

## FORM OF AGREEMENT

### AGREEMENT

This agreement made on the ..... day of ....., 20... between the National Highways Authority of India, New Delhi (hereinafter called “the Employer” of the one part and ..... (herein after called “the Contractor”) of the other part.

AND WHEREAS the Employer invited financial quotes from eligible bidders for the execution of certain works, 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, the Employer by his letter of acceptance dated \_\_\_\_\_ accepted the offer submitted by the Contractor for the execution and completion of such works and remedying of any defects thereon, on terms and conditions in accordance with the documents listed in para 2 below.

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 a performance security pursuant to Para-13 of the Invitation for E-quotation.

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) Contract Data,
  - (d) Conditions of Contract
  - (e) Technical Specifications,
  - (f) Drawings, if any
  - (g) Implementation Manual and Maintenance Intervention Level
  - (h) Bill of Quantities,
  - (i) Priced BOQ/Financial Quote by Contractor 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 works 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** \_\_\_\_\_

For and on behalf of National Highways Authority of India

**Binding Signature of Contractor** \_\_\_\_\_

For and on behalf of M/s. \_\_\_\_\_

In the presence of

1. Name :
- Address:

2. Name :
- Address:

In the Presence of

1. Name:
- Address:

2. Name:
- Address:

**(SECTION-I)**

**CONDITIONS OF CONTRACT AND  
CONTRACT DATA**

**A. General**

1. Definitions
2. Interpretation
3. Language and Law
4. Engineer's Decisions
5. Delegation
6. Communications
7. Subcontracting
8. Other Contractors
9. Personnel
10. Employer's and Contractor's Risks
11. Employer's Risks
12. Contractor's Risks
13. Insurance
14. Site Investigation Reports
15. Queries about the Contract Data
16. Contractor to Construct the Works & do maintenance
17. The Works to Be Completed by the Intended Completion Date
18. Approval by the Engineer
19. Safety
20. Discoveries
21. Possession of the Site
22. Access to the Site
23. Instructions
24. Deleted
25. Deleted
26. Deleted

**B. Time Control**

27. Programme
28. Extension of the Intended Completion Date
29. Delays Ordered by the Engineer
30. Management Meetings

**C. Quality Control**

31. Identifying Defects
32. Tests
33. Correction of Defects
34. Uncorrected Defects
35. Bill of Quantities

**D. Cost Control**

36. Variations
37. Payments for Variations
38. Cash Flow Forecasts

**Table of Clauses**

39. Payment Certificates
40. Payments
41. Compensation Events
42. Taxes and currencies for payment
43. Price adjustment -
44. Security Deposit/ Retention Money
45. Liquidated Damages
46. Advance Payment
47. Securities
48. Cost of Repairs
- E. Finishing the Contract**
49. Completion
50. Taking Over
51. Final Account
52. Operating and Maintenance Manual
53. Termination
54. Payment upon Termination
55. Property
56. Release from Performance
- F. Other Conditions of Contract**
57. Labour
58. Compliance with Labour Regulations
59. Drawings and Photographs of the Works
60. The Apprenticeship Act, 1961
61. Obligations relating to Local Content

## Section I Conditions of Contract

### A. General

#### 1. Definitions

1.1 Terms which are defined in the Contract Data are not defined in the Conditions of Contract but 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.

**Compensation Events** are those defined in Clause 41 hereunder.

**The Completion Date** is the date of completion of the Works as certified by the Engineer, in accordance with Clause 49.1.

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

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

**The Contractor** is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.

**The 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.

**A Defect** is any part of the Works not completed in accordance with the Contract.

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

**The Defects Liability Period** is the period named in contract data and calculated from the Completion Date.

**Defect liability period for whole of the work of Bill shall be 6 months as per Contract Data calculated from the date of issue of completion certificate by Engineer.**

**Drawings** include calculations and other information provided or approved by the Engineer for the execution of the Contract.

**The Employer** 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 of its functions to a person or body nominated by him for specified functions.

**The 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.

**Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to

construct the Works.

**The Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.

**The Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time after the approval from Employer.

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

**Plant** is any integral part of the Works that shall have a mechanical, electrical, electronic, chemical, or biological function.

The **Site** is the area defined as such in the Contract Data.

**Site Investigation Reports** are those that were included in the bidding documents and are factual interpretative reports about the surface and subsurface conditions at the Site.

**Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Engineer.

The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.

A **Sub-Contractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

**Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.

A **Variation** is an instruction given by the Engineer after the approval from NHAI, which varies the Works.

The **Works** are what the Contract requires the Contractor to construct, install, maintain, and handover to the Employer, **as defined in the Contract Data.**

## **2. Interpretation**

**2.1** 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.

**2.2** If sectional 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 Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

**2.3** The documents forming the Contract shall be interpreted in the following order of priority.

- (a) Agreement,
- (b) Letter of Acceptance
- (c) Contract Data,

- (d) Conditions of Contract
- (e) Technical Specifications,
- (f) Drawings, if any
- (g) Implementation Manual and Maintenance Intervention Level
- (h) Bill of Quantities,
- (i) Priced BOQ/Financial Quote by Contractor and
- (j) Any other document listed in the Contract Data.

### **3. Language and Law**

- 3.1 The language of the Contract and the law governing the Contract are stated in the Contract Data.

### **4. Engineer's Decisions**

- 4.1 Except where otherwise specifically stated, the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

### **5. Delegation**

- 5.1 The Engineer, duly informing the Employer, may delegate any of his duties and responsibilities to other people except to the Adjudicator, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.

### **6. Communications**

- 6.1 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.

### **7. Subcontracting- Deleted.**

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

### **9. Personnel**

- 9.1 The Contractor shall employ the technical personnel named in the Contract Data or other technical persons approved by the Engineer. The Engineer will approve any proposed replacement of technical personnel only if their relevant qualifications and

experience 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, a penalty of Rs 50,000/- Per Month in case of Project Manager and Rs 25,000/- Per month in case of other key personnel will be imposed upto maximum period of 03 Months. Thereafter, it will be treated as a breach of contract and action will be taken as per clause 53.

- 9.2 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 in the Contract.

## **10. Employer's and Contractor's Risks**

- 10.1 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**

- 11.1 The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in the Employer's country, 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, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

## **12. Contractor's Risks**

- 12.1 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 responsibility 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 end of defect liability period for events (a) to (d), in the 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, Plant and Materials;
- b) loss of or damage to Equipment;
- c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
- d) Personal injury or death.

- 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 effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be debt due.



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

13.4 Both parties shall comply with any conditions of the insurance policies.

#### **14. Site Investigation Reports**

14.1 The Contractor, in preparing the Bid, may rely on any Site Investigation Reports referred to in the Contract Data, supplemented by any other information available to him, before submitting the bid.

#### **15. Queries about the Contract Data**

15.1 The Regional Office, Hyderabad, Telangana shall clarify queries on contract data.

#### **16. Contractor to Construct the Works & do maintenance**

16.1 The Contractor shall construct, install and maintain the Works in accordance with the documents forming part of the contract.

#### **17. The Works to Be Completed by the Intended Completion Date**

17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Programme submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion Date.

#### **18. Approval by the Engineer**

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

18.2 The Contractor shall be responsible for design of Temporary Works.

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

18.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

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

#### **19. Safety**

19.1 The Contractor shall be responsible for the safety of all activities on the Site.

#### **20. Discoveries**

20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be 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**

- 21.1 The Employer shall give complete possession of the Site to the Contractor on the date of signing of agreement.

**22. Access to the Site**

- 22.1 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**

- 23.1 The Contractor shall carry out all instructions of the Engineer, which comply with the applicable laws where the Site is located.
- 23.2 The Contractor shall permit the Employer to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by Auditors appointed by the Employer if so required by the Employer.

**24. Deleted**

**25. Deleted.**

**26 Deleted**

**B. Time Control**

**27. Programme**

- 27.1 The Engineer shall issue the indent of work in stages specifying the time limit for the same as and when required. The Contractor shall submit to the Engineer for approval a programme within the time stipulated in the Contract Data showing the general methods, arrangements, order, and timing for all the activities in the Works, along with monthly cash flow forecasts.
- 27.2 An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities.
- 27.3 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.

- 27.4** 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.

## **28. Extension of the Intended Completion Date**

- 28.1** The Engineer shall extend the Intended Completion Date only after the approval of NHAI 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.
- 28.2** The Engineer shall decide whether and by how much time to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Indented Completion Date.

## **29. Delays Ordered by the Engineer**

- 29.1** 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.

## **30. Management Meetings**

- 30.1** The Engineer may require the Contractor to attend a management meeting. The business of a management meeting shall be to review the plans for the Works.
- 30.2** The Engineer shall record the business of management meetings and provide copies of the record to those attending the meeting. The responsibility of the parties for actions to be taken shall be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all those who attended the meeting.

## **C. Quality Control**

### **31. Identifying Defects**

- 31.1** The Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect.

### **32. Tests**

- 32.1** The contractor shall be solely responsible for:
- a. Carrying out the mandatory tests prescribed in the documents forming part of contract.
  - b. For the correctness of the test results, whether preformed in his laboratory or elsewhere.
- 32.2** If the Engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples.
- 32.3** Subject to further condition in contract data

### **33. Correction of Defects noticed during the Defect Liability Period.**

- 33.1** The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be.
- 33.2** Every time notice of a defect is given, the Contractor shall correct the notified defect at his own cost within the length of time specified by the Engineer's notice. If the contractor is in default the Engineer shall cause the same to be made good by other workmen and deduct the expenses from any sums that may be due to the contractor.

### **34. Uncorrected Defects**

- 34.1** If the Contractor has not corrected a Defect/completed the work, 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/completed, and the Contractor will pay this amount.
- 34.2** If the Contractor has not completed the work to the satisfaction of the Engineer, within the time specified in the Engineer's notice/indent, in no case exceeding one month, the Engineer will assess the cost of having the work completed and get the work completed through some other agency and the Contractor will pay this amount in addition to the damages specified as per clause 45.

## **D Cost Control**

### **35. Bill of Quantities**

**35.1** The Bill of Quantities shall contain items for the construction, installation, testing, and commissioning and maintaining works to be done by the Contractor.

**35.2** The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rates in the Bill of Quantities for each item for the work executed.

#### **35.3 Changes in Quantities**

**35.3.1** The Engineer shall, having regard to the scope of the Works and the sanctioned estimated cost, have power to order Changes in the Quantities with the approval of NHAI

**35.3.2** Engineer is also empowered to order omission of any item of BOQ, after approval from Authority for which contractor shall not make any type of claim from NHAI.

#### **35.3.3 Deleted**

### **36. Variations**

**36.1.** All variations shall be included in updated programmes produced by the Contractor. The Authority/Employer shall, having regard to the scope of the Works and the sanctioned estimated cost shall order variation as per extent Policy Guidelines of NHAI and after approval from Authority.

**36.2** Such variation may be for any change in quantity of any item in the Bill of Quantities.

**36.3** Such variation may be for execution of any quantity of any new item which is not available in the Bill of Quantities.

### **37. Payments for Variations**

**37.1** If rates for Variation items are specified in the Bill of Quantities, the Contractor shall carry out such work at the same rate.

- 37.2 The rates for any new item not specified in the Bill of Quantities, shall be derived by the Engineer from the rates of the similar items in the Bill of Quantities.
- 37.3 In case the rate for the new item cannot be determined in the a manner as specified in Clause 37.2, the rates for the new item shall be derived from, current schedule of rates of the Telangana PWD / R&B for Road Bridge works along with Tender Discount/premium.
- 37.4 If the rate for new item cannot be determined in the manner specified in Clause 37.2 & 37.3, the Contractor shall, within 7 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 based on data book of MORTH. The Engineer shall assess the quotation and determine the rate based on prevailing market rates within 15 days of the submission of the claim by the Contractor after seeking approval from NHAI.
- 37.5 The maximum positive variation shall be restricted to 3% of contract price.

### **38. Cash Flow Forecasts**

- 38.1 When the Programme is updated, the Contractor shall provide the Engineer with an updated cash flow forecast.

### **39. Payment Certificates**

- 39.1 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.
- 39.2 The Engineer shall check the Contractor's monthly statement within 15 days and certify the amount to be paid to the Contractor after taking into account any credit or debit for the month in question.
- 39.3 The value of work executed shall be determined, based on measurements by the Engineer.
- 39.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
- 39.5 The value of work executed shall also include the valuation of Variations and Compensation Events.
- 39.6 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 later information.
- 39.7 The final bill shall be submitted by the contractor within one month of the actual date of completion of the work; otherwise the Engineers 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.

### **40. Payments**

- 40.1 Payments shall be adjusted for deductions for, security deposit, other recoveries in terms of the Contract and taxes at source, as applicable under the law. The Employer shall pay the Contractor the amounts Engineer had certified within 28 days of the date of each certificate.
- 40.2 The Authorized Representative of the Employer shall make the payment certified by the Engineer.
- 40.3 Items of the Works for which no rate or price has been entered in the Bill of Quantities, will not be paid for by the Employer and shall be deemed to be covered by other rates and prices in the Contract.

#### **41 Compensation Events**

**41.1** 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.

**41.2** 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 the approval of the employer.

**41.3** 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.

#### **42. Taxes & Currencies for payments**

42.1 All duties, taxes (excluding the Goods & Service tax), 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. The employer will perform duties in regards to the deduction of such taxes at sources as per applicable Law. The GST shall be paid on reimbursement basis (as applicable) subject to production of proof of such payment by the Contractor (Proof should contain name of work).

42.2 All payments will be made in Indian Rupees.

#### **43. Price Adjustment- Deleted.**

#### **44. Security Deposit / Retention Money**

44.1 The Employer shall retain security deposit of five percent of the amount from each payment due to the Contractor until Completion of the whole of the Works.

44.2 The security deposit/retention money and the performance security will be released to the Contractor when the Defect 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.

44.3 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).

#### 44.3 Deleted

#### 45. Liquidated Damages

45.1 The Contractor shall pay liquidated damages to the Employer at the rate or part thereof stated in the Contract Data for each day that the Completion Date is later than the Intended Completion Date. 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.

45.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any overpayment of liquidated damages by the Contractor by adjusting in the next payment certificate. The contractor shall not be paid interest on the over payment of liquidated damages.

#### 46. Advance Payment

46.1 Deleted

46.2 Deleted

46.3 Deleted.

#### 47. Securities

47.1 Subject to further condition in contract data, the Performance Security equal to **Five 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. **Additional performance security has to be submitted by the successful bidder as specified in So. No. 3 of Annexure 1 of NHAI circular no. 11.84/2026 dated 13.02.2026. All provisions of So. No. 3 of Annexure 1 of NHAI circular no. 11.84/2026 dated 13.02.2026 shall be applicable on the successful bidder.** The Performance Security shall be valid until a date 28 days after the expiry of Defect Liability Period and the additional performance security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion. The validity shall account for additional 3 months' time to account for BG verification, signing of contract and start date.

#### 48. Cost of Repairs

48.1 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 their cost if the loss or damage arises from the Contractor's acts or omissions.

#### E. Finishing the Contract



#### **49. Completion**

- 49.1 When the whole of the works has been completed as per the provision of the Contract, the Contractor shall request the Engineer to issue a certificate of Completion of the Works. The Engineer shall, within 14 days of the date of receipt of such request, either issue to the Contractor, with a copy to the Employer, a completion certificate, stating the date on which, the works were completed in accordance with the contract, or give instructions in writing to the contractor specifying all the work which, in the Engineer's opinion, is required to be done by the Contractor before the issue of such certificate.

#### **50. Taking Over**

- 50.1 The Employer shall take over the Site and the Works within seven days of the Engineer's issuing a certificate of Completion of all the items included in the these bills.

#### **51. Final Account**

- 51.1 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 and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer shall issue within 56 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 56 days of receiving the Contractor's revised account.

#### **52. Operating and Maintenance Manual**

- 52.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them within 28 days from date of issue of certificate of completion.

- 52.2 Deleted.

#### **53. Termination**

- 53.1 The Employer may terminate the Contract if the Contractor causes a fundamental breach of the Contract.

- 53.2 Fundamental breaches of Contract include, but shall not be limited to, the following:

- a) the Contractor stops work 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 reconstitution 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 correct it within a reasonable period of time determined by the Engineer.
- d) the Contractor does not maintain a Security, which is required.
- e) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in clause

45.

- f) the Contractor fails to provide insurance cover as required under clause 13;
- g) if the Contractor, in the judgement of the Employer, has engaged in the corrupt or fraudulent practice in competing for or in executing the Contract. For the purpose of this clause, "corrupt practice" means offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in Contract execution. "Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid process at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.
- h) if the Contractor has not completed at least thirty percent of the value of Work required to be completed after half of the completion period has elapsed.
- i) if the Contractor fails to set up a field laboratory with the prescribed equipment, within the period specified; and
- j) any other fundamental breach as specified in the Contract Data.

**53.3** Notwithstanding the above, the Employer may terminate the Contract for convenience.

**53.4** If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible but in no case later than 7 days.

#### **54. Payment upon Termination**

**54.1** If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done and less the percentage to apply to the value of the work not completed, as indicated in the Contract Data. Additional Liquidated Damages shall not apply. 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.

**54.2** If the contract is terminated for convenience and the value of works balance to be done is more than 10% of the original contract price, then compensation @5% of the value of works (difference between actual balance quantity and 10% of contract price ) will be granted to the Contractor, which will be full and final settlement of all claims arising out of this contract.

#### **54.3 CURTAILMENT OF DLP & RECOVERY**

If, the Contractor is engaged by NHAI at site for 4/6/8 laning project before expiry of DLP, then the balance DLP period shall be condoned by recovery of an amount equal to 1% of contract value per annum (considering 365 days per annum) proportionately. In this regard decision of NHAI shall be final and binding on the contractor.

#### **55. Property**

**55.1** All Materials on the 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.

#### **56. Release from Performance**

**56.1** 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

Emergent repair/restoration/maintenance works on project works of "Short Term Improvements and Routine Maintenance of 4/6-lane with paved shoulder stretch from Km 40+000 to Km 100+000 on Hyderabad to Vijayawada section of NH-65 in the state of Telangana (Package-I)" at the risk and cost of Contractor under Clause 34.2 of Contract Agreement.

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**

### **57. Labour**

- 57.1** The Contractor shall, make arrangements of his own cost and expenses for the engagement of all staff and labour, local or others; for their payment, housing, feeding and transport; and for compliance with various labour laws/ regulations.
- 57.2** The Contractor shall, as asked 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 the Site and such other information as the Engineer may require.

### **58. COMPLIANCE WITH LABOUR REGULATIONS**

- 58.1** During the currency 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 notified already or that may be notified 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 below. 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 laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct any money due to the Contractor including from his performance security/ retention money. The Employer/Engineer 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. The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.
- 58.2 SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK.**
- 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 on separation if an employee has completed the prescribed minimum years (say, five years) of service or more or

on death the rate of prescribed minimum days" (say, 15 days) wages for every completed year of service. The Act is applicable to all establishments employing the prescribed minimum number (say, 10) or more employees.

c) **Employees P.F. and Miscellaneous Provision Act 1952:** The Act Provides for monthly contributions by the Employer plus workers at the rate prescribed (say, 10% or 8.33%). 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 1951:** - 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 prescribed minimum (say 20) or more 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 the 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 employing prescribed minimum (say, 20) or more workmen. The Act provides for payments 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 prescribed minimum (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 Employers. The Trade Unions registered under the Act have been 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 provides for 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 prescribed minimum (say, five) or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the 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 employs the prescribed minimum (say, 10) or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. 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 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 prescribed minimum (say, 10) persons or more with aid of power or another prescribed minimum (say, 20) or more persons without the aid of power engaged in manufacturing process.

## **59. Drawings and Photographs of the Works**

- 59.1** The contractor shall do photography/videography of the site firstly before the start of the work, secondly mid-way in the execution of different stages of work and lastly after the completion of the work. No separate payment will be made to the contractor for this.
- 59.2** 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 59.1, shall be taken or permitted to be taken by the Contractor or by any of his employees or any employees of his sub-Contractors without the prior approval of the Engineer in writing. No photographs/ Videography shall be published or otherwise circulated without the approval of the Engineer in writing.

## **60. The Apprenticeship Act 1961**

- 60.1** The Contractor shall duly comply with the provisions of the Apprenticeship Act 1961 (III of 1961), the rules made thereunder 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.

## **61 Obligations relating to Local Content**

The Contractor [Class I Local Supplier/ Class II Local Supplier/ Non Local Supplier] undertakes 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.

Emergent repair/restoration/maintenance works on project works of "Short Term Improvements and Routine Maintenance of 4/6-lane with paved shoulder stretch from Km 40+000 to Km 100+000 on Hyderabad to Vijayawada section of NH-65 in the state of Telangana (Package-I)" at the risk and cost of Contractor under Clause 34.2 of Contract Agreement.

### Contract Data

Items marked "N/A" do not apply in this Contract.

S. No.	Description	Clause Reference
1.	<p>The Employer is  <b>Chairman, NHAI</b>  <b>Address: G-5 &amp; 6, Sector-10,</b>  <b>Dwarka, New Delhi</b></p> <p>Name of authorized Representative of Employer:  Regional officer-Hyderabad  National Highways Authority of India,  D. No. 8-2-269/S/94, 3<sup>rd</sup> and 4<sup>th</sup> floors, Plot no. 94, Road No. 2  Sagar society, Banjara Hills,  Hyderabad-500034,  Telangana  <b>E-mail: <a href="mailto:rohyderabad@nhai.org">rohyderabad@nhai.org</a></b>  <b>Phone No. 040-29562147/48</b></p>	[Cl.1.1]
2.	The Engineer will be intimated later	[Cl.1.1]
3.	The Intended Completion Date for whole of the work in: <b>15 months.</b>	[Cl.1.1, 17&28]
4.	The Site is located between chainage 40+000 and Km 100+000 on Hyderabad to Vijayawada section of NH-65 in the state of Telangana.	[Cl.1.1]
5.	The Start Date shall be 7 days after the date of issue of the Notice to proceed/signing of contract agreement.	[Cl.1.1]
6.	<p>(a) The name and identification number of the Contract is: [Cl.1.1]</p> <p>Emergent repair/restoration/maintenance works on project works of "Short Term Improvements and Routine Maintenance of 4/6-lane with paved shoulder stretch from Km 40+000 to Km 100+000 on Hyderabad to Vijayawada section of NH-65 in the state of Telangana (Package-I)" at the risk and cost of Contractor under Clause 34.2 of Contract Agreement.</p> <p>"(b) The Works consist of "Emergent repair/restoration/maintenance works on project works of "Short Term Improvements and Routine Maintenance of 4/6-lane with paved shoulder stretch from Km 40+000 to Km 100+000 on Hyderabad to Vijayawada section of NH-65 in the state of Telangana (Package-I)" at the risk and cost of Contractor under Clause 34.2 of Contract Agreement.</p>	[Cl.1.1]
7.	<p>(a) The law which applies to the Contract is the law of Union of India.</p> <p>(b) The language of the Contract documents is English</p>	[Cl.3.1]
8.	Sub-contracting is not allowed.	[Cl.7.1]
9.	Schedule of Other Contractor - NIL	[Cl 8.1]



Emergent repair/restoration/maintenance works on project works of "Short Term Improvements and Routine Maintenance of 4/6-lane with paved shoulder stretch from Km 40+000 to Km 100+000 on Hyderabad to Vijayawada section of NH-65 in the state of Telangana (Package-I)" at the risk and cost of Contractor under Clause 34.2 of Contract Agreement.

10.	Technical personnel shall be notified by PD,PIU-Hyderabad.	[Cl 9.1]
11.	Amount for insurance are: a) Rupees equivalent to Contract price. b) Rupees equivalent to 5% of Contract price. c) Rupees equivalent to 5% of Contract price. d) Rupees 5 lakhs for multiple incidents. As per standard industrial norms. And deductible as per premium rate	[Cl.13.1]
12.	Site Investigation Report - NIL	[Cl 14.1]
13.	(A) The period for submission of the programme for approval of Engineer shall be 3 days from the issue of Letter of Commencement. (B) (a) Identified indented work – Weekly Indent-3 days before start of week (2) Emergent Indent - Within 24 hours.	[Cl.27.1]
14.	Amount to be withheld for delays in submission of updated programme: 1% of value of work corresponding to the updated programme	[Cl.27.3]
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 days from the date of notice to start work.	[Cl.32]
16.	The Defect Liability Period will be 6 months works from the actual Date of Completion.	
17.	(a) Amount of liquidated damages for delay in completion of works-For identified Indented work 0.1 percent of the Indented value, rounded off to the nearest thousand, per day with the minimum of Rs. 1000/-per day	[Cl.45.1]
	(b) Maximum limit of liquidated damages for delay in completion of work 10 per cent of the Initial Contract Price rounded off to the nearest thousand.	
18.	The standard form of Performance Security acceptable to the Employer Shall be an unconditional Bank Guarantee of the type as presented in the Bidding Documents.	[Cl. 47.1]
19.	Other fundamental breach is that the contractor has failed to complete 75% of value of indented work in any 3 indents issued by the Engineer.	[Cl. 53.2 (j)]
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%.	[Cl. 54.1]

Emergent repair/restoration/maintenance works on project works of "Short Term Improvements and Routine Maintenance of 4/6-lane with paved shoulder stretch from Km 40+000 to Km 100+000 on Hyderabad to Vijayawada section of NH-65 in the state of Telangana (Package-I)" at the risk and cost of Contractor under Clause 34.2 of Contract Agreement.

**(SECTION-II)**

**TECHNICAL SPECIFICATIONS**

## **TECHNICAL SPECIFICATIONS**

### **2.1 PREAMBLE:**

The Technical Specifications contained herein shall be read in conjunction with the other Bidding Documents as specified.

### **2.2 GENERAL REQUIREMENTS**

The Technical Specifications in accordance with which the entire work described hereinafter shall be executed and completed by the Contractor shall comprise of the following:

#### **PART - I - GENERAL TECHNICAL SPECIFICATIONS**

The General Technical Specifications shall be the “SPECIFICATIONS FOR ROAD AND BRIDGE WORKS” (FIFTH REVISION, 2013) issued by the Ministry of Road Transport & Highways, Government of India and published by the Indian Roads Congress, hereinafter referred to as MORT&H Specifications.

#### **PART - II - SUPPLEMENTARY TECHNICAL SPECIFICATIONS**

When an Amended/Modified/Added Clause supersedes a Clause or part thereof in the said Specifications, then any reference to the superseded clause shall be deemed to refer to the Amended/Modified/Added Clause or part thereof.

In so far Amended/Modified/Added Clause may come in conflict or be inconsistent with any of the provisions of the MOST Specifications under reference, the Amended/Modified/Added clause and the additional specifications shall always prevail.

- 2.2.1 In the absence of any definite provisions on any particular issue in the aforesaid Specifications, reference may be made to the latest codes and specifications of IRC and BIS in that order, Where even these are silent, the construction and completion of the works shall conform to sound engineering practice as approved by the Engineer and, in case of any dispute arising out of the interpretation of the above, the decision of the Engineer shall be final and binding on the Contractor.
- 2.2.2 The Authority/Client shall get the 3<sup>rd</sup> party quality audit of Bituminous work or any other work if required from any nearest reputed government technical institute for its gradation, bitumen content and thickness for every km and construction agency shall bear the cost of these tests.
- 2.2.3 Repairing / filling of all potholes/cracks on the National Highway stretch shall be performed only by using mechanized method with facility to have integrated operation for proper cutting in shape i.e., square/rectangular, cleaning, priming, laying and compacting by mechanical means.
- 2.2.4 The Contractor will sign the checklist of deliverables enclosed as Appendix at Section II, 4.4 B (b) (iii) which shall be used as a basic monitoring tool so as to ensure that the O&M/renewal obligations are actually fulfilled.
- 2.2.5 The above provisions are to be complied with by the Contractor/Executing Agency

without any financial implication payable to them. Further if, the Contractor has not been able to fulfill the above-mentioned provisions within a cure period of 15 days, Authority will fulfill these provisions at the risk and cost of the Contractor/Executing Agency.

- 2.2.6 Supervision and Execution of works shall be done in conformity with NHAI Policy circular no. 10.2.37/2024 dated 08.07.2024

**(SECTION-III)**

**IMPLEMENTATION MANUAL**

## **SECTION - III IMPLEMENTATION MANUAL**

### **8.1 Introduction**

8.1.1 Maintenance & Rehabilitation work of highway through one agency is the work of typical nature, which shall continue up to the expiry of base period specified in the contract (excluding defect liability period). These works need attention, efficiency, continuous monitoring and responsive management. This implementation manual spells out detailed guide-lines for implementing the maintenance programme successfully, defining the various activities to be accomplished by the Employer and the Contractor.

8.1.2 This package includes routine, periodic, recurrent and urgent maintenance activities to repair highway surface, shoulders, road side, drainage facilities, CD work, signs, markings and inspection facilities. The works of different nature at scattered locations within specified time frame need to be performed conforming to specifications and standards in order to keep carriageway in perfect condition.

### **8.2 Maintenance Procedures**

8.2.1 Deleted

### **8.3 Deleted**

8.3.1 Deleted

### **8.4 Resource Estimation**

8.4.1 The Engineer shall workout the yearly requirement of funds based on unit prices rates quoted by Contractor and quantities of various items proposed to be executed. A tentative programme shall be drawn on the basis of resources available with the contractor at different times of maintenance period including available establishment, equipment and labour availability with him. Cash flow available with the contractor shall also be basic input to determine proposed maintenance programme.

### **8.5 Identification of Priorities**

8.5.1 The Engineer shall work out order of priority, judiciously in order that jobs that have the stronger claim or resources placed ahead of the list and those having least claim are placed at the end.

8.5.2 Deleted

8.5.3 Deleted

8.5.4 Deleted

## **8.6 Work Scheduling**

8.6.1 The work of road is of unpredictable nature so quantities shown against each item or work are only representative. It is expected that they would be consumed during the entire base period of works but employer would not be responsible to pay any compensation etc. in case there is variation to any extent in quantity of actual execution of particular item of work with respect to representative quantity shown in BOQ for that particular work.

8.6.2 Scrutinized work proposals shall be negotiated by the Engineer with Contractor for quantity and time to complete those particular activities and accordingly they shall be classified into two groups:

Group – I: Works of short duration of completion (up to 2 months)

Group – II: Works of larger duration of Completion (more than 2 months)

8.6.3 For works under Group I, Weekly Indent, Monthly Indent, Quarterly indents shall be issued and for works classified under Group 2, the Engineer shall issue bi-annual indents. These indents shall mean to identify, quantify the various works which contractor is expected to execute on his unit rates quoted by him at specified locations within the time period assigned in the indents. Each indent shall be treated as part of the work for which contractor has submitted Bids. The terms & conditions applicable in bid document shall also be applicable to these indented works.

8.6.4 In case of urgency requiring immediate actions to remove road blockade, to construct temporary diversion or urgent preventive measures to reduce extent of expected damages or to make precautionary arrangements to handle emergencies,. Engineer shall issue interim indents for such works / arrangements to be complied with by the contractor in responsible manner without loss of time.

## **8.7 Work Management**

8.7.1 The success of Contract maintenance system lies with good work management. The contractor shall draw activities which shall be accomplished by in house crew and portion of the work to be accomplished with sub contractors.

8.7.2 The contractor can also consider to introduce communication system (like mobile, etc). on the Highway for better and efficient management of site.

## **8.8 Work Control & Quality Assurance**

8.8.1 The Engineer shall adopt random sampling procedures to ensure quality control. Engineer shall carry out in- process inspections and end product inspections to collect samples and shall carry out testing in order to determine the degree of adherence to the maintenance standards of delivered or constructed material. Any testing / checking of works by Engineer shall not absolve the contractor from his responsibility to execute works strictly in

accordance of MoRT&H / IRC / IS specifications or laid down standards in bid document.

- 8.8.2 A quality control laboratory equipped with all instruments required to perform tests as indicated in MoRT&H / IRC / IS specifications at frequency mentioned therein shall have to be provided by the contractor. Contractor shall ensure that testing of all material delivered or constructed is regularly carried out by his field staff as per standard norms and results of these tests are recorded in specified manner and made available to Engineer whenever required by him. The contractor shall provide the QC laboratory, as incidental to work and no separate payment shall be made for this item. The QC lab shall also be made available to Engineer for conducting tests of his own.
- 8.8.3 Work Control & Quality Assurance The Engineer shall adopt random sampling procedures to ensure quality control. Engineer shall carry out in- process inspections and end product inspections to collect samples and shall carry out testing in order to determine the degree of adherence to the maintenance standards of delivered or constructed material. Any testing / checking of works by Engineer shall not absolve the contractor from his responsibility to execute works strictly in accordance of MoRT&H / IRC / IS specifications or laid down standards in bid document.
- 8.8.4 A quality control laboratory equipped with all instruments required to perform tests as indicated in MoRT&H / IRC / IS specifications at frequency mentioned therein shall have to be provided by the contractor. Contractor shall ensure that testing of all material delivered or constructed is regularly carried out by his field staff as per standard norms and results of these tests are recorded in specified manner and made available to Engineer whenever required by him. The contractor shall provide the QC laboratory, as incidental to work and no separate payment shall be made for this item. The QC lab shall also be made available to Engineer for conducting tests of his own.
- 8.8.5 In- process inspections shall be carried out by the Engineer to witness and or to verify the quality / quantity of work, when activity is in process with aim to judge justification of payment. Engineer shall carry out end product inspections after completion of the activity to provide satisfactory evidence about acceptability of the contractors work.
- 8.8.6 The results of in process inspections, end product inspections and quality control tests shall form basis of acceptance of completed works and issuance of Non Conformance Report (NCR)s. Items of Works or unit of material or the end product do not meet the specifications / standards shall be identified by "Non-Conformance- Report" and can become basis of rejection of work on establishing the authorized disposition.



8.8.7 Non Conformance Report: Defective or uncompleted work shall not be paid. Such work shall also be notified to the Contractor within 10 days of submission of bill through non-conformance report (NCR). The NCR shall clearly identify the item of work that is non – conforming either to specification or to a specific requirement in the contract document. Once NCR is identified, it shall be evaluated and of the dispositions would be established.

- a. "Do" Identifies the work which has not been done at all at site within specified time limit. An NCR issued with "Do" disposition for the work should immediately be undertaken by contractor.
- b. "Re-Do" Identified the work, that is non conforming of all quality aspects. Such works be totally removed & redone.
- c. "Re-work" Requires part of particular item identified in this category be reworked to bring it to the quality required.
- d. "Use-as-is" Applied where Engineer accepts work "as-is" notwithstanding the fact that it does not exactly conform to the contract requirements. This work shall be accepted only for agreed reduced rates with respect to unit rates quoted in financial bid by the contractor otherwise shall be re-classified under disposition "Do" or "Re-Do"

## 8.9 Payment Procedures

8.9.1 The contractor shall submit to the Engineer after the end of each month bill in two copies, each signed by authorized contractor's representative in standard format, showing the amounts to which the contractor considered himself to be entitled upto the end of the month. These bills should be prepared each indent wise.

- The Engineer after scrutiny of the bills shall certify and recommend the payments for completed accepted works within 14 days of presentation of bill to him to the employer subject to deductions as per bid documents.
- The employer shall pay the amount due to the Contractor under certificate and recommendations by the Engineer within 28 days after it has been delivered to the Employer.

## 8.10 Records & Documentation

8.10.1 The results of all inspections shall be documented. The test results containing documentary evidence of activities and data relevant to the quality of work and performance of the contractor shall also be documented. The field daily to be filled by Site Engineer of Contractor shall be a basic form of documentation. The activities to be entered in daily dairy are

- The description of day's activities, number and type of crew on job, equipment on job weather and temperature
- Any measurement made to determine pay quantities
- Daily summary of material issued in the job
- A record of significant conversations with and direction given to the contractor
- A record of bottlenecks with the progress or execution of the work
- A record of material testing in lab

Emergent repair/restoration/maintenance works on project works of "Short Term Improvements and Routine Maintenance of 4/6-lane with paved shoulder stretch from Km 40+000 to Km 100+000 on Hyderabad to Vijayawada section of NH-65 in the state of Telangana (Package-I)" at the risk and cost of Contractor under Clause 34.2 of Contract Agreement.

- Details of visit by officials

8.10.2 The Contractor shall carryout road roughness measurement as directed by Engineer for the entire stretch at the end of the pavement maintenance and shall submit the complete record to NHAI. There shall not be any separate payment on account of this. The payment pertaining to this shall be deemed to be included in the items of works.

8.11 Deleted

**SECTION: IV BILL OF QUANTITIES**

The Appendix forms part of Bid. Bidders are required to fill up all the blanks in the form of Bid and Appendix thereto)

#### FINANCIAL BID FORM

**The Regional Officer,**

Regional office-Hyderabad  
National Highways Authority of India,  
D. No. 8-2-269/S/94, 3rd and 4th floors, Plot no. 94, Road No. 2  
Sagar society, Banjara Hills,  
Hyderabad-500034,  
Telangana

DESCRIPTION OF WORKS: Emergent repair/restoration/maintenance works on project works of “Short Term Improvements and Routine Maintenance of 4/6-lane with paved shoulder stretch from Km 40+000 to Km 100+000 on Hyderabad to Vijayawada section of NH-65 in the state of Telangana (Package-I)” at the risk and cost of Contractor under Clause 34.2 of Contract Agreement.

Reference	letter	No.
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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 for the sum of Rs. (Rupees\_\_\_\_\_) or such other sum as may be ascertained in accordance with the said Bid documents.

2. We undertake, if our Bid is accepted, to commence the work within Seven (07) 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 bidhereto.
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 the 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 documents 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 \_\_\_\_\_ 2025

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 \_\_\_\_\_

\_\_\_\_\_

## Bill of Quantities

### Preamble

1. The Bill of quantities shall be read in conjunction with the Instructions to Bidders, Conditions of Contract, Scope of Work and Specifications.
2. The quantities given in the Bill of quantities are estimated quantities. The basis of payment will be actual quantities of work indented and carried out and valued at the rates and prices tendered in the priced Bills of quantities, where applicable and otherwise at such rates and prices as the Engineer may fix within the terms of Contract.
3. The rates and prices tendered in the priced Bill of Quantities shall include all equipment, plant, tools, spares, labour, supervision, overheads, consumables, materials, erection, maintenance, testing of input material delivered, profit, taxes and duties together with all general risks, liabilities and obligations set out and implied in the Contract and other incidentals to comply with the requirements of technical specifications and scope of work.
4. The rates and prices shall be quoted entirely in Indian Currency.
5. A rate or price shall be entered as a single rate as Tender Premium % above / below on the amount in General Abstract.
6. The whole cost of complying with the provisions of the contract shall be included in the items provided in the priced Bill of Quantities and where no rates are provided the cost shall be deemed to be distributed among the rates and prices entered for the related items of work.
7. The contractor shall keep the entire carriageway neat and clean throughout the contract period. The contractor shall maintain guard rails, railings, crash barriers, road furniture etc in good condition by cleaning them frequently as advised/ required by using suitable detergents/chemicals.
8. The staff of the contractor shall wear safety jackets, shoes, helmets etc. while on duty and any violation will attract a fine of Rs. 5,000/- for each incident.  
Failure to erect safety signage or trying to carry out the works without proper precautions/safety measures as required will attract a fine of Rs. 5,000/- for each incident.
9. General directions and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. Reference to the relevant sections of the bidding document shall be made before entering rates or prices against each item in the Bill of Quantities.

**Name of Work:** Emergent repair/restoration/maintenance works on project works of “Short Term Improvements and Routine Maintenance of 4/6-lane with paved shoulder stretch from Km 40+000 to Km 100+000 on Hyderabad to Vijayawada section of NH-65 in the state of Telangana (Package-I)” at the risk and cost of Contractor under Clause 34.2 of Contract Agreement.

#### ABSTRACT OF COST

Bill No.	Description of Item	Amount
1	Road Maintenance	₹ 5,80,67,694.00
2	Road Property Management and Other Maintenance	₹ 3,79,18,371.00
3	Safety Improvement (Engineering Works)	₹ 25,10,96,712.00
4	Incident Management	₹ 1,05,50,640.00
5	Miscellaneous	₹ 33,20,258.00
	<b>Sub Total (A)</b>	<b>₹ 36,09,53,675.00</b>

**Detailed Bill of Quantities** for the work of Emergent repair/restoration/maintenance works on project works of “Short Term Improvements and Routine Maintenance of 4/6-lane with paved shoulder stretch from Km 40+000 to Km 100+000 on Hyderabad to Vijayawada section of NH-65 in the state of Telangana (Package-I)” at the risk and cost of Contractor under Clause 34.2 of Contract Agreement.

Item No.	Description of Items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
<b>BILL NO.1 : ROAD MAINTENANCE</b>					
1.01	Maintenance of unpaved shoulders and slopes on both sides of the carriageway including the shoulders of service road, if any. It includes removal of Rank vegetation/weeds, Blading/grading at the required camber using motor grader , Providing spot reconditioning ,reconstruction and re-gravelling to repair specific erosion or	km/Month	615.00	11,886.00	73,09,890.00

	<p>other damages for restoring the eroded area to originally constructed cross section on cuts and fills slopes/ shoulders conforming to Technical Specifications clause no. 3002, 3003. The work also include disposal of surplus material outside ROW and addition of selected soil conforming to Technical Specifications clause no. 305 brought from borrow areas located outside ROW. It includes cleaning of dust/dirt from existing Guard Rail etc. with water and detergent within ROW. It also includes routine maintenance such as cleaning/straightening of all type of road signs including Gantries, road studs and delineators etc. as directed by the Engineer-in-charge.</p>				
1.02	Providing repair to grouted stone pitching over the already prepared surface/slopes of guide bunds, rivers training works, and road embankments as per MoRTH section 2500 complete in all respect as directed by Engineer.				
1.02A	Using Boulders available at site	Cum	75.00	262.00	19,650.00
1.02B	Using Procured material(Granite)	Cum	75.00	574.00	43,050.00



1.03	Clearing, cleaning, deepening and reshaping of road side unlined/kaccha drains and making shallow kaccha lateral drains on shoulders wherever required, including removal and disposal of sediments, extraneous debris and vegetation growth blocking the free flow from site outside ROW with all leads and lifts complete in all respects as directed by the Engineer in charge and as per Additional Maintenance Standard Clause no. 6.12.2. (Frequency of cleaning in rural areas is twice in year i.e. before and after monsoon).	m	12000 0.00	122.00	1,46,40,000.00
1.04	Cleaning road side/Median open lined/pucca drains/cover drains/pipe drains/ longitudinal and transverse covered drains including Manhole, gratings, Channels and Gullies etc of all sizes and bring them to original shape, drainage capacity including disposal of sediments, extraneous debris & vegetation growth blocking the free flow from site outside ROW with all leads and lift complete in all respect as directed by Engineer in charge as per Additional	m	85000 .00	77.00	65,45,000.00

	Maintenance Standard Clause no. 6.12.1. (Frequency of cleaning in urban areas is quarterly and rural areas twice in year i.e before and after monsoon)				
1.05	Clearing slab/ box type culverts and pipe culverts including clearing, cleaning and reshaping of upstream and down stream faces of these culverts with in right of way. The job includes disposal of excess material recovered from site including vegetation outside ROW with all leads and lifts complete in all respect as per direction of Engineer In-Charge. (Frequency of cleaning will be twice in a year i.e. before start of monsoon and after).				
1.05A	A) Slab/Box type Culverts	No.	70.00	20,071.00	14,04,970.00
1.05B	B) Pipe Culverts	No.	166.00	8,028.00	13,32,648.00
1.06	Carrying out proper cleaning of carriageways, footpaths, verges, expansion joints (for free movement), drainage spouts of bridge including removal and disposal of trash, plastic, vegetation etc. from site outside ROW complete as per direction of Engineer. (Frequency of cleaning is two times in a year i.e. before	Rmt. Of the bridge	352.00	19.00	6,688.00

	and after the monsoon).				
1.07	Loading, Unloading, Transportation & disposal of surplus material left over by accidental vehicle or otherwise lying on road (on carriageway) with all lead & lifts complete as directed by Engineer in Charge	Cum	244.79	175.40	42,936.00
1.08	Carrying out proper cleaning, and removing of dust/silt/thrash /plastic/rubbish/garbage/waste from the carriageway, Service roads, Truck Lay bay, Bus bays and footpaths, verges (excluding the verges of central median) by mechanical brooms established with vehicle tracking system and manually if required and as directed by the Engineer-in-charge. The payment will be made as per the report of vehicle tracking system indicating the location and kilometers travelled and number of passes on that stretch covering the full kilometer. The cleaning includes full width of both sides of carriageway and service road, if any and confirming to 6.10 of Scope of Work of Section-6 and as directed by the Engineer-in-charge. The payment will be				

	deducted proportionately as per the report of VTS.				
1.08A	A. Urban Area (frequency of cleaning is monthly)	km/month	142.95	19,262.00	27,53,503.00
1.08B	B) Rural area (Frequency of cleaning is Once in a Quarter)	km/month	226.59	19,262.00	43,64,538.00
1.09	Removal of rank vegetation/weeds and undesirable vegetation from Toe line of embankment slopes to ROW complete in all respect including breaking of clods, rough dressing and disposal of waste material and vegetation at a place outside ROW as per direction of Engineer-In-Charge.	Sqm	1127490	4.00	45,09,960.00
1.10	Providing localized repair to rutted portion or bituminous surface at scattered location by applying tack coat as per MoRT&H technical specification Clause 503 and then filling the depression with bituminous concrete by using paving grade bitumen conforming to MoRT&H technical specification clause no. 507, complete in all respect as directed by the Engineer.	Cum	400.00	17,957.00	71,82,800.00

1.11	Providing localized repair to broken edges of carriageway at scattered location by applying tack coat as per MORT&H technical specification Clause 503 and then filling the depression with bituminous concrete by using paving grade bitumen conforming to MORT&H technical specification clause no. 507, complete in all respect as directed by the Engineer.	Cum	50.00	17,957.00	8,97,850.00
1.12	Providing sealing cracks wider/less than 3mm using slow curing bitumen emulsion @ 0.66 kg per 10 mtrs of the cracks and stone crusher screening @ 0.004 cum/10 mtrs complete as per MORT&H Technical Specification clause no. 5.13 and as per clause 5.17 and as per the direction of the engineer in charge.				
1.12A	less than 3mm wide	Sqm	4200.00	71.00	2,98,200.00
1.12B	wider than 3mm	Sqm	1000.00	116.00	1,16,000.00
1.13	Providing treatment to bleeding bituminous surface by uniform spreading of crusher dust/other fine graded material @ 2.5 kg per sqm, properly rolled as per clause 3004.4 of MoRT&H technical specification complete in all respect and as per direction of Engineer-in charge.	Sqm	5000.00	3.50	17,500.00

1.14	Providing treatment and repair to pot holes/ patch repair of all types of bitumen pavement complete as per MORT&H technical specification Clause 3004.2, and as per direction of Engineer-in-charge.				
1.14A	(a) Filling potholes and patch repair upto 50 mm thickness after removal of all failed material, trimming of completed excavation to provide firm vertical faces cleaning of surface, painting of tack coat on the sides & base of excavation as per clause no. 503, back filling the potholes/patch with hot bituminous concrete as per MoRT&H clause 507. Compacting trimming and finishing the surface to form a smooth continuous surface all as per MORT&H clause no. 3004.2.	Sqm	289.6 7	903.00	2,61,572.00
1.14B	(b) Filling potholes and patch repair beyond 50 mm thickness after removal of all failed material, trimming of completed excavation to provide firm vertical faces cleaning of surface, painting of tack coat on the sides & base of excavation as per MORT&H clause no. 503, back filling the potholes/patch with hot bituminous concrete as per MORT&H clause 507. Compacting trimming	Sqm	413.2 5	1,354.00	5,59,541.00

	and finishing the surface to form a smooth continuous surface all as per MORT&H clause no. 3004.2.				
1.15	Plain / Reinforced Cement concrete of specified mix as under with stone aggregates 20mm nominal size mechanically mixed and vibrated in foundation, sub-structure and superstructure including shuttering/ formwork conforming to MoRTH Specification Clause no. 1000, 1500 & 1700				
1.15A	PCC M15 Grade	Cum	10.00	6,092.00	60,920.00
1.15B	PCC M 20 grade	Cum	19.50	6,587.00	1,28,447.00
1.16	Reinforced Cement concrete of specified mix as under with stone aggregates 20 mm nominal size mechanically mixed and vibrated in foundation, substructure and superstructure for thin as well as thick section including shuttering/formwork conforming to MoRTH Specification Clause No.1000,1500&1700 but excluding cost of reinforcement.				
1.16A	RCC M 20 grade	Cum	20.00	6,744.00	1,34,880.00
1.16B	RCC M 25 grade	Cum	10.00	7,188.00	71,880.00
1.16C	RCC M 30 grade	Cum	10.00	7,250.00	72,500.00

1.17	Providing and fixing position HYSD reinforcement in abutment, pier, superstructure, crash barrier and in other structure complete as per MORT&H technical specification Section 1600 and as directed by the Engineer.	MT	2.00	72,742.00	1,45,484.00
1.18	Dismantling structure and pavement including disposal of resultant materials and salvaging the useful material complete in all respect as per MORT&H clause 202 and as per the direction of the Engineer.				
1.18A	a) Plain concrete	Cum	10.00	914.00	9,140.00
1.18B	b) RCC including clearing, straightening and cutting of bars and separating out of RCC	Cum	4.00	1,091.00	4,364.00
1.19	Dismantling of road including wearing courses, base courses, and sub base courses including stacking of old serviceable material complete in all respect as per MORT&H clause 202 and as per direction of Engineer.	Cum	30.00	499.00	14,970.00
1.20	Cement Pointing of any design/repair to existing pointing, with cement mortar 1:4 on all types of masonry work excluding stone masonry in superstructure/ substructure as per MoRTH specification	Cum	50.00	8,978.00	4,48,900.00



	clause no. 1000 & 1300 .				
1.21	Cement Pointing of any design/repair to existing pointing, with cement mortar 1:3 on stone masonry work in superstructure/ substructure as per MoRTH specification clause no. 1000 & 1300.	Cum	20.00	5,293.00	1,05,860.00
1.22	Cement plaster/ repair to cement plaster in thickness 12-20 mm in cement mortar 1:4 on all types of masonry works in superstructure / substructure at any height as per MoRTH Clause No. 1000, 1300 & 1400.	Sqm	100.00	153.00	15,300.00
1.23	Construction of Footpaths/ separators/ traffic Islands by Providing 150 mm thick compacted GSB as per MoRTH Section 401 & 25mm thick cement concrete grade M-15 base over laid with 25 mm thick M-20 precast cement concrete chequered tiles in cement mortar 1:3. The joints of the tiles to be bonded & finished with neat cement slurry etc.. complete in all respects.	Sqm	100.00	997.00	99,700.00
1.24	Provide treatment and repair to pot holes/patch repair of all types of bitumen pavement by using bitumen emulsion complying with IS 8887 of a type and grade approved by				

	Engineer in charge complete as per technical specification Clause 3004-2, IS 8887 and MORT&H Clause 507 as per approval direction of Engineer in charge				
1.24A	(a) Filling potholes and patch repair with bituminous concrete upto 50 mm thickness after removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides & base of excavation as per clause no. 503, back filling the patch with bituminous concrete prepared by using bitumen emulsion complying with IS 8887 and other material detailed as per clause no. 507. Compacting trimming & finishing the surface to form a smooth continuous surface all as per MORT&H clause no. 3004.2 of Technical Specification.	Sqm	3487.50	903.00	31,49,213.00
1.24B	(b) Filling potholes and patch repair with bituminous concrete beyond 50 mm thickness after removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides & base of excavation as per clause no. 503, back	Sqm	960.00	1,354.00	12,99,840.00

	filling the patch with bituminous concrete prepared by using bitumen emulsion complying with IS 8887 and other material detailed as per MORT&H clause no. 507. Compacting trimming & finishing the surface to form a smooth continuous surface all as per MORT&H clause no. 3004.2 of Technical Specification.				
	<b>TOTAL FOR BILL NO 1</b>				<b>5,80,67,694.00</b>
<b>BILL NO.2 : ROAD PROPERTY MANAGEMENT</b>					
2.01	Maintenance of median and the existing plants in it by basin making, weeding-hoeing, cleaning, levelling and dressing of median, uprooting and removal of weeds, cutting grass, disposal of all muck outside ROW regularly to keep the median clean and plantation in healthy and good condition. The job also includes the cleaning and removal of spilled over earth from median to main carriageway in the portion adjacent to the kerbs all along the median besides cleaning of longitudinal and cross drains in the median. The operation of maintenance in addition to above will also cover and include	km/Month	720.00	32,859.00	2,36,58,480.00

	the following activities:-				
	<p>a) Watering of each plant as and when required depending upon the climatic conditions of the locality/ region/ season/ strictly as per direction of Engineer in Charge. The main requirement is to keep the plants/ shrubs in healthy, good and surviving condition. The causality / damage to any plant/shrubs during the maintenance period will be the entire responsibility of the contractor and the contractor shall replace the dead &amp; damaged plants/shrubs at his own cost with new plants of the same species, varieties, age and size etc</p>				
	<p>b) Application of FYM or Sludge @ 1/2 cuft or 10 Kg/Plant two times a year during February / March and October/ November plus 20 grams of NPK (12:32:16) or Bonemeal per plants two times a year as detailed above.</p>				
	<p>c) Application of insecticide / pesticide/ fungicide etc for control of insects pests and diseases as and when</p>				

	required as per direction of Engineer.				
	d) Training and pruning of all shrubs /plants as and when required to give them required shape, size and spread.				
	e) Replacement of dead, damaged plants from the median by healthy & well developed plant of similar species, varieties, age and size etc. within 10 days of occurrence of casualty as noticed/ reported or as directed by the Engineer. In case, plant is not replaced as specified above, a penalty of Rs.1000/- per plant will be imposed.				
2.02	White wash/ cement paint/ snowcem in two or more coats to give an even shade and smooth surface for protection of exposed concrete/masonry portion of Bridges/CD works, kerb and wheel guard including scraping of damage paint from old surface and repairing of the existing surface wherever necessary complete as directed by the Engineer in-charge				
2.02A	White washing two coats on existing surface	Sqm	1710.00	162.00	2,77,020.00
2.02B	Finishing walls with exterior decorative cement based paint such as snowcern on old work, two coats to	Sqm	200.00	175.00	35,000.00

	give an even shade after repairing of defects so as to achieve smooth and defects free surface.				
2.03	Painting with hi-gloss synthetic enamel paint two coats to give an even and smooth surface for protection of exposed concrete/Masonry portion of Bridges/CD works/ parapet, kerb painting and repairing wherever necessary, complete as per MoRT&H clause 803 and as per the approval of Engineer.				
2.03A	Old existing surface	Sqm	59000.00	112.00	66,08,000.00
2.03B	New surface after applying priming coat with cement primer (two coats) of approved quality.	Sqm	200.00	112.00	22,400.00
2.04	Painting all types of M.S/GI railing as and when required with two coats of synthetic enamel paint of approved brand after cleaning the surface complete in all respect as per MoRT&H clause 803 and as directed by the Engineer.				
2.04A	On existing Railing	per m of full height of railing	3810.00	119.00	4,53,390.00
2.04B	On new surface after applying two coat of metallic primer of approved quality and make.	Sqm	500.00	104.00	52,000.00
2.05	Carrying out repair to road signs including strengthening resetting or otherwise repairing signs made				

	out of Retro Reflective sheets. Job includes patch repair to aluminium sheet, R R Sheet, posts, signs / script and repainting of posts at damaged location / positions with approved quality of enamel paint complete in all respect conforming to respective IRC/MoRTH specifications and as directed by Engineer-in-charge.				
2.05A	Road sign Boards mounted on single post.	No.	750.00	721.00	5,40,750.00
2.05B	Road sign Boards mounted on double post.	No.	70.00	1,082.00	75,740.00
2.05C	Overhead gantry road sign boards	No.	12.00	2,597.00	31,164.00
2.05D	Cantilever Gantry	No.	6.00	1,623.00	9,738.00
2.06	Painting two coats on old surface after minor repairs to give an even and smooth surface and printing letters and figures with 1st quality synthetic enamel paint of approved brand and manufacture complete in all respect conforming to respective IRC specification and as directed by Engineer-in-charge.				
2.06A	A) Hectometre stones	No.	480.00	32.00	15,360.00
2.06B	B) Kilometre stones	No.	96.00	214.00	20,544.00
2.06C	C) 5 <sup>th</sup> Kilometre stones	No.	13.00	489.00	6,357.00
2.06D	D) Boundary stones	No.	600.00	32.00	19,200.00

2.06E	E) Guard Post	No.	1244.00	32.00	39,808.00
2.07	Providing and fixing reinforced cement concrete M-15 grade 5th kilometer stones, kilometer stones and hectometer stones of standard design as per IRC-8-1980 & MoRTH specification clause 804 including two coat painting with synthetic enamel paint after applying approved quality cement primer and printing letters with approved quality synthetic enamel paint on both sides as per MORTH specification clause 804 and as per drawing and direction of the Engineer in charge. The job includes fixing of these distance measuring stones at places after dismantling of existing damaged stones, and further disposing of dismantled material outside ROW. Rates quoted to be inclusive of the salvage value of the useful material obtained during the course of dismantling. The fixing of these stones shall be done with M 10 cement concrete as per drawing and approval of the Engineer in charge.				
2.07A	A) Hectometre stones	No.	100.00	811.00	81,100.00
2.07B	B) Kilometre stones	No.	20.00	2,838.00	56,760.00



2.07C	C) 5 <sup>th</sup> Kilometre stones	No.	6.00	4,819.00	28,914.00
2.07D	D) Guard Posts	No.	500.00	1,873.00	9,36,500.00
2.08	Painting two coats with first quality enamel paint of approved make & quality to give an even shade including writing, letter & figure etc. complete in all respect as per IRC standard.				
2.08A	Printing letters of CD nos	No.	94.00	119.00	11,186.00
2.09	Strengthening and repairing of partiality damaged M.S pedestrian Railing/pipe railing complete including welding. Repairing/replacement of damaged parts/portions (salvage material will be contractors property) as per existing pattern complete in all respect.	m	250.00	727.00	1,81,750.00
2.10	Repairs / replacement of metal beam crash barrier (W profile safety guard rails) made out of the following members. Job includes taking out of the old damaged member and neatly fixing new post in cement concrete of M 20 grade complete in all respects.				
2.10A	A) Beam made out of cold rolled steel strip W profile of 3 MM thick having a minimum yield strength of 2400 kg/sqcm having width of 313 mm and depth	m	1700.00	467.00	7,93,900.00

	of corrugation as 83 mm hot dip galvanized of zinc coating @ 550 gm/sqm.				
2.10B	B) Post consisting of cold rolled channel 150 x 75 x 5 mm having minimum yield strength of 2400 kg/sqcm. The total length of post shall be 1900 MM and minimum height of post above concrete foundation shall be 800 mm hot dip galvanized of zinc coating at 550gm/sqm.	No.	300.0 0	1,506.00	4,51,800.00
2.10C	C) Space channels or brackets made out of CRP steel channel section 150 x 75 x 5 mm having a minimum yield strength of 2400 kg/sqcm. The length of spacer channel shall be 330 mm and hot dip galvanized having zine coating @ 550 gm/sqm.	No.	1200. 00	276.00	3,31,200.00
2.10D	D) Fasteners button head bolts 16 x 40 mm long, with nut and washer hot dipped galvanized.	No.	6000. 00	144.00	8,64,000.00
2.11	Replacing damaged/broken railing with new precast / cast in situ concrete railing to match with existing design and pattern made out of cement concrete grade M-30 and required reinforcement complete in all respect including proper curing painting and dismantling of old	m	100.0 0	2,130.00	2,13,000.00

	damaged portion etc., as directed by the Engineer confirming to MoRTH (Clause NO. 809, 1000, 1600 & 1700).				
2.12	Replacing damaged/broken RCC guard posts 250 mm dia, including disposal of material and / or salvaging the useful material complete as per Technical Specification clause 202.	No.	1000.00	1,873.00	18,73,000.00
2.13	Replacement of damaged Elastomeric seal for the strip seal expansion joint	m	54.00	4,265.00	2,30,310.00
	<b>TOTAL FOR BILL NO.2</b>				<b>3,79,18,371.00</b>
<b>BILL NO.3 : SAFETY IMPROVEMENT (ENGINEERING WORKS)</b>					

3.01A	<p>Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign as per clause 801 of MoRTH specifications for Roads &amp; 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 2mm thick aluminium sheeting vide or 4mm thick Aluminium composite material sheet vide Clause 801 of MoRTH Specifications for Roads &amp; Bridge Works. For signs above 600mm sizes, sign shall be fixed over back support frame of minimum 35 x 35 x 3mm angle Frame. For signs above 600mm size, signs shall be supported on GI circular pipe 80 NB, 3.2mm thickness confirming to IS1239. Retro Reflective sheet shall be fixed on Substrate with pressure Sensitive Adhesive. The</p>				
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	<p>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 confirming to IS 1364 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 45cm x 45cm x 60, 60 cm below ground level as per approved drawing. 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 50mm 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.</p>				
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	<p>Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5m 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 &amp; 6.9 of IRC 67. Agency shall submit a certified copy of test reports from an Government laboratory / Institute confirming to clause 6.7 and 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign converter (manufacturer) name with details of essential equipment available with converter in his fabrication shop such as digital printer cutter, plotter, laminator,</p>				
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	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 costal areas. This is applicable to all road signs and directions boards.				
3.01Ai	i) Facility information Sign 800 x 600	No.	7.00	9,085.00	63,595.00
3.01Aii	ii) Helpline Boards 800 x 600	No.	7.00	9,085.00	63,595.00
3.01Aiii	iii) Triangular 1200 mm side (Speed breaker, pedestrian crossing, gap in median, T-Intersection, school ahead, Major road ahead, round about, start&end of dual c/w)	No.	80.00	10,968.00	8,77,440.00
3.01Aiv	iv) Octagon "STOP" sign	No.	8.00	15,528.00	1,24,224.00
3.01Av	v) Circular sign 1200 mm dia	No.	50.00	14,357.00	7,17,850.00
3.01Avi	vi) Object Markers 300 x 300 x 300	No.	30.00	1,230.00	36,900.00

3.01B

Providing and fixing of retro-reflectorised cautionary, mandatory and informatory 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 up to 600mm size, retro reflective sheet shall be fixed over 1.5mm thick aluminium sheeting or 3mm thick Aluminium composite material sheet vide Clause 801 of MoRTH Specifications for Roads & Bridge Works. For signs up to 600mm sizes, sign shall be fixed over back support frame of minimum 25 x 25 x 3mm Angle Frame. For signs up to 600mm size, signs shall be supported on GI circular pipe 65 NB, 3.2mm thickness confirming to IS1239. Retro Reflective sheet shall be fixed on Substrate with pressure Sensitive Adhesive. The Substrate shall be firmly riveted on



	<p>Angle Frame @ 200mm spacing with Aluminium Pop rivets using Pneumatic Guns. The Angle frame shall be firmly fixed with high strength nuts, washers &amp; bolts confirming to IS 1364 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 45cm x 45cm x 60, 60 cm below ground level as per approved drawing. 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 50mm 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-</p>				
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	<p>reflective sheeting shall be pasted starting from a height of 0.5m 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 &amp; 6.9 of IRC 67. Agency shall submit a certified copy of test reports from an Government laboratory / Institute confirming to clause 6.7 and 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign converter (manufacturer) name with details of essential equipment available with converter in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall</p>			
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	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 costal areas. This is applicable to all road signs and directions boards.				
3.01Bi	i) Chevron Signs & Route Marker Signs 600 x 500	No.	40.00	7,185.00	2,87,400.00

3.01C

Providing and fixing of retro-reflectorised direction and place identification sign of area not exceeding 0.9 sqm 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 4 mm 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 35 x 35 x 3mm 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

	<p>strength Bolts, washers &amp; nuts confirming to IS 1364 and IS 1367 on Sign Support Pole. Sign Supports shall be GI circular pipe 80NB, 3.2 mm thickness confirming to IS 1239 and firmly fixed to the ground by means of properly designed foundation with M 25 grade cement concrete 45cm x 45cm x 60, 60 cm below ground level as per approved drawing. 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 50mm 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 0.5m above the</p>				
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	<p>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 retro reflective sheet manufacturer confirming to Clause 6.7 &amp; 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory / Institute confirming to clause 6.7 and 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign converter (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</p>			
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	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 & its foundation details are indicative. These may be increased for areas having higher wind velocities like in costal areas. This is applicable to all road signs and directions boards.				
3.01Ci	i) Hazard Markers 300 x 900	No.	125.00	3,618.00	4,52,250.00
3.01Cii	ii) Two way Hazard Markers 450 x 900	No.	40.00	5,427.00	2,17,080.00

3.01D

Providing and fixing of retro-reflectorised direction and place identification sign of area more than 0.9 sqm 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 4 mm 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 40x 40 x 5 mm 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



	<p>strength Bolts, washers &amp; nuts confirming to IS 1364 and IS 1367 on Sign Support Pole. Sign 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 45cm x 45cm x 60, 60 cm below ground level as per approved drawing. 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 50mm 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</p>				
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	<p>totally vandalized. Minimum four bands of such retro-reflective sheeting shall be pasted starting from a height of 0.5m 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 confirming to Clause 6.7 &amp; 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory / Institute confirming to clause 6.7 and 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign converter (manufacturer) name with essential equipment in his fabrication shop such as digital printer, cutter, plotter, laminator, Galvanizing plant, etc. The Agency shall</p>			
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	<p>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 costal areas. This is applicable to all road signs and directions boards.</p>				
3.01Di	<p>i) Advance Direction, Destination, Reassurance, place identification and control room / helpline nos. sign (size 2100 mm X 1700mm) as per drawing with two vertical posts embedded in M15 cement concrete details as per description given above and as per drawing.</p>	No.	15.00	45,107.00	6,76,605.00

3.02	Road Delineators: 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.	No.	500.00	1,230.00	6,15,000.00
3.03	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 Acrylonitrile) 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	No.	20000.00	228.33	45,66,600.00

	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 methacrylate conforming to ASTM D 788 or equivalent. The optical performance of road studs shall be confirming to clause 804.4 of MORTH specifications.				
3.04	Providing and fixing retro-reflective stickers (Engineering grade) of size 10cm X 5cm on MBCBs and other structures as per MoRTH CI No. 801 and as per approval of Engineer in charge.	No.	54311.00	12.00	6,51,732.00
3.05	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 Clause 803.4.2) 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				

	<p>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</p>				
3.05A	Lane/ Center/ edge marking /transverse marking and any other marking on BT Surface.	Sqm	40000 .00	579.00	2,31,60,000.00
3.05A	On Cement Concrete Surface	Sqm		579.00	-

3.06	<p>Providing and Laying of 15mm 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 15 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 Clause 803.4.2) 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</p>	Sqm	855.90	6,177.33	52,87,177.00
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	<p>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.</p>				
3.07	<p>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 Clause 803.4.2) which</p>	Sqm	855.90	4,530.33	38,77,509.00



	<p>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).</p> <p>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.</p>				
3.08	<p>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</p>	Sqm	2567.70	2,876.67	73,86,426.00

	<p>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 Clause 803.4.2) 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.</p>				
3.09	<p>Providing Random Rubble masonry in cement mortar 1:3 for drains, protection walls, boundary wall etc. complete in all respect as per technical specification clause 309 &amp; 1400 and as per direction of Engineer in charge.</p>	Cum	40.00	5,700.00	2,28,000.00
3.10	<p>Construction and laying Cast in situ cement concrete kerb in M 20 grade and matching with the</p>	m	900.00	440.00	3,96,000.00

	existing kerb section complete including dismantling and disposal of existing damaged broken kerbs as per technical Specifications Clause 409 for kerbs (M-20 grade) The job includes jointing of adjacent kerbs and carrying out pointing as per existing pattern.				
3.11	Repairing of damaged kerb after dismantling of the kerb upto minimum of 100 mm and making good the section with M-20 concrete to match with the existing section including form work, curing, painting with two coats of first quality synthetic enamel paint etc. complete in all respect conforming to relevant MoRTH Clauses and as per direction of Engineer.	m	300.0 0	246.00	73,800.00
3.12	Construction of subgrade and earthen shoulders with approved material satisfying the requirement of minimum soaked CBR value brought from borrow areas located outside ROW with all leads and lifts, transporting to site, laying and compacting as per technical specification Clause 305 complete in all respect as per direction of Engineer in-charge				
3.12A	Subgrade	Cum	100.0 0	434.00	43,400.00

3.13	Construction of Granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per clause 401 . (Grade-I)	Cum	100.0 0	3,164.00	3,16,400.00
3.14	Providing, Laying and compacting wet mix macadam (WMM) base course with approved materials complete as per Technical specification clause No 406 of MoRTH. (Grade-I)	Cum	100.0 0	3,382.00	3,38,200.00
3.15	Providing, laying and compacting dense graded bituminous macadam complete as per technical specification Clause no.505 . Including tack coat as per technical specification clause no 503.	Cum	192.2 5	15,017.00	28,87,018.00
3.16	Recycling pavement by cold milling of existing bituminous layers, planning the surface after cold milling, reclaiming excavated material to the extent of 30 per cent of the required quantity, hauling and stock piling the reclaimed material near the central recycling plant after carrying out necessary checks and				

	evaluation, adding fresh material including rejuvenators as required, mixing in a hot mix plant, transporting and laying at site and compacting to the required grade, level and thickness, all as specified in clause 519. (Miling of existing BC overlay of 40mm and providing overlay of 40mm BC)				
3.16A	(a) Using VG-40	Cum	10533 .50	17,017.00	17,92,48,570.00
3.17	Providing and laying bituminous primer coat over granular surface with bituminous emulsion complete as per Technical specification clause no.502 @ 7.5 kg./10 sqm and as per the direction of Engineer.	Sqm	1333. 00	67.00	89,311.00
3.18	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 to 0.30 kg per sqm on the prepared bituminous surface cleaned with mechanical broom as per Technical Specification Clause 503.	Sqm	26333 7.50	19.00	50,03,412.00
3.19	Providing and Laying Seal coat with bituminous emulsion all complete as per Technical Specifications Clause 511	Sqm	500.0 0	132.00	66,000.00

3.20	<p>Providing and fixing single faced W-Beam metal crash barrier (W-profile safety guard rails) made out of the following members. Job includes erection complete in all respect as per MORTH clause 811 and using M:20 grade cement concrete wherever required as directed by Engineer. Beam made out of cold rolled steel strip W profile double of 3 MM thick having a minimum yield strength of 2400 kg/sqcm having width of 313 mm and depth of corrugation as 83 mm hot dip galvanised of zinc coating @ 550 gm/sqm. Post consisting of cold rolled channel 75 x 150 x 5 mm and spaced 2 mtr centre to centre having minimum yield strength of 2400 kg/sqcm. The length of post shall be 1800 mm and minimum height of post above ground level shall be 700 mm, hot dip galvanised of zinc coating @ 550 gm /Sqm, the post shall be fixed in pit size of 350 mm X 350 mm X 1200 mm as per MORTH fifth revision. Spacer channels or brackets made out of CRP steel channel section 75 x 150 x 5 mm having an yield strength of 2400</p>	m	400.00	3,493.00	13,97,200.00
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	kg/sqcm. The length of spacer channel shall be 330 mm and hot dip galvanised having zinc coating @ 550 gm/Sqm. fastners: Button head bolts 16 X 40 mm long and 20X40 Hex Bolt, with nut and washer, hot dipped galvanised including tack welding to the bolt.				
3.21	Removal of unauthorised boards / hordings within ROW including gas cutting if require and stacking, transportation etc complete as directed by the Engineer.				
3.21A	A) Single post.	No.	900.0 0	731.00	6,57,900.00
3.21B	B) Double post (Board length <2 mtr).	No.	446.0 0	1,316.00	5,86,936.00
3.21C	C) Multi post (Board length >2 mtr).	No.	140.0 0	1,901.00	2,66,140.00
3.22	Removal of encroachment of ROW including cost of dismantling, transportation of debris etc complete	Cum	1800. 00	850.00	15,30,000.00
3.23	Maintenance, Repair and Replacement of various electrical poles (501 nos of 8m Pole, 202 nos of 12m Pole and 5 nos of High Mast Light)/ fixtures / Accessories etc., as per respective IRC/MoRTH specifications and as per additional maintenance standard Clause 6.13	month	15.00	2,06,386.00	30,95,790.00

	and as directed by the Engineer.				
3.24	Maintenance of existing LED Solar Blinker including replacement of battery, LEDs and other accessories, if required.	No.	25.00	5,600.00	1,40,000.00
3.25	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	No.	10.00	28,217.75	2,82,177.50



	<p>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.</p>				
3.26	Maintenance of existing Power Blinker including replacement of LEDs and other accessories, if required.	No.	50.00	5,000.00	2,50,000.00

3.27

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 4 mm 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 40x 40 x 5 mm 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

	confirming to IS 1364 and IS 1367 on Sign Support Pole. Sign 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 45cm x 45cm x 60, 60 cm below ground level as per approved drawing. 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 50mm 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			
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of such retro-reflective sheeting shall be pasted starting from a height of 0.5m 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 confirming to Clause 6.7 & 6.9 of IRC 67. Agency shall submit a certified copy of test reports from Government laboratory / Institute confirming to clause 6.7 and 6.9 of IRC 67 including 3 years accelerated outdoor weathering for the retro reflective sheeting. The Agency shall submit the sign converter (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				
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	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 costal areas. This is applicable to all road signs and directions boards.				
	Replacement /Rectification of Toll Information Sign Board Aluminium Sheet with size more than 0.9 sqm size Board.				
3.27A	Information Sign Board before Toll Plaza	Sqm	505.3 9	6,051.20	30,58,215.97
3.27B	Information Sign Board at Lanes/Canopy	Sqm	153.7 6	6,051.20	9,30,432.51
3.28	Maintenance of existing Toilet blocks at Truck Lay Bys	month	15.00	76,695.10	11,50,426.50
	<b>TOTAL FOR BILL NO.3</b>				<b>25,10,96,712.00</b>

<b>BILL NO.4 : INCIDENT MANAGEMENT</b>					
4.01	Removing all types of broken down/vehicles which have met with accidents from the carriageway and toeing the same to proper locations i.e. nearest Police stations or some suitable location by using 25 tonne or of more capacity pick and carry crane, as per clause 6.4 of Scope of Work and as per Clause 6.8 'Performance Standard' of scope of work - 1 No	per Month	15.00	2,55,256.00	38,28,840.00
4.02	Providing and supply of Following manpower for misc. work as when required basis as per instruction of the Engineer.				
4.02A	Mate/ Supervisor	per Day	450.00	650.00	2,92,500.00
4.02B	Helper/Beldar/ Coolie	per Day	150.00	605.00	90,750.00
4.02C	Security Guard	per Day	150.00	605.00	90,750.00
4.02D	Sweepers/cleaners	per Day	345.00	605.00	2,08,725.00
4.03	Providing, running and maintaining route patrol vehicle as per clause 6.4 of scope of work and as per clause 6.8 'Performance Standard' of scope of work. Payment will be made as defined in Clause 6.8 of Scope of Work - 1 No	each vehicle per month	15.00	3,19,070.00	47,86,050.00
4.04	Setting up of control room (24x7) along the highway with round the clock deployment of atleast one Manager. Phone	per Month	15.00	50,000.00	7,50,000.00

	Nos. of control room will be displayed on the highway at every 5 km. It will coordinate all the activities of incident management vehicles. It will maintain / generate VTS report and other reports related to incident management operations - 1Nos				
4.05	Supply of colour photographs in three copies and two CDs complete as per Technical specification <b>clause 125</b>	per set	15.00	1,070.00	16,050.00
4.06	Supply of Pen drives in three copies including videography of complete stretch at three stages in O&M period complete as per Technical specification Clause 126	per set	3.00	15,000.00	45,000.00
4.07	Removal of dead animals lying on highways and burying them at proper safe location out of ROW.	No.	1245.00	355.00	4,41,975.00
	<b>TOTAL FOR BILL NO 4</b>				<b>1,05,50,640.00</b>
<b>BILL NO.5 : MISCELLANEOUS</b>					
5.01	Dismantling of Flexible Pavements (Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 1000 metres, stacking serviceable and unserviceable materials separately) as per MORT&H clause 202 and as per the direction of the Engineer.	Cum	100.00	499.00	49,900.00

5.02	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 dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 1000 metres as per MORT&H clause 202 and as per the direction of the Engineer.				
5.02A	a) Dry Stone masonry	Cum	10.00	378.00	3,780.00
5.02B	b) Stone masonry/ Brick Masonry in Mud motor.	Cum	10.00	441.00	4,410.00
5.02C	c) Rigid Pavement	Cum	10.00	1,346.00	13,460.00
5.03	Supplying and fixing of cement concrete precast slab M20 grade excluding the cost of HYSD reinforcement complete as per drawing and technical specification section 1700.	Cum	30.00	6,483.00	1,94,490.00
5.04	Providing Following equipments in running condition on hire basis including running and maintenance charges as per instructions of the Engineer including P.O.L. complete as per specification.(Rate for net working hours at site)				



5.04A	(a) Tipper 12 Cum. Capacity	per Hour	30.00	2,686.00	80,580.00
5.04B	(b) Tipper 6 Cum. Capacity	per Hour	30.00	1,317.00	39,510.00
5.04C	(c) JCB	per Hour	500.00	2,129.00	10,64,500.00
5.04D	(d) Excavator	per Hour	200.00	3,648.00	7,29,600.00
5.04E	(e) Tractor with trolly	per Hour	494.00	512.00	2,52,928.00
5.05	Providing and placing in proper position empty cement bags filled with local earth to control erosion/damage of the side of the road or bank of the river/nallaha at required locations including cost of material, labour equipment transportation etc complete in all respect as directed by the Engineer in Charge.	No.	1000.00	40.00	40,000.00
5.06	Filling the medians with suitable earth as per specification and as directed by Engineer in charge.	Cum	200.00	746.00	1,49,200.00
5.07	Provision of Speed Breakers on Cross roads/Approach roads available in the reach as per IRC 99	Sqm	500.00	1,207.00	6,03,500.00
5.08	Earth work in excavation of foundation of structures as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom and back filling with approved material.	Cum			

5.08A	a) Ordinary Soil	Cum	178.0 0	260.00	46,280.00
5.08B	b) Hard Rock	Cum	40.00	1,203.00	48,120.00
	<b>TOTAL FOR BILL NO. 5</b>				<b>33,20,258.00</b>

**ABSTRACT OF COST**

S. No.	Description	Amount (in Rs.)
1	Grand Total of BOQ	11,97,55,771/-/-
2	I/We agree to execute the above works on the tender premium-----% above/below the Grand Total of the project Cost as given above.	%

*All duties, taxes (excluding the Goods & Service tax), 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. The employer will perform duties in regards to the deduction of such taxes at sources as per applicable Law. The GST shall be paid on reimbursement basis (as applicable) subject to production of proof of such payment by the Contractor (Proof should contain name of work).*

