

Tender No. NSPPL/FY25-26/RFP/Revalidation Consultant

Request for Proposal ("RFP") issued by NHIT Southern Projects Private Limited ("NSPPL") for Appointment of Revalidation Consultant (s) for Projects under NSPPL

BID SUMMARY		
(i)	Last date and time for receipt of Bidding Documents	28 July 2025 up to 17:00 Hour
(ii)	Date and Time of Opening of Bids	28 July 2025 up to 18:00 Hour
(iii)	Place of Opening of Bids	Unit No.: 324, 3rd Floor, D21 – Corporate Park, Sector21, Dwarka-110077, New Delhi.

Note: – Bids will be opened in the presence of bidders who choose to attend as above.

NHIT Southern Projects Private Limited

Unit No.: 324, 3rd Floor, D21 – Corporate Park,
Sector-21, Dwarka –110077, Delhi
Email: tender@nhit.co.in
Date: 16.07.2025

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Disclaimer

The information contained in this Request for Proposal ("RFP") or subsequently provided to Bidder(s), in documentary or any other form by or on behalf of NSPPL , NHIT and SPVs under NHIT by persons authorized to do so, is provided to the interested parties on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is neither an offer nor an invitation by NSPPL to interested parties who submit their quote (henceforth "Bidders") in response to this RFP. The purpose of this RFP is to provide Bidders with information that may be useful to them in preparing and submitting their proposals ("Proposal") for appointment of Revalidation Consultant (s) for Projects under NSPPL as per notified norms.

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

A Bidder must warrant that all the information provided by it to NSPPL at the time of application & subsequently, is true to the best of its knowledge and belief and specially warrants that it has duly complied with the provisions of laws applicable to it. Bidder indemnifies NSPPL from any liabilities arising out of error or default or negligence or contravention in regard to any of the applicable laws, including, but not limited to, submission of statutory forms & other such documents.

The issue of this RFP does not imply that NSPPL is bound to select any Bidder(s) or select any Bidder(s) for any project. NSPPL may accept or reject any proposal in its discretion and may ask for any additional information or vary its requirements, add to, or amend the terms, procedure and protocol set out in RFP for bona fide reasons, which will be notified to all the Bidders invited to tender. Further NSPPL hereby reserves its right to annul the process at any time prior to issuance of the Letter of Award/Work Order/Purchase Order without incurring any liability towards the Bidders.

The Bidders shall bear all costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by NSPPL, or any other costs incurred regarding or relating to its Bid. All such costs and expenses will remain with the Bidder and NSPPL shall not be liable in any manner for the same or for any other costs or expenses incurred by a Bidders in preparation or submission of the Bid, regardless of the conduct or outcome of this RFP and the related processes.

Section 1 – Notice Inviting Tender

1. The NHIT Southern Projects Private Limited (hereinafter referred to as “NSPPL”), invites bids from eligible parties for Appointment of Revalidation Consultant (s) to NSPPL as detailed in this Request for Proposal (“RFP”).
2. Revalidation Consultant (s) will be selected under the Quality and Cost Based Selection Method as described in this RFP and in accordance with the practices of NHIT.
3. The appointment of Revalidation Consultant (s) shall be for one-time services.
4. The RFP includes the following documents:
 - 4.1. Section 1 – Notice Inviting Tender
 - 4.2. Section 2 – Instructions to Bidders
 - 4.3. Section 3 – Scope of work
 - 4.4. Section 4 – Form of Technical proposal
 - 4.5. Section 5 – Form of Financial proposal
 - 4.6. Section 6 – Undertakings
 - 4.7. Annexure (s)
5. Brief Description of Bidding Process:
 - 5.1. NSPPL has adopted two stage evaluation process for selection of the Bidder(s) for award of the work: the technical bid (the “Technical Bid”) and the financial bid (the “Financial Bid”) containing the amount quoted by the Bidder shall be submitted in physical form in the prescribed format (To clarify, the documents should be serially numbered and hard/spiral bound) in the manner and before the date and time specified herein.
 - 5.2. After the submission of technical bids, each of the Bidders shall be invited to make presentation of their proposal to NSPPL. The date and time of presentations would be intimated to Bidders separately by NSPPL through email. The Presentation shall be made through either video-conferencing facility or in person meeting at NSPPL office if required.
 - 5.3. Only those Bidders whose Technical Bids are found to be responsive and meeting the Minimum Eligibility Criteria (hereinafter referred to as Technically Qualified Bidders) in terms of this RFP, shall be invited to participate in the opening of their Financial Bids. The technically qualified bidders may send their authorized representatives along with authorization letter on the letter head of the bidder for participation in the opening of the financial bid. The date and time of opening of Financial Bids of such Bidders, will be intimated to them separately by NSPPL through email or uploaded on NHIT website (<https://nhit.co.in>). The Financial Bids will be opened physically at the location provided in this document. Only one representative of the Technically Qualified Bidder shall be allowed to attend the opening of the Financial Bids.
 - 5.4. The financial proposal of each technically qualified bidder shall be opened and evaluated.

6. Any queries or request for additional information concerning the RFP shall be submitted in writing and/or e-mail to the officer designated below. The envelope/ email communication shall clearly bear the following identification/title: **“Queries/Request for Additional Information: RFP issued by NHIT Southern Projects Private Limited for appointment of Revalidation Consultant (s)”**

7. Address for Communication:

Shri Arun Kumar Jha (Authorized Signatory)

NHIT Southern Projects Private Limited,

Unit No.: 324, 3rd Floor, D21 – Corporate Park, Sector-21, Dwarka –110077, Delhi,

E mail: tender@nhit.co.in

8. Schedule of Bidding Process:

NSPPL shall endeavor to adhere to the following schedule:

S. No.	Description of Events	Timeline
1.	Name of Assignment	Request for Proposal (“RFP”) issued by NHIT Southern Projects Private Limited (NSPPL) for Appointment of Revalidation Consultant (s) for the projects under NSPPL
2.	Date of issue of RFP	16 July 2025
3.	Last date for receiving queries from bidders	22 July 2025
4.	Pre-Bid Queries	No pre-bid meeting. The bidders must submit their queries through email at tender@nhit.co.in which will be replied at NHIT website / through email.
5.	NSPPL’s response to queries latest by	24 July 2025
6.	Bid due date (Last date for bid submission)	28 th July 2025 up to 17:00 Hour
7.	Opening of Bids	28 th July 2025 at 18:00 Hour Corporate Office: Unit No.: 324, 3rd Floor, D21 – Corporate Park, Sector-21, Dwarka, New Delhi-110077

Section 2 – Instructions to the Bidders

1. Introduction:

About the company: Please refer to our website: www.nhit.co.in

2. Proposal:

NSPPL seeks proposal for the Appointment of Revalidation Consultant (s) as per the detailed scope of work as given in Section 3 – Scope of Work of the RFP document (“Services”).

The current list of Projects for providing services is attached as BoQ in this RFP.

3. Clarification and Amendment of RFP Documents:

3.1 Bidders may request clarification on any of the RFP documents up to the time mentioned in Section 1. Any request for clarification must be sent in writing to NSPPL’s address indicated in the RFP or by e-mail to tender@nhit.co.in NSPPL will respond in writing, or by e-mail/ uploading responses on website or will send written copies of the response (including an explanation of the query but without identifying the source of inquiry) to all Bidders. Should NSPPL deem it necessary to amend the RFP as a result of clarification, it shall do so following established procedure.

3.2 At any time before the submission of Bids, NSPPL may amend the RFP by issuing an addendum/ amendment in writing or by standard electronic means. The addendum/ amendment shall be uploaded on the website of NHIT at <https://nhit.co.in> which will be binding on all participating bidders. To give Bidders reasonable time in which to take an addendum/ amendment into account in their Bids, NSPPL may, if the addendum/ amendment is substantial, extend the deadline for the submission of Bids.

4. It will be the responsibility of the bidders to keep track of any uploaded addendum/ amendment before submission of the bid.

5. Submission of proposal

The proposal shall be submitted as indicated below:

5.1 Envelope I containing the Technical Proposal of the bidder. The proposal should be in the manner and format as prescribed in RFP Section 4 – Form of Technical Bid.

5.2 Envelope II containing the Financial Proposal of the bidder. The proposal should be in the manner and format as prescribed in Section 5 – Form of Financial Bid. The financial proposal of only those Bidders shall be opened which meet the technical criteria. Please note that proposals with any conditionality will be summarily rejected.

5.3 Your proposal (i.e. the aforesaid two envelopes put in a single sealed envelope marked as “Bid – Proposal for appointment of Revalidation Consultant (s) by NHIT Southern Projects Private Limited” should reach the undersigned, latest by date/time mentioned in the Section 1 – Notice inviting Tender, in hard copies/in original and shall remain valid for 120 days thereafter. The proposal should be signed by the authorized signatory of your entity. No

proposal will be entertained after the due time and date, as stated above. NSPPL shall not be responsible for any delay whatsoever in nature. The proposals received after the due time and date, will be summarily rejected.

- 5.4 NSPPL reserves the right to accept or reject any or all the offers received without assigning any reason. For any clarification, you may feel free to contact the undersigned.

6. Modification/Substitution/Withdrawal of Bids:

- 6.1. The Bidder may substitute or withdraw its bid after submission prior to the Bid due date. No Bid shall be allowed to be substituted or withdrawn by the Bidder on or after the Bid due date.
- 6.2. Any alteration/modification in the Bid or additional information supplied subsequent to the Bid Due Date, unless the same has been expressly sought for by NSPPL, shall be disregarded.
- 6.3. Partial modification of the Bid is not allowed. The Bidder will have to submit the revised bid again in a sealed envelope, as per clause 4 above, mentioning "Revised Bid" on the top of the sealed envelope and the original bid envelope will be returned to the Bidder. No Technical or Financial Bid may be modified after Bid Due Date. Withdrawal or modification of Technical or Financial Bids between the Bid Due Date and Expiration of Bid validity shall result into disqualification from the bidding process.

7. Opening and Evaluation of the Bids:

- 7.1. The Technical Bids will be opened after the due date at the time prescribed in the RFP document in the presence of the Bidders who choose to attend. NSPPL will subsequently examine and evaluate the Bids in accordance with the provisions set out.
- 7.2. After the submission of technical bids, each of the Bidders may be invited to make a presentation of their proposal to NSPPL. The date and time of presentations would be intimated to Bidders separately by NSPPL through email. The Presentation shall be made either through video-conferencing facility or in person meeting at NSPPL office if required.
- 7.3. Prior to evaluation of the Technical Bids, the NSPPL shall determine whether each Bid is responsive to the requirements of this RFP.
- 7.4. Financial Bid of non-responsive Bidders shall not be opened.
- 7.5. To assist in the examination, evaluation, and comparison of Bids, NSPPL may, at its discretion, ask any Bidder for clarification of its Bid. The request for clarification and the response shall be in writing or by email, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by NSPPL in the evaluation of the Bids.
- 7.6. The Bidders would be evaluated on the criteria mentioned in Section 4 of this RFP and shortlisted for the purpose of opening their Financial Bids.
- 7.7. Except in case any clarification is asked by NSPPL, no Bidder shall contact NSPPL on any matter relating to its Bid from the time of the Bid opening to the time the contract is awarded. If any Bidder wishes to bring additional information to the notice of NSPPL, it should do so in

writing at the address prescribed in the Notice Inviting Tender.

7.8. Prior to evaluation of the Bids, the NSPPL shall determine as to whether each Bid is responsive to the requirements of this RFP document.

8. A Bid will be declared non- responsive in case:

8.1. If a Bidder submits more than one Bid against this RFP.

8.2. The physical bid submissions are incomplete/ inadequate to the requirements of the RFP Documents.

8.3. Documents are submitted loose. (To clarify, the documents should be serially numbered and be submitted in hard bound / spiral bound).

8.4. If in case the Power of Attorney or the Authority Letter is not provided as per clause 2.18.1 of this Section.

8.5. If a Bidder submits a conditional Bid or makes changes in the terms and conditions given in this RFP document.

8.6. Failure to comply with all the requirements of RFP document by a Bidder.

8.7. If the Bid is not submitted in the formats prescribed in the RFP document.

8.8. If any requisite document/ certificate is not in the prescribed format the same shall not be considered while evaluating the bids and the same may lead to Bid being declared as non-responsive.

8.9. If the envelope containing physical submission is not sealed and marked as prescribed in the RFP document.

8.10. A Bid valid for a period of time shorter than prescribed in the RFP document.

9. Conflict of Interest:

Bidders at all times shall provide professional, objective, and impartial advice and at all times hold the NSPPL 's interest paramount, strictly avoid conflicts with other assignments or their own corporate interests and act without any consideration for future work.

10. NDA clauses to be signed between NHIT entities and the vendor post release of the LOA, wherever applicable.

11. Fraud and Corruption:

Bidders would be required to observe the highest standard of ethics during the selection and execution of such work. NSPPL defines:

11.1 "Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the selection process or in contract execution; and

- 11.2 "Fraudulent practice" means a misrepresentation of facts in order to influence a selection process or the execution of a contract to the detriment of the NSPPL and includes collusive practices among bidders (prior to or after submission of proposals) and to deprive the NSPPL of the benefits of free and open competition.
12. NSPPL will reject a proposal for appointment if it determines that the bidder recommended for engagement has engaged in corrupt or fraudulent activities in competing for the work in question.
13. NSPPL will declare a bidder ineligible, either indefinitely or for a stated period of time, to be engaged if it at any time determines that the bidder has engaged in corrupt or fraudulent practices in the bidding process for engagement for the subject work.
14. The bidder declared ineligible for corrupt and fraudulent practices by NSPPL in accordance with the above paras shall not be eligible for selection.
15. Consortium of Bidders is not allowed.
16. Minimum Eligibility Criteria:
- 16.1. The Bidder/Company should have cumulative revenue/ turnover of not less than INR 8 crore during the last three financial years ending 31/03/2022, 31/03/2023 and 31/03/2024. Certified copies of financial statements or certificate of turnover from Statutory Auditor/ Chartered Accountant of the Bidder to be submitted along with the bid.
- 16.2. The Bidder should have an experience of conducting Similar surveys for at least five years. Certified copies of completion certificate issued by client or any other documentary proof of completion to be provided.
- 16.3. The Bidder should have a minimum technical score of 75 marks as per evaluation criteria mentioned in Section 4 including their presentation scores. Only those bidders who score a minimum of 75 marks shall be considered as Technically Qualified Bidder.
- 16.4. The Bidder shall either own/or have access to the equipment/machine which shall be required for conducting various tests specified in scope of works. Bidders shall submit appropriate documents as evidence of meeting the above stated requirement.
- 16.5. Legal Entity: The bidder should be a Legal Entity registered under the Companies Act, 2013 or the Companies Act, 1956 OR a Limited Liability Partnership (LLP) registered under the LLP Act, 2008 or Indian Partnership Act 1932 or Proprietorship.
- 16.6. Legal: The bidder should not be subjected to any legal action for any cause in any legal jurisdiction in the last five years which would materially affect its ability to perform under this RFP
- 16.7. Net Worth: Bidder should have positive net worth. Bidders shall submit appropriate documents as evidence of meeting the above stated requirement.
17. Disqualification Criteria:

The company may at its sole discretion and at any time during the evaluation of proposal, disqualify any respondent, if the respondent:

- 17.1 Submitted the proposal documents after the response deadline.
- 17.2 Made misleading or false representations in the forms, statements and attachments submitted in proof of the eligibility requirements.

- 17.3 Failed to provide related clarifications, when sought.
- 17.4 Respondent or its partners declared ineligible by CPSU/ SPSU/ Government companies/ Government organizations/ regulatory authorities for corrupt and fraudulent practices or blacklisted.
- 17.5 Bidders who submit their bid as JV other than as provided in this document, to meet eligibility criteria will not be considered as qualified bidders. Such, JV bidder will be considered ineligible and summarily rejected.
- 17.6 Blacklisting: The bidder should not be debarred/ blacklisted by any Government Agency/ NHIT/Entities of NHIT/PSU in India as on date of submission of the Bid.
18. Technical Evaluation Criteria:
- 18.1. Technical Evaluation shall be based on the Technical Bid submitted by the Bidders as per Section 4 – Form of Technical Proposal.
- 18.2. The evaluation of the Technical Proposals shall be carried out with a maximum score of 100 as per the methodology mentioned in Section 4 Form of Technical Proposal. For the computation of combined score, the technical scores will be given a weightage of 60% as follows:
- Weighted technical scores (TS) = Total technical score x 0.60
 - Where Total technical score total would be as computed under Section 4.
- 18.3 The Technical Proposal shall be submitted in physical form along with all supporting documentation/ information as mentioned along with the criteria.
- 18.4 The presentation need not be included in the Technical Proposal. The Presentation shall be made as per schedule communicated by NSPPL and a copy of presentation to be submitted on email at the time of presentation if required.
- 18.5 Experience in conducting similar surveys for roads including National Highways & Expressways.
- 18.6 The Bidders would be evaluated on the criteria mentioned in the Section- 4 based on their Proposals received and shortlisted for the purpose of opening of their Financial Bids.
19. Financial Proposal:
- 19.1. After the short listing of Bidders based on their Technical Proposal including the presentation (if required), the Financial Proposals of only Technically Qualified Bidders would be opened. The Technically Qualified Bidders, if they so desire, may remain present at the time of the opening of the Financial Proposals. The date and time of opening of the Financial Proposals would be shared with the Technically Qualified Bidders.
- 19.2. The Financial Proposal for the Technically Qualified Bidders will be given a weightage of 40%. The lowest price bid shall be given a financial score of 40 and the financial score of other bidders shall be made inversely proportionate to their prices as follows:

- The Lowest Financial Proposal (“LFP”) will be given a Financial Score (“FS”) of 40 points.
- $FS \text{ (other bidders)} = 40 \times LFP / F$ (F= amount of Financial Proposal)

20. Procedure for Selection of Revalidation Consultant (s):

20.1. Post qualification of the minimum eligibility criteria, the bidder(s) will be selected under the Quality and Cost Based Selection method as described in this section and in accordance with the practices of NSPPL.

20.2. Proposals will finally be ranked according to their combined Technical score (TS) and Financial Score (FS) as follows:

$$S = TS + FS$$

20.3 The combined score on the basis of Quality and Cost Based System (QCBS) of technical and financial proposals will determine the H1, H2, H3 and so on. The bidder scoring the highest points/marks (H1) based on the above principles would be selected as the Revalidation Consultant (s) for NSPPL.

20.4 NSPPL proposes to appoint one Revalidation Consultant (s) for each Project. However, NSPPL reserves the right to appoint additional Revalidation Consultant (s) at its discretion. If an additional Revalidation Consultant (s) is to be selected, the other Technically Qualified bidders ranked as H2, H3 and so on in that order would be asked to accept the fee quoted by H1 bidder and the party who accepts the fees will also be appointed as Revalidation Consultant (s).

20.5 In case, more than one Revalidation Consultant(s) are appointed, NSPPL shall decide the allocation of projects/roads/toll plazas between Revalidation Consultant (s) at its discretion with each consultant being allocated at least one project/road/toll plaza. It is to be noted that NSPPL may also give projects/roads/toll plaza in addition to the projects mentioned in BoQ in this RFP.

20.6 In case two or more Bidders have a tie in their combined scores, the relative rankings would be determined such that the Bidder with higher technical score (as computed in Section 4 (Technical Proposal)) will get higher ranking.

21. Timelines & Payment Schedule:

Payment shall be made within 30 days after submission of Invoice for services under consideration. The invoice should be duly approved by the Project Manager.

22. Liquidated Damages:

a. If Contractor fails to complete the work even after 10 days after end of Contract period, the balance work will carry out at their risk and cost. In that case Liquidated Damages shall be Levied at 0.5% of the total Contract price per day of delay, subject to a maximum of 5% of the total Contract Price.

b. In the event of non-payment of liquidated damages as stipulated herein, the Employer shall be

entitled to levy an interest @18% till dated of realization of liquidated damages, the said sum shall be payable by sole fact of the delay without the need for any previous notice or any legal proceedings, of proof of damages, which shall in all cases be considered as ascertained. The Employer may, without prejudice to any other method of recovery, deduct the amount of such liquidated damages from any money in its hand due for payment to the contractor. The payment of deduction of such damages shall not relieve the contractor of its obligation to complete the work or form any other of its obligations and liabilities under the contract.

23. Documents to be submitted along with the Technical bids:

- 23.1. Either power of attorney or an authority letter from Partner/ Board / Managing Committee of the Bidder entity should be provided for authentication of the authorized signatory signing the bid document.
- 23.2. Technical bid in the form provided in the RFP duly signed by the authorized representative of the bidder on all pages.
- 23.3. Detailed CV of the personnel of Proposed Team certified by Authorized Signatory of the Bidder.
- 23.4. Documents in support of the claims of the bidder regarding eligibility/ experience duly signed by the authorized representative of the bidder on all pages. NSPPL may ask for 3rd party certificates from the Bidder(s), at a later stage.
- 23.5. Undertaking in the format provided in the RFP duly signed by the authorized representative of the bidder on all pages.

24. Financial Bids / Fees:

- 24.1. The Bidder is required to submit financial proposal as per Section 5 – Form of Financial Proposal.
- 24.2. The fee quoted should be unconditional.
- 24.3. Letter of Award (LoA) shall be issued from the respective entity, and the respective entity shall pay the Revalidation Consultant (s) the fees as per the Financial Proposal of the Bidder, as sole compensation for the performance of the Services.
- 24.4. The fees shall be payable as per payment schedule after submission of an appropriate tax invoice.
- 24.5. Reasonable and necessary expenses related to site inspection (travel, boarding & lodging etc.) pre-approved by NSPPL or any other out of- pocket expense ("OPE") shall be borne by NSPPL. The expenses shall be reimbursed as per the actuals by NSPPL after due verification of the supporting documentation.
- 24.6. Further to above, following to be noted in respect of OPE: Expenses amounting to INR 200 and above (Indian Rupees Two Hundred only) shall be reimbursed subject to submission of relevant supporting receipts / voucher (s) only. It shall not be binding to submit supporting

voucher for expenses amounting less than INR 200 (Indian Rupees Two Hundred only); however, the cumulative limit during the financial year for such expenses shall not exceed INR 10,000 (Indian Rupees Ten Thousand Only)

25. Dispute Resolution:

Any dispute arising out of the RFP, which cannot be amicably settled between the parties, shall be referred to arbitration in accordance with the Arbitration and Conciliation Act, 1996 through a panel of three arbitrators, with each of NSPPL and the remaining disputing party(s) appointing one arbitrator and the two arbitrators so appointed appointing a third arbitrator. Provided that in the event that any disputing parties fail to appoint an arbitrator within 15 days from the dispute being referred to arbitration, the other parties shall be at liberty to appoint an arbitrator for such disputing party(s) and such appointment shall be final and binding on the other disputing parties. The venue of the arbitration shall be New Delhi.

26. Termination:

Upon finding deficiencies in quality of service/works, NEPPL will notify the Agency/firm for rectification. Agency/firm will be given 7 days for rectification in deficiencies in case of nonresponse beyond 10 days, Termination notice may be issued with 20 days of notice.

27. Tax Payment – GST Payment Clause: The bidder must have a valid GST Registration and PAN in India. In case of payment to a GST registered supplier, GST amount as claimed in the invoices by the consultant/contractor/vendor in terms of the provisions mentioned in the Contract Agreement/ Purchase Order may be paid along with their invoices subject to:

- I. The GST portion that would be released would be proportionate to the amount of work certified as due for payment.
- II. If the GST for any previous invoice is not reflected or reflected incorrectly in GSTR-2B after the due date of filling Return under GST Act is over, then for further payments the GST portion will be withheld till the previous GST amount is reflected accurately in GSTR2B and position to the extent as depicted above is rectified.
- III. However, the GST portion for the final invoice will be withheld till the GST of all invoices including the final invoice are accurately reflected in the GSTR-2B.
- IV. If a consultant/contractor/vendor abandons their work before completion, the unpaid GST portion of all invoices raised by them shall be withheld until the GST portion for the said invoices are reflected accurately in GSTR-2B.

28. MSME Agency/Firm:

Bidder shall confirm if they are/are not registered as Micro Enterprise/ Small Enterprise/ Medium Enterprise. The registered Bidder shall submit Registration no. along with Registration Certificate issued. The bidder shall also confirm that any change in Status of their organization under the above Act shall be duly informed by NEPPL. Any failure on their part in informing them about the changed status shall be the sole responsibility of Bidder.

29. Force Majeure

A Force Majeure (FM) means extraordinary events or circumstance beyond human control such as an event described as an act of God (like a natural calamity) or events such as a war, strike, riots, crimes (but not including negligence or wrong-doing, predictable/seasonal rain and any other events specifically excluded in the clause). In the case of a FM, the contract frees both parties (NEPPL & the Agency/Firm) from contractual liability or obligation when prevented by such events from fulfilling their obligations under the contract. However, this does not excuse a party's non-performance entirely,

but only suspends it for the duration of the FM. The parties have to give notice of FM as soon as it occurs, and it cannot be claimed ex-post facto. If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of FM for a period exceeding 90 (Ninety) days, NEPPL may at its option terminate the contract without any financial repercussion on other side. Notwithstanding the punitive provisions contained in the contract for delay or breach of contract, the Agency/Firm would not be liable for imposition of any such sanction so long as the delay and/or failure of the supplier in fulfilling its obligations under the contract is the result of an event covered in the FM clause.

30. Indemnification:

The Agency shall hold the NEPPL harmless and shall indemnify the same against all claims, penalties, fines, losses, damages, costs and proceedings arising from the breach or contravention of any laws, rules and regulations referred to in this order.

31. Anti-Bribery & Corruption (ABC) Policy:

It is our policy to conduct all our business in an honest and ethical manner. We take a zero-tolerance approach to Bribery and Corruption and are committed to acting professionally, fairly and with integrity in all our business dealings and relationships wherever we operate and implementing and enforcing effective systems to counter bribery. Requested to report improper demands from the NEPPL Employees. You may address the same through email at whistleblow@nhit.co.in.

Section 3 – Scope of work

Scope of Work for Network Survey Vehicle (NSV), Falling Weight Deflectometer (FWD), Retro Reflectivity, Skid Resistance, Major Bridge Inspection Unit (MBIU) Surveys, and Specialized Investigations Projects and it's information's are Annexures of RFP.

Bidder shall carry out the following assignment in compliance with the technical specifications as per **Annexure J** along with deliverables as per **Annexure N** and **Annexure R**:

A. Network Survey Vehicle (NSV) Survey

1. Survey Requirements:

- The Bidder shall conduct NSV surveys on all project lanes, including main carriageways, service roads, loops, and ramps. This includes both flexible and rigid pavement sections.
- Bidder shall utilize advanced survey techniques, incorporating laser technology, GPS, and video imaging to collect the required data at highway speeds.
- The Bidder shall have it's own machine (Ownership/ Registration certificate in the name of the firm to be submitted). No hiring or Joint Venture is allowed except MBIU equipment.
- The Bidder should have NABL Certification in NSV testing.

2. Data Collection Obligations:

- The Consultant shall collect and document the following data:
 - **Longitudinal Profiling** (International Roughness Index/Bump Integrator).
 - **LCMS (Ver.2.0)** (Rut Depth).
 - **Pavement Texture** (Mean Profile Depth).
 - **Road Geometry** (cross slope, gradient, curvature).
 - **Geographical Positioning**: Capture latitude, longitude, and altitude.
 - **Video Imaging**: Roadside assets and pavement surface distresses.
 - **Laser Crack Measurement System (Ver.2.0)** for Pavement Distresses.
 - **High-Resolution Odometer** readings for distance/chainage.

The Consultant shall have the NSV capable of automatically detect measure and count the following defects with distance triggered mechanism as per required accuracy and resolution.

Sr. No.	Defects/object	Functional and performance requirement
1	Scanning based laser crack measurement system LCMS Ver 2.0 (NSV 3D)	
	Crack measurement	Length, Width, Depth, Area and counting
	Sealed Crack area	Area and counting
	Ravelling	Area
	Patch area	Area and counting
	Pothole	Area, Depth, Counting and type of pothole
	Edge Break	Length and Area
	Concrete	Joint Module
		Spalling and Fault measurement
	Bridge	Width of expansion joint, differential height at expansion joint
	Bridge approach	Riding quality measurement
	Road Geometry	Gradient, slope and cross slope, Horizontal curvature and

Sr. No.	Defects/object	Functional and performance requirement
		vertical curvature
	Texture	Macro Texture measurement (MPD & MTD) in all 5 AASHTO bands
	Roughness	Roughness of Entire Lane width as per ASTM E 950
	Rutting	Depth and Width measurement for entire lane as per ASTM E1703 Standard
	System requirement	The working speed should be from 0 to 100 km/h, the distance accuracy should be better than $\pm 0.1\%$ for atleast 10km.
2	Data acquisition, data processing and data analysis software	
	Software	The Consultant shall be equipped with NSV having Reporting software reporting defects and inventory details prepare the report and MS-Excel sheets.
3	Camera for Road Inventory	
	System	It should have road inventory detection and measurement system with 360° High precision GPS, IMU and DMI.
	Camera	The image resolutions should be minimum 1600 x 1200 pixel. All pictures should be compressed and stitched together automatically. All pictures should be GPS tagged along with road chainage. DMI should be provided for user defined distance-based triggering with minimum 5 meter onward.
	DGPS	i) Road Centreline, (i.e. Longitude, Latitude and Altitude)

3. Approval and Pre-Survey Documentation:

- Prior to commencement, the Consultant shall obtain approval from the Client for the data collection template and shall submit methodology for each survey to submit IE/Authority.
- The Consultant is responsible for collecting and documenting specific road data, including but not limited to: Carriageway and Pavement Types, Shoulder Details, Drain Type, Cross-sections, Geometry, Service Roads, Median Openings, Right-of-Way, Visual Condition, Roughness, Rut Depth, Skid Resistance and Land Use Details.

4. Deliverables:

- NSV reports shall be provided in PDF, Word, and Excel formats in accordance with the approved template.
- Pavement distress data must be submitted at intervals of 10m for flexible pavement and Panel wise data in case of Rigid pavement.
- All other Raw data except Pavement distress must be submitted at intervals of 10m, 100m, and 1km.
- Images captured at every 10m in case of flexible pavement and panel wise in case of rigid pavement with Pavement Distress Mapping shall be included in the reports, along with comprehensive asset inventory data.

B. Falling Weight Deflectometer (FWD) Survey

1. Testing Requirements:

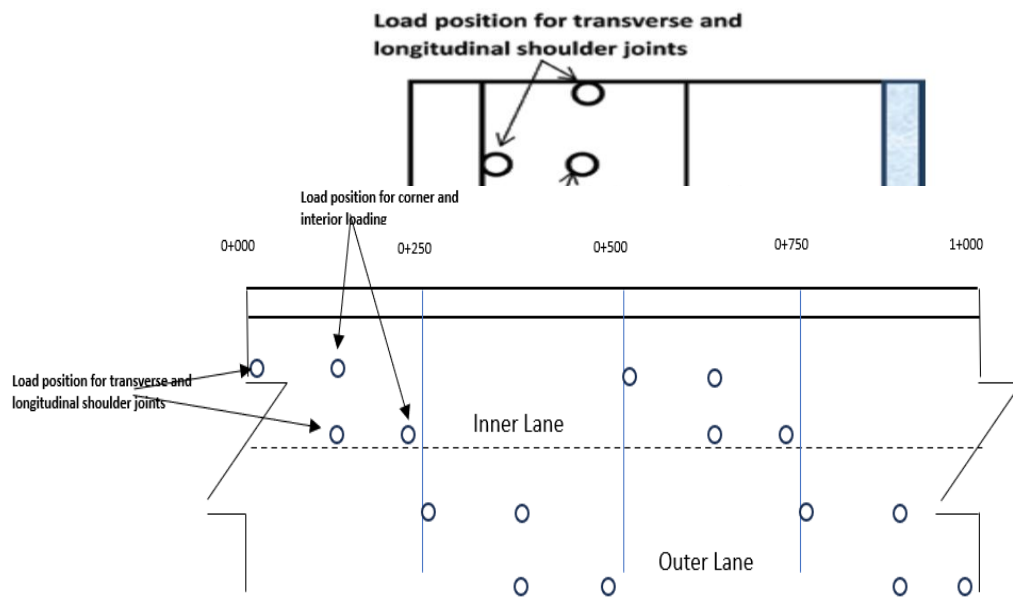
- The Consultant shall conduct FWD tests on flexible and rigid pavements as per IRC 115 and IRC 117 guidelines, respectively.
- Based on visual inspection, the Consultant shall classify flexible pavement conditions as follows:
 - **Good:** Isolated cracks less than 3.0 mm in width in less than 5% of the surface; average Rut Depth < 10 mm.
 - **Fair:** Cracks less than 3.0 mm in 5–20% of the paved surface or Rut Depth between 10–20 mm.
 - **Poor:** Cracks greater than 3.0 mm in 5–20% of the paved surface, or cracking in > 20% of the surface, or Rut Depth > 20 mm.

2. Measurement Scheme:

- The Consultant shall execute deflection measurements as per the condition of the flexible pavement, following the schemes detailed in IRC 115 for four-lane dual carriageways.

Type of Carriageway	Recommended measurement scheme	Maximum Spacing (m) for test points along selected wheel path for pavements of different classification		
		Poor	Fair	Good
Four-lane Dual (divided) carriageway (Measurement scheme given for each carriageway)	i) measure along outer wheel paths of outer lanes	30	65	250
	ii) measure along the outer wheel path of inner lane	60	130	500
	iii) measure along the centre line of paved shoulder (in case of Widening projects)	120	260	500

- Minimum deflection measurements of flexible pavement shall be at a rate of 6 points per kilometre per direction (i.e., 12 points in total for both directions).
- Minimum deflection measurements of rigid pavement shall be at a rate of 16 points (inner & Outer) per kilometre per direction at an interval of 250 mtr (i.e., 32 points in total for both directions) and scheme of deflection measurement as per IRC 117 2015 figure 2 in staggered manner in inner and outer lane.



- Conducting axle load surveys for 48 hours in both directions at toll plaza locations in each direction to determine VDF.
- Performing test pits at intervals of 5 km along the project corridor in each direction.
- Any additional measurement points required beyond the minimum 6 points (Flexible Pavement) and 8 points (Rigid Pavement) shall be charged at the quoted rate per point.

3. Pavement Analysis:

- The Consultant shall analyse the remaining life of the pavement and determine overlay requirements for flexible pavements as per IRC 115.
- The Consultant shall analyse the strength of rigid pavement, including load transfer across joints and void detection, as per IRC 117.
- The Client shall provide the Consultant only AADT data for MSA calculations.

4. Deliverables:

- Reports shall be provided in PDF, Word, and Excel formats, including all raw data and analytical findings.

5. Equipment Specifications:

- The Consultant shall have the FWD capable with load requirements of 150 KN minimum.

C. Retro Reflectivity Survey

1. Testing Requirements:

- **Signboards:** The Consultant shall test retro reflectivity of each signboard using appropriate devices, in accordance with ASTM D 4956-09 and IRC 67-2022.
- **Pavement Markings:** The Consultant shall test visibility in both daytime and nighttime conditions including luminosity as per IRC 35-2015.

2. Deliverables:

- The Consultant shall submit reports in PDF, Word, and Excel formats, including all raw retro reflectivity data.

D. Skid Resistance Survey

1. Testing Requirements:

- The Consultant shall conduct skid resistance testing using SCRIM or an equivalent device as per ASTM-274, IRC 82-2015 for flexible pavements, and IRC SP:83-2018 for rigid pavements.

2. Deliverables:

- The Consultant shall submit reports in PDF, Word, and Excel formats, containing all raw skid resistance data.

E. Major Bridge Inspection Unit (MBIU) Survey

1. Objective

The objective of this scope is to outline the responsibilities and deliverables of the survey team assigned for the revalidation of structural inspections using the Mobile Bridge Inspection Unit (MBIU). This survey is aimed at validating previous inspection data, identifying new or progressive distress, and preparing a detailed report including BoQ (Bill of Quantities) and repair methodology with estimated cost.

2. Scope of Work

The revalidation survey team shall carry out the following tasks:

i. Comprehensive Inspection Using MBIU

Perform a full inspection of all bridge structures using MBIU equipment, ensuring access to hard-to-reach components.

Structures to be covered include:

- Major Bridges
- ROB
- Minor Bridges

- Vehicular Underpasses (VUP)
- Pedestrian Underpasses (PUP)
- Flyovers
- Any other relevant structural components under the project scope.

ii. Structural Inventory Verification

- Verify and update the structural inventory of all bridge-related assets along the project corridor.
- Record GPS coordinates, structure type, span configuration, materials used, and construction year (if available).

iii. Distress Identification and Mapping

- Identify all forms of structural distress including cracks, spalling, corrosion, deformation, joint failures, and other anomalies.
- Document the distress with high-resolution photographs and sketches where necessary.
- Classify the severity of each distress observed (Minor, Moderate, Severe).

iv. Preparation of Inspection Report

Compile a detailed inspection report for each structure which shall include:

- Structural ID and location
- Observations with distress notes
- 100% all type Girder and bearing condition report
- Photographic evidence
- Condition rating
- Maintenance priority level (Immediate, Short-term, Long-term)

v. Preparation of BoQ and Repair Methodology

- Develop a structure-wise Bill of Quantities for repair works based on inspection results.
- Recommend suitable repair and strengthening methodologies conforming to relevant standards and codes.
- Provide detailed cost estimation for each repair activity.

vi. Submission of Final Documentation

Submit a comprehensive report including:

- Executive summary
- Structural inventory summary and Detailed inspection logs as per IRC SP 18.
- Distress mapping
- BoQ and cost estimation
- Repair and rehabilitation methodology
- Recommendations for preventive maintenance

3. Deliverables

- Structural Inventory Report
- Inspection and Distress Report (structure-wise)
- High-resolution photographs and sketches
- BOQ with cost estimation
- Repair methodology
- Final compiled report in both soft and hard copy

4. Standards and Guidelines

All inspection and reporting activities must be carried out in accordance with:

- IRC: SP: 35, IRC: SP:52 , IRC SP 40
- MoRTH guidelines
- Any other applicable codes or project-specific standards

F. Specialized Investigations

1. Additional Surveys:

- If the preliminary assessment reveals the need for further surveys, investigations, or non-destructive

testing (NDT), the Consultant shall conduct such investigations after obtaining written approval from the Client.

All additional surveys shall be conducted using rates specified in Section 5 – Form of Financial Proposal

General Contractual Clauses:

1. Time Frame and Deadlines:

- The Consultant shall perform all surveys and submit all deliverables within the timelines as per **Annexure N & Annexure R**. Any deviation must be approved in writing by the Client.

2. Data Ownership and Confidentiality:

- All data collected and reports generated during this project are the exclusive property of the Client. The Consultant shall maintain strict confidentiality and shall not disclose any project information without prior written consent from the Client.

3. Quality Standards and Compliance:

- The Consultant shall ensure that all work is conducted in compliance with relevant industry standards, including those stipulated by the Indian Roads Congress (IRC) and ASTM.
- All work must adhere to the agreed scope, deliverables, and quality parameters to meet the Client's requirements as **per Annexure J, Annexure L, Annexure M, Annexure N, Annexure O, Annexure P and Annexure R**.

4. Payment and Additional Costs:

Payments shall be made according to the **Annexure T**. Any additional work beyond the defined scope shall be paid based on rates provided in **Section 5** and must be approved in writing by the Client prior to commencement.

- The Quantities mentioned in BoQ may vary up to $\pm 25\%$ of original BoQ quantity of single BoQ item subject to maximum of $\pm 20\%$ of original Contract price. The decision of the Employer shall be final and binding on the contractor

Section 4 – Form of Technical Proposal

Sub: Request for Proposal (“RFP”) issued by NHIT Southern Projects Private Limited for appointment of Revalidation Consultant (s)

Section A: General Information

- 4.1. Profile of the organization with full particulars of the constitution, ownership and business activities of the prospective Revalidation Consultant (s).
- 4.2. Commitment(s) which shall act either as a constraint or as a conflicting interest in the proposed assignment (if any).

Section B: Technical Information

Criteria	Evaluation criteria & scoring guidance	Maximum Points
1	Minimum 5 Years’ Experience in Technical Consultancy relevant field:	
	05 Years to 8 Years: 5 Marks	10
	8 Years to 10 Years: 8 Marks	
	Above 10 Years: 10 Marks	
2	Cumulative Annual Turnover for Last Three year from Consulting Services:	
	800 Lacs to 1000 Lacs : 5 Marks	15
	1000 Lacs to 1500 Lacs: 10 Marks	
	> 1500 Lacs: 15 Marks	
3	Experience and Capabilities in conducting Pavement Evaluation Tests in last 3 years:	
	a) Experience of Network Survey of aggregate length	15
	10000 lane km ≤ Experience <15000 lane km : 5 Marks	
	15000 lane km ≤ Experience <20000 lane km : 10 Marks	
	≥ 20000 lane km : 15 Marks	
	b) Experience of FWD Survey of aggregate length	15
	5000 lane km ≤ Experience < 7500 lane km : 5 Marks	
	7500 lane km ≤ Experience < 10000 lane km : 10 Marks	
	≥ 10000 lane km : 15 Marks	
	c) Experience for Retro reflectivity, Skid resistance and MBIU Survey work	
	Experience projects > 5 Nos (MBIU) : 3 Marks	3
	Experience projects > 5 Nos (Retro Reflectivity for sign board and Thermoplastic paints) : 5 Marks	5
	Experience projects > 5 Nos (Skid Resistance) : 2 Marks	2
	<u>Documents Required:</u> WOs copies of conducting pavement evaluation test issued by client to be provided.	
3	Availability and certification of advanced survey equipment, including NSV (with laser technology, GPS, video imaging), FWD, SCRIM, and Retro reflectometer.	

	Owned NSV vehicle (3D LCMS Ver 2.0) : 5 Marks	5
	Owned FWD vehicle (Load capacity of more than 150 KN) : 5 Marks	5
	Owned Retroreflector Survey (for Sign board and Thermoplastic paints) : 5 Marks	5
	Owned British Pendulum Tester (Skid Resistance) : 5 Marks	5
	MBIU: Bidder may also hire MBIU for services to be provided. In such case, document of tie-up with dedicated provider to be provided: 5 Marks	5
	<i>Documents Required: Latest Calibration certificates required for verification</i>	
4	Technical Team Strength & Experience:	10
	· Rating Criteria for this requirement will be as under:	
	<u>Team Leader (max marks:6)</u>	
	Experience of 15 years or more but less than 20 years: 3 marks	
	Experience of 20 years or more – 6 marks	
	<u>Highway cum Pavement Engineer(s)</u>	
	2 mark each for 1 such personnel on rolls of the Bidder	
	<u>Bridge Engineer(s)</u>	
	1 mark each for 1 such personnel on rolls of the Bidder	
	<u>Quantity Surveyor (s)</u>	
	1 mark each for 1 such personnel on rolls of the Bidder	
	<i>Bidder may also hire services of a dedicated consultant for services to be provided. In such case, document of tie-up with dedicated consultant to be provided</i>	
	<i>Documents Required: Certification of the Authorized Signatory to be provided as proof of Team Strength and Experience.</i>	
	Total Technical Score	100
<p>We accept all the terms & conditions as mentioned in the RFP. In the event of any contradiction in the terms and conditions as mentioned in the RFP and our proposal/ offer to NSPPL , NSPPL 's decision shall prevail.</p> <p>Name & Signature of Bidder's Authorized Signatory _____ Date: _____</p>		

Section 5 – Form of Financial Proposal

(On the letter head of the bidder)

Financial Proposal

From (Name & Address of the bidder)

To

Authorized Signatory

NHIT Southern Projects Private Limited,

Unit No.: 324, 3rd Floor, D21 – Corporate Park, Sector-21, Dwarka –110077, Delhi.

Sub: Request for Proposal (“RFP”) issued by NHIT Southern Projects Private Limited for Appointment of Revalidation Consultant (s)

Project Wise survey/investigation rates are as follows:

Bareilly – Sitapur Section Revalidation Survey BOQ					
S No	Item Description	Unit	Qty	Rate	Amount
1	Falling Weight Deflectometer (FWD) Survey for Flexible Pavement: i. Conduct deflection tests using a Falling Weight Deflectometer (FWD) for the existing flexible pavement, covering the main carriageway in accordance with the IRC 115 guidelines. ii. Perform testing at a rate of IRC 115 guidelines.	Point	4891		
2	Falling Weight Deflectometer (FWD) Survey for Rigid Pavement: Execute deflection tests for existing rigid pavement accordance with the IRC 117 guidelines. Analyse the strength of the pavement concrete, balance life of pavement, load transfer at longitudinal and transverse joints and voids according to IRC 117.	Point	-		
3	Network Survey Vehicle (NSV) Survey: Carry out a survey on each lane of the project corridors using the NSV on existing flexible/rigid pavement. This survey will encompass the main carriageway, service roads, loops, and ramps etc. Utilize advanced survey techniques, including laser technology, GPS, and video image processing, to collect data at highway speeds. The system must capture the following information: Longitudinal profiling (International Roughness Index/BI) Transverse profiling (Rut Depth) Pavement texture (Mean Profile Depth) Road geometry data (cross slope, gradient, curvature) GPS coordinates (X, Y, Z) including longitude, latitude, and altitude Video imaging for roadside furniture and road assets Video imaging for pavement surface distresses	Lane-Km	697		

Bareilly – Sitapur Section Revalidation Survey BOQ					
S No	Item Description	Unit	Qty	Rate	Amount
4	Conducting axle load surveys for 48 hours as per IRC 58 in both directions at toll plaza locations in each direction to determine VDF. Further, as per IRC 58, sample size should be 10% of the CVPD exceeding 6000, 15% of CVPD 3000–6000 and 20% of CVPD if less than 3000. According please revise the requirement for sample size.	Per Day	4		
5	Performing test pits at intervals of 5 km along the project corridor in each direction	Nos	76		
6	Scope for Retro reflectivity				
6i	Testing of all signboards available in each 2 lane kilometre of the project's length using Retro Reflectivity Measuring Device. In accordance with ASTM D 4956–09 & as per specifications in IRC:67–2022.	2 Lane Km	382		
6ii	Testing of Pavement marking Day time Visibility as per Annexure– D and Nighttime Visibility as per Annexure–E of IRC:35–2015.	2 Lane Km	382		
7	SCRIM (Sideway force Coefficient Routine Investigation Machine or equivalent) British Pendulum Tester as per ASTM–274, IRC:82–2015 for flexible pavement and IRC: SP:83–2018 for rigid pavement.	Point	1576		
8	MBIU survey on Major Structures (including detailed report as mentioned in the scope of services) vertical clearance more than 4mtr. Consider 1 locations= 1 Nos	Nos	10		
9	Manual structural inspections survey of all Minor Bridge, all underpasses (including detailed report as mentioned in the scope of services). Consider 1 locations= 1 Nos	Nos	13		
10	Mobilisation and Demobilisation of all investigation equipment's (from SI no 1 to 9), Manpower including lodging and boarding	LS			

Muzaffarnagar–Haridwar Section Revalidation Survey BOQ					
S No	Item Description	Unit	Qty	Rate	Amount
1	Falling Weight Deflectometer (FWD) Survey for Flexible Pavement: i. Conduct deflection tests using a Falling Weight Deflectometer (FWD) for the existing flexible pavement, covering the main carriageway in accordance with the IRC 115 guidelines. ii. Perform testing at a rate of IRC 115 guidelines.	Point	2521		

Muzaffarnagar–Haridwar Section Revalidation Survey BOQ					
S No	Item Description	Unit	Qty	Rate	Amount
2	Falling Weight Deflectometer (FWD) Survey for Rigid Pavement: Execute deflection tests for existing rigid pavement accordance with the IRC 117 guidelines. Analyze the strength of the pavement concrete, balance life of pavement, load transfer at longitudinal and transverse joints and voids according to IRC 117.	Point	32.00		
3	Network Survey Vehicle (NSV) Survey: Carry out a survey on each lane of the project corridors using the NSV on existing flexible/rigid pavement. This survey will encompass the main carriageway, service roads, loops, and ramps etc. Utilize advanced survey techniques, including laser technology, GPS, and video image processing, to collect data at highway speeds. The system must capture the following information: Longitudinal profiling (International Roughness Index/BI) Transverse profiling (Rut Depth) Pavement texture (Mean Profile Depth) Road geometry data (cross slope, gradient, curvature) GPS coordinates (X, Y, Z) including longitude, latitude, and altitude Video imaging for roadside furniture and road assets Video imaging for pavement surface distresses	Lane-Km	383		
4	Conducting axle load surveys for 48 hours in both directions at toll plaza locations in each direction to determine VDF	Per Day	4		
5	Performing test pits at intervals of 5 km along the project corridor in each direction	Nos	45		
6	Scope for Retro reflectivity				
6i	Testing of all signboards available in each kilometre of the projects length using Retro Reflectivity Measuring Device. In accordance with ASTM D 4956-09 & as per specifications in IRC:67-2022.	2 Lane Km	225		
6ii	Testing of Pavement marking Day time Visibility as per Annexure- D and Nighttime Visibility as per Annexure-E of IRC:35-2015.	2 Lane Km	225		
7	SCRIM (Sideway force Coefficient Routine Investigation Machine or equivalent) British Pendulum Tester as per ASTM-274, IRC:82-2015 for flexible pavement and IRC: SP:83-2018 for rigid pavement.	Point	787		
8	MBIU survey on Major Structures vertical clearance more than 4mtr. Consider 1 locations= 1 Nos	Nos	29		

Muzaffarnagar–Haridwar Section Revalidation Survey BOQ					
S No	Item Description	Unit	Qty	Rate	Amount
9	Manual structural inspections survey of all Minor Bridge, all underpasses excluding Major structure. Consider 1 locations= 1 Nos	Nos	35		
10	Mobilisation and Demobilisation of all investigation equipments(from SI no 1 to 9), Manpower including lodging and boarding	LS			

Nalagampalli to AP/KA Border Section Revalidation Survey BOQ					
S No	Item Description	Unit	Qty	Rate	Amount
1	Falling Weight Deflectometer (FWD) Survey for Flexible Pavement: i. Conduct deflection tests using a Falling Weight Deflectometer (FWD) for the existing flexible pavement, covering the main carriageway in accordance with the IRC 115 guidelines. ii. Perform testing at a rate of IRC 115 guidelines.	Point	321		
2	Falling Weight Deflectometer (FWD) Survey for Rigid Pavement: Execute deflection tests for existing rigid pavement accordance with the IRC 117 guidelines. Analyze the strength of the pavement concrete, balance life of pavement, load transfer at longitudinal and transverse joints and voids according to IRC 117.	Point	1,536		
3	Network Survey Vehicle (NSV) Survey: Carry out a survey on each lane of the project corridors using the NSV on existing flexible/rigid pavement. This survey will encompass the main carriageway, service roads, loops, and ramps etc. Utilize advanced survey techniques, including laser technology, GPS, and video image processing, to collect data at highway speeds. The system must capture the following information: Longitudinal profiling (International Roughness Index/BI) Transverse profiling (Rut Depth) Pavement texture (Mean Profile Depth) Road geometry data (cross slope, gradient, curvature) GPS coordinates (X, Y, Z) including longitude, latitude, and altitude Video imaging for roadside furniture and road assets Video imaging for pavement surface distresses	Lane-Km	242		

Nalagampalli to AP/KA Border Section Revalidation Survey BOQ					
S No	Item Description	Unit	Qty	Rate	Amount
4	Conducting axle load surveys for 48 hours in both directions at toll plaza locations in each direction to determine VDF	Per Day	4		
5	Performing test pits at intervals of 5 km along the project corridor in each direction	Nos	29		
6	Scope for Retro reflectivity				
6i	Testing of all signboards available in each kilometre of the projects length using Retro Reflectivity Measuring Device. In accordance with ASTM D 4956-09 & as per specifications in IRC:67-2022.	2 Lane Km	147		
6ii	Testing of Pavement marking Day time Visibility as per Annexure- D and Nighttime Visibility as per Annexure-E of IRC:35-2015.	2 Lane Km	147		
7	SCRIM (Sideway force Coefficient Routine Investigation Machine or equivalent) British Pendulum Tester as per ASTM-274, IRC:82-2015 for flexible pavement and IRC: SP:83-2018 for rigid pavement.	Point	477		
8	MBIU survey on Major Structures vertical clearance more than 4mtr. Consider 1 locations= 1 Nos	Nos	7		
9	Manual structural inspections survey of all Minor Bridge, all underpasses excluding Major structure. Consider 1 locations= 1 Nos	Nos	12		
10	Mobilisation and Demobilisation of all investigation equipment's(from SI no 1 to 9), Manpower including lodging and boarding	LS			

Raipur to Simga Section Revalidation Survey BOQ					
S No	Item Description	Unit	Qty	Rate	Amount
1	Falling Weight Deflectometer (FWD) Survey for Flexible Pavement: i. Conduct deflection tests using a Falling Weight Deflectometer (FWD) for the existing flexible pavement, covering the main carriageway in accordance with the IRC 115 guidelines. ii. Perform testing at a rate of IRC 115 guidelines.	Point	10		
2	Falling Weight Deflectometer (FWD) Survey for Rigid Pavement: Execute deflection tests for existing rigid pavement accordance with the IRC 117 guidelines. Analyze the strength of the pavement concrete, balance life of pavement, load transfer at longitudinal and transverse joints and voids according to IRC 117.	Point	2,018.00		

Raipur to Simga Section Revalidation Survey BOQ					
S No	Item Description	Unit	Qty	Rate	Amount
3	Network Survey Vehicle (NSV) Survey: Carry out a survey on each lane of the project corridors using the NSV on existing flexible/rigid pavement. This survey will encompass the main carriageway, service roads, loops, and ramps etc. Utilize advanced survey techniques, including laser technology, GPS, and video image processing, to collect data at highway speeds. The system must capture the following information: Longitudinal profiling (International Roughness Index/BI) Transverse profiling (Rut Depth) Pavement texture (Mean Profile Depth) Road geometry data (cross slope, gradient, curvature) GPS coordinates (X, Y, Z) including longitude, latitude, and altitude Video imaging for roadside furniture and road assets Video imaging for pavement surface distresses	Lane-Km	251		
4	Conducting axle load surveys for 48 hours in both directions at toll plaza locations in each direction to determine VDF	Per Day	4		
5	Performing test pits at intervals of 5 km along the project corridor in each direction	Nos	19		
6	Scope for Retro reflectivity				
6i	Testing of each and every signboard using Retro Reflectivity Measuring Device. In accordance with ASTM D 4956-09 & as per specifications in IRC:67-2022.	2 Lane Km	97		
6ii	Testing of Pavement marking Day time Visibility as per Annexure- D and Night Time Visibility as per Annexure- E of IRC:35-2015.	2 Lane Km	97		
7	SCRIM (Sideway force Coefficient Routine Investigation Machine or equivalent) British Pendulum Tester as per ASTM-274, IRC:82-2015 for flexible pavement and IRC: SP:83-2018 for rigid pavement.	Point	486		
8	MBIU survey on Major Structures vertical clearance more than 4mtr. Consider 1 locations= 1 Nos	Nos	10		
9	Manual structural inspections survey of all Minor Bridge, all underpasses excluding Major structure. Consider 1 locations= 1 Nos	Nos			
10	Mobilisation and Demobilisation of all investigation equipment(from SI no 1 to 9), Manpower including lodging and boarding	LS			

Additional surveys/Investigation, if any, shall be conducted using rates below (Applicable for all above Projects):

S. No.	Test/Survey/Investigation	Unit of Measurement	Rate	Remarks
A. Highway				
1	Falling Weight Deflectometer on Flexible Pavement	Per Point		
2	Falling Weight Deflectometer on Rigid Pavement	Per Point		
3	NSV on Flexible/Rigid Pavement	Per Lane km		
4	Axle Load Survey (24hours)	Per Day		
5	Test Pit Material Investigation	Per Test		
6	Core Cutting investigation on Flexible Pavement	Per Test		
7	Core Cutting investigation on Rigid Pavement	Per Test		
8	Retro Reflectivity of Sign Boards	Per Test		
9	Lux Level	Per km		
10	Drone Videography	Per km		
11	Ground Penetration Radar for Utility Mapping	Per km		
12	GSB Material Investigation	Per Sample		
13	WMM Material Investigation	Per Sample		
14	Sub-grade/Borrow Soil Material Investigation	Per Sample		
B. Structure				
1	Pull-out Test (Hole Drilled & insert placed in old concrete)	Per Test		
2	Penetration Resistance/Windsor probe Test	Per Test		
3	Resistivity Measurements	Per Test		
4	Half-Cell potential Measurements	Per Test		
5	Ultrasonic Pulse Velocity	Per Test		
6	Acoustic Emission Test	Per Test		
7	Dynamic Response Test	Per Test		
8	Ground Penetrating Radar	Per Test		
9	Radiography	Per Test		
10	Carbonation Test	Per Test		
11	Crack Measurement Using Special Microscopes & Crack Gauges	Per Test		
12	Trepanning Test	Per Test		
13	Endoscopic Test	Per Test		
14	Thermography	Per Test		
15	Petrography	Per Test		
16	Impact-Echo	Per Test		
17	Schmidt/Rebound Hammer Test	Per Test		
18	Permeability	Per Test		
19	Cover Meter	Per Test		

S. No.	Test/Survey/Investigation	Unit of Measurement	Rate	Remarks
20	Chemical Analysis (Sulphate & chloride Content)	Per Test		
21	Hammer Rap/Heavy Chains	Per Test		
22	Linear Polarization Resistance (LPR)	Per Test		
23	Galvano-Static Pulse Method	Per Test		

Name & Signature of Bidder's Authorized Signatory

Date:

Notes for the bidder

- (i) The fee quoted should be limited to 2 (two) decimal points and shall remain FIRM during the currency of the contract.
- (ii) The annual escalation in professional fees shall not exceed 5% of the Base Fee.
- (iii) The fee quoted by the bidder should be inclusive of all charges except applicable GST, which shall be paid extra as applicable. Taxes should be indicated separately while raising the bills for payment of fee.
- (iv) The fee will be payable in Indian Rupees as per payment terms mentioned in the RFP. Withholding taxes, as applicable, will be deducted at the time of making payment.

Section 6 – Undertakings

(On the letter head of the bidder)

To be provided with the technical bid

We undertake that:

1. The proposal submitted hereunder shall remain valid for a period of at least 120 days from the last date for submission of the proposal.
2. No other fees/ cost/ expenses/taxes/levies shall be payable by NSPPL / NHIT or any of the entities under NHIT for the services rendered by Revalidation Consultant (s) except as mentioned in Financial Proposal.
3. The Bidder has not been banned/ blacklisted/ de-listed/ disqualified/ debarred by any organization/ government agency/ quasi-government agency/ PSU to participate in their tenders for appointment. We further certify that there is no investigation pending against us or the MD/CEO/Directors of our Company and no action has been initiated against us/ our Directors by CVC/ RBI or any other government/ statutory agency with regard to any financial irregularities.
4. The Bidder does not have any conflict of interest which is prejudicial to the scope of work. Further, the bidder will ensure that no such business or professional activities will be carried out by it, which may affect the interest of NSPPL .
5. The bidder has adequate infrastructure, personnel, and resources to carry out the required Services and are eligible for acting as Revalidation Consultant (s). The Bidder has understood the scope of work properly and shall comply with the terms of engagement.
6. No bankruptcy/ liquidation proceedings have been initiated against the Bidder by any entity/ government agency/ quasi-government agency/ PSU and there is no material case/ proceeding against the Bidder/ its Directors that is likely to have significant impact on its business as Revalidation Consultant (s) or on its deliverables pursuant to this bid/ RFP.
7. All the information submitted as part of the Bid is true and correct.

We accept all the terms & conditions as mentioned in the RFP. In the event of any contradiction in the terms and conditions mentioned in the RFP and our proposal/ offer to NSPPL, the NSPPL 's decision shall prevail.

Signature(s) and name(s) of the Authorized Signatory with Seal

Date:

Annexure – J

Technical Specifications

Data shall be collected based on below recommended process:

Description of Data	Recommended Process
Asset Inventory (Highway, Structures, Road Furniture, Facilities)	Network Survey Vehicle or ROMDAS or equivalent technology
Pavement Distress – (Cracking and other visual distress)	Network Survey Vehicle or ROMDAS or equivalent technology
Roughness Value (IRI), Rutting, Texture depth (Rigid Pavement)	Network Survey Vehicle (Laser Profilometer) or ROMDAS or equivalent technology
Deflection Value/Remaining Life	Falling Weight Deflectometer
Condition Survey of Structures	Visual Condition Survey and Thorough Inspection using Mobile Bridge Inspection Unit.
Condition Survey of Road Furniture, Facilities	Network Survey Vehicle or ROMDAS or equivalent technology
Axle Load Data	2-days Axle Load Survey with axle Pad
Test Pits	As per Standard Industrial practice
Skid Resistance	SCRIM (Sideway force Coefficient Routine Investigation Machine or equivalent) British Pendulum Tester
Reflectivity for Sign Boards and Road Markings	Thorough Inspection using Retro Reflectometer
NDT Test (Structure)* (* if required)	As per IRC SP 40 2019

The Bidder shall strictly adhere to the Project deliverables, Tolerance Criteria, tool/equipment and specification as mentioned in the table 1, table 2, table 3 and table 4 for Criteria and specification for Pavements, Rating criteria for Rigid Pavements, Criteria for Safety Related Items & Other Furniture Items and Criteria for Structures & Culverts respectively.

Table 1: Criteria and Specification for Pavements

Asset Type	Performance Parameter	Level of Service (LOS)		Tools/ Equipment	Standards and References for Inspection and Data Analysis	Maintenance specifications
		Desirable	Acceptable			
Flexible Pavement – (Pavement of MCW, Service Road, Approach of Grade structures, approaches of connecting roads, slip roads, lay byes etc. as applicable)	Potholes	Nil	<0.1% of area and subjected to limit of 10mm in depth	Network Survey vehicle (NSV) with all its module such as Laser Profilometers, Transverse profile logger, Laser crack measurement system, Video logging modules, high resolution Odometer etc.	IRC 82: 2023 and Distress Identification Manual for Long Term Pavement Performance Program, FHWA 2003	MORT&H Specification 3004.2
	Cracking	Nil	<5% subject to limit of 0.5 sqm for any 50m length			MORT&H Specification 3004.3
	Corrugations and Shoving	Nil	0.1% of area			IRC 82: 2023
	Bleeding	Nil	<1% of area			MORT&H Specification 3004.2
	Ravelling/ Stripping	Nil	<1% of area			IRC 82: 2023 read with IRC SP-81
	Edge Deformation / Breaking	Nil	<1m for any 100m section and/or width <0.1m at any Location restricted to 30cm from the edge.			IRC 82: 2023

Asset Type	Performance Parameter	Level of Service (LOS)		Tools/ Equipment	Standards and References for Inspection and Data Analysis	Maintenance specifications
		Desirable	Acceptable			
Flexible Pavement – (Pavement of MCW, Service Road, Approach of Grade structures, approaches of connecting roads, slip roads, lay byes etc. as applicable)	Roughness BI	2000 mm/km	2400 mm/km	Network Survey vehicle (NSV) with all its module such as Laser Profilometers, Transverse profile logger, Laser crack measurement system, Video logging modules, high resolution Odometer etc.	ASTM E950 (98):2004 – Standard Test Method for measuring Longitudinal Profile of Travelled Surfaces with Accelerometer Established Inertial Profiling Reference and ASTM E1656 – 94:2000– Standard Guide for Classification of Automatic Pavement Condition Survey Equipment	IRC 82: 2023
	Rutting	<10mm for any 50 m section and/or, length of section <5m	<10mm for any 50 m section and/or, length of section <10m			IRC 82: 2023
	Pavement rating based on distress per IRC 82:2023 / Pavement Condition Index as per ASTM 6433– 7					IRC 82: 2023/ ASTM D 6433– 07
	Other Pavement Distresses					IRC 82: 2023
	Skid	60SN	50SN	SCRIM (Sideway force Coefficient Routine	IRC 82: 2023	BS:7941– 1:2006, IRC 82: 2023/ ASTM 274

Asset Type	Performance Parameter	Level of Service (LOS)		Tools/ Equipment	Standards and References for Inspection and Data Analysis	Maintenance specifications
		Desirable	Acceptable			
				Investigation Machine or equivalent) British Pendulum Tester		
	Deflection/ Remaining Life			Falling Weight Deflectometer	IRC 115: 2014	IRC:115-2014
Rigid Pavement (Pavement of MCW, Service Road, Grade separated structure, approaches of connecting roads, slip roads, lay byes etc. as applicable.)	Roughness BI	<2200mm/km	<2400mm/km	Class I Profilometer Mounted on NSV	ASTM E950 (98) :2004 and ASTM E1656 - 94: 2000	IRC: SP:83-2018
	Skid	Skid Resistance No. at different speed of vehicles		SCRIM (Sideway force Coefficient Routine Investigation Machine or equivalent) British Pendulum Tester	IRC: SP:83-2018	IRC: SP:83-2018
		Minimum SN	Traffic Speed			
		36	50			
		33	65			
		32	80			
		31	95			
		31	100			
Embankment /Slope	Edge drops at shoulders	Nil	40mm	Network Survey vehicle (NSV)	IRC	MORT&H Specification

Asset Type	Performance Parameter	Level of Service (LOS)		Tools/ Equipment	Standards and References for Inspection and Data Analysis	Maintenance specifications
		Desirable	Acceptable			
	Slope of camber/cross fall	Nil	<2% variation in prescribed slope of camber /cross fall			
	Embankment Slopes	Nil	<15 % variation in prescribe side slope			
	Embankment Protection	Nil	Nil	NA		
	Rain Cuts/Gullies in slope			NA		
Cut Section/ Slope	Unstable Slopes	Nil	-	NA	IRC	MORT&H Specification

Table 2: Rating Criteria for Rigid Pavements

S. No	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case $d < D/2$	For the case $d > D/2$
1	CRACKING					
	Single Discrete Cracks Not intersecting with any joint	w = width of crack, L = length of crack, d = depth of crack, D = depth of slab	0	Nil not discernible	No Action	
			1	$w < 0.2$ mm. hair cracks		
			2	$w = 0.2 - 0.5$ mm, discernible from slow-moving car	Seal without delay	Full Depth Repair Dismantle and reconstruct affected portion – See Para 5.4
			3	$w = 0.5 - 1.5$ mm, discernible from fast-moving car		
			4	$w = 1.5 - 3.0$ mm	Seal and stitch if $L > 1m$.	
			5	$w > 3$ mm.		
2	Single Transverse (or Diagonal) Crack intersecting with one or more joints	w = width of crack, L = length of crack, d = depth of crack, D = depth of slab	0	Nil, not discernible	No Action	
			1	$w < 0.2$ mm, hair cracks	Route and seal	Seal and Cross-stitch or Staple
			2	$w = 0.2 - 0.5$ mm, discernible from slow vehicle		

S. No	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case $d < D/2$	For the case $d > D/2$
			3	w = 0.5 - 3.0 mm, discernible from fast vehicle	Seal and stitch, if $L > 1m$.	Full Depth Repair Dismantle and reconstruct affected portion – See Fig 5.5 & Refer Chapter 9
			4	w = 3.0 - 6.0 mm	Not Applicable	Staple or dowel bar retrofit
			5	w > 6 mm, usually associated with spalling, and/ or slab rocking under traffic	Not Applicable as it may be full depth crack	
3	Single Longitudinal Crack intersecting with one or more joints	w = width of crack, L = length of crack, d = depth of crack, D = depth of slab	0	Nil, not discernible	No Action	
			1	w < 0.5 mm, discernable from slow moving vehicle	Seal and stitch if $L > 1m$	Seal and Cross-stitch or Staple
			2	w = 0.5 - 3.0 mm, discernible from fast vehicle		
			3	w = 3.0 - 6.0 mm	Seal and staple	Partial Depth Repair with or without dowel bar retrofit, or
			4	w = 6.0 - 12.0 mm	Not Applicable	
			5	w > 12 mm, usually associated	Not Applicable (Rocking/ Spalling indicates Full depth crack)	Full Depth Repair Dismantle and reconstruct affected

S. No	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case $d < D/2$	For the case $d > D/2$
				with spalling, and/or slab rocking under traffic		portion – see Fig 5.6 and Chapter 9
4	Multiple Cracks intersecting with one or more joints or cracks	w = width of crack	0	Nil, not discernible	No Action	
			1	w < 0.2 mm, hair cracks	Seal, and stitch if L > 1m.	Dismantle and reconstruct whole slab
			2	w = 0.2 - 0.5 mm. discernible from slow vehicle		
			3	w = 0.5 - 3.0 mm, discernible from fast vehicle	Full depth repair	
			4	w = 3.0 - 6.0 mm panel broken into 2 or 3 pieces		
			5	w > 6 mm and/or panel broken into more than 4 pieces		Reinstate subbase, Reconstruct whole slab
5	Corner Break	w = width of crack, L = length of crack	0	Nil, not discernible	No Action	
			1	w < 0.5 mm; only 1 corner broken	Seal with low viscosity epoxy to secure broken parts	

S. No	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case $d < D/2$	For the case $d > D/2$
			2	$w < 1.5 \text{ mm}$; $L < 0.6 \text{ m}$, only one corner broken	Partial Depth (See Fig 8.3)	Full depth repair
			3	$w < 1.5 \text{ mm}$; $L < 0.6 \text{ m}$, two corners broken		
			4	$w > 1.5 \text{ mm}$; $L > 0.6 \text{ m}$ or three corners broken		
			5	three or four corners broken	Reinstate sub-base, and reconstruct the slab.	
6	Punchout (Applicable to CRCP only)	w = width of crack, L = length (m/m ²)	0	Nil, not discernible	No Action	No Action
			1	$w < 0.5 \text{ mm}$; $L < 3 \text{ m/m}^2$	Not Applicable (Punchout is a full depth distress)	Seal with low viscosity epoxy to secure broken parts
			2	either $w > 0.5 \text{ mm}$ or $L < 3 \text{ m/m}^2$		
			3	$w > 1.5 \text{ mm}$ and $L < 3 \text{ m/m}^2$		
			4	$w > 3 \text{ mm}$, $L < 3 \text{ m/m}^2$ and deformation		Full depth repair - Cut out and replace damaged area taking care not to damage reinforcement
			5	$w > 3 \text{ mm}$, $L > 3 \text{ m/m}^2$ and deformation		
7	SURFACE DEFECTS				SHORT TERM	LONG TERM
	Ravelling or Honeycomb type surface	r = area damaged surface / total surface of slab (%) h	0	Nil, not discernible	No action.	Not Applicable
			1	$r < 2 \%$		

S. No	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case $d < D/2$	For the case $d > D/2$
		= maximum depth of damage	2	$r = 2 - 10 \%$	Local repair of areas damaged and liable to damage	
			3	$r = 10 - 25 \%$	Bonded Inlay if affecting 2 or 3 slabs	
			4	$r = 25 - 50 \%$		
			5	$r > 50 \%$ and $h > 25 \text{ mm}$	Reconstruct slabs if affecting 4 or more slabs	
8	Scaling	$r = \text{damaged surface} / \text{total surface of slab} (\%)$ $h = \text{maximum depth of damage}$	0	Nil, not discernible	No action.	Not Applicable
			1	$r < 2 \%$	Local repair of areas damaged and liable to damage	
			2	$r = 2 - 10 \%$		
			3	$r = 10 - 20 \%$	Bonded Inlay	
			4	$r = 20 - 30 \%$		
			5	$r > 30 \%$ and $h > 25 \text{ mm}$	Reconstruct slab	
9	Polished Surface/ Glazing	$t = \text{texture depth, sand patch test}$	0		No action.	Not Applicable
			1	$t > 1 \text{ mm}$		
			2	$t = 1 - 0.6 \text{ mm}$	Monitor rate of deterioration	
			3	$t = 0.6 - 0.3 \text{ mm}$		
			4	$t = 0.3 - 0.1 \text{ mm}$		
			5	$t < 0.1 \text{ mm}$	Diamond Grinding if affecting 50% or more slabs in a continuous stretch of minimum 5 km	
10	Popout (Small Hole), Pothole	$n = \text{number} / \text{m}^2$, $d = \text{diametre}$, $h = \text{maximum depth}$	0	$d < 50 \text{ mm}$; $h < 25 \text{ mm}$; $n < 1 \text{ per } 5 \text{ m}^2$	No action.	Not Applicable
			1	$d = 50 - 100 \text{ mm}$; $h < 50$	Partial depth repair 65 mm deep	

S. No	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case $d < D/2$	For the case $d > D/2$
				mm; $n < 1$ per 5 m ²		
			2	d = 50 - 100 mm; h > 50 mm; $n < 1$ per 5 m ²		
			3	d = 100 - 300 mm; h < 100 mm $n < 1$ per 5 m ²	Partial depth repair 110mm i.e 10 mm more than the depth of the hole	
			4	d = 100 - 300 mm; h > 100 mm; $n < 1$ per 5 m ²		
			5	d > 300 mm; h > 100 mm: $n > 1$ per 5 m ²	Full depth repair	
	JOINT DEFECTS				SHORT TERM	LONG TERM
11	Joint Seal Defects	loss or damage L = Length as % total joint length	0	Difficult to discern.	No action.	Not Applicable
			1	Discernible, $L < 25\%$ but of little immediate consequence with regard to ingress of water or trapping incompressible material.	Clean joint, inspect later.	

S. No	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case $d < D/2$	For the case $d > D/2$
			3	Notable. $L > 25\%$ insufficient protection against ingress of water and trapping incompressible material.	Clean and reapply sealant in selected locations	
			5	Severe; $w > 3$ mm negligible protection against ingress of water and trapping incompressible material.	Clean, widen and reseal the joint following strict procedures	
12	Spalling of Joints	w = width on either side of the joint, L = length of spalled portion (as % joint length)	0	Nil, not discernible	No action.	Not Applicable
			1	$w < 10$ mm	Apply low viscosity epoxy resin/ mortar in cracked portion	
			2	$w = 10 - 20$ mm, $L < 25\%$		
			3	$w = 20 - 40$ mm, $L > 25\%$	Partial Depth Repair 30 – 50 mm deep, $h = w + 20\%$ of w	
			4	$w = 40 - 80$ mm, $L > 25\%$		
			5	$w > 80$ mm, and $L > 25\%$	50 – 100 mm deep repair. $H = w + 20\%$ of w	
13	Faulting (or Stepping) in Cracks or Joints	f = difference of level	0	not discernible, < 1 mm	No action.	Not Applicable
			1	$f < 3$ mm		
			2	$f = 3 - 6$ mm	Determine cause and observe take action for diamond grinding	

S. No	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case $d < D/2$	For the case $d > D/2$
			3	f = 6 - 12 mm	Diamond Grinding	
			4	f= 12 - 18 mm	Raise sunken slab.	
			5	f> 18 mm	Strengthen subgrade and sub-base by grouting, raising sunken slab	
14	Blowup or Buckling	h = vertical displacement from normal profile	0	Nil, not discernible	No action.	Not Applicable
			1	h < 6 mm	Install Signs to Warn Traffic	
			2	h = 6 - 12 mm		
			3	h = 12 - 25 mm		
			4	h > 25 mm	Full Depth Repair	
			5	shattered slabs, ie 4 or more pieces	Replace broken slabs.	
15	Depression	h = negative vertical displacement from normal profile L =length	0	Not discernible, h < 5 mm	No action.	Not Applicable
			1	h = 5 - 15 mm	Install Signs to Warn Traffic	
			2	h = 15-30 mm, Nos <20% joints		
			3	h = 30 - 50 mm		
			4	h > 50 mm or > 20% joints	Strengthen subgrade, Reinstate pavement at normal level if L < 50 m.	
			5	h > 100 mm		
16	Heave	h = positive vertical displacement from normal profile, L = length	0	Not discernable. h < 5 mm	No action.	scqabble
			1	h = 5 - 15 mm	Follow up.	

S. No	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case $d < D/2$	For the case $d > D/2$
			2	$h = 15 - 30$ mm, Nos $< 20\%$ joints	Install Signs to Warn Traffic	
			3	$h = 30 - 50$ mm		
			4	$h > 50$ mm or $> 20\%$ joints	Stabilise subgrade. Reinstate pavement at normal level if length < 20 m.	
			5	$h > 100$ mm		
17	Bump	h = vertical displacement from normal profile	0	$h < 4$ mm	No action.	
			1	$h = 4 - 7$ mm	Grind, in case of new construction	Construction Limit for New Construction
			3	$h = 7 - 15$ mm	Grind in case of ongoing maintenance	Replace in case of new construction
			5	$h > 15$ mm		
					SHORT TERM	LONG TERM
18	Lane to Shoulder Dropoff	f = difference of level	0	Nil, not discernible < 3 mm	No action.	
			1	$f = 3 - 10$ mm	Spot repair of shoulder.	
			2	$f = 10 - 25$ mm		
			3	$f = 25 - 50$ mm	Fill up shoulder	
			4	$f = 50 - 75$ mm		For any 100 m stretch
			5	$f > 75$ mm		Reconstruct shoulder, if affecting 25% or more of segment
19	DRAINAGE		0	not discernible	No Action	

S. No	Type of Distress	Measured Parameter	Degree of Severity	Assessment Rating	Repair Action	
					For the case $d < D/2$	For the case $d > D/2$
	Pumping	quantity of fines and water expelled through open joints and cracks, Nos / 100 m stretch	1 to 2	slight/ occasional Nos < 10%	Repair cracks and joints without delay.	Inspect and repair subdrainage at distressed sections and upstream.
			3 to 4	appreciable / Frequent 10 - 25%	Lift or jack slab.	
			5	abundant, crack development > 25%	Repair distressed pavement sections. Strengthen subgrade and subbase. Replace slab.	
20	Ponding	Ponding on slabs due to blockage of drains	0-2	No discernable problem	No action.	
			3 to 4	Blockages observed in drains, but water flowing	Clean drains etc, Follow up, deep grooving in transverse direction to remove water	Action required to stop water damaging foundation
			5	Ponding, accumulation of water observed	Deep grooving in transverse direction to remove water- hydro planning	
* 5 level severity rating system : 0 - Not Discernible, 1 - Minor, 2 - Moderate, 3 - Major, 4 - Extreme and 5 - Unsafe /Unserviceable						

Table 3: Criteria for Safety Related Items and Other Furniture Items

Asset Type	Performance Parameter	Level of Service (LOS)			Testing Method	Specifications and Standards
		Design Speed (kmph)	Desirable Minimum Sight Distance	Safe Stopping Sight Distance		
Pavement Marking	Wear	<70% of marking remaining			Visual Assessment as per Annexure- F of IRC:35- 2015	IRC:35-2015

Asset Type	Performance Parameter	Level of Service (LOS)			Testing Method	Specifications and Standards
		Design Speed (kmph)	Desirable Minimum Sight Distance	Safe Stopping Sight Distance		
	Day time Visibility	During expected life Service Time • Cement Road – 130mcd/m ² /lux • Bituminous Road – 100mcd/m ² /lux			As per Annexure- D of IRC:35- 2015	IRC:35-2015
	Night Time Visibility	Initial and Minimum Performance for Dry Retro reflectivity during night time:			As per Annexure-E of IRC:35- 2015	IRC:35-2015
		Design Speed	(RL) Retro-Reflectivity (mcd/m ² /lux)			
			Initial (7Days)	Minimum Threshold Level (TL) and warranty period required up to 2 years		
		Up to 65	200	80		
		65 – 100	250	120		
		above 100	350	150		
		Initial and Minimum Performance for Night Visibility under wet condition (Retro reflectivity): • Initial 7 days Retro reflectivity: 100 mcd/m ² /lux • Minimum Threshold Level: 50 mcd/m ² /lux				
Road Sign	Shape and Position	Shape and Position as per IRC:67- 2022. Signboard should be clearly visible for the design speed of the section			Network Survey Vehicle with video/image backup	IRC:67-2022
	Retro reflectivity	As per specifications in IRC:67-2022			Testing of each signboard using Retro Reflectivity Measuring Device. In accordance with ASTM D 4956-09	IRC:67-2022
Kerb	Kerb Height	As per IRC 86:2018 depending upon type of Kerb			Network Survey Vehicle with video/image backup	IRC 86:2018
	Kerb Painting	Functionality: Functioning of Kerb painting as intended			Network Survey Vehicle with video/image backup	IRC 35:2015

Asset Type	Performance Parameter	Level of Service (LOS)			Testing Method	Specifications and Standards
		Design Speed (kmph)	Desirable Minimum Sight Distance	Safe Stopping Sight Distance		
Other Road Furniture	Reflective Pavement Markers (Road Studs)	Numbers and Functionality as per specifications in IRC: SP:84-2019 and IRC:35-2015			Network Survey Vehicle with video/image backup	IRC: SP:84- 2019 AND IRC: SP:87- 2019, IRC:35-2015
	Pedestrian Guardrail	Functionality: Functioning of guardrail as intended			Network Survey Vehicle with video/image backup	IRC: SP:84- 2019 AND IRC: SP:87- 2019
	Traffic Safety Barriers	Functionality: Functioning of Safety Barriers as intended			Network Survey Vehicle with video/image backup	IRC: SP:84-2019, IRC:119-2015
	End Treatment of Traffic Safety Barriers	Functionality: Functioning of End treatment as intended			Network Survey Vehicle with video/image backup	IRC: SP:84- 2019 AND IRC: SP:87- 2019, IRC:119-2015
	Attenuators	Functionality: Functioning of Attenuators as intended			Network Survey Vehicle with video/image backup	IRC: SP:84-2019, IRC:119-2015
	Guard Posts and Delineators	Functionality: Functioning of Guard Posts and Delineators as intended			Network Survey Vehicle with video/image backup	IRC:79-2019
	Overhead Sign Structure	Overhead sign structure shall be structurally adequate			Network Survey Vehicle with video/image backup	IRC:67-2022
	Traffic Blinkers	Functionality: Functioning of Traffic Blinkers as intended			Network Survey Vehicle with video/image backup	IRC: SP:84- 2019 AND IRC: SP:87- 2019
Other Project Facilities and Approach roads	Damage or deterioration in Approach Roads, pedestrian facilities, truck lay-bys, bus-bays, bus- shelters, cattle crossings, Traffic Aid Posts, Medical Aid Posts, and other works				Network Survey Vehicle with video/image backup	IRC: SP:84- 2019 AND IRC: SP:87- 2019

Table 4: Criteria for Structures and Culverts

Asset Type	Performance Parameter	Level of Service (LOS)	Testing Method	Recommended Remedial measures	Specifications and Standards
Pipe/box/slab culverts	Free waterway/ unobstructed flow section	85% of culvert normal flow area to available.	Inspection by Bridge Engineer as per IRC SP: 35- 1990 and recording of depth of silting and area of vegetation	Cleaning silt up soils and debris in culvert barrel after rainy season, removal of bushes and vegetation, U/s of barrel, under barrel and D/s of barrel before rainy season.	IRC 5-2015, IRC SP:40-2019 and IRC SP:13-2004
	Leak-proof expansion joints if any	No leakage through expansion joints	Physical inspection of expansion joints as per IRC SP: 35-2024 if any, for leakage strains on walls at joints.	Fixing with sealant suitably	IRC SP:40-2019 and IRC SP:69- 2011
	Structurally sound	Spalling of concrete not more than 0.25 sq.m.	Detailed inspection of all components of culvert as per IRC SP:35-1990 and recording the defects	Repairs to spalling, cracking, delamination, rusting shall be followed as per IRC: SP:40-2019	IRC SP 40-2019 and MORTH Specifications clause 2800
		Delamination of concrete not more than 0.25 sq.m.			
		Cracks wider than 0.3 mm not more than 1m aggregate length			
	Protection works in good condition	Damaged of rough stone apron or bank revetment not more than 3 sq.m, damage to solid apron (concrete apron) not more than 1 sq.m	Condition survey as per IRC SP:35-1990		IRC: SP 40-2019 and IRC: SP:13- 2004.

Asset Type	Performance Parameter	Level of Service (LOS)	Testing Method	Recommended Remedial measures	Specifications and Standards
Bridges including ROB's, Flyover and Viaducts etc. as applicable	Riding quality or user comfort No pothole in wearing coat on	No pothole in wearing coat on bridge deck	Visual Inspection as per IRC SP:35-1990	Repairs to BC or wearing coat	MORT&H Specification 2811
Bridges including ROB's, Flyover and Viaducts etc. – Super Structure	Bumps	No bump at expansion joint	Visual inspection as per IRC SP:35-1990	Repairs to BC on either side of expansion joints, profile correction course on approach slab in case of settlement to approach embankment.	MORT&H Specification 3004.2 & 2811
	User safety (condition of crash barrier and guard rail)	No damaged or missing stretch of crash barrier or pedestrian hand railing	Visual inspection and detailed condition survey as per IRC SP: 35- 2024	Repairs and replacement of safety barriers as the case may be	IRC: 5-2015, IRC SP: 84-2019, IRC SP 87-2019 and IRC SP: 40- 2019
	Rusted reinforcement	Not more than 0.25 sq.m	Detailed condition survey as per IRC SP: 35-2024 using Mobile Bridge Inspection unit.	All the corroded reinforcement shall need to be thoroughly cleaned from rusting and applied with anti-corrosive coating before carrying out the repairs to affected concrete portion with epoxy mortar/concrete.	IRC SP: 40-2019 and MORTH Specification 1600 IRC SP: 40-2019 and MORTH Specification
	Spalling of concrete	Not more than 0.50 sq.m			
	Delamination	Not more than 0.50 sq.m			
	Cracks wider than 0.30 mm	Not more than 1m total length	Detailed condition survey as per IRC SP: 35-2024 using Mobile Bridge Inspection Unit.	Grouting with epoxy mortar, investigating causes for cracks or other defects development and carry out necessary rehabilitation.	IRC SP: 40-2019 and MORTH Specification 2800

Asset Type	Performance Parameter	Level of Service (LOS)	Testing Method	Recommended Remedial measures	Specifications and Standards
	Rainwater seepage through deck slab	Leakage - nil	Detailed condition survey as per IRC SP: 35-2024 using Mobile Bridge Inspection Unit.	Grouting of deck slab at leakage areas, waterproofing, repairs to drainage spouts	MORTH specifications 2600 & 2700.
	Deflection due to permanent loads and live loads	Within design limits.	Load test method	Carry out major rehabilitation works on bridge to retain original design loads capacity	IRC SP: 51-2015
	Vibrations in bridge deck due to moving trucks	Frequency of vibrations shall not be more than 5 Hz	Laser displacement sensors or laser vibrometers	Strengthening of super structure	AASHTO, LRFD specifications
	Leakage in Expansion joints	No damage to elastomeric sealant compound in strip seal expansion joint, no leakage of rainwater through expansion joint in case of buried and asphalt plug and copper strip joint.	Detailed condition survey as per IRC SP:35-1990. using Mobile Bridge Inspection Unit.	Replacement of seal in expansion joint. Replacement of Sealing compound in case of leakage I copper strip type joint.	MORTH specifications 2600 and IRC SP: 40-2019.
	Debris and dust in strip seal expansion joint	No dust or debris in expansion joint gap.	Detailed condition survey as per IRC SP: 35-2024. using Mobile Bridge Inspection Unit.	Cleaning of expansion joint gaps thoroughly	MORTH specifications 2600, IRC SP:40-2019 and IRC: SP:69-2011
	Drainage spouts	No down take Pipe missing/broken below soffit of the deck slab. No silt, debris, clogging of drainage spout collection chamber.	Detailed condition survey as per IRC SP: 35-2024. using Mobile Bridge Inspection Unit.	Cleaning of drainage spouts thoroughly. Replacement of missing/broken down take pipes with a minimum pipe extension of 500mm below soffit of slab. Providing sealant around the edrainage spout if any leakages observed.	MORTH specification 2700

Asset Type	Performance Parameter	Level of Service (LOS)	Testing Method	Recommended Remedial measures	Specifications and Standards
Bridges including ROB's, Flyover and Viaducts etc.- Bridge Substructure	Cracks/ spalling of concrete /rusted steel	No cracks, spalling of concrete and rusted steel	Detailed condition survey as per IRC SP: 35-2024 using Mobile Bridge Inspection unit.	All the corroded reinforcement shall need to be thoroughly cleaned from rusting and applied with anti-corrosive coating before carrying out repairs to substructure by grouting/guniting and micro concreting depending on type of defect noticed	IRC SP: 40-2019 and MORTH specification 2800
	Elastomeric Bearings	Delamination of bearing reinforcement not more than 5%, cracking or tearing of rubber not more than 2 locations per side, no rupture of reinforcement or rubber	Detailed condition survey as per IRC SP: 35-2024 using Mobile Bridge Inspection Unit.	In case of failure of even one bearing on any pier/abutment, all the bearings on that pier/abutment shall be replaced, in order to get uniform load transfer on to bearings.	MORTH Specification 2810, IRC SP: 40-2019 and IRC:83 (Part-II)-2018
	POT/PFFE and Spherical Bearings	No locking of movable and rotational parts, No Corrosion, Cleanliness	Detailed condition survey as per IRC SP: 35-2024 using Mobile Bridge Inspection unit.	Unlocking of affected parts, Cleaning of Rust and repainting. General Cleaning of bearings.	IRC:83 (Part-III)- 2018, IRC:83 (Part-IV)-2014
Bridges including ROB's, Flyover and Viaducts etc.- Bridge Foundations	Scouring around Foundations	Scouring shall not be lower than maximum scour level for the bridge	Condition survey and visual inspection as per IRC SP:35-1990 using Mobile Bridge Inspection Unit. In case of doubt Underwater camera for Inspection of deep wells in Major rivers	Suitable protection works around pier/abutment	IRC SP: 40-2019, IRC: 89-2019, IRC:78-2014, MORTH Specification 2500

Asset Type	Performance Parameter	Level of Service (LOS)	Testing Method	Recommended Remedial measures	Specifications and Standards
	Protection works in good condition	Damaged of rough stone apron or bank revetment not more than 3 sq.m, damage to solid apron (concrete apron) not more than 1 sq.m	Condition survey as per IRC SP:35-1990	Repairs to damaged Aprons and pitching	IRC: SP 40-2019, IRC: SP:13- 2004 and IRC:89-2019

Note:

1. IRC Codes indicated above shall be applicable as per year of publication in consonance with the start of assignment.

Annexure – L
Specific Experience Criteria

Criteria	Evaluation criteria & scoring guidance	Maximum Points
1	Minimum 5 Years' Experience in Technical Consultancy relevant field:	
	05 Years to 8 Years: 5 Marks	10
	8 Years to 10 Years: 8 Marks	
	Above 10 Years: 10 Marks	
2	Cumulative Annual Turnover for Last Three year from Consulting Services:	
	800 Lacs to 1000 Lacs : 5 Marks	15
	1000 Lacs to 1500 Lacs: 10 Marks	
	> 1500 Lacs: 15 Marks	
3	Experience and Capabilities in conducting Pavement Evaluation Tests in last 3 years:	
	a) Experience of Network Survey of aggregate length	15
	10000 lane km ≤ Experience <15000 lane km : 5 Marks	
	15000 lane km ≤ Experience <20000 lane km : 10 Marks	
	≥ 20000 lane km : 15 Marks	
	b) Experience of FWD Survey of aggregate length	15
	5000 lane km ≤ Experience < 7500 lane km : 5 Marks	
	7500 lane km ≤ Experience < 10000 lane km : 10 Marks	
	≥ 10000 lane km : 15 Marks	
	c) Experience for Retro reflectivity, Skid resistance and MBIU Survey work	
	Experience projects > 5 Nos (MBIU) : 3 Marks	3
	Experience projects > 5 Nos (Retro Reflectivity for sign board and Thermoplastic paints) : 5 Marks	5
	Experience projects > 5 Nos (Skid Resistance) : 2 Marks	2
	Documents Required: WOs copies of conducting pavement evaluation test issued by client to be provided.	
3	Availability and certification of advanced survey equipment, including NSV (with laser technology, GPS, video imaging), FWD, SCRIM, and Retro reflectometer.	
	Owned NSV vehicle (3D LCMS Ver 2.0) : 5 Marks	5

Criteria	Evaluation criteria & scoring guidance	Maximum Points
	Owned FWD vehicle (Load capacity of more than 150 KN) : 5 Marks	5
	Owned Retroreflector Survey (for Sign board and Thermoplastic paints) : 5 Marks	5
	Owned British Pendulum Tester (Skid Resistance) : 5 Marks	5
	MBIU: Bidder may also hire MBIU for services to be provided. In such case, document of tie-up with dedicated provider to be provided: 5 Marks	5
	<u>Documents Required:</u> Latest Calibration certificates required for verification	
4	Technical Team Strength & Experience:	10
	· Rating Criteria for this requirement will be as under:	
	<u>Team Leader (max marks:6)</u>	
	Experience of 15 years or more but less than 20 years: 3 marks	
	Experience of 20 years or more - 6 marks	
	<u>Highway cum Pavement Engineer(s)</u>	
	2 mark each for 1 such personnel on rolls of the Bidder	
	<u>Bridge Engineer(s)</u>	
	1 mark each for 1 such personnel on rolls of the Bidder	
	<u>Quantity Surveyor (s)</u>	
	1 mark each for 1 such personnel on rolls of the Bidder	
	<i>Bidder may also hire services of a dedicated consultant for services to be provided. In such case, document of tie-up with dedicated consultant to be provided</i>	
	<u>Documents Required:</u> Certification of the Authorized Signatory to be provided as proof of Team Strength and Experience.	
	Total Technical Score	100

Criteria	Evaluation criteria & scoring guidance	Maximum Points
	<p data-bbox="164 241 1257 360">We accept all the terms & conditions as mentioned in the RFP. In the event of any contradiction in the terms and conditions as mentioned in the RFP and our proposal/ offer to NSPPL , NSPPL 's decision shall prevail.</p> <div data-bbox="164 555 1257 589"><div data-bbox="164 555 793 589">Name & Signature of Bidder's Authorized Signatory</div><div data-bbox="1185 555 1257 589">Date:</div></div>	

Annexure – M
Sector-specific requirements for Service

Proposed Team:

For each assignment, the selected bidder shall deploy a team comprising at least 1 Team Leader, 1 Bridge Engineer, 1 Highway cum Pavement Engineer and 1 Quantity Surveyor.

The above-mentioned professionals are defined as under:

1. **Team Leader** – A professional on the rolls of the Bidder with B. Tech / B.E. or equivalent in Civil Engineering along with Master's in Highway/Bridge/Structural/Pavement Engineering and having at least 15 years of relevant work experience as on 30.06.2025.
2. **Bridge Engineer** – A professional on the rolls of the Bidder with B. Tech / B.E. or equivalent in Civil Engineering along with Master's in Bridge/Structural Engineering and having at least 10 years of relevant work experience as on 30.06.2025.
3. **Highway cum Pavement Engineer** – A professional on the rolls of the Bidder with B. Tech / B.E. or equivalent in Civil Engineering along with Master's in Highway / Pavement / Transport Engineering and having at least 10 years of relevant work experience as on 30.06.2025.
4. **Quantity Surveyor** – A professional on the rolls of the Bidder with B. Tech / B.E./ Diploma or equivalent in Civil Engineering and having at least 5 years of relevant work experience as on 30.06.2025.

Detailed CV of the personnel certified by Authorized Signatory of the Bidder to be provided along with the Bid in the following format:

CV Format as mentioned below:	
<u>Aadhaar Number</u>	-
<u>Photo</u>	-
<u>Name</u>	-
<u>DOB</u>	-
<u>Mother Name</u>	-
<u>Father Name</u>	-
<u>Email</u>	-
<u>Country</u>	-
<u>Current State</u>	-
<u>Current Address</u>	-
<u>Current Pin Code/ Zip Code</u>	-
<u>Permanent State</u>	-
<u>Permanent District</u>	-
<u>Permanent Pin Code / Zip Code</u>	-
<u>PAN Number</u>	-
<u>Passport Number</u>	-
<u>Mobile</u>	-
<u>Alternate Mobile</u>	-
<u>Landline Number</u>	-
<u>UAN Number</u>	-
<u>ID Proof</u>	-
<u>Knowledge of Modern Computer Based Method of Surveying</u>	-
-	

[illegible]

Annexure – N

Project Timeline, Phase-wise Deliverables, and Submission Protocols

1. **Project Duration:** 10 weeks
2. **Phases:**
 - Week 1 to 2: Planning, Tool Finalization and Approval of Survey Methodology
 - Week 3 to 5: Field Survey Execution
 - Week 6 to 8: Data Validation and Analysis
 - Week 8 to 10: Report & BOQ Preparation
3. **Deliverables:** Survey Methodology, Weekly Progress Report, Draft Report & Draft BOQ (Bill of Quantity) and Final Report & Final BOQ.
4. **Submission protocol:** soft copies via email and cloud link during assignment and after completion of assignment all the data (BOQ, Reports, field data, analysis files along with formulas, photos and videos) relevant to the assignment shall be submitted in hard disk.

Annexure – O
Key Performance Indicators (KPIs) – Common Benchmarks

This annexure outlines the key performance indicators (KPIs) that will be used to evaluate the performance of the bidder engaged to conduct highway surveys. These KPIs provide objective and measurable criteria to assess the bidder's adherence to quality, timeliness, technical standards, and coordination practices. They serve as benchmarks for performance monitoring and accountability throughout the assignment duration.

1. Timeliness of Deliverables
2. Adherence to Methodology
3. Stakeholder Coordination and Communication Effectiveness
4. Data Quality Error Rate
5. Compliance with Documentation Standards

Annexure – P
Consultancy-Specific KPIs

This annexure outlines tailored Key Performance Indicators (KPIs) that directly reflect the core objectives and expected outcomes of the re-validation survey. These KPIs are specific to the bidder's field execution and operational efficiency, focusing on data coverage, accuracy, field team performance, and responsiveness to flagged issues. These metrics help ensure the re-validation process yields reliable, actionable results within the required timelines.

1. % of Surveys Completed Against Target
2. Accuracy of Field Data
3. Data analysis and fulfilment of technical specifications.
4. % of Flagged Queries/observations Resolved Within 48 Hours
5. Report quality and data presentation

Annexure – R
Types of Reports & Submission Frequency

Project Deliverables Timeline:

S. No.	Deliverable	Description	Timeline
1	Survey Planning & Methodology	Submission of detailed survey plan, methodology, and field execution strategy	1 st Week
2	Draft Report & Draft BOQ	Submission of draft findings, preliminary data analysis, and observations	8 th Week
3	Final Report & Final BOQ	Submission of finalized report with all revisions, data validation, and annexures	10 th Week

Annexure – T
Billing Breakup

Project Deliverables Payment:

S. No.	Deliverable	Description	Payment of applicable Fee as %
1	Survey Planning & Methodology	Submission of detailed survey plan, methodology, and field execution strategy	NIL
2	Draft Report & Draft BOQ	Submission of draft findings, preliminary data analysis, and observations	50%
3	Final Report & Final BOQ	Acceptance of finalized report with all revisions, data validation, and annexures	50%

Annexure – U
Draft Contract Agreement

Not Applicable

- **Annexures A, B, C, D, E, F, G, H, I, K, Q, S, V, W, X, Y and Z are not applicable.**