and after the end of any remaining Defects Liability Period for works or parts thereof, the Contractor shall prepare a Final Completion Report which will essentially be an updated version of the End-of-Contract Handover Report described in the previous section, including any additional information which has become available since the issuing of the End-of-Contract Handover Report. Detailed as per clause 16 of the Contract Data are also to be stated in this report.

The report shall accompany the Contractor's request to the Employer for releasing the Performance Security. The handing over report will also be subject to verification of details of work completed vis-à-vis Contract scope by the Third-Party Agency to be engaged by the Authority for the purpose. Submission and Approval of the above report is aprerequisite for issuing by the Employer of the Final Payment Certificate and release of the Contractor's Performance Security.

6. Specifications for Emergency Works

6.1. Definition of Unforeseen Natural Phenomena

Emergency Works are designed to repair those damages to the roads under contract which are caused directly by unforeseen natural phenomena with imponderable consequences occurring either in the area of the roads or elsewhere, but with a direct impact on the roads. "Unforeseen Natural Phenomena" are defined as follows:

Flooding where water levels rise above the crown level of the road resulting in complete or partial washout of the culvert or road embankment causing disruption of traffic. Any damage which results from insufficient maintenance of drainage

structures will not be considered as “emergency” and will need to be repaired from within the Routine Maintenance Services.

Major landslides (greater than 50 m^3) which block the road carriageway and drains, encroach onto the road surface and interrupts the flow of traffic or is unsafe. Can be caused by heavy rains or earthquakes. Landslides within the right-of–way caused by overflow of poorly maintained cut-off drains or catch dams will not be considered as an “emergency” and will need to be removed as part of Routine Maintenance Services

Traffic accidents which interrupts traffic and causes insurmountable damage to the road. Nevertheless, the Contractor will be responsible to provide full support to the police and road users and arrange signing and cleanup of site or sanding as necessary is part of Routine Maintenance Services.

6.2. Procedure for Requesting Emergency Works

If damages clearly caused by “Unforeseen Natural Phenomena” result in a reduction of Service Levels below the normal threshold values specified in this contract, the Contractor may make a formal request to the Engineer to carry out Emergency Works designed specifically to remedy those damages. If the Contractor decides to make a request for Emergency Works, he must (i) immediately inform the Engineer of his intention to do so, by telephone, radio or other means, (ii) document the circumstances of the Force Majeure event and the damages caused, through photographs, video and other suitable means, (iii) prepare a written request, stating the type of works he intends to carry out, their exact location and the estimated quantities and costs, including photographic documentation. In any case, a request for Emergency Works must be made immediately after the Contractor gains knowledge of the existence of damages caused by “Unforeseen Natural Phenomena”.

The Engineer, upon receipt of the request and not later than 24 hours thereafter, will evaluate the request made by the Contractor based on a site visit, and issue an order to carry out the Emergency Works. The order will specify the type of works, their estimated quantities, the remuneration to be paid to the Contractor and the time allowed for their execution. The order may indicate a requirement for an engineering/geotechnical assessment of the options for the permanent repairs to the site.

6.3. Remuneration of Emergency Works

Emergency works are remunerated by the Employer for each work order on the basis of estimated quantities, the unit prices being stated in the Schedule of Prices, and in accordance with the relevant clauses of the GC. The work items and the unit prices to be applied are specified in Section IV (Bidding Forms - Bills of Quantities) of this bidding document.

In the event of unforeseen events, works shall be conducted as Emergency Works (Day works). These Works shall be undertaken under Day works only where formally approved by the Engineer. Works carried out under Day works shall be for minor items of works which are not within the scope of Bill 1, 2 or 3 activities. The Contractor shall

maintain detailed recordsfor the items of plant or materials utilized under Day works and shall obtain the Engineer's Surveillance Officer's endorsement of the site dockets to verify times and quantities used.

In emergency incidents, where the emergency work is beyond the scope of RM responsibilities and not listed in the schedule, the Contractor shall provide the Engineer a full listing of costs in accordance with the rates tendered in Schedule 4 – Unit Item Rates of this document. Once the site has been made safe, the Contractor is not to proceed with remedial works until the approval of the Engineer is received.

7. Specifications for Emergency Work

7.1. Provision for Emergency Works

The total contract amount will include provisional quantities of Emergency Works during the contract period, in accordance with the bidding data. The actual payments for Emergency Work will be based on the tendered rates. The Emergency Works also includes a Provisional Sum allowance in accordance with Clause 60 of the General Condition in the event of addition unforeseen work is ordered by the Engineer.

7.2. Obligations during Emergency Events

Given the nature of this contract and the fact that Emergency Works are remunerated separately, the Contractor will, during the execution of Emergency Works, continue to be responsible for assuring the normal Service Levels on all roads included in the contract. In particular, the Contractor will do everything reasonably possible to ensure the normal use of all the roads under contract, including the sections affected by emergencies.

If road traffic has been interrupted because of an emergency, the Contractor will follow the provisions of the Traffic Management Plan included in his Quality Assurance Plan and take the measures necessary (i) to reopen the road to traffic in the shortest time possible, and (ii) to maintain the road open during emergency works, without being entitled to a specific compensation for those measures. This relates particularly to trees or other objects which may have fallen on the road, damage to access ramps to bridges, erosion of embankments, collapse of slopes, traffic accidents, flooding, etc.

The Contractor will not be subject to payment reductions for the partial or full traffic interruption on roads that are caused by events necessitating the use of Emergency Works for rectification, provided that he acts according to these Specifications.

7.3. Repair of Minor Damages

If the works necessary to remedy damages caused by an "Unforeseen Natural Phenomena"are below certain threshold values, the Contractor will carry out those works as part of his normal obligations / routine maintenance and without having

the right to invoke the provision of the contract concerning emergencies and the remuneration of emergency works. In these cases, the consent of the Engineer is not needed and the Contractor will simply carry out the works on his own initiative. He will nevertheless inform the Engineer of the damages occurred and the remedial measures taken.

The threshold values for minor repairs shall be defined as shown in the table below:

Activity	**Unit**	**Threshold Quantity per emergency event**
Slides of material onto road	m^3	50
Washing out of Culverts	Number	1
Bituminous concrete	m^3	20
Dense Bituminous Macadam	m^3	50
Concrete	m^3	5
Embankment	m^3	250

PART-II

SPECIFICATIONS FOR ROAD MAINTENANCE WORKSAND OPERATIONAL PROCEDURES

1. General

1.1. All materials, works and construction operations shall conform to the requirements laid down in the "Specifications for Road and Bridge Works" (5th Revision), Ministry of Road Transport and Highways, Published by Indian Roads Congress (IRC), New Delhi; IRC:82 "Code of Practice for Maintenance of Bituminous Surfaces on Highways" and IRC:SP:83 Guidelines for Maintenance, Repairs and Rehabilitation of Cement Concrete Pavements" wherever applicable. Where the Specification for a work is not given, sound engineering practice shall be adopted to the satisfaction of the Engineer.

The Technical and Performance Specifications for Performance Based Maintenance Contracts (PBMC) complement other specifications that are generally applicable in India foruse in the road sector. Notwithstanding the provisions of General conditions, the works and materials used by the contractor shall comply with the requirements of relevant sections of Ministry of Road Transport and Highways (MoRTH) specifications for Road and Bridge works (5th Revision 2013, published by IRC) and these General Technical specifications shall form part of the contract. Amendments to these MoRTH specifications shall be applicable to this contract.

Reference to MoRTH Specifications.

The relevant sections from this document specific to, but not limited to, this contract include the follows:

(a)	General	- Clauses 101 to 121
(b)	Site Clearance	- Clause 201, 202
(c)	Earthwork, Erosion Control and Damage	- Clauses 301 to 314
(d)	Sub-bases (Non-bituminous) and Shoulders	- Clauses 401 to 410
(e)	Bases and Surface Courses	- Clauses 501 to 520
(f)	Geosynthetics	- Clauses 701 to 708
(g)	Traffic Signs, Markings and Road Appurtenances	- Clauses 801 to 816
(h)	Quality Control for Roadworks	- Clauses 901 to 903
(i)	Materials for Structures	- Clauses 1001 to 1015
(j)	Brick Masonry	- Clauses 1301 to 1316
(k)	Stone Masonry	- Clauses 1401 to 1414
(l)	Formwork	- Clauses 1501 to 1513
(m)	Steel Reinforcement (Untensioned)	- Clauses 1601 to 1609
(n)	Structural Concrete	- Clauses 1701 to 1719
(o)	Bearings	- Clauses 2001 to 2010
(p)	Open Foundations	- Clause 2101 to 2108
(q)	Sub-structures	- Clause 2201 to 2210

(r) Concrete Super-structure - Clause 2301 to 2310
(s) Surface & Sub-surface Geotechnical Exploration - Clause 2401 to 2415
(t) River Training Work and Protection Work - Clause 2501 to 2510
(u) Expansion Joints - Clauses 2601 to 2615
(v) Wearing Coat and Appurtenances - Clause 2701 to 2709
(w) Repair of Structures - Clauses 2801 to 2815
(x) Pipe Culverts - Clauses 2901 to 2911
(y) Maintenance of Road - Clauses 3001 to 3005

2 Traffic Management Plan

2.1 The Traffic Management Plan shall describe the procedures to be followed andthe arrangements to be made whenever the contractor carries out the various types of physical activities that are planned and foreseeable under the Contract. The TMP must have been approved by the Employer before the Contractor commences work that affects traffic flows or pedestrian safety. It shall show the methods to be applied to ensure (i) that traffic can continue to use the road safely and with only the inevitable degree of disturbance, (ii) the safety of road users and of people near the road. The TMP shall show the location, types and numbers of traffic safety devices, barricades, warning signs, flagmen, by-pass roads, deviations and the like to be deployed under various types of work sites and traffic restrictions, such as the partial and full closure of traffic lanes, closure of road shoulders and moving roadside activities such as grass cutting, etc. It shall also coverthe removal of all necessary traffic diversions and the reinstatement of the land used for such diversions. In the preparation of the TMP the Contractor must ensure a reasonable balance between the efficiency of his work operations and the minimization of disturbances for road users, including pedestrians and non-motorized traffic.

The Traffic Management Plan establishes the practices for traffic management at work sites. The Traffic Management Plan must be developed by the Contractor and agreed with the Engineer. The Contractor shall effectively implement all traffic management requirements in accordance with MoRTH Clause 112 and contract Technical Specifications in respect of all works under the Contract.

The objectives of the Traffic Management Plan are to:

- Clearly define and document the responsibilities and chain of command for the development, implementation and management of traffic control measures and systems
- Establish the minimum requirements for temporary traffic control
- Establish the minimum geometric, cross section and surfacing standards for temporary works
- Provide appropriate transitions and enable safe and efficient traffic flow into, through and out of work sites
- Protect the Contractor’s personnel at all times

- Protect the Assets and the Contractor's resources at all times.
- Meet the operational requirements for the road

The Traffic Management Plan must include at least the following:

- A documented process for preparation, review and approval of the Traffic Management Plan
- A document tracking and control system to ensure that only the latest operative copy of the Traffic Management Plan is in circulation
- Contact details for Contractor, Principal emergency services and other stakeholders
- Layout diagrams, method statements etc. for implementation of traffic control while undertaking each aspect of the Services (including site specific layout diagrams and method statements if the Services require traffic control measures not covered by standard codes of practice)

The Delivery Time for the initial Traffic Management Plan shall be not later than 21 days after the Start Date.

If a particular situation arises which is not adequately foreseen in the Contractor's general TMP, the Contractor must prepare a specific TMP for that situation and submit it for approval to the appropriate authorities (traffic police, local authorities, etc.). Such specific TMP must also be prepared whenever works are planned near schools or other places with a high concentration of pedestrians.

The cost of implementing the TMP is deemed to be included in the rates or prices for rectification Works, Emergency Works, and Routine & Periodic Maintenance Services.

2.2 All maintenance works on the road shall be carried out in a manner which would cause least interference to the traffic. In stretches where resurfacing or riding quality improvement works are to be taken up, the Contractor during execution of work shall provide and maintain proper passage for traffic. Where it is not possible or safe to allow traffic on part width of the carriageway, a temporary diversion of proper Specifications shall be constructed by the Contractor at his cost. The Contractor shall take prior approval of the Engineer regarding traffic arrangements during construction.

2.3 All arrangements for traffic during construction shall be considered as incidental to the work and shall be Contractor's responsibility. The Engineer shall determine the penalty to be imposed on the Contractor for deficiency in compliance to the requirement.

3 Quality Control

3.1 Quality control on materials and workmanship is the primary responsibility of the Contractor. Quality control shall be exercised in accordance with the Quality Plan approved by the Engineer. The Engineer may, during and after

construction test the quality of materials and work in order to verify conformance with the prescribed Specifications. To meet the requirements of the Contract, the Contractor would submit Operation and Maintenance Manual within 15 days of mobilization on ground. Every year maintenance schedule would also be submitted by the Contractor. Engineer would review and approve the Operation and Operation and Maintenance Manual and Maintenance schedule, and the Contractor would carry out the work in line with the approved Operation and Operation and Maintenance Manual and Maintenance schedule

4. Operational Procedures

The Operational Procedures described in this Section are to be applied in the implementation of Performance Based Maintenance Contract (PBMC).

4.1 Inspection and Payment of Maintenance Services

The Contractor's compliance with Operational Performance Measures (OPM"s) is to beassessed and verified through Formal Inspections, Informal Inspections, and other inspections. This section specifies (i) the procedures to be applied for scheduling and carrying out Inspections and (ii) the application of payment reductions in cases of non-compliance of the Contractor with required Service Levels or other requirements.

The Inspections required to be conducted under the Contract, measurement of OPMs, MPMs, Documentary submissions etc. shall be conducted through smart devices (e.g. Mobile phone, Tablet etc.) or IT solutions as prescribed by the Employer from time to time. However, in case, no IT solution in form of Web app / Maintenance app (developed by employer) is available with the employer then the defect notification through simple email / letter shall be considered as official communication. This includes but not limited to reporting of defects by Contractor, AE/IE or the Employer, submission of action taken reports by Contractor, verification of ATR by AE/IE, calculation of financial liabilities etc. making own arrangement of any necessary devices (Smartphone, Tablet, Computer etc.) as required.

The Payment for the work done as determined by the Contractor and certified by the AE/IE will also be linked to the Web App based uploading of details of the work done with reference to the Inspections so carried out as per directions of the Employer from time to time in this regard.

4.1.1 Formal/ Verification Inspections by Engineer

The main purpose of the regular Formal Inspections is to verify the correctness of the information presented by the Contractor in the Action Taken Report of remedial measures about his own compliance with the Service Level requirements.

The results of the Formal Inspections are used for finalizing the monthly Interim Payment Certificate.

Formal inspections are scheduled in advance by the Engineer/ Employer and carried out by the Contractor through his team with participation of the Engineer. The regular Formal Inspections may be scheduled by the Engineer/ Employer once the Contractor has submitted the ATR of remedial measures for any defect.

The Employer /Engineer must inform the Contractor's Self-Control Unit of the date and hour of the beginning of the Formal Inspection at least 12 hours in advance. The scheduling of inspections between the Employer and the Contractor's Team must be in writing, which may include the use of e-mail or Web App/ Maintenance App. The Employer shall use the official e-mail address of the Contractor which the Contractor must indicate in writing to the Employer at the beginning of the Contract period.

Formal Inspections can also be scheduled to verify if the Contractor has remedied the causes of earlier non-compliances within the time frame (Grace Period) granted by the Employer. Failure to correct non-compliances within the specified Grace Period will lead to further payment reductions for those non-compliances in the following Interim Payment Certificate.

The Contractor is obliged to be present at the date, hour and location specified by the Employer, providing the physical means (including equipment) needed for the inspection. Both must have a signed hardcopy of the Contractor's Action Taken Report of remedial measure in hand. The main purpose of the Formal Inspection is to verify the information provided by the Contractor in his Action Taken Report, for his own compliance with Service Level requirements.

Should the Contractor fail to appear for (or participate in) a scheduled Formal Inspection, having been requested to do so with at least 12 hours" notice, then the Employer/ Engineer may carry out the Formal Inspection without participation of the Contractor´s staff. In such case, the determination of the Employer as to the nature and extent of the defects and non-compliances detected shall be final and binding, with no possibility of appeal or objection by the Contractor.

During the Formal Inspection the Employer and the staff of the Contractor shall travel in the same vehicle along the road and stop as necessary, while verifying the information provided by the Contractor in the Standard EXCEL Compliance Tables. This is to ensure that the Contractor is immediately aware of any non-compliances identified by the

Engineer/ Employer. During the Formal Inspection any errors, discrepancies or misrepresentations in the Compliance Tables presented by the Contractor, as well as their locations and length, must be noted by the Engineer, communicated verbally to the Contractor, and corrected on the Compliance ATR for Maintenance Services. The Employer shall also indicate in the verified Action Taken Report any Grace Periods

granted in accordance with the Specifications for remedying the various non-compliances and inform the contactor accordingly.

The Engineer must inform the Contractor of his intention to carry out a formal inspection at least 12 hours in advance, indicating the exact date, hour and location where the formal inspection is to begin. The Contractor is obliged to be present at the date, hour and location specified by the Engineer, providing the physical means needed for the inspection.

In addition, the Employer shall also record any existing non-compliances which had already been recorded during the previous month(s) and which have not been remedied bythe Contractor within the Grace Period granted by the Engineer, and apply the corresponding payment reductions for the full duration of the non-compliance.

During the formal inspection, the Engineer will prepare a brief Memorandum in which he shall (i) describe the general circumstances of the Formal Inspection, including date, road sections inspected, persons present, etc., (ii) show a list of all non-compliances detected w.r.t Action Taken Report during the Formal Inspection and (iii) show the Grace Periods granted by the Engineer to the Contractor for remedying each non-compliance. The specific Grace Period for each non-compliance shall count from the last day of the Formal Inspection during which the non-compliance was detected.

The Employer shall use the corrected Monthly Compliance Tables for Maintenance Services for calculating the payment reductions for OPM‟s (and MPM‟s if applicable), and the total amount to be paid for Maintenance Services. The Employer will then immediately transmit his Memorandum and the corrected Compliance Tables to the Contractor, as input for the Contractor's Monthly Statement.

If the Employer does not send his corrected Compliance Tables to the Contractor by the 7thday of the calendar month, the delay shall be added to the Contractor's deadline for submitting his Monthly Statement, which is normally due on the 10th day of the calendar month as per the General Conditions.

4.1.2 Self-Inspection by the Contractor

The purpose of this inspection is for self-assessment of the important aspects of road maintenance which impact the road safety and traffic flow on the road. These inspections shall be done by the Contractor itself to identify the defects on the stretch. *Thefrequency of these inspections can be daily, weekly, bimonthly or monthly as per frequency of measurement defined in Annexure-E of Part-I of Section-7.* Contractor shall submit the inspections reports to the Engineer mentioning the defects identified during the inspection in writing (through email) or Web App/ Maintenance App.

Daily Inspections by Contractor: All works being executed on a day shall be reported in the daily report by the contractor and also defects w.r.t to the most important items to be reported in this inspection. A tentative list of items for guidance are as under:

(i) Potholes

(ii) Raveling/ Rutting/ Cracking

(iii) Embankment Slope Protection & Rain cuts

(iv) Edge drop at shoulders

(v) Unevenness, vegetation growth & water stagnation on shoulder

(vi) Drainage Condition

(vii) Cleanliness of median & Vegetation affecting sight lines

(viii) Missing or deformed or non-reflective road signs/hazard markers

(ix) Missing or damaged crash barriers

(x) Road Studs

(xi) Pedestrian Guard Rails

(xii) Non-functioning Highway Lighting/Solar Blinker/ECB

(xiii) Riding quality at expansion joints

(xiv) Cracks/ settlement/ tilting/ spalling of all elements of sub-structure & super structure

(xv) Cleanliness and functionality of toilets

(xvi) Theft or Vandalism of any highway asset

(xvii) Encroachment of NH Land

(xviii) Damaged Vehicles/ Dead Animals/ fallen trees, poles, debris on road.

(xix) Works executed on the day for the RFI/IFI Raised.

4.1.3 Weekly Joint Inspection by Contractor and Engineer

This inspection shall be conducted jointly by the Engineer and the Contractor. The purpose of this inspection is to ascertain the service levels maintained by the Contractor and also to ensure that the defects are being reported accurately by the contractor during their Daily Inspections. Further, the items to be inspected/ reported in weekly inspection are specified in Annexure-E. The geotag enabled video recording of the entire stretch during the inspection shall be done by the contractor through camera attachment on the MMU.

4.1.4 Monthly Inspection by Contractor & Engineer with Employer

This would serve as the performance review of the service levels assessed by the engineer/ contractor which would also be used for interim payments calculation along with assessing the deductions and penalties.

Note: Inspections w.r.t. all such requisite items/ assets defined in Annexure-E shall be carried out as per specified frequency of inspection.

4.1.5 Bridge and Major Culvert Inspection (Bi-Annually)

The reason for Bridges' and Major Culverts" inspections is to ensure that the Contractors are undertaking the required care of bridges and major culverts, other than those easily seen during the monthly Conformance Inspection. Generally detailed bridge inspections are not considered necessary as part of the Conformance Inspection as they are slow and time consuming but should be undertaken at least six monthly or after any major flood. Items requiring inspection are all defects, which may affect the structural integrity of the structure including joints, superficial damage, batter protection and stream scour.

Defects to be identified	Inspection Requirements
Culvert and pit repair	Bridge and Major Culvert Inspections are to be carried
Structures	out by an experienced officer of the Contractor initially within 3 months of Start Date and then on a regular 6-monthly basis or immediately after flooding, which includes detailed visual inspections of all bridges and major culvert structures for all structural defects, superficial damage, batter defects and stream scour. The information collected shall be submitted incorporating all the defects pointed in the Inspection as per Performa prescribed by the Engineer.

However, If during regular inspections, any defect in any Cross Drainage works / structures comes in the notice of the Contractor / Engineer / Employer, then Contractor has to do the detailed inspection of that Cross Drainage work / structure and take the remedial corrective action as per the contract.

4.1.6 Night Inspection (Monthly)

The reason for Night Inspections is to ensure that when driving at night the road is safe and signs easily visible. It will also provide the Contractor and the Engineer with a different view of the road under night time driving conditions that may highlight deficiencies that are not clearly visible during daylight hours. Conducted monthly, the Night Inspections are to identify defective/non reflective or missing, signs, delineators, guideposts, hazard markers, pavement markings and any potential hazards to the travelling public at night.
The speed should be kept to a level that allows the condition of the listed assets to be observed clearly and serviceability easily assessed and recorded.

Defects to be identified	Inspection Requirements
Sign maintenance Guideposts, delineators and painted trees	Night Inspections are to be carried out by an experienced officer of the Contractor on a monthly basis by driving all roads in each direction and to cover Standard Jobs as indicated by Inspection Type"N"

	The speed should be kept to a level that allows the condition of the listed assets to be observed clearly. The information collected shall be submitted incorporating all the defects pointed in the Inspection as per Performa prescribed by the Engineer.

4.1.7 Emergency Inspection

Emergency inspection is carried out, following notice by Engineer or the Employer.

Defects to be identified	Inspection Requirements
Pavement cleaning Culvert and pit cleaning and storm water drains Culvert and pit repair Stream maintenance Structures	Emergency Inspections are to be undertaken by the Contractor immediately when notice is given, by the Engineer or Employer including: callouts to road safety/traffic emergencies observation of a drainage structure, bridges and surface drains during and after heavy rainfall or floods; observation of safety barriers and road surface is safe after a road accident; and landslip sites: The site is to be immediately made safe, an estimate of equipment and materials required for re-establishing (temporarily) the facility. The information collected shall be submitted incorporating all the defects pointed in the Inspection as per Performa prescribed by the Engineer.

4.1.8 Informal Inspection by Engineer/ Employer

The Engineer/ Employer will also carry out Informal Inspections of the roads covered by the Contract. The Employer/Engineer may do so on his own initiative, at anytime and anywhere on the roads included in the contract. The Employer/Engineer must use his own means for those inspections. If the Employer detects any road sections where the Service Level criteria are not met, he shall promptly inform the Contractor in writing (which may be by e-mail or Web App/ Maintenance App) of the defect identified, including its location within 12 hours, in order to enable the Contractor to take remedial action as soon as possible.

The conduct of Informal Inspections by the Employer and the notification of any identified non-compliances in no way affects the requirement for the Contractor to continuously monitor road conditions and his own compliance with required Service Levels, and to rectify all defects. It is the duty of the Contractor's team, not of the Engineer, to identify defects and ensure their rectification in a timely manner.

4.1.9 Other Inspections

Commencement of the Contract – initial hand-over Inspection: The Employer and the Contractor shall both actively seek to undertake a joint inspection of the roads included in the contract when handing over the site to the Contractor, unless

agreed otherwise between the Contractor and the Engineer. The purpose of this Hand-over Inspection is to provide the Contractor with the opportunity (i) to eliminate jointly with the Employer any uncertainties over the precise location of the Contract boundaries and the start and end points of any road or road section, and (ii) to highlight any locations or areas where significant deterioration or damage has occurred between the time of bid submission and possession of the site, as a direct result of unforeseeable events and/or natural phenomena which have occurred during that time period (but not due to normal wear and tear resulting from road traffic). If such deterioration or damage has occurred, the Contractor shall include a detailed description of the damage and a price quotation for its repair, for consideration of the Employer.

The initial hand-over Inspection shall also be used to take time-lapse (or "hyper-lapse") videofooting for all roads included in the contract, to establish a record of the road and its immediate environment at the beginning of the Contract. This can be done using the time- lapse video function available in all modern smartphones. *[Note: It is recommended that this is made a requirement for the Contractor to fulfil at the beginning of the Contract.]*

If the joint hand-over inspection is not carried out for any reason, the Contractor must nevertheless inform the Employer within 45 days after the Start Date of any damages or defects which may have occurred during the time period between the submission of the Contractor's bid and the Start Date, for the remedying of which the Contractor plans to seek compensation from the Employer. Failure of providing such information within 45 days after the Start Date shall be interpreted as such damages or defects being non-existent.

The Contractor shall also highlight any other impediments to the Contractor's program that are the result of encroachments, the actions of other contractors, or social or environmental issues and grievances requiring the Employer's intervention. The Employer and the Contractor may also take video and/or pictures of the roads during this Inspection to record the condition at the time of Handover.

Inspections for Environmental and Social Assessment: The Contractor shall carry out the inspections required under the relevant legislation, these Specifications, and the Contract, and submit any required assessment reports.

Other Joint Inspections: The Employer or the Contractor may ask the other party at anytime to undertake other joint inspections, including during nighttime, with the objective to:

- Seek solution of Contract-related issues affecting all parties;
- Identify and investigate any necessary works which were not previously identified;
- Confirm actual progress on site towards the Contractor's current Programme of Performance; and
- Confirm that the social and environmental requirements have been complied with during the execution of the Contract.

End-of-Contract Inspections: The Employer and the Contractor shall undertake joint inspections as needed, at the following times:

- No later than six (6) months before the end of the contract, with the purpose of determining the extent of works and activities required to be completed before the end of the contract execution period;
- No later than three (3) months before the end of the contract, with the purpose of identifying any additional remedial works that need to be completed before the end ofthe contract period; and
- No later than one month before the expiration of the Defects Liability Period, in order to confirm that all required remedial works have been adequately completed.
- Any other inspections found necessary by the Engineer.

5. Payment Reductions for OPM's

Payment Reductions for non-compliance with Operational Performance Measures (OPM"s) (herein non-compliance is defined as defects which are not rectified even after the end of Time Limit prescribed in Annexure-E to bring the same within acceptable limit as stipulated service level defined in Annexure-E) are normally expressed and calculated as a percentage of the monthly lump-sum payment. This percentage is applied as First Day Deductions to non-compliance which persists after the completion of time limit for rectification, and for the length of road, which is non-compliant, with the minimum length being one (1) km. It is further clarified that the entire road will be divided into consecutive 1-kilometer sections and any breach in service levels of such sections will lead to deductions/penalties as per contract from the per kilometer lump sum payment for routine maintenance. The basic principles to be applied for payment reductions are the following:

"First-day" Payment Reduction: Payment Reductions in general are meant for the Contractor to continuously and proactively identify upcoming non-compliances and to carry out necessary remedial measures quickly. The **"First-day"** payment reduction in particular has the objective to ensure that the Contractor remedies defects quickly within time limit for rectification prescribed in Annexure-E, without waiting for the verification Inspection as specified in time schedule. The "first-day" payment reduction is the payment reduction forone day of non-compliance on due date after lapse of the time limit for rectification in Annexure-E. To be clear, **"First-day"** is the immediately succeeding day after last day ofthe time limit given for rectification in Annexure-E. To be clear, "First-day" is applied immediately at the instant the time limit given for rectification in Annexure-E is elapsed and defect is not rectified. The reporting time, time limits for rectification and ATR submissions time are recorded at hourly if not minute basis as there are defects in Schedule

E which have rectification period specified in exact hours as well.

Suspension of further payment reductions through granting of Grace Period: Payment reductions are generally applied for each day during which the non-compliance persists. However, if the non-compliance may persist after specified time limit which is beyond the control of Contractor then in order to avoid severe payment reductions and to provide the Contractor with the opportunity to remedy the non-compliance without incurring any

payment reductions (beyond the permitted rectification period as per Annexure-E) Engineer may grant Grace Period to the Contractor. The granting of the Grace Period (applicable only in cases where Contractor is not at default and request for Grace Period has been made before lapse of permitted rectification period as per Annexure-E) shall suspend the "First- day" payment reduction till completion of the Grace Period. The Grace Period will temporarily "stop the clock" for "First Day" payment reductions as well as additional payment reductions, for the duration of the Grace Period after the "first day". If the Contractor remedies the non-compliance within the Grace Period granted, there will not be any payment reduction for that same non-compliance. The duration of the Grace Period for different types of defects should not be more than 50% of the original Time Limit as per Annexure-E and may be granted by the Engineer/ Employer for such delays for which proper justifications and reasons has to be submitted by the Contractor. However, if the Contractor does NOT remedy the non-compliance within the Grace Period, besides the First Day payment reductions (for the month when the defect was identified) a further payment reduction for all days of non-compliance as per Note 1 below (starting from the next day after "First Day" and till last day of the defect identification month) will be applied. In case, the non-rectification of defect is carried forward to the next month, then the "First Day" payment reductions for that month for that corresponding defect shall be deducted automatically on day one of that month and the additional penalty as per Note 1 below shall continue till such day the actual rectification of the defect is done by the contractor. In case, the defect is still not rectified and is carried forward to yet another month, same methodology for deduction as described above shall be used.

Note 1: In case no grace period is granted by the Engineer, additional payment reduction for all days of non-compliance will start from the second day after the initial rectification period as specified in Annexure-E and repeated defect ignore penalty @ 1000/- per defect will also be levied until the non-compliance is remedied.

Note 2: If grace period for rectification of defect is required more than 50% then the Employer has to examine and give necessary approval for the same.

Contractor's obligation to inform Employer about completed remedial measures: As soon as the Contractor has remedied the causes of a non-compliance with an OPM, he is obliged to inform the Employer accordingly in writing which can be by e-mail (also through IT solution or Web App/ Maintenance App) and to attach any supporting evidence, such as photographs or video. The Engineer shall then decide if a follow-up inspection must be scheduled to verify if the Contractor has remedied the non-compliance, or otherwise if the Employer accepts the evidence provided by the Contractor as proof for the non-compliance having been remedied. If the Contractor fails to provide such information to the Employer/Engineer in writing or as defined by Employer, the Engineer shall continue to apply the further payment reduction until such time when he receives the information from the Contractor on the remedial action having been taken.

Correct Reporting of Compliance/ Remedial Measure by the Contractor (OPM-11): If morethan 10% of the ATRs submitted by the Contractor in the invoice month M have been rejected by Engineer, then 5% of overall lumpsum deduction shall be applied for that month

M. For eg. for the invoice month M, let (A) be the total number of ATRs submitted by Contractor and (B) be the subset of ATRs rejected by the AE. If more B/A*100 >= 10, then deduction will apply as 5%. It should be ensured that no ATR submitted in Month M is pending to be decided upon by engineer (accept or reject) at the time of clearing the bill by Engineer.

Non-recoverability of payment reductions: Payment reductions that have been applied cannot be recovered later, even after the non-compliance which has been the cause of the payment reduction has been remedied.

No time limit for payment reductions: If the Contractor fails to remedy a non-compliance for which a payment reduction has already been applied during a Formal Inspection, the respective payment reduction will continue to be applied in the same way to the following Monthly Statement(s) for that particular cause of non-compliance, until the non-compliance has been remedied, without a time limit being applied.

Multiple non-conformances and limitation for payment reduction: Payment reductions due to specific non-conformances are cumulative. If a one-km section of road has several non-compliances, then the payment reduction to be applied is the sum of the payment reductions for each individual non-conformance. When an OPM (such as OPM-2) includes a group of Sub-Measures (e.g. patching, cracking in Pavement, Potholes, etc.), then if the road suffers from several of these defects, the overall Payment Reduction is equal to the sum of each individual payment reduction per type of defect. For accumulated OPM non-conformances within any one-km section, the maximum cumulative payment reduction in one month shall however be limited to 100 percent of the monthly lump-sum amount for Maintenance Services payable for that one km of road.

The calculation of Payment Reductions for OPM's is to be carried out as described below:
After the verification of Action Taken Report (ATR) for any defect, the Engineer/ Employer shall apply the payment reductions for repair of that defect in the following way:

- For any non-compliances found during the verification inspection, the day after lapse of the initial rectification period as per Annexure-E is to be considered as the "first day" of non-compliance. The corresponding "First-day" payment reductions must be applied immediately for the current month. Also, if the Contractor does NOT remedy the non- compliance within the Grace Period besides the First Day payment reductions a further payment reduction as per Note 1 of Clause 5 above shall be levied.
- Deleted

5.1 Sample Calculation for Non-Compliance of OPM-11 (Incorrect Reporting):

This OPM refers to the correctness of the information provided in the Contractor's Monthly Compliance Tables for Maintenance Services. Reduction with OPM-11 is triggered if the dataset supplied by the Contractor in the Monthly Compliance Tables for Maintenance Services for a road is incorrect for more than 10% of the data on ATR.

Compliance with OPM-11 is calculated by comparing the data supplied by the Contractor in the Compliance Tables with the verified data on ATRs provided through the Inspection by Engineer as per schedule. The payment reduction is calculated as follows:

[Insert the Table for Calculation of payment reduction for OPM-11. The Sample Table below applies if the OPM's stated in these Sample Specifications are applied. If the number of OPM's is either reduced or increased, the Sample Calculation must be modified accordingly.]

Sample Calculation - Payment Reduction for OPM-11			
Road Section Length (Km):			xxxxx
Monthly Full Payment amount for road Section (INR)			XXXX
OPM-11 Unit rate for Non-compliance (%)			5
No.	**OPM List**	**Non-Compliance of OPM-9**	
		Contractor's Compliance/ ATR	**Rejection of ATR by Engineer**
1	OPM-1.1	1	0
2	OPM-1.2	1	1
3	OPM-1.3	0	0
4	OPM-1.4	0	0
5	OPM-1.5	0	0
6	OPM-1.6	1	0
7	OPM-2.1	1	1
8	OPM-2.2	0	0
9	OPM-2.3	0	0
10	OPM-2.4	0	0
11	OPM-2.5	0	0
12	OPM-2.6	1	1
13	OPM-3.1	0	0
14	OPM-3.2	1	1
15	OPM-3.3	0	0
16	OPM-3.4	0	0
17	OPM-3.5	1	0
18	OPM-3.6	0	0
19	OPM-4.1	1	1
20	OPM-4.2	0	0
21	OPM-4.3	0	0
22	OPM-4.4	1	0
23	OPM-5	0	0
24	OPM-6	0	0
25	OPM-7	1	1
26	OPM-8	0	0
27	OPM-9	0	0
28	OPM-10	0	0
	Total	**10**	**6**

10% of 10 would be 1, which means that if the number of Rejected ATR"s is higher than 1 than the Payment reduction is triggered and to be applied.	
Amount of payment reduction: 5% of Monthly Payment Amount of Routine Maintenance for the full road section, resulting in INR	**Rs. 0.XXXXXXX/-**

Note 1: Contractor will prepare the Monthly Table by furnishing the data regarding the number of Action Taken Reports submitted to Engineer in writing (email) or through IT solution or Web App/ Maintenance App as prescribed by Employer.

Note 2: Engineer shall carry out Inspection for the verification of remedial measures reported by the Contractor as per prescribed inspection timeline. If any remedial measure is not accepted by the Engineer, then the same will be added in the List of Rejected Action Taken Reports. Number of Rejected ATRs will be used for the calculation of deduction for Non-Compliance of OPM-11.

5.2 Payment Reduction Weightages for non-compliance of OPM:

Per Month Per Km Rate = A

Per Month Rate = A x Length of section for which routine maintenance section is available = B

Deduction for non-compliance of service level (First Day Reduction) = C Penalty for defect Ignore = D

Non-Compliance with other Service Levels w.r.t Roughness = E Routine Maintenance Payable amount for the month = B-C-D-E

Table for Payment Reduction Weightages for non-compliance of OPM							
Project Name -							
Period -	(month)						
Total per km sections (i.e. total length of project) in Contract (X) -							
Total Maximum Monthly Payment of Routine Maintenance (Y) -							
ServiceLevel Criteria	**Road Asset Description**			**Non - Compliance Length in per km section**			**Payment Reduction (5)x(7)x (Y) / (X)**
	Sl. No.	**CategoryType**	**Performance Parameter**	**Payment Reduction %**	**OPM Asset Deduction %**	**No. of Non-compliance sections (per km)**	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Road User Service and Comfort							
		Flexible Pavement# #in case inany section of 1 km, both flexible	Potholes	10.00			
			Rutting/ Settlement	2.00			
			Cracks,	1.00			

Table for Payment Reduction Weightages for non-compliance of OPM							
Project Name -							
Period -	(month)						
Total per km sections (i.e. total length of project) in Contract (X) -							
Total Maximum Monthly Payment of Routine Maintenance (Y) -							
ServiceLevel Criteria	**Road Asset Description**			**Non - Compliance Length in per km section**			**Payment Reduction (5)x(7)x (Y) / (X)**
	Sl. No.	**CategoryType**	**Performance Parameter**	**Payment Reduction %**	**OPM Asset Deduction %**	**No. of Non-compliance sections (per km)**	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Roadway	1 (a)	(FP) & rigid pavement (RP) exist, then the 15% deduction shall beproportion ally divided based on actual length of FP/RP, so that thetotal deduction is limitedto 15%	Corrugations and Shoving	0.75	15.00		
			Bleeding	0.5			
			Raveling/ Stripping	0.75			
	1 (b)	Rigid Pavement# #in case inany section of 1 km, both flexible (FP) & rigid pavement (RP) exist, then the15% deduction shall be proportion ally divided based onactual length of FP/RP, so that the total deduction is limited to 15%	Cracks	1.5%	15.00		
			Spalls	1.5%			
			Corner Breaks	1.5%			
			Pot out and Potholes	1.5%			
			Faulting in cracks or joints	1.5%			
			Joint Seal defects	1%			
			Raveling/Honey combed surface type and scaling	1%			
			Polished Surface/Glazing	1%			
			Heave & Bump	1%			
			Depression	1%			
			Drop Off	1%			
			Blow up or buckling	0.5%			
			Ponding	0.5%			
			Pumping	0.5%			

Table for Payment Reduction Weightages for non-compliance of OPM							
Project Name -							
Period -	(month)						
Total per km sections (i.e. total length of project) in Contract (X) -							
Total Maximum Monthly Payment of Routine Maintenance (Y) -							
ServiceLevel Criteria	**Road Asset Description**			**Non - Compliance Length in per km section**			**Payment Reduction (5)x(7)x (Y) / (X)**
	Sl. No.	**CategoryType**	**Performance Parameter**	**Payment Reduction %**	**OPM Asset Deduction %**	**No. of Non-compliance sections (per km)**	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2	Embankments & Shoulders	Embankment slope & protection	2.00	9.00		
			Rain cuts				
			Unevenness on shoulders	3.00			
			Vegetation growth on shoulders				
			Unsealed Shoulders – water stagnation				
			Edge drop (Difference in height at edge of pavement shall not be more than 30 mm)	4.00			
			Reduction in formation width by 20 cm – Formation width must be maintained as indicated in typical cross section drawings				
Service Level Criteria	**Road Asset Description**			**Non - Compliance Length in per km section**			**Payment Reduction (5)x(7)x (Y) / (X)**
	Sl. No.	**CategoryType**	**Performance Parameter**	**Payment Reduction %**	**OPM Asset Deduction %**	**No. of Non-compliance sections (per km)**	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Repair of damaged Kerb & Painting	2.00			
			Maintenance of Height of Kerb	2.00			

Service Level Criteria	Road Asset Description			Non - Compliance Length in per km section			Payment Reduction (5)x(7)x (Y) / (X)
	Sl. No.	CategoryType	Performance Parameter	Payment Reduction %	OPM Asset Deduction %	No. of Non-compliance sections (per km)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	3	Kerb, Median & Plantation	Cleanliness of Median (removal of vegetation & garbage, trimming, pruning and making basin, watering)	5.00	14.00		
			Cutting the branches of trees where it is obstructing the vision on shoulder/ median				
			Number of missing plants	5.00			
			Deterioration in health of median/ avenue plants				
	4	Drainage	Replacement of cover slabs over drain/ drain cum footpath	1.00	8.00		
			Physical Condition & Cleanliness (Removal of silt, garbage, sewage, etc.)	3.00			
			Water stagnation on MCW/ SR/ Structures	4.00			
	5	Footpath	Physical Condition & Cleanliness	1.00	1.00		
			Repairs to damaged footpath (tiles/paver blocks)				
	6	Separator	Physical Condition & Cleanliness (Removal of dust, garbage, vegetation)	1.00	3.00		
			Maintenance of Separator (CCBarrier, Iron Grill,Metal fencing) including repair & replacement along with painting	2.00			
			Physical Condition (Painting & Cleaning)	0.50	3.00		

Service Level Criteria	Road Asset Description			Non - Compliance Length in per km section			Payment Reduction (5)x(7)x (Y) / (X)
	Sl. No.	CategoryType	Performance Parameter	Payment Reduction %	OPM Asset Deduction %	No. of Non-compliance sections (per km)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Road Furniture	1	Crash Barriers (including parapet walls for hill roads)	Replacement of missing & damaged barriers (CC, MBCB)	2.50			
			Including end treatment, if any or repair & replacement of parapet wall in case of hill roads				
	2	Guard rails	Replacement/ Repair and Painting	1.00	1.00		
	3	Road Signboards & Overhead Sign Structures	Replacement & Repair of damaged / missing boards includingshape and location	5.00	6.00		
			Retro reflectivity	1.00			
	4	Traffic blinkers, Attenuators, Anti-Glare, Noise Barrier & Delineator s	Replacement & Repair of damaged / missing of these items including shape and location	2.00	2.00		
			Functionality as per IRC guidelines				
	5	Road Studs, Rumble Strips & Object Markers	Replacement & Repair of damaged/ missing of these items including shape, location & night visibility	2.00	2.00		
	6	Pavement marking	Repair of faded/ missing marking	5.00	5.00		
			Night Time Reflectivity				
Structure	1	Minor Bridges and Pipe/box/s lab culverts	Removal of rank vegetation, silt clearance, garbage, etc. to ensure free flow of water	4.00	4.00		
			Protection works in good condition				

Service Level Criteria	Road Asset Description			Non - Compliance Length in per km section			Payment Reduction (5)x(7)x (Y) / (X)
	Sl. No.	CategoryType	Performance Parameter	Payment Reduction %	OPM Asset Deduction %	No. of Non-compliance sections (per km)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2	Bridges (including ROBs, Flyover, etc. as applicable)- Wearing Course	Repairs to expansion joints including cleaning & filling of sealant	2.00	4.00		
			Cleaning of drain spouts	1.00			
			Painting of Parapets, CC Barriers, etc.	1.00			
	3	Bridge - Superstructure	Rusted reinforcement	2.00	2.00		
			Spalling of concrete				
			Delamination				
			Cracks wider than 0.30 mm				
	4	Bridge- substructure	Cracks/ spalling of concrete / rusted steel	0.50	1.00		
			Bearings (cleaning & greasing)	0.50			
	5	Bridge Foundations	Scouring around foundations	1.00	1.00		
	6	Protection works	Protection works in good condition	1.00	1.00		
Project Facilities	1	Bus Bay	Cleanliness & Painting	1.00	1.00		
	2	Truck Lay Bye	Cleanliness & repairing	1.00	1.00		
	3	Toilet Blocks at Rest Area/ Toll Plaza/ Truck LayBye	Physical Condition of Building	1.50	1.50		
			Regular Cleaning(24x7)				
			Condition of Basic Amenities				
			Repair of defects (electrical, water and sanitary installations)				
			Continuous Water Supply				

Service Level Criteria	Road Asset Description			Non - Compliance Length in per km section			Payment Reduction (5)x(7)x (Y) / (X)
	Sl. No.	CategoryType	Performance Parameter	Payment Reduction %	OPM Asset Deduction %	No. of Non-compliance sections (per km)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	4	Highway lighting	Illumination: Minimum 40 Luxillumination on the road surface	1.50	1.50		
			No major/ minor failure in the lighting system				
			Repair & Replacement of damaged poles/lights				
Other Miscellaneous Assets	1	O&M Canter	Availability of Basic Construction Equipment	0.75	2.00		
			Availability of Bump Integrator on 24 hours' notice	0.25			
			Functionality of Mobile Maintenance Unit	0.25			
			Availability of Equipment's in Lab and Calibration Certificate	0.75			
Emergency Response System-Operations	1	Emergency Response System	Deployment of Ambulance Vehicle including staff as per IRC SP:84/87 specifications	2.00	4.00		
			Functionality of Vehicle Tracking System (VTS)				
			Maintenance of Proper registers (Incident Management, Equipment's)				
			Deployment of Route Patrol Vehicle including staff as per IRC SP:84/87 specifications	1.00			
			Functionality of Vehicle Tracking System (VTS)				

Service Level Criteria	Road Asset Description			Non - Compliance Length in per km section			Payment Reduction (5)x(7)x (Y) / (X)
	Sl. No.	CategoryType	Performance Parameter	Payment Reduction %	OPM Asset Deduction %	No. of Non-compliance sections (per km)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Maintenance of Proper registers (Incident Management, Equipment's)				
			Deployment of crane of capacity not less than 25 MT	1.00			
			Maintenance of Incident Management Register along with Customer Satisfaction Report				
Work Zone Safety	1	Work Zone Safety	Documentation of safety arrangements	1.00	1.00		
			Review of safety arrangement				
			Validation of documentation				
Encroachment	1	Encroachment	Documentation of action against encroachment	2.00	2.00		
			Validation of documented temporary / permanent encroachments				
Overall Cleanliness	1	Project Cleanliness	Usage of Mechanical Equipment	1.00	3.00		
			ROW	1.00			
			Project Facilities	1.00			
Total Percentage				100.00			

Note 1: The penalties calculated above are as per day penalties and would be applied on non-compliance of service level immediately after the completion of

specified Time Limit of Rectification given in Annexure-E, which is denoted as C in the formula.

Note 2: In addition to above payment reduction, defect ignore penalty shall be levied as Rs. 1000/- per day of Payment Reduction on incremental daily basis after grant of grace period for all days of non-compliance (starting from the second day after initial deduction and until the non-compliance is remedied), which is denoted as D in above formula.

Note 3: In case of Non-Compliance with Service Levels parameter of Roughness (to be assessed on bi-annual basis), certain penalties will be levied which is denoted as E in above formula as below:

Roughness Level assessed Bi-annually for Flexible Pavements		
S. No.	**Asset/ Performance**	**Penalty**
1	The roughness shall be measured just after completion of Initial rectification work. In case the same is more than 3000 mm/km, then the contractor shall have to proceed to execute PM works on such sections as per directions of Engineer. The work program earlier submitted by the Contractor shall have to be re-submitted with regards to such situations.	-
2	In case periodic maintenance (PM) has been done as a part of Contract, the roughness beyond **2200 mm/km** for each km of section for first year from date of completion of PR or second year from start date whichever is earlier, shall be liable for penalty. Penalty will be imposed for each km for non- compliance	Rs. 1,000/km/lane/month (this penalty shall continue till trigger of next level of roughness compliance or correction of the defect by the contractor, whichever is earlier)
3	From second and third year after date of completion of PM or third year from start date whichever is earlier, the roughness beyond 2500 mm/km for each km of section, shall be liable for penalty. Penalty will be imposed for each km for non-compliance	Rs. 1,000/km/lane/month.
4	From fourth year after date of completion of PM or fourth year from start date whichever is earlier and before handover of the stretch to Authority, the roughness beyond **3000 mm/km** for each km of section, shall be liable for penalty. Penalty will be imposed for each km for non-compliance.	
Note: The above criteria are only indicative and may be suitably modified as per technical prudence of the tender issuing division/department.		

Roughness Level assessed Bi-annually for Rigid Pavements		
S. No.	**Asset/ Performance**	**Penalty**
1	The roughness shall be measured just after completion of Initial rectification work. In case the same is more than 3000 mm/km, then the contractor shall have to proceed to execute PM works on such sections as per directions of Engineer. The work program earlier submitted by the Contractor shall have to be re-submitted with regards to such situations.	-
2	After Periodic Maintenance (PM) as a part of Contract, the roughness beyond **2400 mm/km** for each km of section for first year from date of completion of IR, shall be liable for penalty. Penalty will be imposed for each km for non- compliance	Rs. 1,000/km/lane/month (this penalty shall continue till trigger of next level of roughness compliance or correction of the defect by the contractor, whichever is earlier) Rs. 1,000/km/lane/month.
3	From second and third year after date of completion of PM, the roughness beyond **2700 mm/km** for each km of section, shall be liable for penalty. Penalty will be imposed for each km for non-compliance	
4	From fourth year after date of completion of PM or before handover of the stretch to Authority, the roughness beyond 3000 mm/km for each km of section, shall be liable for penalty. Penalty will be imposed for each km for non-compliance.	
Note: The above criteria are only indicative and may be suitably modified as per technical prudence of the tender issuing division/department.		

Note 4: All Rates are after application of tender discount quoted by the contractor.

Note 5: Penalty for repeated non-compliances: In case the total payment deduction is more than 50% for continuous three months or deduction is more than 25% for carriageway/ pavement parameter then Engineer/Employer has to issue cure period cum intention to terminate notice of 30 days and thereafter the contractor has to achieve compliance of at least 80% of all parameters & 95% compliance in carriageway/pavement parameter respectively, by the end of the cure period duration, failing which employer can proceed with termination of the contract stating the default of the contractor. In such cases Employer shall also be entitled to get the work executed at Risk & Cost of the Contractor.

Note 6: Include ATMS/Ambulance/Crane/Patrolling Vehicle in payment reductionscheme only if part of the scope of the instant OPBMC contract

Note 7: Add other project facilities in payment reduction scheme if available on theproject stretch and part of the scope of instant OPBMC contract

Payment Procedures

5.2.1 Payment for Initial Rectification Works (Bill No. 2):As indicted in Bill of Quantities Chapter of Section-9

5.2.2 Payment for Periodic Renewal Works (Bill No. 3):As indicted in Bill of Quantities Chapter of Section-9

5.2.3 Payment for Emergency Works (Bill No. 4):
As indicted in Bill of Quantities Chapter of Section-9

6 Adjustments to the scope of the contract (Variation)

6.2 Adjustments to Initial Rectification/ Periodic Maintenance/ Routine Maintenance Works

The Employer and the Contractor may agree on the execution of additional Initial Rectification /Periodic Maintenance/ Routine Maintenance Works in case of increase/decrease of linear road length as compared to originally stipulated in the Contract. Such Works will be executed based on Change Orders in line with the relevant clauses of the Contract, and following the procedures stipulated therein.

6.3 Adjustments to Road Network under contract

The General Conditions stipulate that the Employer may add new roads to this contract or delete roads. Eliminating or adding road length to an existing Contract should be done using the provisions of the Contract. The procedure for making a change to the contract could however take several weeks until it takes effect. The Employer may at times wish to exclude a road length with immediate effect, for reasons not related to the Contractor. In this case, the Employer, through the Engineer, would (i) issue a “Notice of Suspension”, specifying exactly which road section or segment is to be suspended with immediate effect and at the same time (ii) issue a “Request for Change Proposal”, initiating thereby the process for introducing the change in the contract.

The adjustment to the payment of the monthly Lump Sum payable for Maintenance Services, after any additions and deletions of roads or road sections, shall be calculated in accordance with the following formula:

$$LS_n = LS +/- [L_n \text{ (Km)} \times \text{Lump Sum Price per KM for Maintenance Services of roads that are similar to those added or deleted}]$$

LS	=	The value of the Total Lump Sum as stated in relevant BOQ applicable for original length of project as per Contract.

LS_n	=	**The value of the adjusted Lump Sum applicable for NPS for theContract after the addition or deletion of road/road sections.**
Ln	=	the length of the added or deleted road/road section

The Contractor is bound to calculate the reduction in the contract price (in case of eliminating road length) on the basis of the actual rates and prices stipulated in the contract which are applicable to the services and works on the specific road lengths (sections or segments) which are to be eliminated.

6.4 Deleted

6.5 Health & Safety, Environmental and Social Requirements

The Contractor shall prepare and submit an Environment, Health and Safety manual/plan ("Manual"), 7 (seven) days prior to Start Date, stipulating such health and safety requirements:

- as set out in the Specifications
- that are required to be complied at the Site during the execution of Works
- that are necessary to effect and maintain a healthy and safe working environment.

a) The Contractor shall, throughout the execution and completion of the Works, have full regard to the safety of all persons deployed to the Project Highway for completion of Works and keep the Site in an orderly state appropriate to the avoidance of danger to such person, establish and execute traffic diversion and traffic management in accordance with the safety requirements specified under Applicable Laws and the Contract Agreement;

b) The Contractor shall provide and maintain at its own cost all cones, caution tapes, batons, sign boards lights, guards, fencing, warning signs and flagmen, when and where necessary or required by the Contractor or by any duly constituted authority for the protection of the Works or the safety of the public or others;

c) The Contractor shall ensure that all the personnel engaged by it for the execution and completion of Works under this Agreement are provided safety training, in accordance with Applicable Law;

d) The Contractor shall take all reasonable steps to protect the environment and to avoid damage and nuisance to person or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of the Works;

e) The Contractor shall comply with the relevant standards and practices in accordance with the provisions of the Contract Agreement and all Applicable Laws and regulations of the authorities in relation to safety and health in the execution of Works. The Contractor shall be responsible for getting all relevant permits, permission, etc. from all government agencies for their Works as given in Table 7.1 below;

f) Under dense traffic conditions and lane closures, the Contractor is required to provide suitable and requisite manpower to supervise the Works in compliance with the project requirements;

g) The Contractor shall provide all personal protective equipment (PPE) and safety equipment i.e. safety helmets, safety jackets, safety shoes, safety cones and red flags to the labours working on the Project Highway and at the Base Camp. Employer will not be responsible for any fatal, major/minor injuries of the personnel related to the Contractor;

h) The Contractor shall provide necessary medical facilities, hospitalization and medical treatment as required for the labours engaged under their scope and shall indemnify the Employer from such liabilities if such losses are suffered and incurred by the Employer due to reasons not attributable to the Employer or its officials, partners, affiliates, officers, employees, representatives, agents etc;

i) The Contractor shall obtain all necessary safety licenses and permits required under all Applicable Laws for its labour/employees. The Employer will not be held responsible for injury, death, partial disability, disease of occupational nature, loss arising from unavoidable circumstances in the work area to the persons/employees. The Contractor shall be responsible for the liability resulting from, brought for, or on account of any personal injury or property damage of any persons or attributable to any work performed under or related to this Agreement, resulting in whole or in part from negligent acts or omissions of the Contractor, any subcontractor, or any employee, agent, or representative of the Contractor or any subcontractor.

j) The Contractor shall ensure to assess and monitor the hiring, rules of conduct, training, equipment and monitoring of appointed security personnel. Guards shall betrained on the use of force, and that they act in alignment with the Voluntary Principles on Security and Human Rights;

k) The Contractor shall obtain the relevant environmental licenses and permits and comply with their requirements to the extent required for completion of the Works. The Contractor shall comply with terms and conditions of environmental permits, licenses, approvals if any procured by Employer in relation to execution of Worksand intimidated to it by the Company;

l) The Contractor shall establish an effective Grievance Redressal Mechanism for its labours, workers and employee which will be monitored by the Employer;

m) The Contractor shall ensure that all the newly recruited contract workers, labours, workmen, personnel have undergone the environment, health and safety training. Further, an orientation/induction programme shall be organized by the Contractor on educating the contract labour about Company's internal rules and regulations including governing hours of work and over-time, minimum wages and other requirements/benefits as per labour laws and Grievance Redressal Mechanism;

n) educating them about Do's and Don'ts aspects pertaining to health, safety and environment; and

o) Contractor should provide accommodation, transportation, and basic services including water, cooking fuel, sanitation, and medical care for the workers working at site, in accordance with national regulations requirements

a) The Contractor shall take all precautions and actions as specified under Applicable Laws, in relation to the Covid-19 pandemic, including all precautions and actions stipulated by the Government of India and/or related state government from time to time ("**COVID-19 Regulations").**

Table 7.1: Applicable Environmental regulations

S. No.	Document	Submission Time
1	Consent to Establish (CTE) under Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention &Control of Pollution) Act, 1974 for Batch Mix Plant/Hot Mix Plant, to be obtained from SPCB	Before Commencement of Work
2	Consent to establish and Consent to operate under Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 for Diesel Generator sets from SPCB (application)	Before Commencement of Work
3	NOC from Central Ground water Authority (CGWA) or related State Ground Water Board for ground water extraction, if any. In case water is supplied by tanker, same NOC from water supplier	Before Commencement of Work
4	Authorization for Generation and Storage of used oil/hazardous waste as per Hazardous and	Before Commencement of Work

	Other Wastes (Management and. Transboundary Movement) Rules, 2016	
5	Engagement of authorized stone crusher agency having NOC and Consent from SPCB	Before Commencement of Work
6	Applicable permit/consent for Borrow area and quarries along with related compliances e.g., Royalty payment	Before and during execution of Work (as applicable)
7	Permission for Fuel storage and consumption in HMP operations from PESO	Before Commencement of Work
8	Consent to Operate (CTO) under Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention &Control of Pollution) Act, 1974 for Batch Mix Plant/Hot Mix Plant, to be obtained from SPCB.	Before Start of HMP/batching plant Operation*
9	Copy of Labour License, TIN, PAN, GST and Registration copies	With First Bill
10	Copy of ESI / W.C. Policy	With First Bill
11	Copy of EPF registration and documentary evidence of payments	With First Bill
12	PUC for vehicles used for construction work under Central Motor & Vehicle Act 1988	Before commencement of work
13	Evidence manifesting the construction camp/base camp and Hot Mix Plan/machineries location restored to original conditions post work completion	With release of retention money after Project closure
14	Closure/ Redevelopment of Borrow areas and mining area (as applicable) used for project as per specified management plan	With release of retention money after Project closure

SPCB: State Pollution Control Board

PESO: Petroleum and Explosives Safety Organisation

SECTION – 8

DRAWINGS AND SCHEDULE OFDRAWINGS

NIL

SECTION – 9

FINANCIAL BID FORM AND BILL OFQUANTITIES

FINANCIAL BID FORM

To,
Executive Director (P), Regional Office - Siliguri
National Highway & Infrastructure Development Corporation Ltd.
Unit 402, Quantum Building, Parivahan Nagar, P.O & P.S. Matigara,
West Bengal, Pin Code 734010.; Email: edp-siliguri@nhidcl.com

DESCRIPTION OF WORKS: BID FOR "Performance Based Maintenance Contracts (PBMC) for Strengthening and Maintenance on (i) NH-717 for highway starting from its junction with NH-17 near Baradighi connecting NH-27 near Mainaguri, Cangrabandha and terminating at Indo/Bangladesh Border in the **state of West Bengal during the FY 2026-2027 (3rd Call)** ."

Reference letter No.....

Dear Sir,

Having examined the site of works and Bid Documents, comprising Instructions to Bidders, Scope of Works, Conditions of Contract, Technical Specifications, Bill of Quantities and schedules for the execution of the above named works, we, the undersigned offer to execute and complete such works and remedy any defects therein in conformity with the said bid documents at tender premium as quoted in the Financial Bid.

2. We undertake, if our Bid is accepted, to commence the work within fifteen (15) days of receipt of the order to commence, and to complete and deliver the sections and whole of the works comprised in the contract within the period stated in the bid hereto.

3. If our Bid is accepted, we will furnish Performance Security (ies) in the form of a Bank Guarantee to be jointly and severally bound on us, in accordance with the Conditions of Contract.

4. We agree to abide by this Bid for a period of one hundred twenty (120) days from the last date fixed for Bid Submission and it shall remain binding upon us and may be accepted at any time before the expiry of that period.

5. We confirm our agreement to treat the Bid document and other records connected with the works as secret and confidential documents and shall not communicate information contained

therein to any person other than the person authorized by the Employer or use such information in any manner prejudicial to the safety and integrity of the works.

6. Unless and until an agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us, but without prejudice to your right to withdraw such acceptance without assigning any reasons thereof.

7. We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this_____day of_____20_____
Signature_____in the capacity of_____duly authorized** To Sign Bid for and on behalf of

_____

(in block capital letters)

Address:

_____

Signature of Witness
Name of witness
Address of witness

Financial Bid – Summary Abstractof Bid Cost

Description of works BID FOR "Performance Based Maintenance Contracts (PBMC) for Strengthening and Maintenance on (i) NH-717 for highway starting from its junction with NH-17 near Baradighi connecting NH-27 near Mainaguri, Cangrabandha and terminating at Indo/Bangladesh Border in the State of West Bengal and (ii) NH-317A for highway starting from its junction with NH-317 near Hasimara connecting Jaigaon and terminating at Indo/Bhutan Border in the state of West Bengal during the FY 2026-2027 (3rd Call)."

Length of Project = 60.40 kms and 17.551 kms (L)±

BILL NO. (1)	DESCRIPTION OF WORKS (2)	Lump Sum Amount Per KM (Rs.) (excluding 18% GST) (3)	AMOUNT (Rs.) (excluding 18% GST) (4) = (3) x (L)
BILL NO. 1	Routine Maintenance including Incidental Management of NH-317A	-	Rs. 9,24,96,386
	Routine Maintenance including Incidental Management of NH-717	-	Rs. 20,40,52,500
	Sub-Total Routine Maintenance including Incidental Management (Lump Sum) [*for Total 60 months*]	**Rs. 38,04,298.67/-**	**Rs. 29,65,48,886.00/-**
BILL NO. 2	Initial Rectification of NH-317A	-	Rs. 4,37,96,111
	Initial Rectification of NH-717	-	Rs. 10,20,83,278
	Sub-Total INITIAL RECTIFICATION WORKS (Lump Sum) [*To be completed within 06 monthsfrom the notice to proceed*]	**Rs.18,71,424.22/-**	**Rs. 14,58,79,389.00/-**
BILL NO. 3	Periodical Maintenance of NH-317A	-	22,10,93,060
	Periodical Maintenance of NH-717	-	41,56,78,289
	PERIODICAL MAINTENANCE WORKS (Lump Sum) [To be completed as decided by the Engineer but overlay of Highway to be completed within 24 months from the date of notice to proceed].	**Rs. 81,68,866.97/-**	**Rs. 63,67,71,349.00/-**
BILL NO. 4	EMERGENCY WORKS (Unit Rates)		Rs. 3,23,75,989.00/-
A	**TOTAL (of Bill No. 1 to 4 above)**		**Rs. 111,15,75,613.00/-**
B	**Bidder's Quoted percentage above/ below the total amount indicated by the Employer (As mentioned in col. A)**		In figures: ……(%) In words:……..(%)
C	**Discount/Premium (A x B)**		Rs…….
D	**Bid Price (A - C in case of Discount and A + C in case of Premium)**		Rs…….
E	**Cost of Emergency Works as per quote of bidder (BILL NO. 4 X (100-B)% in case of discount BILL NO. 4 X (100+B)% in case of premium)**		Rs…….

Note: The rates and prices tendered in the BOQ shall include all equipment, tools, spares, labour, supervision, overheads, consumables, materials, erection, maintenance, testing of input material delivered, profit, taxes (excluding GST) and duties together with general risks, liabilities and obligations set out and implied in the contract and other incidentals to comply with the requirements of Standards and Specifications. The bids will be evaluated based on Bid Price 'D'.

BILL OF QUANTITIES

1. Preamble

i) The Bill of Quantities (BOQ) shall be read in conjunction with the Instructions to Bidders, Conditions of Contract, Road Maintenance Standards and Specifications for Road Maintenance Works. The following bills are included in this Contract:

I. Bill 1: Routine Maintenance Services in the form of the amount of the monthly lump- sum payment demanded by the bidder according to the conditions of Contract. This will be the monthly amount applicable throughout the duration of the Contract. There will be no additional payment admissible on any context for ensuring the stipulated service levels as per the Contract except as specified in Clause 6.2 of Part-II of Section-7 (Specifications for Road Maintenance Works and Operational Procedures) The scope of work as minimum requirement is defined in section 11.

II. Bill 2: Initial Rectification Works, in the form of a lump-sum amount while indicating the quantities of measurable outputs to be executed in order that the road achieves the performance standards specified in the bidding documents. The quantities given are for bid purpose, but the contractor has to achieve the minimum specified intervention levels and the payment to be made based on lump sum prices per km. The work programme for each km of Initial Rectification with items wise quantities to be executed in each kilometer along with financial weightage of all such works in that particular kmshall be submitted by the Contractor to Engineer. The Engineer will either accept or request the contractor to modify the detailed work program km wise as per the actual condition of site within 15 days of receipt of the work program. Decision of the Engineer shall be final in regard of IR works to be executed at site. The Contractor shall request payment for Initial Rectification Works in his Monthly Statement, which must be supported by the Monthly Progress Report. The payment for the Initial Rectification works shall be made monthly after effecting the reductions for taxes, retention moneyand advances etc., based on the completed length km wise on which such work has beencompleted as per the approved work program by the Engineer. All such executed works shall be duly verified and certified by the Engineer based on the joint site inspection. The scope of work as minimum requirement is defined in section 11.

There will be no additional payment admissible for works which might be executed by the Contractor beyond the BOQ in the bid document under this Bill for ensuring the stipulated service levels as per the Contract.

Sample calculation for payment: -

III. Eligibility of payment on executed work would be as per actual quantity executed at site up to satisfaction of the engineer.

IV. Bill 3: Periodic Maintenance Work: The indicative minimum assessed quantities of items along with amount of such items as per applicable SOR i.e. the current SOR of the State Govt. wherein the Highway stretch is located has been provided by the Employer. The Contractor needs to make his own assessment of the Items, Quantities and cost to maintain the Highway Stretch as per Service levels stipulated in Contract Standards and Specifications, while quoting the percentage above or below over and above the indicative estimated amount by the Employer.

The scope of work as minimum requirement is defined in section 11.

Any Recommendation (s) of Road Safety Audit conducted by Third Party Agency (as decided by the Employer) at any time during the contract period to eliminate the Black Spot location/ Accident Prone Areas already identified or identified afterwards, needs to be implemented immediately by the Contractor at its own cost by providing additional Signage's, Road Studs, Road Marking, Rumble Strip, Crash barrier etc. necessary within the ROW. Those items of work may be new or additional requirements beyond the quantities as specified in BOQ and shall not constitute a change of scope.

Sample calculation for payment: -

Eligibility of payment on executed work including payment schedule is defined in Section 12.

V. Bill 4: Emergency Works: This Bid has indicative quantities and shall be executed as per Project requirements with approval of the Engineer in emergency situation. Payments will be made for each item on actual basis, in the amount of a lump-sum value estimated by the Contractor and approved by the Engineer, on the basis of the estimated quantities and on the quoted unit prices. In case of variation/ additional work items, Materials, Labour, Equipment, then the provided in the indicated BOQ, are Required, payment for same will be admissible under variation at rates as per rates provided in the BOQ adjusted for percentage above or below of the Bidder on total indicative amount of the work assessed by the Employer.

i) In case of variation/ additional work items, Materials, Labour, Equipment, then the provided in the indicated BOQ, are required, payment for same will be admissible under variation at rates provided in the BOQ adjusted for percentage above or below of the Bidder on total indicative amount of the work assessed by the Employer. For Non-BOQ items, applicable SOR rates as on bid due date shall be applicable adjusted for percentage above or below of the Bidder on total indicative amount of the work assessed by the Employer.

ii) The rates and prices tendered in the BOQ shall include all equipment, tools, spares, labour, supervision, overheads, consumables, materials, erection, maintenance, testing of input material delivered, profit, taxes (excluding GST) and duties together with general risks, liabilities and obligations set out and implied in the contract and other incidentals to comply with the requirements of Standards and Specifications.

iii) Bill No. 1 shall include for costs associated with Contract obligations which are not specifically provided for elsewhere, including, but without being limited to; the provision of insurances, Security, implementing Quality Plan requirements, HIV-AIDS Prevention measures, the maintenance and operational costs of MMU, all social, environmental, safety and traffic management requirements, conducting various Inspections, surveys etc.

iv) Performance assessment for performance-based items of work, shall be done through inspection by the Engineer at least two times during the month and overall rating can be done on the basis of average of assessments made during the inspection.

v) The Contractor shall submit at least once in 2 (two) months video recording of condition of the Project Highway with special emphasis on performance-based items.

vi) For performance-based items of work, the Contractor shall be entitled for receiving payment proportionate to the average percentage performance assessed for achievement between as specified in Operational Performance Measures

vii) General directions and descriptions of work and materials are not repeated or summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering rates or prices against each item in the Bill of Quantities.

viii) The method of measurement of completed Routine Maintenance Services shall be in accordance with the measurement and payment provisions of the relevant section in the Specifications.

ix) Arithmetical errors discovered prior to award of the Contract will be corrected by the Employer pursuant to the Instructions to Bidders.

BILL NO. 1: ROUTINE MAINTENANCE SERVICES

1. Works to be undertaken under routine maintenance will cover all necessary The Employer does not guarantee that for Initial Rectification Works stipulated in the Contract Specifications are sufficient to reach the required Service Levels as Other works that are not specifically required in the Specifications, may be needed. It is the Bidder's responsibility at the time of preparing the Bid to assess the condition of the Highway Stretches, and to price all such assessed and required works into the bid, as part of the lump sum cost for Routine Maintenance Services.

2. Payment shall be made in accordance with the actual performance of the Contractor and compliance with the Service Level criteria given in the Contract Specifications, for the Highway Stretch. Failure to meet such Service Levels will result in payment reductions in accordance with Clause 5.2 of Part-II of Section 7 (SPECIFICATIONS FOR ROAD MAINTENANCE WORKS AND OPERATIONAL PROCEDURES) and the Performance Specifications.

NH-717 2-Lane section from Km 0+000 to 40+000 (Chalsa to Maynaguri) & 2/4 lane with PS from Indiramore to Changrabandha 20.4 Km:

Item No.	Description of Items	Total Length of Project	Per Km Per Month Rate	Contract Period in months	Total Amount (in Rs.)
		1	2	3	(4) = (1) x (2)(3)
1	Routine Maintenance for the following sections: Highway from				
i)	Routine Maintenance Two Lane without paved shoulder as per MoRTH Circular dated 06.07.23. Refer Note below.	40.00Km	Rs. 38,475.00	60	Rs. 9,23,40,000.00
i). (a)	Routine Maintenance Two Lane with paved shoulder as per MoRTH Circular dated 06.07.23. Refer Note below.	17.40km	Rs. 42,750.00	60	Rs. 4,46,31,000.00
ii)	For Four Lane Divided Carriageway with Paved Shoulder	3.00km	Rs. 72,675.00	60	Rs. 1,30,81,500.00
2	Emergency Response System as per MoRTH Circular RW/G-23012/01/2019-W&A(Pt.III) dated 09.02.2021 and 22.03.2021				
i)	Route Petrol	Per No. per month	2,50,000	60	Rs. 1,50,00,000.00
ii)	Two Way Crane (2Nos.)	Per No. per month	2,00,000	60	Rs. 2,40,00,000.00
iii)	Ambulance	Per No. per month	2,50,000	60	Rs. 1,50,00,000.00
	Total Cost for Routine Maintenance without GST				Rs.20,40,52,500.00

Note - Routine maintenance cost as per S. No. 1.1. and 1.2 is inclusive of Cost for Routine Maintenance using (i) Automatic Pot Hole filing, Compacting & Patching Machine and (ii) Mechanized Road Sweeping Machine. If the same is not deployed by PBMC Contractor then Rs. 11,258 per km per month penalty shall be applied.

NH 317A 2Lane with PS section from Km 0+000 to 14+500 & 4 lane with PS from Km 14+500 to 17+551:

Item No.	Description of Items	Total Length of Project	Per Km Per Month Rate	Contract Period in months	Total Amount (in Rs.)
		1	2	3	(4) = (1) x (2)(3)
1	Routine Maintenance for the following sections: Highway from				
i)	Routine Maintenance Two Lane with paved shoulder as per MoRTH Circular dated 06.07.23. Refer Note below.	14.50Km	Rs. 42,750.00	60	Rs. 3,71,92,500.00
ii)	For Four Lane Divided Carriageway with Paved Shoulder	3.051km	Rs. 72,675.00	60	Rs. 1,33,03,885.50
2	Emergency Response System as per MoRTH Circular RW/G-23012/01/2019-W&A(Pt.III) dated 09.02.2021 and 22.03.2021				
i)	Route Petrol	Per No. per month	2,50,000	60	Rs. 1,50,00,000.00
ii)	Two Way Crane	Per No. per month	2,00,000	60	Rs. 1,20,00,000.00
iii)	Ambulance	Per No. per month	2,50,000	60	Rs. 1,50,00,000.00
	Total Cost for Routine Maintenance without GST				Rs. 9,24,96,385.50

Note - Routine maintenance cost as per S. No. 1.1. and 1.2 is inclusive of Cost for Routine Maintenance using (i) Automatic Pot Hole filing, Compacting & Patching Machine and (ii) Mechanized Road Sweeping Machine. If the same is not deployed by PBMC Contractor then Rs. 11,258 per km per month penalty shall be applied.

BILL NO. 2: INITIAL RECTIFICATION WORKS

1. The Bill of Quantities for Initial Rectification Works presents specific works that are explicitly required under the Contract as a minimum other than routine maintenance works to achieve the service levels. The Employer does not guarantee that for Initial Rectification Works stipulated in the Contract Specifications are sufficient to reach the required Service Levels as Other works that are not specifically required in the Specifications, may be needed. It is the Bidder's responsibility at the time of preparing the Bid to assess the condition of the Highway Stretches, and to price all such assessed and required works into the bid, as part of the lump sum cost for Initial rectification works. The below given quantities (including the thickness of various layers) are minimum values to be executed by the contractor and there will be no additional payment under variation/ COS or any other context for work on the project length as given in the tender, admissible for works included in this Bill, for ensuring the stipulated service levels as per the Contract the Initial Rectification Works have to be done on the entire project length.

2. The total indicative items, quantities and rates by the Employer for Initial RectificationWorks under Bill No.2 is given as under:

NH-717 2-Lane section from Km 0+000 to 40+000 (Chalsa to Maynaguri) & 2/4 lane with PS from Indiramore to Changrabandha 20.4 Km:

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
1	**Clearing Grass and Removal of Rubbish** : By Manual Means Clearing grass and removal of rubbish up to a distance of 50 metres outside the periphery of the area. (Reference to MoRT&H's specification clause 201) 2 **time, as and when required.** For, Both Side of the Road,	Ha.	24.16	₹ 21,667.83	**5,23,495**
1 i	**Removal of Unserviceable Soil with Disposal upto 1000 metres.**	Cum	120800.00	₹ 86.77	**1,04,81,816**
2	**2 Lane Stretch (40000 m)**				
2 i	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	cum	1680.00	₹ 12,648.23	**2,12,49,031**
2 ii	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	sqm	70000.00	₹ 14.49	**10,14,416**
2 iii	**Filling Pot Holes** with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) **Potholes repair @10% of 2 lane section with BC specifiaction i.e. 40000 m**	cum	1120.00	₹ 12,648.23	**1,41,66,021**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
2 iv	**2 Lane + Paved Shoulder Stretch (17400 m)**				
	Filling Pot Holes with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) Potholes repair @10% of 2 lane section + PS with BC specifiaction i.e. 17400 m	cum	**696.00**	₹ 12,648.23	**88,03,170**
2 v	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.				
	Pothole repaire 10% of total projects	sqm	17400.00		
			17400.00	₹ 14.49	**2,52,155**
2 vi	**4 Lane section (3000m)**				
2 vii	**Filling Pot Holes** with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) **Potholes repair @10% of 4 lane section with BC specifiaction i.e. 3000 m**	cum	204.00	₹ 12,648.23	**25,80,239**
2 viii	**Providing and applying tack coat** with Cationic bitumen emulsion (RS1) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm. (Repair Pot Hole)	sqm	5100.00	₹ 14.49	**73,907**
3	**"Thrie"metal beam crash barrier** Providing and erecting a "Thrie"metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 85 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 2 m high with 1.15 m below ground level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a space of channel section 150 x 75 x 5 mm, 546 mm long complete as per clause 811.	Rm	1500	₹ 3,795.84	**56,93,764**
4	**Road Delineators-** 8 m @spacing **(50% of TL)** Supplying and Installation of delineators (road way indicators, hazard markers, object markers) confirming to IRC 79, 80 to 90 cm high above ground level with about 200 to 300mm base which can be anchored on to the ground. The delineator shall have an ellipsoidal or circular shape made of mild steel with pure polyester powder coating with minimum thickness of powder coating of not less than 40 micron. The delineator shall have minimum three reflective sheeting bands of 150mm height confirming to Type XI sheeting specifications as per IRC 67.	Nos	3775.00	₹ 877.47	**33,12,449**
	Road Delineators- 12 m @spacing **(25% of TL)** Supplying and Installation of delineators (road way indicators, hazard markers, object markers) confirming to IRC 79, 80 to 90 cm high above ground level with about 200 to 300mm base which can be anchored on to the ground. The delineator shall have an ellipsoidal or circular shape made of mild steel with pure polyester powder coating with minimum thickness of powder coating of not less than 40 micron. The delineator shall have minimum three reflective sheeting bands of 150mm height confirming to Type XI sheeting specifications as per IRC 67.	Nos	1258.33	₹ 877.47	**11,04,150**
5	**Painting Two Coats on New Concrete Surfaces** Painting two coats, after filling the surface & applying a sealing primer, with synthetic enamel paint in all shades on new plastered concrete surfaces as per MORTH's specification 803.6.2.(Reference to MORT&H's specification 803) including If required plastering in roof & walls and new tile laying on floors shall be done during Intial rectification before painting as per requirement notified by the Engineer				
	Bus Shelter (13 Nos)	sqm	702.00		

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
	Culvert Parapet (30 nos of Culvert X 2 for the both side of parapet)		120.00		
	Culvert with Railing (10 nos of Culvert)		92.40		
	Median Kerb		536.25		
	ROB (1st)- (i) Railing		184.80		
	(ii) Crash Barrier (ROB Portion)		184.80		
	(iii) Crash Barrier Approach Protion		2948.00		
	ROB (2nd)- (i) Railing		242.00		
	(ii) Crash Barrier (ROB Portion)		484.00		
	(iii) Crash Barrier Approach Protion		2816.00		
	Bridge Railing (15 nos of Bridge)		10725.00		
			19035.25	₹ 42.77	**8,14,138**
6	**Longitudinal Road Marking with Hot Applied Thermoplastic Compound** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.				
	Both edges of MCW for 50% of the Project Length (2 lane)	sqm	8610.00		
	Both edges of MCW for 50% of the Project Length (4 lane)		900.00		
	Center line of MCW for 50% of the Project Length (2 lane)		8610.00		
	Center line of MCW for 50% of the Project Length (4 lane)		900.00		
			19020.00	₹ 622.78	**1,18,45,276**
7	**Supplying & fixing of Raised Pavement Markers/Road Studs/Cats Eye** Providing and fixing of Reflective Pavement Markers (RRPM), i.e. road studs shall be prismatic retro-reflective type conforming to ASTM D-4280. The Plastic body of RPM/road stud shall be moulded from ASA (Acrylic Styrene Acrylonitrite) or HIPS (Hi-impact Polystyrene) or Acrylonitrile Butadiene Styrene (ABS). The marker height shall not be less than 10mm and shall not exceed 20mm and its width shall not exceed 130mm. The markers shall support a load of 13,635 kg tested in accordance with ASTM D 4280. The Reflective panels shall consist of number of lenses containing single or dual prismatic cubes capable of providing total internal reflection of the light entering the lens face. Lenses shall be moulded of methyl methecrylate conforming to ASTM D 788 or equivalent. The optical performance of road studs shall be confirming to clause 804.4 of MORTH specifications.				
	6 mtr C/C both sideand center line. (20% for 8000 m 2 lane)	Nos	1401.00	₹ 219.98	**3,08,192**
	9 mtr C/C both sideand center line. (20% for 8000 m 2 lane)	Nos	399.00	₹ 219.98	**87,772**
	6 mtr C/C both sideand center line. (35% for 3000 m 4 lane)	Nos	1050.00	₹ 219.98	**2,30,979**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
8	**Retro Reflectorised Traffic Signs for (i) to (iii) & (v)** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For signs above 600mm size, retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting vide or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. For signs above 600mm sizes, sign shall be fixed over back support frame of minimum 35 x 35x 3 mm angle Frame. For signs above 600mm size, Signs shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength bolts, washers nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around Gl posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retro-reflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from an Government laboratory/ Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital. printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards from (i) to (iv)				
(i)	90cm Equilateral Triangle	Nos	70	₹ 5,412.09	**3,78,846**
(ii)	80cm*60cm Rectangular	Nos	30	₹ 6,676.35	**2,00,291**
(iii)	75 cm circular	Nos	80	₹ 4,760.47	**3,80,837**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
(iv)	Chevron Sign 60 cm x 50 cm rectangular - Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works (5th Revision) IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For Signs up 600mm size, retro reflective sheet shall be fixed over 1.5mm Thick aluminium sheeting vide or 3mm thick Aluminium composite material vide clause 801 of MORTH Specifications for Roads & Bridge Works. For signs upto 600mm sizes, sign shall be fixed over back support frame of minimum 25x25x 3 mm Angle Frame. For signs upto 600mm size, Signs shall be supported on GI circular pipe 65 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength nuts, washers & bolts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retroreflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retroreflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro re-flective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from a Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67-2022 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	Nos	80	₹ 4,633.98	**3,70,718**
(v)	Route marker (80 cm x 60 cm rectangular)	Nos	26	₹ 6,676.35	**1,73,585**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
(vi)	**Direction and Place Identification Signs** with size more than 0.9 sqm size Board. Providing and fixing of retro-reflectorised direction and place identification sign as per clause 801 of MoRTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro - reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retro-reflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Signs shall be supported on two or more GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Adequate bracing shall be provided to hold firmly GI support pipes. The sign supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including angle frame, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	sqm	77.76	₹ 19,475.26	**15,14,396**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
(vii)	**Speed Limit Sign Board** with size 2130 mm x 1140 mm size Board. Providing and fixing of retro-reflectorised direction and place identification sign as per clause 801 of MoRTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro - reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retro-reflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Signs shall be supported on two or more GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Adequate bracing shall be provided to hold firmly GI support pipes. The sign supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including angle frame, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	Sqm	155.52	₹ 19,475.26	**30,28,793**
9	**Supplying & fixing of Hazard Marker**s of size : 30cm X 90 cm as per IRC :79-1981 (The above is inclusive of vertical post)	Nos.	280	₹ 4,399.56	**12,31,877**
10	**Providing & fixing Solar blinkers -**Supplying and erecting red /yellow unbreakable polycarbonate body Solar Blinker 300mm dia. LED lamp confirming to IRC:93 and IS:7537. It shall have Light Emitting Diode (LED) Hi Bright technology (Compliant to EN12368 or equivalent BIS standard). The Signal Switching shall be Solid State, with Opto-isolation. The Automatic operation mode shall have functional flashing rate available at 50% Duty Cycle 50 or 60 Flashes/minutes. The Electrical Power Supply shall be solar based 12 VDC operating at Ambient Temperature 0° to 55°C. The solar power system shall have in-built charge Controller - Low/High cut out, Solar SPV Module 60 Watts, Maintenance Free Battery (60AH) (having back up for operating blinker for 72 Hrs in absence of Sun or during rainy or foggy days. The Solar System shall be housed in a weatherproof pole mounting cabinet with	Nos.	36	₹ 27,497.25	**9,89,901**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
	clamp and mounting accessories. The Solar Blinker shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239, 3m above the Finish Road level. GI circular pipe shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawing. Alternate white and yellow bands (Minimum four bands) of Type XI retro-reflective sheeting shall be pasted @ 0.5m c/c starting from a height of 0.5 m above the finish road level.				
11(i)	**(2Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of 5 mm high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	Sqm	1890.00	₹ 3,050.00	**57,64,500**
11(ii)	**(4Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of 5 mm high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	Sqm	367.20	₹ 3,050.00	**11,19,960**
12	**Road Distance Indicator (Km stones) Reinforced cement concrete M15 grade kilometre stone of standard design as per IRC:8, fixing in position including painting and printing etc**				
(i)	5th Kilometre Stone(Precast)	Nos	12	₹ 3,739.09	**44,869**
(II)	Ordinary Kilometre Stone(Precast)		50	₹ 2,251.24	**1,12,562**
13	**Supply & Fixing Median marker** Made up of tough, impact resistant thermoplastic body, reflectorized on both side using approximate. 85 x 85 mm (for square shape or equivalent in case of round shape Fluorescent yellow prismatic sheeting (type-XI) reflective surface should be incline to approximate 20 degree to vertical to provide maximum reflective. Height & width of median marker shall be approximate by 110 mm complete with all fixing arrangements. Median Marker shall be of tough, high impact resistant, injection - moulded, thermoplastic body with property of flexibility to provide high durability and U shape structure having rebound / bounce back property. @ 6m c/c of for 4 Lane section	Sqm	1666.67	₹ 531.61	**8,86,023**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
14	**Providing and fixing of retro-reflectorised stickers** as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The sticker shall have NHIDCL Logo digitally printed with colour specification confirming to Sl no. 5.2 of NHIDCL Policy Circular 4.37/2025 dated 11th Nov 2025. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the sticker supplied by reflective sheet manufacturer. Retro-Reflective sticker shall be fixed on alternate barrier posts with pressure sensitive adhesive. Sticker fixing shall be done after wiping the surface with a clean cloth soaked in isopropyl alcohol (IPA) or mild detergent, Remove all dust/ oil / grease /rust and moisture and allow surface to dry completely. If required use a heat gun or blower to dry surface if ambient humidity is high. Fix sticker on the prepared surface by removing the sticker liner slowly to avoid curling or contamination, preposition the sticker to ensure correct orientation and alignment, fix the sticker gently, use a felt-edge squeegee hammer or roller to apply uniform pressure from centre to outward, ensure no air bubbles or wrinkles remain, apply pressure across the entire surface to fix sticker firmly. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC (Size- 100 mm x 70 mm).	Nos	2500	₹ 55.00	**1,37,500**
15	**Provide and fixing Tubular markers 700 mm ht (mini.)** and having minimum dia. of 75mm. Tubular Marker shall be made up of polyurethane and flexible in nature. The tubular marker shall be confirming to IRC SP 55, to divide opposing lanes traffic, or to divided vehicular traffic lanes when two or more lanes of moving vehicular traffic are kept operating in the same direction, and to delineate the edge of a pavement drop-off where space limitations do not allow the use of larger devices. A tubular marker shall be attached to the pavement such as to display the minimum 50mm width of 2 no. reflective bands to the approaching road users. The reflective bands shall be provided with white colour retro reflective sheeting Type XI as per IRC: 67	Nos	350	₹ 870.00	**3,04,500**
16	**Providing and erecting overhead sign made of Class -C Micro Prismatic Sheeting of Type XI retro reflective sheeting as per IRC 67.** Aluminium Alloy Plate for Over Head Sign (Gangtry) Unit rate vide item no. 7B, page no.145 West Bengal pwd sor R&B 2019-20 Providing and fixing overhead gantry mounted signs as per clause 801 & 802 of MORTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MORTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retroreflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367. The sign shall be fixed with vertical clearance of 6.0m from the highest finished level of entire carriageway including paved shoulder. For Cantilever mounted signs, the center of the sign is typically located over the carriageway edge line; however the left edge of sign shall be positioned no further left than the left edge of paved shoulder. On Gantry mounted signs, when number of signs are erected, the outer edges of signs shall not extend beyond the outer edge of paved shoulders on left side and paved edge strip on median side. Overhead Signs shall be placed on structurally sound gantry or cantilever structure made of GI pipes confirming to IS 1239. The lateral clearance of the gantry sign supports shall be confirming to clause 802.3 of MORTH specifications. The sign supports shall be firmly fixed to the ground by means of properly designed foundation as per approved drawing. All Components of signs and supports including gantry, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized	Sqm	165.00	₹ 10,046.00	**16,57,590**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
	by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around gantry support posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs anp directions boards.				
17	**Painting Lines, Dashes, Arrows etc on Roads (Tranverse marking, Hazard Marking, Block Marking, Arrow marking etc.)-** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.	Sqm	2000.00	₹ 622.78	**12,45,560**
				Total cost	**10,20,83,278**

NH 317A 2Lane with PS section from Km 0+000 to 14+500 & 4 lane with PS from Km 14+500 to 17+551:

Sl. No	Brief Description of Item of Work	Unit	Total Qty	Rate	Amount
1	**Clearing Grass and Removal of Rubbish** : By Manual Means Clearing grass and removal of rubbish up to a distance of 50 metres outside the periphery of the area. (Reference to MoRT&H's specification clause 201) 2 **time, as and when required.** For, Both Side of the Road,	Ha.	7.02	₹ 21,667.83	**1,52,117**

Sl. No	Brief Description of Item of Work	Unit	Total Qty	Rate	Amount
1 i	**Removal of Unserviceable Soil with Disposal upto 1000 metres.**	Cum	35102.00	₹ 86.77	**30,45,801**
2	**2 Lane with PS Stretch**				
2 i	**Filling Pot Holes** with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) **Potholes repair @20% of 2 lane section with BC specification i.e. 14500 m**	cum	1160.00	₹ 12,874.89	**1,49,34,875**
2 ii	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.				
	Pothole repaire 30% of total projects (4 lane)	sqm	15560.10		
	Pothole repaire 20% of total projects (2 lane)	sqm	29000.00		
			44560.10	₹ 14.62	**6,51,522**
2 iii	**4 Lane section from Km 14500 to 17551 = 3051 m**				
2 iv	**Filling Pot Holes** with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) **Potholes repair @30% of 4 lane section with BC specifiaction i.e. 3051 m**	cum	622.40	₹ 12,874.89	**80,13,385**
3	**"Thrie"metal beam crash barrier** Providing and erecting a "Thrie"metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 85 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 2 m high with 1.15 m below ground level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a space of channel section 150 x 75 x 5 mm, 546 mm long complete as per clause 811.	Rm	500	₹ 3,795.84	**18,97,921**
4	**Road Delineators-** 8 m @spacing **(50% of TL)** Supplying and Installation of delineators (road way indicators, hazard markers, object markers) confirming to IRC 79, 80 to 90 cm high above ground level with about 200 to 300mm base which can be anchored on to the ground. The delineator shall have an ellipsoidal or circular shape made of mild steel with pure polyester powder coating with minimum thickness of powder coating of not less than 40 micron. The delineator shall have minimum three reflective sheeting bands of 150mm height confirming to Type XI sheeting specifications as per IRC 67.	Nos	1096.94	₹ 877.47	**9,62,530**
4 i	**Road Delineators-** 12 m @spacing **(25% of TL)** Supplying and Installation of delineators (road way indicators, hazard markers, object markers) confirming to IRC 79, 80 to 90 cm high above ground level with about 200 to 300mm base which can be anchored on to the ground. The delineator shall have an ellipsoidal or circular shape made of mild steel with pure polyester powder coating with minimum thickness of powder coating of not less than 40 micron. The delineator shall have minimum three reflective sheeting bands of 150mm height confirming to Type XI sheeting specifications as per IRC 67.	Nos	365.65	₹ 877.47	**3,20,843**
5	**Painting Two Coats on New Concrete Surfaces** Painting two coats, after filling the surface & applying a sealing primer, with synthetic enamel paint in all shades on new plastered concrete surfaces as per MORTH's specification 803.6.2.(Reference to MORT&H's specification 803) including If required plastering shall be done during Intial rectification before plainting as per requirement notified by the Engineer				
	Bus Shelter (5 Nos)	sqm	270.00		
	Culvert Parapet (16 nos of Culvert X 2 for the both side of parapet)		64.00		

Sl. No	Brief Description of Item of Work	Unit	Total Qty	Rate	Amount
	Median Kerb		375.38		
	ROB		1907.40		
	Bridge Railing (6 nos of Bridge)		1940.40		
			4557.18	₹ 42.77	**1,94,910**
6	**Longitudinal Road Marking with Hot Applied Thermoplastic Compound** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.				
	Both edges of MCW for 50% of the Project Length (2 lane)	sqm	2175.00		
	Both edges of MCW for 50% of the Project Length (4 lane)		915.30		
	Center line of MCW for 50% of the Project Length (2 lane)		2175.00		
	Center line of MCW for 50% of the Project Length (4 lane)		1830.60		
			7095.90	₹ 622.78	**44,19,185**
7	**Supplying & fixing of Raised Pavement Markers/Road Studs/Cats Eye** Providing and fixing of Reflective Pavement Markers (RRPM), i.e. road studs shall be prismatic retro-reflective type conforming to ASTM D-4280. The Plastic body of RPM/road stud shall be moulded from ASA (Acrylic Styrene Acrylonitrite) or HIPS (Hi-impact Polystyrene) or Acrylonitrile Butadiene Styrene (ABS). The marker height shall not be less than 10mm and shall not exceed 20mm and its width shall not exceed 130mm. The markers shall support a load of 13,635 kg tested in accordance with ASTM D 4280. The Reflective panels shall consist of number of lenses containing single or dual prismatic cubes capable of providing total internal reflection of the light entering the lens face. Lenses shall be moulded of methyl methecrylate conforming to ASTM D 788 or equivalent. The optical performance of road studs shall be confirming to clause 804.4 of MORTH specifications.				
	6 mtr C/C both sideand center line. (20% for 14500 m 2 lane)	Nos	1449.00	₹ 219.98	**3,18,751**
	9 mtr C/C both sideand center line. (20% for 14500 m 2 lane)	Nos	966.00	₹ 219.98	**2,12,501**
	6 mtr C/C both sideand center line. (35% for 3051 m 4 lane)	Nos	714.00	₹ 219.98	**1,57,066**
8	**Retro Reflectorised Traffic Signs for (i) to (iv)** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For signs above 600mm size, retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting vide or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. For signs above 600mm sizes, sign shall be fixed over back support frame of minimum 35 x 35x 3 mm angle Frame. For signs above 600mm size, Signs shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength bolts, washers nuts conforming to IS1364 and IS 1367				

Sl. No	Brief Description of Item of Work	Unit	Total Qty	Rate	Amount
	on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around Gl posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retro-reflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from an Government laboratory/ Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital. printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards from (i) to (iv)				
(i)	90cm Equilateral Triangle	Nos	30	₹ 5,439.34	**1,63,180**
(ii)	80cm*60cm Rectangular	Nos	10	₹ 6,703.60	**67,036**
(iii)	75 cm circular	Nos	20	₹ 4,787.72	**95,754**
(iv)	Route marker (80 cm x 60 cm rectangular)	Nos	8	₹ 6,703.60	**53,629**

Sl. No	Brief Description of Item of Work	Unit	Total Qty	Rate	Amount
(v)	Chevron Sign 60 cm x 50 cm rectangular - Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works (5th Revision) IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For Signs up 600mm size, retro reflective sheet shall be fixed over 1.5mm Thick aluminium sheeting vide or 3mm thick Aluminium composite material vide clause 801 of MORTH Specifications for Roads & Bridge Works. For signs upto 600mm sizes, sign shall be fixed over back support frame of minimum 25x25x 3 mm Angle Frame. For signs upto 600mm size, Signs shall be supported on GI circular pipe 65 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength nuts, washers & bolts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retroreflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retroreflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro re-flective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from a Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67-2022 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	Nos	40	₹ 4,661.23	**1,86,449**

Sl. No	Brief Description of Item of Work	Unit	Total Qty	Rate	Amount
(vi)	**Direction and Place Identification Signs** with size more than 0.9 sqm size Board. Providing and fixing of retro-reflectorised direction and place identification sign as per clause 801 of MoRTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro - reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retro-reflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Signs shall be supported on two or more GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Adequate bracing shall be provided to hold firmly GI support pipes. The sign supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including angle frame, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	Sqm	34.56	₹ 19,475.26	**6,73,065**

Sl. No	Brief Description of Item of Work	Unit	Total Qty	Rate	Amount
(vii)	**Speed Limit Sign Board** with size 2130 mm x 1140 mm size Board. Providing and fixing of retro-reflectorised direction and place identification sign as per clause 801 of MoRTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro - reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retro-reflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Signs shall be supported on two or more GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Adequate bracing shall be provided to hold firmly GI support pipes. The sign supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including angle frame, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	Sqm	51.84	₹ 19,475.26	**10,09,598**
9	**Supplying & fixing of Hazard Marker**s of size : 30cm X 90 cm as per IRC :79-1981 (The above is inclusive of vertical post)	Nos.	108	₹ 4,399.56	**4,75,152**
10	**Providing & fixing Solar blinkers -**Supplying and erecting red /yellow unbreakable polycarbonate body Solar Blinker 300mm dia. LED lamp confirming to IRC:93 and IS:7537. It shall have Light Emitting Diode (LED) Hi Bright technology (Compliant to EN12368 or equivalent BIS standard). The Signal Switching shall be Solid State, with Opto-isolation. The Automatic operation mode shall have functional flashing rate available at 50% Duty Cycle 50 or 60 Flashes/minutes. The Electrical Power Supply shall be solar based 12 VDC operating at Ambient Temperature 0° to 55°C. The solar power system shall have in-built charge Controller - Low/High cut out, Solar SPV Module 60 Watts, Maintenance Free Battery (60AH) (having back up for operating blinker for 72 Hrs in absence of Sun or during rainy or foggy days. The Solar System shall be housed in a weatherproof pole mounting cabinet with clamp and mounting accessories. The Solar Blinker shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239, 3m above the Finish Road level. GI circular pipe shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawing. Alternate white and yellow bands (Minimum four bands) of Type XI retro-reflective sheeting shall be pasted @ 0.5m c/c starting from a height of 0.5 m above the finish road level.	nos	12	₹ 27,497.25	**3,29,967**

Sl. No	Brief Description of Item of Work	Unit	Total Qty	Rate	Amount
11					
(i)	**(2Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of 5 mm high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	sqm	576.00	₹ 3,050.00	**17,56,800**
(ii)	**(4Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of 5 mm high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	sqm	244.80	₹ 3,050.00	**7,46,640**
12	**Road Distance Indicator (Km stones) Reinforced cement concrete M15 grade kilometre stone of standard design as per IRC:8, fixing in position including painting and printing etc**				
(i)	5th Kilometre Stone(Precast)	Nos	4	₹ 3,739.09	**14,956**
(II)	Ordinary Kilometre Stone(Precast)		15	₹ 2,251.24	**33,769**
13	**Supply & Fixing Median marker** Made up of tough, impact resistant thermoplastic body, reflectorized on both side using approximate. 85 x 85 mm (for square shape or equivalent in case of round shape Fluorescent yellow prismatic sheeting (type-XI) reflective surface should be incline to approximate 20 degree to vertical to provide maximum reflective. Height & width of median marker shall be approximate by 110 mm complete with all fixing arrangements. Median Marker shall be of tough, high impact resistant, injection - moulded, thermoplastic body with property of flexibility to provide high durability and U shape structure having rebound / bounce back property. @ 6m c/c of for 4 Lane section	Sqm	1166.67	₹ 531.61	**6,20,216**

Sl. No	Brief Description of Item of Work	Unit	Total Qty	Rate	Amount
14	Providing and fixing of retro-reflectorised stickers as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The sticker shall have NHIDCL Logo digitally printed with colour specification confirming to Sl no. 5.2 of NHIDCL Policy Circular 4.37/2025 dated 11th Nov 2025. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the sticker supplied by reflective sheet manufacturer. Retro-Reflective sticker shall be fixed on alternate barrier posts with pressure sensitive adhesive. Sticker fixing shall be done after wiping the surface with a clean cloth soaked in isopropyl alcohol (IPA) or mild detergent, Remove all dust/ oil / grease /rust and moisture and allow surface to dry completely. If required use a heat gun or blower to dry surface if ambient humidity is high. Fix sticker on the prepared surface by removing the sticker liner slowly to avoid curling or contamination, preposition the sticker to ensure correct orientation and alignment, fix the sticker gently, use a felt-edge squeegee hammer or roller to apply uniform pressure from centre to outward, ensure no air bubbles or wrinkles remain, apply pressure across the entire surface to fix sticker firmly. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC (Size- 100 mm x 70 mm).	Nos	1000	₹ 55.00	**55,000**
15	Preformed continuous chloroprene elastomer or closed cell foam sealing element with high tear strength, vulcanized in a single operation for the full length of a joint to ensure water tightness. (**for the expansion joint of the Bridges**)	Meter	176	₹ 1,246.54	**2,19,391**
16	Provide and fixing Tubular markers 700 mm ht (mini.) and having minimum dia. of 75mm. Tubular Marker shall be made up of polyurethane and flexible in nature. The tubular marker shall be confirming to IRC SP 55, to divide opposing lanes traffic, or to divided vehicular traffic lanes when two or more lanes of moving vehicular traffic are kept operating in the same direction, and to delineate the edge of a pavement drop-off where space limitations do not allow the use of larger devices. A tubular marker shall be attached to the pavement such as to display the minimum 50mm width of 2 no. reflective bands to the approaching road users. The reflective bands shall be provided with white colour retro reflective sheeting Type XI as per IRC: 67	Nos	75	₹ 870.00	**65,250**

Sl. No	Brief Description of Item of Work	Unit	Total Qty	Rate	Amount
17	**Providing and erecting overhead sign made of Class -C Micro Prismatic Sheeting of Type XI** **retro reflective sheeting as per IRC 67.** Aluminium Alloy Plate for Over Head Sign (Gantry) Unit rate vide item no. 7B, page no.145 West Bengal pwd sor R&B 2019-20 Providing and fixing overhead gantry mounted signs as per clause 801 & 802 of MORTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MORTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retroreflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367. The sign shall be fixed with vertical clearance of 6.0m from the highest finished level of entire carriageway including paved shoulder. For Cantilever mounted signs, the center of the sign is typically located over the carriageway edge line; however the left edge of sign shall be positioned no further left than the left edge of paved shoulder. On Gantry mounted signs, when number of signs are erected, the outer edges of signs shall not extend beyond the outer edge of paved shoulders on left side and paved edge strip on median side. Overhead Signs shall be placed on structurally sound gantry or cantilever structure made of GI pipes confirming to IS 1239. The lateral clearance of the gantry sign supports shall be confirming to clause 802.3 of MORTH specifications. The sign supports shall be firmly fixed to the ground by means of properly designed foundation as per approved drawing. All Components of signs and supports including gantry, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around gantry support posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	SQM	132.00	₹ 10,046.00	**13,26,072**

Sl. No	Brief Description of Item of Work	Unit	Total Qty	Rate	Amount
18	**Painting Lines, Dashes, Arrows etc on Roads (Tranverse marking, Hazard Marking, Block Marking, Arrow marking etc.)-** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.	SQM	1000.00	₹ 622.78	**6,22,780**
				Total cost	**4,37,96,111**

BILL NO. 3: PERIODICAL MAINTENANCE WORKS

1. The Bill of Quantities presents estimated quantities of Items required for the Periodic Maintenance work. The Employer shall provide the indicative estimated quantities to meet Service Level requirements as per Contract Specifications as a guide to assist the Contractor with the completion of this Schedule. The estimated quantities are indicative quantities as determined by the Employer.

The Contractor needs to make his own assessment of the Items, Quantities and cost for carrying out Periodical Maintenance works as per Service levels stipulated in Contract standards and specifications. The quantities given below (including the thickness of various layers) are minimum values to be executed by the contractor and No additional payment under variation or COS for work on the project length as given in the tender, will be admissible as regards ensuring the service levels as stipulated in the Contract except as specified in Clause 6.2 of Part-II of Section-7 (Specifications for Road Maintenance Works and Operational Procedures).

2. The total indicative items, quantities and rates by the Employer for the periodical Maintenance works is as under:

NH-717 2-Lane section from Km 0+000 to 40+000 (Chalsa to Maynaguri) & 2/4 lane with PS from Indiramore to Changrabandha 20.4 Km:

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
1	**Cold Milling** Cold Milling of Bituminous Pavement surface upto the required depth by mechanical means using milling machine, without disturbing the under lying layers, to proper line and level, cleaning the surface properly after milling and removing the loose materials, stacking the milled materials for re-use, necessary guarding, barricading & lighting, including hire charges of machinery, cost of fuel and labour and other incidental charges all complete and as per direction of Engineer-in-Charge. For depth upto 100mm **(2 Lane)**	Sqm	5600.00	₹ 42.02	**2,35,312**
1 i	**Cold Milling** Cold Milling of Bituminous Pavement surface upto the required depth by mechanical means using milling machine, without disturbing the under lying layers, to proper line and level, cleaning the surface properly after milling and removing the loose materials, stacking the milled materials for re-use, necessary guarding, barricading & lighting, including hire charges of machinery, cost of fuel and labour and other incidental charges all complete and as per direction of Engineer-in-Charge. For depth upto 100mm **(2 Lane + PS)**	Sqm	2400.00	₹ 42.02	**1,00,848**
1 ii	**Cold Milling** Cold Milling of Bituminous Pavement surface upto the required depth by mechanical means using milling machine, without disturbing the under lying layers, to proper line and level, cleaning the surface properly after milling and removing the loose materials, stacking the milled materials for re-use, necessary guarding, barricading & lighting, including hire charges of machinery, cost of fuel and labour and other incidental charges all complete and as per direction of Engineer-in-Charge. For depth upto 100mm **(4 Lane)**	Sqm	2040.00	₹ 42.02	**85,721**
2	**2 Lane Stretch (40000 m)**				
2 i	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	cum	5600.00	₹ 12,648.23	**7,08,30,103**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
2 ii	**Dense Graded Bituminous Macadam** Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @4.0% (min.) for Grading 1 & 4.5% (min.) for Grading 2 by weight of total mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause No. 505.4 complete in all respects (Reference to MORT&H's specification clause 505)	Cum	8400.00	₹ 11,527.71	**9,68,32,743**
2 iii	**Providing and applying primer coat with cationic bitumen emulsion SS1** grade conforming to IS:8887 on prepared porous granular surface including Clearing of road surface and spraying primer using mechanical means (Reference to MORT&H's specification clause 502).	sqm	105000.00	₹ 91.90	**96,49,676**
2 iv	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	sqm	189700.00	₹ 14.49	**27,49,068**
2 v	**Mastic Asphalt, (With Pakur Variety stone materials.)**				
	Providing and laying 25mmthick mastic asphalt twearing course with approved grade bitumen meeting therequirementsgivenintable500 39, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine-grained hard stone chipping of 13.2mmnominal size attherateof0.005cumper10sqm and at an approximate spacing of 10 cm center to center in both directions, pressed into surface when the temperature of surfaces isnotlessthan100°C,protruding1 mm to 4 mm over mastic surface, all complete as per clause516(Reference to MORT&H's specificationclause516alongwith IRC:107). (With Pakur Variety stone materials.) From Km 8000 to 9500	cum	21700.00	₹ 716.64	**1,55,51,131**
2 vi	**Filling Pot Holes** with bituminous concrete for Grading 2 (13.2 mm nominal size) (layer thickness 40mm) **Potholes repair @10% of 2 lane section with BC specifiaction i.e. 40000 m**	cum	1120.00	₹ 12,648.23	**1,41,66,021**
	2 Lane + Paved Shoulder Stretch (17400 m)				
2 vii	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	cum	**2400.00**	₹ 12,648.23	**3,03,55,759**
2 viii	**Dense Graded Bituminous Macadam** Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @4.0% (min.) for Grading 1 & 4.5% (min.) for Grading 2 by weight of total mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause No. 505.4 complete in all respects (Reference to MORT&H's specification clause 505)	cum	**1600.00**	₹ 11,527.71	**1,84,44,332**
2 ix	**Providing and applying primer coat with cationic bitumen emulsion SS1** grade conforming to IS:8887 on prepared porous granular surface including Clearing of road surface and spraying primer using mechanical means (Reference to MORT&H's specification clause 502).	sqm	**20000.00**	₹ 91.90	**18,38,034**
2 x	**Providing and applying tack coat** with Cationic bitumen emulsion (RS1) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	sqm	**77400.00**	₹ 14.49	**11,21,655**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
2 xi	**Filling Pot Holes with bituminous concrete for Grading 2** (13.2 mm nominal size) (layer thickness 40mm) Potholes repair @10% of 2 lane section + PS with BC specifiaction i.e. 17400 m	cum	**696.00**	₹ 12,648.23	**88,03,170**
				₹ 14.49	
2 xii	**4 Lane section (3000m)**				
2 xiii	**Providing and applying primer coat with cationic bitumen emulsion SS1** grade conforming to IS:8887 on prepared porous granular surface including Clearing of road surface and spraying primer using mechanical means (Reference to MORT&H's specification clause 502).	sqm	25500.00	₹ 91.90	**23,43,493**
2 xiv	**Providing and applying tack coa**t with Cationic bitumen emulsion (RS1) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	sqm	51000.00	₹ 14.49	**7,39,075**
2 xv	**Dense Graded Bituminous Macadam** Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @4.0% (min.) for Grading 1 & 4.5% (min.) for Grading 2 by weight of total mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause No. 505.4 complete in all respects (Reference to MORT&H's specification clause 505).	cum	2040.00	₹ 11,527.71	**2,35,16,523**
2 xvi	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	Cum	2040.00	₹ 12,648.23	**2,58,02,395**
3	**"Thrie"metal beam crash barrier** Providing and erecting a "Thrie"metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 85 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 2 m high with 1.15 m below ground level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a space of channel section 150 x 75 x 5 mm, 546 mm long complete as per clause 811.	Rm	2000	₹ 3,795.84	**75,91,685**
4	**Longitudinal Road Marking with Hot Applied Thermoplastic Compound** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.				
	Both edges of MCW for Full Project Length (2 lane)	sqm	17250.00		
	Both edges of MCW for Full Project Length (4 lane)		1800.00		

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
	Center line of MCW for Full Project Length (2 lane)		17250.00		
	Center line of MCW for Full Project Length (4 lane)		1800.00		
			38100.00	₹ 622.78	**2,37,27,918**
5	**Supplying & fixing of Raised Pavement Markers/Road Studs/Cats Eye** made of polycarbonate moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face which shall support a load of 13635 kg tested in accordance to ASTM D 4280 Type H and complying to Specifications of Category A of MoR&TH Circular No. RW/NH/33023/10-97 - DO III Dt. 11.06.1997 & MoRT&H's specification for Road &Bridge Works (Fifth Rev.)				
	6 mtr C/C both sideand center line. (57500 m 2 lane)	Nos	9583.00	₹ 219.98	**21,08,068**
	6 mtr C/C both sideand center line. (3000 m 4 lane)	Nos	333.00	₹ 219.98	**73,253**
5 i	**Solar Powered Road marker (Solar Stud)**: Supplying and installation of Solar Raised Pavement Markers made of polycarbonate moulded body with circular shape, solar powered, LED self-illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face in passive mode. The marker shall support a load of 20000 kg tested in accordance to ASTM D 4280. Its water resistance shall meet the requirements of IP 65 in accordance with IS:12063:1987 Category 2 for protection against water ingress. Colour of lighting could be provided in red or yellow (amber) or green or blue or combination as per requirement. It shall have super bright LEDs so as to provide long visibility from a distance of more than 800 m. Its flashing rate shall not be less than 1 Hz. It should be able to give the prescribed performance in the temperature range of -40°C to +55°C. Its life shall be not less than 3 years. The full charge should provide for a minimum autonomy of 50 hours operation. The height, width and length of the marker shall not be less than 10mm x 100mm x 100mm. Also the surface diameter of the marker shall not be less than 100mm respectively. The weight of marker shall not exceed 0.5 kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive and complete as directed by the Engineer (10 % of total project length 60400 m)	Nos	1007	₹ 1,980.20	**19,93,401**
6	**Painting Two Coats on New Concrete Surfaces** Painting two coats, after filling the surface & applying a sealing primer, with synthetic enamel paint in all shades on new plastered concrete surfaces as per MORTH's specification 803.6.2.(Reference to MORT&H's specification 803)				
	Bus Shelter (13 Nos)	sqm	702.00		
	Culvert Parapet (30 nos of Culvert X 2 for the both side of parapet)		120.00		
	Culvert with Railing (10 nos of Culvert)		92.40		
	Median Kerb		536.25		
	ROB (1st)- (i) Railing		184.80		
	(ii) Crash Barrier (ROB Portion)		184.80		
	(iii) Crash Barrier Approach Protion		2948.00		
	ROB (2nd)- (i) Railing		242.00		
	(ii) Crash Barrier (ROB Portion)		484.00		
	(iii) Crash Barrier Approach Protion		2816.00		
	Bridge Railing (15 nos of Bridge)		10725.00		
			19035.25	₹ 42.77	**8,14,138**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
7	**Retro Reflectorised Traffic Signs for (i) to (iii)** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For signs above 600mm size, retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting vide or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. For signs above 600mm sizes, sign shall be fixed over back support frame of minimum 35 x 35x 3 mm angle Frame. For signs above 600mm size, Signs shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength bolts, washers nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retro-reflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from an Government laboratory/ Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital. printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards from (i) to (iv)				
(i)	90cm Equilateral Triangle	Nos	40	₹ 5,412.09	**2,16,484**
(ii)	80cm*60cm Rectangular	Nos	30	₹ 6,676.35	**2,00,291**
(iii)	75 cm circular	Nos	30	₹ 4,760.47	**1,42,814**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
(iv)	**60cm*50 cm Chevron-** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works (5th Revision) IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For Signs up 600mm size, retro reflective sheet shall be fixed over 1.5mm Thick aluminium sheeting vide or 3mm thick Aluminium composite material vide clause 801 of MORTH Specifications for Roads & Bridge Works. For signs upto 600mm sizes, sign shall be fixed over back support frame of minimum 25x25x 3 mm Angle Frame. For signs upto 600mm size, Signs shall be supported on GI circular pipe 65 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength nuts, washers & bolts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retroreflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retroreflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro re-flective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from a Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67-2022 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	Nos	50	₹ 4,633.98	**2,31,699**
8 (i)	**(2Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **5 mm high**, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	Sqm	1260.00	₹ 3,050.00	**38,43,000**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
8 (ii)	**(4Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **5 mm high**, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	Sqm	367.20	₹ 3,050.00	**11,19,960**
8 (iii)	**(2Lane Section) -** Providing and Laying of **10mm** high Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **10 mm** high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @ 250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete**.**	Sqm	1260.00	₹ 4,751.52	**59,86,921**
8 (iv)	**(4Lane Section) -** Providing and Laying of **10mm** high Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **10 mm** high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @ 250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	Sqm	367.20	₹ 4,751.52	**17,44,760**
9	**Painting Lines, Dashes, Arrows etc on Roads (Tranverse marking, Hazard Marking, Block Marking, Arrow marking etc.)-** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH	Sqm	8000.00	₹ 622.78	**49,82,240**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
	Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.				
10	**Overhead Signs (Gantry**) Remarks Serial No Item Unit Providing and erecting overhead signswithacorrosionresistant2mm thick aluminium alloy sheet reflectorised with high intensity retro-reflective sheeting of encapsulated lens type with vertical and lateral clearance given in clause 802.2and802.3andinstalledasper clause802.6overadesignedsupport system of aluminium alloy or galvanised steel trestles and trusses of sections and type as per structural design requirements and approved plans (Reference to MORT&H's specification 802) Unit rate vide item no. 7B, page no.145 West Bengal pwd sor R&B 2019-20				
10 i	Truss and Vertical Support	tonne	12.00	₹ 69,588.21	**8,35,058**
10 ii	**Providing and erecting overhead sign made of Class -C Micro Prismatic Sheeting of Type XI retro reflective sheeting as per IRC 67.** Providing and fixing overhead gantry mounted signs as per clause 801 & 802 of MORTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MORTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retroreflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367. The sign shall be fixed with vertical clearance of 6.0m from the highest finished level of entire carriageway including paved shoulder. For Cantilever mounted signs, the center of the sign is typically located over the carriageway edge line; however the left edge of sign shall be positioned no further left than the left edge of paved shoulder. On Gantry mounted signs, when number of signs are erected, the outer edges of signs shall not extend beyond the outer edge of paved shoulders on left side and paved edge strip on median side. Overhead Signs shall be placed on structurally sound gantry or cantilever structure made of GI pipes confirming to IS 1239. The lateral clearance of the gantry sign supports shall be confirming to clause 802.3 of MORTH specifications. The sign supports shall be firmly fixed to the ground by means of properly designed foundation as per approved drawing. All Components of signs and supports including gantry, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around gantry support posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities	sqm	99	10046.00	**9,94,554**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
	like in coastal areas. This is applicable to all road signs and directions boards.				
11	**Planting flowering plants and shrubs** in central verge (rate has been considered from WB PWD NH SOR 2019-20, item no 8(a), Pg No 174: Specification for saplings for Median Plantation Height- Around 60 Cm Collar Girth- 4 Cm Polybag Size- 15 Cm x 25 Cm Potting Mixture- 1:2:4 (Sand : FYM: Soil Mix) Half of the length of the seeding should have branches and leaves.	Km	3	₹ 1,80,933.00	**5,42,799**
12	**Supply and installation of Solar Integrated Street LED Light System (Single Arm) on existing pole - Street Light (Hybrid) 150 WATTs for each lighting fixture** Specification for Solar Semi Integrated Street Light (AC + DC- Hybrid) 150 WATTs - (Battery 1500 WH Minimum), IP Rating: IP 65, Efficiency >92%, Solar PV Module Mono Cell 200W 36V, H&T accessories panel clamp luminary arm, Warranty 5 years for Complete system.; lifetime of LED lamp of 50000 hrs; Charge Time – 6 hours by Sun, Discharge time – 2 Rainy days; High end energy storage with more than 2000 cycles; Peak lighting efficiency 150-180 lm/watt. Specifications specified herein are minimum. Including rectification or replacement of existing wires & panels so that Integrated Street Light is functional with both power sources & maintaining for entire contract period.	Nos	365.00	₹ 26,500.00	**96,72,500**
13	**Supply and installation of Solar Integrated High Mast LED light on existing pole (Hybrid)- Specification Solar Semi Integrated Street LED Light (Hybrid) 500 WATTs for each lighting fixture in each High Mast Light -** Specification Solar Semi Integrated Street Light (AC + DC- Hybrid) 500 WATTs (Battery 7500 WH Minimum), IP Rating: IP 65, Efficiency >92%, Solar PV Module Mono Cell 1000W 36V, Warranty 5 years for Complete system.; lifetime of LED lamp - 50000 hrs; Charge Time – 6 hours by Sun, Discharge time – 2 Rainy days; High end energy storage with more than 2000 cycles; Peak lighting efficiency 150-180 lm/watt. Specifications specified herein are minimum. Including rectification or replacement of existing wires & panels so that Integrated Street Light is functional with both power sources & maintaining for entire contract period.	Nos	5.00	₹ 22,500.00	**1,12,500**
14	**Centralized Web-Based Street Light Monitoring Portal (CCMS)-** Supply, installation, testing and commissioning (CCMS) men on also three phase. Centralized Controlling & Monitoring System for Street/High Mast Lights with Control Panel. Digital Control 6 Inputs Isola on Voltage 12/24 V DC Digital Control 4 Outputs Relay type Digital Controlling & monitoring of Parameters controller Run hour, - Hz, Voltage, Current, PF, KVA, KVAH, KW, KWH Under voltage / over voltage automatically cut of Modbus Communication RS-485 with multiple energy meter connectivity. Web based monitoring Selector Switch for Local/Remote opera on RYB Indica ng Lamp Panel size as per requirement SIM CARD For Data transfer to server for monitoring over Main Control Room One SIM card facility. Software facility for cloud based for online monitoring any me any ware with mobile & desktop login. Smart Lighting Automation: 1-Year CCMS Performance Report Available Anytime, Anywhere" Foundation Stand for CCMS Panel. Providing the foundation Size as pre required Stand With bolts as per specification mentioned below. The Foundation should have sufficient space for passing electricals cable from the bottom of the electric pole. Including maintenance for the entire contract period. Specifications specified herein are minimum. It shall be Contractor's responsibility of Implementation of Smart	Nos	15.00	₹ 1,60,000.00	**24,00,000**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
	Street Lighting through Centralized Web-Based CCMS on the project in accordance with SOP circulated vide NHAI Circular dated 23.03.2026.				
15	**Shoulder Restoration (M20)**- Constrcution of shoulders by providing and laying M20 grade cement concrete, including cleaning, subgrade preparation, watering, compacting, curing, and finishing to required levels and cambers.				
15 i	Construction of Subgrade and Earthen Shoulders cum 212.70 Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2 (Reference to MoRT&H's specification clause 305).	cum	1200.00	₹ 283.10	**3,39,724**
15 ii	PCC (M20)- Constrcution of shoulders by providing and laying M20 grade cement concrete, including cleaning, subgrade preparation, watering, compacting, curing, and finishing to required levels and cambers	Cum	1800.00	₹ 5,424.75	**97,64,546**
16	Plain/Reinforced cement concrete in open foundation complete all including vibrating and compacting, finishing, curing, sampling, testing etc. as per drawing and Technical Specifications (Reference to MORT&H's specifications 1500, 1700 & 2200). G. **RCC Grade M30**				
16 i	Box Drain Top Precast drain Cover	Cum	225.00	₹ 5,927.47	**13,33,680**
16 ii	Bottom Slab	Cum	225.00	₹ 5,927.47	**13,33,680**
16 iii	Side Wall	Cum	300.00	₹ 5,927.47	**17,78,240**
16 iv	Supplying, binding, fixing etc. including initial straightening, cutting to requisite length, hooking and bending to correct shape, placing in proper position of uncoated HYSD reinforcement bar in open foundation as per drawing and Technical Specifications (Reference to MORT&H's specifications 1600 & 2200).	Tonne	88.31	₹ 56,611.20	**49,99,477**
17	**Expansion joint**				
17 i	Supplying, binding, fixing etc. including initial straightening, cutting to requisite length, hooking and bending to correct shape, placing in proper position of uncoated HYSD reinforcement bar in sub-structure complete as per drawing and Technical Specif	MT	1.48	₹ 77,045.78	**1,14,028**
17 ii	Dismantling of Structures Dismantling of existing structures like culverts, bridges, retaining walls and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantle	Cum	25.20	₹ 879.79	**22,171**
17 iii	Supplying. preparing and placement of ready mix non shrink cementious microconcrete having no metalic aggregate or chlorides for repairing and \iackting of damagedR.C.C.members. Themicro concrete should achieve a compressive strength not less than 10 MPaa	Cum	18.90	₹ 51,051.46	**9,64,873**
17 iv	Strip Seal Expansion Joint Providing and laying of a strip seal expansion joint catering to maximum horizontal movement upto 80 mm manufactured by MORT&H ,GOI Approved/Empanelled manufacturer and complete as per approved drawings and standard specificatio	Rm	280.00	₹ 9,031.32	**25,28,770**
				Total cost	**41,56,78,289**

NH 317A 2Lane with PS section from Km 0+000 to 14+500 & 4 lane with PS from Km 14+500 to 17+551:

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
1	**Cold Milling** Cold Milling of Bituminous Pavement surface upto the required depth by mechanical means using milling machine, without disturbing the under lying layers, to proper line and level, cleaning the surface properly after milling and removing the loose materials, stacking the milled materials for re-use, necessary guarding, barricading & lighting, including hire charges of machinery, cost of fuel and labour and other incidental charges all complete and as per direction of Engineer-in-Charge. For depth upto 100mm	Sqm	5200.00	₹ 42.02	**2,18,504**
1 i	**Cold Milling** Cold Milling of Bituminous Pavement surface upto the required depth by mechanical means using milling machine, without disturbing the under lying layers, to proper line and level, cleaning the surface properly after milling and removing the loose materials, stacking the milled materials for re-use, necessary guarding, barricading & lighting, including hire charges of machinery, cost of fuel and labour and other incidental charges all complete and as per direction of Engineer-in-Charge. For depth upto 100mm	Sqm	2074.68	₹ 42.02	**87,178**
2	**2 Lane with PS Stretch**				
2 i	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	cum	5200.00	₹ 12,874.89	**6,69,49,442**
2 ii	Dense Graded Bituminous Macadam Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @4.0% (min.) for Grading 1 & 4.5% (min.) for Grading 2 by weight of total mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause No. 505.4 complete in all respects (Reference to MORT&H's specification clause 505).	cum	2000.00	₹ 12,260.23	**2,45,20,469**
2 iii	**Providing and applying primer coat** with cationic bitumen emulsion SS1 grade conforming to IS:8887 on prepared porous granular surface including Clearing of road surface and spraying primer using mechanical means (Reference to MORT&H's specification clause 502)	sqm	25000.00	₹ 92.48	**23,11,903**
2 vi	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	sqm	145000.00	₹ 14.62	**21,20,075**
2 v	**Mastic Asphalt, (With Pakur Variety stone materials.)**				

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
	Providing and laying 25mmthick mastic asphalt wearing course with approved grade bitumen meeting therequirementsgivenintable500 39, prepared by using mastic cooker and laid to required level and slope after cleaning the surface, including providing antiskid surface with bitumen precoated fine-grained hard stone chipping of 13.2mmnominal size attherateof0.005cumper10sqm andat anapproximate spacing of 10 cm center to center in both directions, pressed into surface when the temperatureof surfaces isnotlessthan100°C,protruding1 mm to 4 mm over masticsurface,allcompleteasper clause516(ReferencetoMORT&H's specificationclause516alongwith IRC:107). (With Pakur Variety stone materials.) From Km 8000 to 9500	cum	15000.00	₹ 716.64	**1,07,49,630**
2 vi	**4 Lane section from Km 14500 to 17551 = 3051 m**				
2 vii	**Providing and applying primer coat with cationic bitumen emulsion SS1** grade conforming to IS:8887 on prepared porous granular surface including Clearing of road surface and spraying primer using mechanical means (Reference to MORT&H's specification clause 502).	sqm	42500.00	₹ 92.48	**39,30,235**
2 viii	**Providing and applying tack coat with Cationic bitumen emulsion (RS1**) complying with IS:8887 using emulsion pressure distributor on the prepared bituminous/. i) On bituminous surface @ 0.20kg-0.3kg /sqm.	sqm	51867.00	₹ 14.62	**7,58,358**
2 ix	**Dense Graded Bituminous Macadam** Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with bituminous binder @4.0% (min.) for Grading 1 & 4.5% (min.) for Grading 2 by weight of total mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause No. 505.4 complete in all respects (Reference to MORT&H's specification clause 505).	cum	3400.00	₹ 12,260.23	**4,16,84,797**
2 x	**Providing and laying bituminous concrete** using crushed aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size), as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	Cum	2074.68	₹ 12,874.89	**2,67,11,282**
3	V-Drain/ Lined Drain by using PCC Grade-M-15	cum	961.07	₹ 5,522.50	**53,07,480**
4	**"Thrie"metal beam crash barrier** Providing and erecting a "Thrie"metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 85 cm above road/ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 2 m high with 1.15 m below ground level, all steel parts and fitments to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364, metal beam rail to be fixed on the vertical post with a space of channel section 150 x 75 x 5 mm, 546 mm long complete as per clause 811.	Rm	1500	₹ 3,795.84	**56,93,764**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
5	**Longitudinal Road Marking with Hot Applied Thermoplastic Compound** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.				
	Both edges of MCW for Full Project Length (2 lane)	sqm	4350.00		
	Both edges of MCW for Full Project Length (4 lane)		1830.60		
	Center line of MCW for Full Project Length (2 lane)		4350.00		
	Center line of MCW for Full Project Length (4 lane)		1830.60		
			12361.20	₹ 622.78	**76,98,308**
6	**Supplying & fixing of Raised Pavement Markers/Road Studs/Cats Eye** made of polycarbonate moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face which shall support a load of 13635 kg tested in accordance to ASTM D 4280 Type H and compling to Specifications of Category A of MoR&TH Circular No. RW/NH/33023/10-97 - DO III Dt. 11.06.1997 & MoRT&H's specification for Road &Bridge Works (Fifth Rev.)				
	6 mtr C/C both sideand center line. (14500 m 2 lane)	Nos	2416.67	₹ 219.98	**5,31,618**
	6 mtr C/C both sideand center line. (3051 m 4 lane)	Nos	508.50	₹ 219.98	**1,11,860**
6 i	**Solar Powered Road marker (Solar Stud)**: Supplying and installation of Solar Raised Pavement Markers made of polycarbonate moulded body with circular shape, solar powered, LED self-illumination in active mode, 360 degree illumination and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face in passive mode. The marker shall support a load of 20000 kg tested in accordance to ASTM D 4280. Its water resistance shall meet the requirements of IP 65 in accordance with IS:12063:1987 Category 2 for protection against water ingress. Colour of lighting could be provided in red or yellow (amber) or green or blue or combination as per requirement. It shall have super bright LEDs so as to provide long visibility from a distance of more than 800 m. Its flashing rate shall not be less than 1 Hz. It should be able to give the prescribed performance in the temperature range of -40°C to +55°C. Its life shall be not less than 3 years. The full charge should provide for a minimum autonomy of 50 hours operation. The height, width and length of the marker shall not be less than 10mm x 100mm x 100mm. Also the surface diameter of the marker shall not be less than 100mm respectively. The weight of marker shall not exceed 0.5 kilograms. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive and complete as directed by the Engineer (10 % of total project length 60400 m)	Nos	167	₹ 1,980.20	**3,30,033**
7	**Painting Two Coats on New Concrete Surfaces** Painting two coats, after filling the surface & applying a sealing primer, with synthetic enamel paint in all shades on new plastered concrete surfaces as per MORTH's specification 803.6.2.(Reference to MORT&H's specification 803) including If required plastering shall				

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
	be done during Initial rectification before plastering as per requirement.				
	Bus Shelter (5 Nos)	Cum	270.00		
	Culvert Parapet (16 nos of Culvert X 2 for the both side of parapet)		64.00		
	Median Kerb		375.38		
	ROB		1907.40		
	Bridge Railing (6 nos of Bridge)		1940.40		
			4557.18	₹ 42.77	**1,94,910**
8	**Retro Reflectorised Traffic Signs** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works and IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For signs above 600mm size, retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting vide or 4mm thick Aluminium composite material sheet vide clause 801 of MoRTH Specifications for Roads & Bridge Works. For signs above 600mm sizes, sign shall be fixed over back support frame of minimum 35 x 35x 3 mm angle Frame. For signs above 600mm size, Signs shall be supported on GI circular pipe 80 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength bolts, washers nuts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the retro-reflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from an Government laboratory/ Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital. printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards from (i) to (iii)				
(i)	90cm Equilateral Triangle	Nos	40	₹ 5,439.34	**2,17,574**
(ii)	80cm*60cm Rectangular	Nos	10	₹ 6,703.60	**67,036**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
(iii)	75 cm circular	Nos	30	₹ 4,787.72	**1,43,631**
(iv)	**60cm*50 cm Chevron-** Providing and fixing of sign as per clause 801 of MORTH Specifications for Roads & Bridge Works (5th Revision) IRC: 67 (2022) made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. For Signs up 600mm size, retro reflective sheet shall be fixed over 1.5mm Thick aluminium sheeting vide or 3mm thick Aluminium composite material vide clause 801 of MORTH Specifications for Roads & Bridge Works. For signs upto 600mm sizes, sign shall be fixed over back support frame of minimum 25x25x 3 mm Angle Frame. For signs upto 600mm size, Signs shall be supported on GI circular pipe 65 NB, 3.2 mm thickness confirming to IS 1239. Retro-Reflective sheet shall be fixed on Substrate with Pressure Sensitive Adhesive. The Substrate shall be firmly riveted on Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength nuts, washers & bolts conforming to IS1364 and IS 1367 on Sign Support Pole. Sign Supports shall be firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45 cm x 45 cm x 60, 60 cm below ground level as per approved drawling. All Components of signs and supports including Angle Frame, Bolts, Nuts, Washers, etc. other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retroreflective sheeting shall be pasted around GI posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retroreflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders as per clause 6.8 of IRC 67 shall be digitally printed. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro re-flective sheeting from the retroreflective sheet manufacturer confirming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from a Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with details of essential equipment available with convertor in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67-2022 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.	Nos	40	₹ 4,661.23	**1,86,449**
8					

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
i	**(2Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **5 mm high**, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	sqm	576.00	₹ 3,050.00	**17,56,800**
ii	**(4Lane Section) -** Providing and Laying of **5mm high** Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **5 mm high**, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	sqm	244.80	₹ 3,050.00	**7,46,640**
iii	**(2Lane Section) -** Providing and Laying of **10mm** high Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **10 mm** high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @ 250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete**.**	sqm	576.00	₹ 4,751.52	**27,36,878**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
iv	**(4Lane Section) -** Providing and Laying of **10mm** high Single Rib Pattern Transverse Bar Markings with 2 component cold plastic with specialised cold plastic Primer coating rolled on surfacing material solvent free, high build two pack seamless, tough, skid resistant, for material to reduce speed. Cold Plastic road marking material shall be applied in single monolithic application to create rumble strip raised section of **10 mm** high, 300 mm wide confirming to clause 3.7 of IRC 99, across the entire carriageway. Each rumble marking shall be made complete with specialised high refractive index glass beads of minimum reflectivity index of 1.5. The glass bead shall be @ 250gm/sqm. Type 1 beads (Refer MORTH Specification Clause803.4.2) which are a constituent of the basic cold plastics compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be levelled, uniform and free from streaks and holes, to be applied on the edge lines, including surface cleaning and cost of all materials etc. complete.	sqm	244.80	₹ 4,751.52	**11,63,173**
9	**Painting Lines, Dashes, Arrows etc on Roads (Tranverse marking, Hazard Marking, Block Marking, Arrow marking etc.)-** Providing and Laying hot applied thermoplastic road marking strip on Bituminous Surface of specified shade/ colour of 2.5 mm thick including Type 1 beads (Refer MoRTH Specification Clause803.4.2) which are a constituent of the basic thermoplastic compound vide Table 800-9 (MORTH Specification) and Type 2 beads are those which are to be sprayed on the surface vide Clause 803.6.4 (MoRTH Specification). The glass beads shall have a minimum reflectivity index of 1.5. The glass bead shall be@ 250gm/sqm. The thermoplastic road marking material thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC 35. Pavement Marking Performance such as Day/Night visibility, Dry/Wet visibility and skid resistance shall be confirming to clause 15.5 of IRC 35. The finished surface to be level, uniform, and free from streaks and holes complete as per direction of Engineer-incharge and in accordance with applicable specifications. (Refer MORTH Clause 803 for technical Specification and Performance for IRC 35:2015). Recommended Use of specialized Road Marking Primer, based on surface conditions.	Sqm	3500.00	₹ 622.78	**21,79,730**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
10	**Providing and erecting overhead sign made of Class -C Micro Prismatic Sheeting of Type XI retro reflective sheeting as per IRC 67. Aluminium Alloy Plate for Over Head Sign (Gantry) Unit rate vide item no. 7B, page no.145 West Bengal pwd sor R&B 2019-20** Providing and fixing overhead gantry mounted signs as per clause 801 & 802 of MORTH Specifications for Roads & Bridge Works (5th Revision) and IRC: 67 made of class -C Micro Prismatic Grade Sheeting of Type XI retro reflective sheeting. The retro reflective sheeting shall have manufacturer logo, watermark and lot number on the sheet. A QR (Bar) code shall also be placed on the backside of the sign board with an indelible ink. Retro reflective sheet shall be fixed over 2 mm thick aluminium sheeting or 4mm thick Aluminium composite material sheet vide clause 801 of MORTH Specifications for Roads & Bridge Works. The sign shall be fixed over back support frame of minimum 40x40x 5mm Angle Frame. Retroreflective sheet shall be fixed on substrate with Pressure Adhesive. The substrate shall be firmly riveted on angle frame @200mm spacing with aluminium pop rivets using Pneumatic guns. The Angle frame shall be firmly fixed with high strength Bolts, washers & nuts conforming to IS1364 and IS 1367. The sign shall be fixed with vertical clearance of 6.0m from the highest finished level of entire carriageway including paved shoulder. For Cantilever mounted signs, the center of the sign is typically located over the carriageway edge line; however the left edge of sign shall be positioned no further left than the left edge of paved shoulder. On Gantry mounted signs, when number of signs are erected, the outer edges of signs shall not extend beyond the outer edge of paved shoulders on left side and paved edge strip on median side. Overhead Signs shall be placed on structurally sound gantry or cantilever structure made of GI pipes confirming to IS 1239. The lateral clearance of the gantry sign supports shall be confirming to clause 802.3 of MORTH specifications. The sign supports shall be firmly fixed to the ground by means of properly designed foundation as per approved drawing. All Components of signs and supports including gantry, bolts, nuts, washers, etc., other than the reflective portion shall be galvanized by hot dip process (Zinc coated, 0.55 kg/sqm; minimum single spot) unless otherwise specified. All galvanizing shall be done after fabrication. Alternate white and yellow bands measuring 50 mm long retro-reflective sheeting shall be pasted around gantry support posts which help in ensuring the visibility/Presence of poles during night time even if the sign boards are stolen or totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5 m above the finish road level. The messages (legends, letters, numerals, etc.) and borders shall be digitally printed confirming to clause 6.8 of IRC 67. Finished Signs shall have an Ultra Violet (UV) protective clear overlay applied to the entire face of the signs supplied by reflective sheet manufacturer. The agency shall submit 10 years warranty for satisfactory field performance for type XI retro reflective sheeting from the manufacturer conforming to clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory/Institute conforming to clause 6.7 & 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign convertor (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant etc. The Agency shall submit road sign installation drawing in 'Kmz' file for approval before installation and after installation submit geo-tagging of all road signs with its installation photos and date of installation and other details as mentioned in IRC 67 annexure VII, complete in all respects. The sign supports and its foundation details are indicative. These may be increased for areas having higher wind velocities like in coastal areas. This is applicable to all road signs and directions boards.				
10 i	Truss and Vertical Support	tonne	8.00	₹ 69,588.21	**5,56,706**
10 ii	Aluminium Alloy Plate for Over Head Sign	sqm	66.00	₹ 10,046.00	**6,63,036**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
11	**Planting flowering plants and shrubs** in central verge (rate has been considered from WB PWD NH SOR 2019-20, item no 8(a), Pg No 174: Specification for saplings for Median Plantation Height- Around 60 Cm Collar Girth- 4 Cm Polybag Size- 15 Cm x 25 Cm Potting Mixture- 1:2:4 (Sand : FYM: Soil Mix) Half of the length of the seeding should have branches and leaves.	Km	3	₹ 1,80,933.00	**5,42,799**
12	**Dry Lean Cement Concrete Sub- base** Construction of zero slump dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate as per approved design mixed, aggregate cement ratio not to exceed 14:1 where OPC is used and 12:1 where PSC or PPC is used, aggregate gradation after blending to be as per table 600-1, cement content as per clause 601.2.2, cementitious material content not to be less than 140 kg/cum with use of mineral admixture if used to be as per clause. 3.4 of IRC:SP:49 (2014) optimum moisture content to be determined during trial length construction, concrete strength not to be less than 7 Mpa at 7 days as per Cl.4.1 of IRC:SP:49(2014), mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing (Reference to MORT&H's specification 601 along with IRC:SP:49).	Cum (PR)	273.00	₹ 5,566.19	**15,19,570**
12 i	**Cement Concrete Pavement** Construction of un-reinforced, dowel jointed, plain cement concrete pavement of specified grade with characteristic flexural strength of concrete not less than 4.5 MPa over a prepared sub base as per clause 602 of MORT&H's specification 2013 and cement content as per clause 602.3.2 , coarse and fine aggregate conforming to IS 383, using fine and coarse aggregates of approved variety combined gradation as per Table 600-3 of MORTH specification 2013, maximum size of coarse aggregate not exceeding 31.5 mm, mixed in a batch mix plant with weigh batching facility as per approved mix design done as per IRC:44, transported to site, laid with a slip form paver with electronic sensor , spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant as per IRC:57, debonding strip, dowel bar, tie bar, admixtures as approved, tinning, texturing, curing, finishing to lines and grades as per drawing (Reference to MORT&H's specification 602 along with IRC 15).	Cum	546.00	₹ 8,950.70	**48,87,080**
12 ii	Plain/Reinforced cement concrete in open foundation complete all including vibrating and compacting, finishing, curing, sampling, testing etc. as per drawing and Technical Specifications (Reference to MORT&H's specifications 1500, 1700 & 2200). G. **RCC Grade M30**				
	Pre-cast BOX Culvert (5 x 25) Top Slab & Invert, with top slab to be provisioned for water inlet	Cum	79.50		
	Side walls		35.00		
	Catch pit along all the culverts and cascade drops -guide wall (Back+front wall)		3.18		
	Catchpit Invert		1.06		
			118.74	₹ 6,218.26	**7,38,356**
	Supplying, binding, fixing etc. including initial straightening, cutting to requisite length, hooking and bending to correct shape, placing in proper position of uncoated HYSD reinforcement bar in open foundation as per drawing and Technical Specifications (Reference to MORT&H's specifications 1600 & 2200).	Tonne	13.98	₹ 57,150.20	**7,99,053**

Sl. No	Brief Description of Item of Work	Unit	Total	Rate	Amount
12 iii	**Design Review Charge:** 5% of the respective item cost from S. no. 12 to S. No. 12ii. The detailed design and drawings shall be prepared in accordance with site conditions and will be vetted by IIT.				**3,97,203**
13	**Supply and installation of Solar Integrated Street LED Light System (Single Arm) on existing pole - Street Light (Hybrid) 150 WATTs for each lighting fixture** Specification for Solar Semi Integrated Street Light (AC + DC- Hybrid) 150 WATTs - (Battery 1500 WH Minimum), IP Rating: IP 65, Efficiency >92%, Solar PV Module Mono Cell 200W 36V, H&T accessories panel clamp luminary arm, Warranty 5 years for Complete system.; lifetime of LED lamp of 50000 hrs; Charge Time – 6 hours by Sun, Discharge time – 2 Rainy days; High end energy storage with more than 2000 cycles; Peak lighting efficiency 150-180 lm/watt. Specifications specified herein are minimum. Including rectification or replacement of existing wires & panels so that Integrated Street Light is functional with both power sources & maintaining for entire contract period.	Nos	46.00	₹ 26,500.00	**12,19,000**
13 i	**Supply and installation of Solar Integrated High Mast LED light on existing pole (Hybrid)- Specification Solar Semi Integrated Street LED Light (Hybrid) 500 WATTs for each lighting fixture in each High Mast Light -** Specification Solar Semi Integrated Street Light (AC + DC- Hybrid) 500 WATTs (Battery 7500 WH Minimum), IP Rating: IP 65, Efficiency >92%, Solar PV Module Mono Cell 1000W 36V, Warranty 5 years for Complete system.; lifetime of LED lamp - 50000 hrs; Charge Time – 6 hours by Sun, Discharge time – 2 Rainy days; High end energy storage with more than 2000 cycles; Peak lighting efficiency 150-180 lm/watt. Specifications specified herein are minimum. Including rectification or replacement of existing wires & panels so that Integrated Street Light is functional with both power sources & maintaining for entire contract period.	Nos	1.00	₹ 22,500.00	**22,500**
14	**Centralized Web-Based Street Light Monitoring Portal (CCMS)-** Supply, installation, testing and commissioning (CCMS) men on also three phase. Centralized Controlling & Monitoring System for Street/High Mast Lights with Control Panel. Digital Control 6 Inputs Isola on Voltage 12/24 V DC Digital Control 4 Outputs Relay type Digital Controlling & monitoring of Parameters controller Run hour, - Hz, Voltage, Current, PF, KVA, KVAH, KW, KWH Under voltage / over voltage automatically cut of Modbus Communication RS-485 with multiple energy meter connectivity. Web based monitoring Selector Switch for Local/Remote opera on RYB Indica ng Lamp Panel size as per requirement SIM CARD For Data transfer to server for monitoring over Main Control Room One SIM card facility. Software facility for cloud based for online monitoring any me any ware with mobile & desktop login. Smart Lighting Automation: 1-Year CCMS Performance Report Available Anytime, Anywhere" Foundation Stand for CCMS Panel. Providing the foundation Size as pre required Stand With bolts as per specification mentioned below. The Foundation should have sufficient space for passing electricals cable from the bottom of the electric pole**.** Including maintenance for the entire contract period. Specifications specified herein are minimum. It shall be Contractor's responsibility of Implementation of Smart Street Lighting through Centralized Web-Based CCMS on the project in accordance with SOP circulated vide NHAI Circular dated 23.03.2026.	Nos	4.00	₹ 1,60,000.00	**6,40,000**
				Total cost	**22,10,93,060**

BILL NO. 4: EMERGENCY WORKS

This Bill has indicative quantities and shall be executed as per project need and with approval of Engineer. Separate work order to be issued by Engineer for such works. The same will be payable at rates provided in the BOQ adjusted for plus/ minus quoted percentage by the Bidder. For Non-BOQ items, payment shall be made on applicable SOR rates as on 28 days before the bid due date adjusted for percentage above or below as per the contract on total indicative amount of the work as assessed by the Engineer with due escalation as per the contract.

2. The overall quoted percentage by the Bidder on the indicative amounts for the stipulated schedule items as below only shall be considered. Payment for the stipulated items will be made on actual execution and its measurement basis after application of tender discount/premium on the rates given by the Employer below:

Item No.	Items	Unit	Quantity	Rate (Rs)
1	**Machinery**			
1.01	Truck Tipper (5.5 cum)	Hour	20	1,649.00
1.02	Rubber Tyred Roller (15 Tonne)	Hour	20	2,440.00
1.03	Patrol Truck (4 – 6 Tonne)	Hour	20	873
1.04	Supervisors Vehicle	Hour	20	500
1.05	Backhoe (JCB)	Hour	20	1,717.00
1.06	Loader (1.0 m3)	Hour	20	1,717.00
1.07	Grass Slasher (Tractor Mounted)	Hour	20	1,200.00
1.08	Chainsaw	Hour	20	200
1.09	Hot mix Paver	Hour	20	6,971.00
1.1	Vibrating Smooth Drum Roller 10 Tonne	Hour	20	2,429.00
1.11	Motor Grader (4.2 m blade)	Hour	20	4,747.00
1.12	Mechanical Vibrating Plate	Hour	20	569
2	**Materials**			
2.01	Supply, Deliver and Place 10 mm Sealing Chips	cum	20	2103.6
2.02	Supply, Deliver and Place 20 mm Fine Crushed Rock	cum	20	2433.6
2.03	Supply, Deliver and Place 75 mm Wet mix Macadam	cum	20	3,469.36
2.04	Supply, Deliver and Place Hard Shoulder Material	cum	55	1176.5
2.05	Excavation for roadway in soil using manual means including loading in truck for carrying of cut earth to embankment site with all lifts and lead upto 1000 metres	cum	95	189.69
2.06	Concrete M 30	cum	13	7625.39
2.07	Supply and Fog spray	sqm	585	77.39

Item No.	Item No.	Items	Unit	Quantity	Rate (Rs)	Rate (Rs)
2.08		**Dense Graded Bituminous Macadam** Providing and laying dense graded bituminous macadam with approved grade bitumen meeting the requirements given in table 500-39, prepared by grading, using premixed with bitumen @ 4.0% (min.) for Grading 1 & 4.5% (min.) for Grading 2 by weight of total mix and filler (Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.505 complete in all respects (Reference to MORT&H's specification clause 505).	Cum	As per requirement	11527.71	
2.09		**Providing and laying bituminous concrete** (With Paver finisher) using crushed materials aggregates of specified grading, premixed with bituminous binder @ 5.2% (min.) for Gr.-1(19mm agg size) & @ 5.4% (min.) for Gr.- 2 (13.2mm agg size) as per table 500-17, of mix and filler(Cement /lime / Rock dust), transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.507complete in all respects (Reference to MORT&H's specification clause 507) With Continuous Type HMP (40-60 TPH). (i) for Grading 2 (13.2 mm nominal size) (layer thickness 40mm). Repair of Patch repair/overlaying for the total Project length	Cum	As per requirement	12648.23	
		Providing and laying Cement concrete of specified grade, including curing and finishing of the surface, but excluding the cost of centering, shuttering, finishing and reinforcement, complete in all respects as per MORTH specification clause 1703 and IRC:15 (Reference to MORT&H's specification clause 1703 and IRC:15).				
		3 Labour:				
	3.01	Supervising Engineer	Day	40		1250
	3.02	Foreman	Day	40		455
	3.03	Labourer	Day	40		376
		Total Cost towards Emergency Works = Rs. 3,23,75,989/-				

Section 10

Summary of Assest

Section 11

Scope of Work

(As minimum provision)

As per BOQ and relevant MoRT&H's Guidelines

SECTION – 12

Initial Rectification (IR) Works

&

Periodical Maintenance (PM) Works

Mode of Payment and Payment Schedule

Mode of Payment and Payment Schedule would be as per actuals as per satisfaction of Engineer.

APPENDIX- IA, ANNEXURE-XI

Insurance Surety Bond for BID Security

Nil

APPENDIX-IA, ANNEXURE-XII

(See Clauses 32.1)

FORM OF SURETY BOND

[Performance Security/Additional Performance Security]

Nil