Design, Supply Installation, Testing, Commissioning, Configuration, System Integration, Operations and Maintenance of comprehensive Advanced Traffic Management System (ATMS) on Ambala - Zirakpur Section from km 5.735 - km 39.961 of NH-152 (old 22)

in the State of Haryana & Punjab.

Request for Proposal (RFP)

Volume - I

RFP No. 13043/01/2016/HAM/Ambala - Zirakpur

National Highways Authority of India G-5&6, Sector-10, Dwarka, New Delhi-110075

14-Sep-16

Disclaimer

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

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

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

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

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

The issue of this RFP document does not imply that NHAI is bound to select a Bidder or to appoint the Successful Bidder for the Project and NHAI reserves the right to reject all or any of the Bidders or Bids without assigning any reason whatsoever.

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

Document Composition

This RFP Documents comprises for following two volumes.

Volume-I	Part-I	Instructions to Bidders
	Part-II	Terms of Reference
	Part-III	Formats for Bid Submission
	Part-IV	Draft Format of Contract Agreement
	Part-V	BOQ

Volume-II Functional and Technical Specifications of ATMS Components

/ Sub-Components

Table of Contents

PART-I	5
INSTRUCTIONS TO BIDDERS	5
NOTICE INVITING TENDER	ε
SCHEDULE OF IMPORTANT EVENTS / ACTIVITIES	7
TENDER APPLICATION FEE AND BID SECURITY	8
ELIGIBILITY AND PRE-QUALIFICATION CRITERIA	9
CLARIFICATION REGARDING RFP DOCUMENT	10
ACCESSING BID DOCUMENTS, PREPARATION AND SUBMISSION OF BID	11
BID EVALUATION CRITERIA AND SELECTION PROCEDURE	14
PERFORMANCE SECURITY	15
MISCELLANEOUS	16
PART-II	19
TERMS OF REFERENCE	19
PART-III	26
FORMAT FOR BID SUBMISSION	26
PROFORMA FOR SUBMITTING WRITTEN QUERIES	27
FORM F-1: FORMAT FOR FINANCIAL BID SUBMISSION	28
FORMAT FOR SUBMISSION OF PBG	32
PART-IV	34
(DRAFT FORM OF CONTRACT AGREEMENT)	34
DRAFT CONTRACT AGREEMENT	35
PART-V	50
BILL OF QUANTITY (BOO)	50

PART-I INSTRUCTIONS TO BIDDERS

NOTICE INVITING TENDER

(through e-Tendering mode only)
Only the agencies empanelled with NHAI to apply

National Highways Authority of India (NHAI) intends to engage a service provider for Design, Supply Installation, Testing, Commissioning, Configuration, System Integration and Operations and Maintenance of comprehensive Advanced Traffic Management System (ATMS) on National Highways.

- 2. The period of engagement shall initially be five years and mode of service delivery shall be service level model. Period of engagement may be extended for another two years subject to satisfactory services and continued requirement of NHAI
- 3. NHAI had invited applications for empanelment of agencies vide RFQ document dated 19.02.2016. This RFP Document is issued in pursuance to provisions under para 2.3, 4.2 and 4.3 of the said RFQ Document.
- 4. The empanelled agencies are hereby invited to submit their bids comprising Financial Bids through e-tendering mode only latest by 06.10.2016, 14:30 hrs (the bid due date) in the prescribed pro-forma. The financial bid shall include all costs, taxes, etc. (service tax will be reimbursed by NHAI separately). Bid shall be valid for 120 days w.e.f. bid due date. The bids should be submitted online only on e-tender portal of NHAI and in the prescribed formats given in this document for indicated purposes. No change in the formats and / or other mode of bid submission is permissible.
- 5. For any clarification, the bidder may send their questions on deepaksaxena@nhai.org. All queries shall be addressed during the pre-bid meeting. Clarifications to bidder's queries along with Amendments / Corrigendum, if any, will be hosted on the NHAI website and e-tender portal of NHAI only.

SCHEDULE OF IMPORTANT EVENTS / ACTIVITIES

Sl. No.	EVENT(S)	DATE (Unless otherwise notified separately)
1.	Issue of Revised Bid Document	14.09.2016
2.	Pre bid Meeting	Not Applicable
3.	Last date/ time for submission of bids (i.e. <i>Bid due date</i>)	Before 14:30 Hrs. 06.10.2016
4.	Opening of Financial bids	15:30 Hrs. 06.10.2016

TENDER APPLICATION FEE AND BID SECURITY

- 1.1. **Tender Application Fee / Cost of Bid Document** (non-refundable) ₹ 25,000/- (Rupees **Twenty Five Thousand only**) to be adjusted against common cost of bid document furnished with empanelment application.
- 1.2. **Bid Security** of ₹20,00,000/- (Rupees Twenty Lakhs only) to be adjusted against common bid security furnished with empanelment application.
- 1.3. Bid Security of successful bidder shall be released after furnishing performance bank guarantee.

ELIGIBILITY AND PRE-QUALIFICATION CRITERIA

Not applicable as bidding restricted to agencies already empanelled by NHAI through applications against RFQ Document dated 19.02.2016

CLARIFICATION REGARDING RFP DOCUMENT

3.1 A prospective Bidder requiring any clarification regarding the RFP may notify NHAI in writing or by fax or e-mail at NHAI's address indicated in the invitation to Bid. NHAI will respond to any request for clarification which is received up to three days before the pre-Bid meeting.

3.2 PRE-BID MEETING

- (a) The Bidder or his authorized representative is invited to attend a pre-Bid meeting which will take place at NHAI, G 5 & 6, Sector-10, Dwarka, New Delhi-110075 as mentioned in the Schedule of Events.
- (b) The purpose of the meeting will be to clarify issues and to answer questions on any matter pertaining to this RFP document. All Bidders are requested to go through the RFP document carefully and submit any queries/ clarifications addressed to the General Manager (Electronics Division) in the format prescribed in Part III. The Bidder is requested to submit any questions / queries in writing or by email¹ so as to reach NHAI not later than three days before the scheduled meeting.
- (c) Minutes of the meeting including the text of the questions (without identifying the source of enquiry) and the responses will be hosted on NHAI's website/ e-tender portal only.
- (d) Any modification in the RFP document which may become necessary as a result of the deliberations in the pre-Bid meeting shall be made by NHAI separately through issue of an Addendum/ Amendment and not through the minutes of the pre-Bid meeting and the same will also be hosted on NHAI's website/ e-tender portal.

RFP No. 13043/01/2016- HAM/Ambala-Zirakpur

¹ E-mail: <u>deepaksaxena@nhai.org</u>

ACCESSING BID DOCUMENTS, PREPARATION AND SUBMISSION OF BID

- 4.1 Detailed RFP document can be viewed / downloaded from NHAI website e-tender portal of NHAI.
- 4.2 (a) the Tender Application Fee (non-refundable); and (b) Bid Security, shall be adjusted against common cost of financial bid document and common bid security furnished by empanelled agencies along with their applications.

4.3 ACCESSING/PURCHASING OF BID DOCUMENTS:

- (i) It is mandatory for all the Applicants to have class-III digital signature certificate (with both Signing and encryption certificate) (in the name of person who will sign the Application) from any of the licensed Certifying Agency ("CAs") [Applicants can see the list of licensed CAs from the link www.cca.gov.in] to participate in etendering of NHAI.
 - The Authorized Signatory holding Power of Attorney shall only be the Digital Signatory. In case authorized signatory holding Power of Attorney and Digital Signatory are not the same, the bid shall be considered non-responsive.
- (ii) To participate in the submission of the bid against the RFP, it is mandatory for the Applicants to get themselves registered with the https://nhai.eproc.in and to have user ID & password which has to be obtained by paying annual registration charges of Rs.2300/-(Inclusive of all taxes) to M/s C1 India Pvt. Ltd. The online payment facility for the submission of registration fee and tender processing fee, which is payable to E-Tender service provider i.e. M/s C1 India Pvt. Ltd has been enabled on E-Tender portal https://nhai.eproc.in. Validity of online registration is one year.
- (iii) **RFP can be viewed/downloaded,** up to 1700 hours one day prior to bid due date. Following may be noted-
 - (a) Registration should be valid at least up to the date of submission of Bid.
 - (b) Bids can be submitted only during the validity of registration with the https://nhai.eproc.in
 - (c) The amendments/clarifications to the RFP, if any, will be hosted on the www.nhai.org and https://nhai.eproc.in.
 - (d) If the applicant is already registered with e-tendering portal of NHAI (https://nhai.eproc.in) and validity of registration has not expired, the applicant is not required to register afresh.
- (iv) To participate in bidding, applicants have to pay **Rs.1295/-** (**Rupees one thousand two hundred ninety five only**) against Tender processing fee (non-refundable) to M/s C1 India Pvt. Ltd. through online mode only.
- (v) For Help, please contact e-tendering Cell and Help Desk Support. Support staff at E-Tendering Help desk shall be available on all week days (Monday to Friday) from 09:30 AM to 6:00 PM except on Gazetted Holidays.

4.4 PREPARATION & SUBMISSION OF BIDS:

Detailed RFP may be downloaded from NHAI'S website www.nhai.org and / or e-tender portal (https://nhai.eproc.in) and bid shall be submitted online following the instruction appearing on the screen. A bidding manual containing the detailed guidelines for e-tendering system is also available on e-tender portal.

4.5 **Bid Validity:** The bid should remain valid for a period of 120 calendar days from the bid due date. NHAI will make its best efforts to complete the evaluation process and work award within the bid validity period. Under exceptional circumstances, prior to expiry of the bid validity, NHAI may request bidder to extend the bid validity for specified additional period. Such request by NHAI and reply / response from bidder shall be in writing. The bidder(s) not agreeing to such extension will be allowed to withdraw their bids without forfeiture of their bid security.

4.6 Financial Bid (In the prescribed format on E-Tender portal of NHAI)

- a. Financial bid shall be submitted online on e-tender portal on the prescribed format which may be downloaded up to 1700 Hrs. on one day prior to bid due date.
- b. The bid should include all the charges payable in full compliance to the Scope of Work and other terms specified in the RFP document. No additional payments whatsoever are envisaged.
- c. The bid should include all statutory taxes/ levies / surcharge on tax etc. but excluding service tax. Any tax, and / or any other levies, if altered in future and payable under the law, the same shall be borne by the bidder.
- d. Applicable service tax shall be reimbursed by NHAI separately on production of proof of payment; and
- e. Applicant should note that Income tax payable by the Bidder is not reimbursable by NHAI. TDS will be applicable on all payments made by NHAI as per applicable law.
- f. In case of any difference in figures and words, the amount mentioned in words will prevail.

4.7 Cost of Bidding

The Bidder shall be responsible for all the cost associated with the preparation and submission of their Bids including subsequent negotiation, visits to NHAI, project site etc. NHAI shall not be responsible in any way liable for such costs, regardless of the conduct or outcome of the bidding process.

4.8 MODIFICATION / SUBSTITUTION / WITHDRAWAL OF BIDS:

- (i) The Bidder may modify, substitute or withdraw its e-bid after submission prior to the Bid Due Date. No Bid shall be modified, substituted or withdrawn by the Bidder on or after the Bid Due Date.
- (ii) Any alternative/modification in the Bid or additional information supplied subsequent to the Bid Due Date, unless the same has been expressly sought for by the Authority, shall be disregarded.
- (iii) For modification or e-bid, bidder has to click on Edit Bid Option and resubmit digitally signed modified bid.
- (iv) For withdrawal of bid, bidder has to click on withdrawal icon at e-tendering portal and can withdraw its e-bid.
- (vi) Before withdrawal of a bid, it may specifically be noted that after withdrawal of a bid for any reason, bidder cannot re-submit e-bid again.

4.9 OPENING & EVALUATION OF BIDS

- (i) Opening and evaluation of bids will be done through online process.
- (ii) The bids will be opened on-line on the due date and time prescribed in the RFP document in the presence of the bidders who choose to attend. The Authority will subsequently examine and evaluate the bids in accordance with the provisions set out.
- (iii) Prior to evaluation of bids, the Authority shall determine whether each Bid is responsive to the requirements of this RFP.
- 4.10 To assist in the examination, evaluation, and comparison of Bids, NHAI 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 fax or e-mail, 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 NHAI in the evaluation of the Bids.
- 4.11 Except in case any clarification is asked by NHAI, no Bidder shall contact NHAI 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 NHAI, it should do so in writing at the address prescribed in the Notice Inviting Tender.

BID EVALUATION CRITERIA AND SELECTION PROCEDURE

- 5.1 The bids shall be opened on-line by the Evaluation Committee on the date and time prescribed.
 - Prior to evaluation of the bids, NHAI shall determine as to whether each bid is responsive to the requirements of this RFP document. A bid will be declared non-responsive in case:
 - (a) If a bidder submits more than one bid against this RFP
 - (b) If the Authorized Signatory holding Power of Attorney and Digital Signatory are not the same
 - (c) If a bidder submits a conditional bid or makes changes in the terms and conditions given in this RFP document
 - (d) Failure to comply with all the requirements of RFP document by a bidder
 - (e) If the bid is not submitted in the formats prescribed in the RFP document
 - (f) 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.
 - (g) A bid valid for a period of time shorter than prescribed in the RFP document
 - (h) The bid does not contain any pre-condition, assumption or qualification; and
 - (i) It is not non-responsive in terms hereof.
- 5.2 The lowest bidder shall be declared the "Successful Bidder". The Successful Bidder shall be awarded the work subject to NHAI verifying the documents submitted by it.
- 5.3 NHAI reserves the right to reject any bid which is non-responsive and no request for alteration, modification, substitution, or withdrawal shall be entertained by NHAI in respect of such bids.

PERFORMANCE SECURITY

- 6.1 Upon issue of a Letter of Award (LoA) by NHAI, the Successful Bidder shall be required to furnish an unconditional and irrevocable Performance Security in the form of a Performance Bank Guarantee (PBG) in the prescribed format *within a period of 15 days*. The PBG shall be for an amount of 10% of its bid value and should be in favour of "National Highways Authority of India", New Delhi. The Performance Security shall be valid throughout the period of contract, which may be extended² appropriately such that it remains valid until one year beyond completion of the contract.
- 6.2 The PBG from following banks shall only be accepted:
 - a) State Bank of India or its subsidiaries.
 - b) Any Indian Nationalized Bank.
 - c) IDBI or ICICI Bank.
 - d) A Foreign Bank (issued by a branch outside India) with a counter guarantee from SBI or its subsidiaries or any Indian Nationalized Bank.
 - e) Any Scheduled Commercial Bank approved by RBI having a net worth of not less than 500 Crores as per the latest Annual Report of the Bank. In the case of a Foreign Bank (issued by the branch of India) the net worth in respect of the Indian operations shall only be taken into account.
- 6.3 The acceptance of the PBG shall also be subject to the following condition:
 - a) The capital adequacy of the Bank shall not be less than the norms prescribed by RBI.
 - b) The bank guarantee issued by a Cooperative Bank shall not be accepted.
- After acceptance of Performance Security by NHAI, the Bid security of the Successful Bidder shall be released.
- In case the difference between the lowest bidder and the second lowest bidder is more than 50% of the L2 bidder, then the lowest bidder (successful bidder) shall be required to submit Additional Performance Security in the form of PBG of 10% bid amount. The additional performance security in this case shall be required to be submitted by the Successful Bidder to ensure that it shall perform the contractual obligations to the satisfaction of NHAI despite such lower bid value and this additional performance security shall also be treated as performance security for encashment/ forfeiture.

² In case the contract is extended beyond 5 years RFP No. 13043/01/2016- HAM/Ambala-Zirakpur

MISCELLANEOUS

- 7.1 This RFP document also includes a format of the Contract Agreement to be executed with the successful bidder for providing stipulated services to NHAI. Bidders are advised to study the RFP document along with its amendment/ addendum carefully. Submission of the bid will be deemed to have been done after careful study and examination of ground realities as well as all the instructions, eligibility norms, terms & conditions, requirements and specifications available in the RFP document with full understanding of its implications. The Bidder is expected to examine carefully all the instructions, conditions of Contract, forms for submitting Technical and Financial Bids and scope of work in the RFP document before submitting their Bids. Failure to comply with all the requirements of RFP document shall be at the Bidder's own risk. Bids, which are not substantially responsive to the requirements of the RFP document, shall be declared non-responsive and shall not be considered for evaluation.
- 7.2 No bidder shall submit more than one bid against this RFP. If more than one bid is received from the same bidder, all such bids shall be summarily rejected.
- 7.3 The bidding process shall be governed by, and construed in accordance with, the laws of India and courts at New Delhi shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with the bidding process.
- 7.4 Any dispute arising out of this procurement process shall be referred to Society for Affordable Resolution of Disputes (SAROD). The decision of the SAROD in this regard shall be final and binding on the parties.
- 7.5 NHAI, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to;
 - (i) Suspend and/or cancel the bidding process and/or amend and/or supplement the Bidding Process or modify the dates or other terms and conditions relating thereto;
 - (ii) Consult with any Bidder in order to receive clarification or further information;
 - (iii) Retain any information and/ or evidence submitted to NHAI by, on behalf of, and/ or in relation to any Bidder; and/or;
 - (iv) Independently verify, disqualify, reject and/ or accept any and all submissions or other information and/or evidence submitted by or on behalf of any Bidder.
- 7.6 NHAI is not bound to reply/ respond to any representation/ letter or request for Change in Scope of work, eligibility criteria or any relaxation in respect of the tender conditions. No correspondence will be entertained on this matter.
- 7.7 It shall be deemed that by submitting the Bid, the Bidder agrees and releases NHAI, its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/or performance of any obligations hereunder, pursuant hereto and/or in connection with the bidding process and waives, to the fullest extent permitted by Applicable Law, any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or in future.
- 7.8 **Verification and Dis-qualification:** NHAI reserves the right to verify all statements, information and documents submitted by the Bidder in response to this RFP and the Bidders shall, when so required by NHAI, make available all such information, evidence and

documents as may be necessary for such verification. Any such verification or lack of such verification, by NHAI shall not relieve the Bidders of its obligations or liabilities hereunder nor will it affect any rights of NHAI thereunder.

- 7.9 NHAI reserves the right to reject any Bid and/ or declare it non-responsive, if:
 - (i) At any time, a material misrepresentation is made or uncovered, or
 - (ii) The Bidder does not provide, within the time specified by NHAI, the supplemental information sought by NHAI for evaluation of the Bid.

Such misrepresentation/improper response shall lead to the disqualification of the Bidder. If such disqualification/rejection occurs after the bids have been opened and the lowest bidder gets dis-qualified/rejected, then NHAI reserves the right to take any such measure as may be deemed fit in the sole discretion of NHAI including annulment of the Bidding process.

7.10 Amendment to RFP Documents:

- (a) Any modification in the RFP document shall be made by NHAI separately through issue of an Addendum/ Amendment.
- (b) At any time prior to the bid due date, NHAI, may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the conditions specified in the RFP document by an amendment. Any amendment/ addendum thus issued shall be part of the RFP document and shall be communicated by hosting the same on NHAI's web site only and should be taken into consideration by the prospective bidders while preparing their Bids.
- (c) In order to give prospective Bidders reasonable time to take the amendment into account in preparing their bid, NHAI may, at its discretion, extend the bid due date.
- (d) The Applicant must read all the instructions in the RFP and abide by the same accordingly.

7.11 INDEMNITY

The Bidder shall, subject to the provisions of the Contract, indemnify NHAI for any direct loss or damage caused on account of any act/omission of the bidder.

7.12 PROPRIETARY DATA

All documents and other information provided by NHAI or submitted by a Bidder to NHAI shall remain or become the property of NHAI. Bidders are to treat all information as strictly confidential. NHAI will not return any bid or any information related thereto. All information collected, analyzed, processed or in whatever manner provided by the Successful Bidder to NHAI in relation to the services shall be the property of NHAI.

7.13 CORRUPT OR FRAUDULENT PRACTICES

NHAI requires Bidder observe the highest standard of ethics during the procurement and execution of the Contract. In pursuance of this policy:

- (a) Defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "Corrupt Practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in Contract execution;

- (ii) "Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a Contract to the detriment of NHAI, and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive NHAI of the benefits of free and open competition;
- (iii) "Coercive Practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the bidding process;
- (iv) "Undesirable Practice" means (i) Establishing contact with any person connected with or employed or engaged by NHAI with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the bidding process; or (ii) having a Conflict of Interest; and
- (v) "Restrictive Practice" means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the bidding process.
- (b) will reject a bid for Empanelment if it determines that the Bidder recommended for Empanelment has engaged in corrupt or fraudulent or coercive or undesirable or restrictive practices in competing for the Contract in question;
- (c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded any Contract by NHAI if it at any time determines that the firm has engaged in corrupt or fraudulent or coercive or undesirable or restrictive practices in competing for, or in executing, a NHAI Contract.

PART-II TERMS OF REFERENCE

TERMS OF REFERENCE (ToR)

1. BACKGROUND AND REQUIREMENT

- 1.1 The National Highways Authority of India (NHAI) was constituted by an Act of Parliament, the National Highways Authority of India Act, 1988. It is responsible for the development, maintenance and management of National Highways entrusted to it and/or matters connected or incidental thereto.
- 1.2 NHAI awards works for design, construction, operation and maintenance of highways to BOT Concessionaires. The concessionaire builds the NH stretch and during operations and maintenance of the said stretch collects and retains the toll (user fee). As part of the requirement of some of the Concession Agreements, the Concessionaire is required to design, install, operate and maintain Highway Traffic Management System (HTMS) / Advanced Traffic Management System (ATMS) as part of the project facilities. Such requirements are elaborated under Schedule-C / Schedule-D of the respective Concession Agreements. In most of the cases the requirements are project specific and draw references to various documents viz. IRC:SP:87:2010, IRC:SP:84:2014, IRC:SP:84:2009, etc.
- 1.3 However, public funded and OMT projects lack such provisions and to standardize the provisions concerning ATMS implementation on National Highways including the component / sub-component within the scope along with functional and technical specifications thereof, a comprehensive references document is annexed to this RFP document under Volume-II.

2. SCOPE OF WORK

2.1 NHAI has shortlisted following project stretch for ATMS implementation.

Project Stretch	NH No	Length (km)	State(s) covered
Ambala - Zirakpur	NH-152	34	Haryana & Punjab
km 5.735 - km 39.961	(old 22)		

A tentative BOQ of ATMS solution on above project stretch is given at Part -IV of this document. This also includes suggested locations on the project stretch for commissioning of the various identified ATMS components.

- 2.2 NHAI intends to engage a Service Provider for Design, Supply Installation, Testing, Commissioning, Configuration, System Integration, Operations, and Maintenance of comprehensive Advanced Traffic Management System (ATMS) on above stretch.
 - **2.2.1** The procurement shall be on service model wherein payments to the Service Provider shall be made quarterly in arrears against services rendered on the project stretch in accordance with the Service Level Requirement (SLR) prescribe in detail under Volume-II of RFP Document.
 - **2.2.2** NHAI will not be procuring any equipment / systems for provision of required services as mentioned herein. All hardware, software, equipment, material, etc. deployed under the project shall be and remain the property of Service Provider during the entire period of contract. On completion of contract or upon termination of contract, the Service Provider may take away all the systems owned by him on 'as-is-where-is-basis'. Any damage to the pavement/ shoulder/ roadside condition arising as

a result of removal of service provider equipment/ systems/ foundations etc. shall be rectified by service provider at its own cost.

- 2.3 The Service Provider shall be required to study the entire project stretch and undertake, inter-alia, responsibilities for design supply, installation, testing, commissioning, configuration, system integration of all required hardware / software / equipment/ subsystem (hereinafter called ATMS) in a time bound manner and provide round the clock operation and maintenance of the same while meeting the service level requirements, during the entire contract period.
 - **2.3.1** As the ATMS may have to be installed on highways with existing systems (e.g. toll system or other systems) under operations, the service provider is required to install, test & commission the required systems without disturbing the existing systems and operations.

2.4 Technical Specifications & Standards

The minimum technical specifications & the standards to be adhered to by the Service Provider under the subject project have been prescribed in Volume-II.

2.5 Design Approval, Acceptance Tests and Approvals

The system design and the development of the test procedure shall remain the responsibility of the Service Provider. This test procedure must clearly identify the steps to be followed to demonstrate successful working of the system. The agreed procedure must be followed precisely. However, NHAI may vary these procedures should unexpected results emerge after testing.

Minimum requirements for the commissioning and acceptance of the works by NHAI and / or NHAI's representative will involve at least the following aspects:

- **2.5.1 System Design**: Detailed layout design for deployment of the complete ATMS solution including the following needs to be provided in the form of drawings and documents for the approval of NHAI and / or NHAI's representative:
 - a) Selected equipment with detailed specifications including installation details
 - b) Optimal location of field equipment at appropriate locations on the highway with suitable justification.
 - c) Optimal organization of equipment / sub-systems at the ATMS Control Centre with suitable justification
 - d) Provision of documents from statutory authority certifying the design wherever applicable
 - e) Interconnectivity between all parts of the system, equipment and sub-systems including the data network
 - f) Power supply design including the power supply distribution design and cabling
 - g) ATMS service assurance manual which the service provider will adhere to, to ensure delivery is in conformity to the benchmark requirement. This will also include the data backup and restore policy.
 - h) The Service provider shall also demonstrate the backup and restoration of the ATMS Server successfully as part of the System Integration Test following which the service provide shall prepare and implement a suitable Data Backup & Restore Policy.

2.5.2 System Tests & Commissioning

- (i) The Service Provider shall perform Factory Acceptance Test, Site Acceptance Test, and System Integration Test as per the requirements mentioned in Volume II.
- (ii) The service provider shall inform in writing to NHAI when they are ready for commissioning of the System, at least 15 days prior to scheduled completion for joint inspection & issue of Commissioning Certificate. If any minor rectification / additional works are mandated by NHAI / representative, the same shall be completed in all respects & commissioning certificate obtained within a **period of 1 (one) month** after the scheduled commissioning date.
- (iii)The system commissioning milestone will be deemed to have been reached on the successful completion of the System Integration Tests duly approved by the NHAI and / or NHAI's representative.

2.6 Defects Liability Period:

As prescribed in the Functional and Technical Specification under Volume-II.

2.7 Training

The Service Provider shall provide operational and maintenance training as described in Volume II.

2.8 Other Works

2.8.1 Service Provider's Design Responsibility

The Service Provider shall be required to produce engineering design drawings of all ATMS Systems components / system, electrical installations and computer & data transmission network systems. Once the designs have been approved by NHAI or it's appointed Consultant only then the Service Provider may commence installation works on site. It shall be the Service Provider's responsibility to ensure that all required approvals / clearance are obtained in time to meet the contractual milestones and completion date by the Service Provider. Should there be any deficiencies in the design, NHAI shall convey these to the Service Provider and the Service Provider shall modify and resubmit the design for vetting. The maximum duration of this process shall be 15 working days and the Service Provider shall make adequate provisions for sufficient iterations of the process to acquire the required clearance.

2.8.2 Other Miscellaneous Works (Civil /Electrical)

The scope will also include civil, electrical, networking works required to complete erection installation / commissioning of the various subsystem constituents of the ATMS, construction / modifications of communication huts, existing or new gantries, electrical and communication panels, etc. Provision of electricity connection, diesel generator, solar panels, tele communication / network component shall be the responsibility of the Service Provider.

2.8.3 Electricity Requirements

The Service Provider shall be required to submit the design of the electricity load requirement for the ITS component / Equipment, which shall include the cabling, distribution boards, and clean earthing system, in regard to its suitability for the ATMS components. ATMS earthing shall be separated from the toll plaza utility or any other

existing utility's power earthing. The service provider's scope shall also include the provision of electrical Power supply from the public utility at the ATMS Control Centre as well as field locations including all measures for electrical safety such as necessary earthing and lighting protection.

2.8.4 UPS and Diesel Generator set Loads

The Service Provider shall be responsible for the design and sizing of the UPS power distribution equipment as well as the Diesel generator set. It shall be the responsibility of the Service Provider to design and provide a suitable and rugged scheme. Provision of UPS and Diesel Generator Power shall be under the scope of the Service Provider.

2.8.5 Feeder to UPS

The Control Room and field equipment will be supplied from a Public Utility through Emergency Power circuit breaker, located at the ATMS Control Centre and the field. The Service Provider shall be required to assess before commissioning the rating and capacity of this breaker based on the calculated loads and the line current for the equipment and its UPS.

2.8.6 Cabling to UPS Loads

The Service Provider shall supply, install, terminate and connect all cabling from the power DB to all the field and control room equipment. The cable shall be suitably sized 2-core and earth PVC insulated and steel wire armoured copper cables. Wire armouring may be omitted, if the cables are drawn through a conduit.

2.8.7 Cabling

Cabling requirements outlined in Volume II as per industry best practices shall be within the service provider's scope.

2.9 TIME SCHEDULE

- **2.9.1 Commencement of Services:** The Service Provider shall commence auxiliary works at site and submit the system design and other stipulated documents within four weeks of LOA.
- **2.9.2 System Commissioning:** The maximum time period for the commissioning of the system from the date of issue of work award will be **6** (**six**) **months**. Any delay beyond time period post cure period will attract penalties as prescribed herein under.
- **2.9.3** The Service Provider shall ensure that the Services are undertaken and completed in accordance with the time schedules in this Agreement. In case of any deviation from the schedule, NHAI reserves the right to terminate the Agreement and/or impose Liquidated Damage therefrom.
- 2.9.4 The Service Provider, if faced with problems in undertaking the Project, which have dependencies on the Project Owners or which are beyond their control, the Service Provider shall immediately inform NHAI in writing, about the causes of the delay and tentative duration of such delay etc. NHAI, on receipt of such notice, shall analyse the facts at the earliest and may, at its sole discretion, provide additional time or take necessary action as deemed reasonable.

2.10 Penalties for delays in setting up the system:

Failure by the Service Provider to complete the works and to have remedied all reported defects within the prescribed time for commissioning and cure period shall result in the application of the penalties for delays prescribed under liquidated damages in the Contract Agreement. The penalty will be applied @ 0.5 % of the contract value per week of delay in system commissioning up to a maximum of 5 % of the Contract value.

- **2.10.1** Once the liquidated damages reach maximum limit, NHAI may consider termination of the contract and forfeiture of the performance bank guarantee. NHAI also reserves the right to debar the service provider from further participation in NHAI's subsequent tenders due to its non-performance for a period decided by it.
- **2.10.2** Upon termination of the Agreement due to service defaults, NHAI may choose to allocate the said site to any other service provider, at its sole discretion and at the risk and cost of the defaulting service provider.
- **2.10.3** In case of delay due to reasons beyond the control of the Service Provider, upon such request from the Service Provider, NHAI may, in its sole discretion, consider suitable extension of time without imposing any liquidated damages upon the Service Provider.

3. NHAI's responsibility:

NHAI will make available following to the successful bidder:

- 3.1 Land / Space encumbrance free for installation of ATMS Systems and portable container office cabin (in case of non-availability of any concrete building with NHAI within RoW).
- 3.2 Assistance (if so required) from the concerned Concessionaire(s) and / or respective highway developer / operators for wayside amenities, etc. including officers of NHAI at concerned Project Implementation Unit / Regional Office etc.
- **3.3** Required approvals and relevant documentation from NHAI and / or other stakeholders concerned with the project stretch.
- 3.4 Intervening / calling meetings with concerned Concessionaire(s) / SI / concerned agencies etc. *on need basis* to jointly discuss / finalise / brief the desired system / operational / functional requirement for achieving the desired results.

4. Sub-Contracting / Assignment

If any activity / services / infrastructure and / or any obligations in whole or in part under this contract is required to be / subcontracted/ outsourced by the service provider, the Service Provider shall inform and seek approval of the same including the terms and condition setforth by the service provider in its sub-contracting agreement. For avoidance of any doubt the service provider shall remain solely responsible for all the works / delivery of services to NHAI under the scope of this project.

5. Performance standards:

The service provider shall undertake to perform the services with the highest standards of professional and ethical competence and integrity. Keeping in view the sensitivity involved, the personnel deployed should maintain confidentiality / integrity at all times and work in a professional manner to protect the interest of NHAI. The firm shall promptly replace any personnel assigned under this contract that NHAI considers unsatisfactory.

6. Standards

Equipment and equipment installation shall comply with the latest revision of the applicable standards as specified in Volume II.

7. NHAI reserves the right to modify this TOR in public interest, security of the Nation and proper conduct of services.

8. Performance Damages / Penalty

The Service Provider would be penalized for non-compliance in meeting SLR for Operations as well as Maintenance of the Project. Any penalty levied by NHAI or NHAI's representative shall be applicable and deducted from the quarterly payable amount. The Service Provider should enable and facilitate continuous measurement of all round performance of the ATMS System and not just event based performance. The penalties are detailed here under:

- 8.1 For non-compliance of SLR under maintenance requirement, penalty @ 120% of per day rate shall be imposed if the down time exceeds the maximum permissible on each instance.
- 8.2 For non-compliance of SLR under operations requirement, the penalty of INR 10,000 per event shall be imposed.
- 8.3 Total cap on each of the Operations & Maintenance related penalties would each be 10% of the quarterly payment. NHAI may also consider termination of contract and forfeiture of performance bank guarantee if the number of non-compliance events exceeds 50 during any quarter, OR the total penalty exceed the maximum penalty.

PART-III

FORMAT FOR BID SUBMISSION

PROFORMA FOR SUBMITTING WRITTEN QUERIES

(To be submitted in doc/editable format only at the given email address³)

Sub.: Design, Supply Installation, Testing, Commissioning, Configuration, System Integration, Operations and Maintenance of comprehensive Advanced Traffic Management System (ATMS) on National Highways.

S.	Page no. of RFP	Clause	RFP Statement	Query	Remarks

RFP No. 13043/01/2016- HAM/Ambala-Zirakpur

 $^{^{3}}$ deepaksaxena@nhai.org

FORM F-1: FORMAT FOR FINANCIAL BID SUBMISSION

(For sample only, actual Format to be downloaded from e-tender portal for on-line submission)

Sub.: Design, Supply Installation, Testing, Commissioning, Configuration, System Integration, Operations and Maintenance of comprehensive Advanced Traffic Management System (ATMS) on Ambala - Zirakpur Section from km 5.735 - km 39.961 of NH-152 (old 22) in the State of Haryana & Punjab.

Ref: RFP No 13043/01/2016/HAM/Ambala-Zirakpur dated dd/mm/yyyy on above subject.

Dear Sir,

I/We, the undersigned having examined the above referred RFP including addendums thereof and, hereby offer to submit our bid to undertake the subject assignment with total bid value as per milestone and break-up furnished below.

Sr.	Project Cost Head	Units	Quantity	Unit Rate Per quarter (Rs.)	Amount (Rs.)
	(A)	(B)	(C)	(D)	(E) $(E) = (B)x(C) x$ (D) $x20$
1	PTZ CCTV Camera complete & installed in all respects including mounting facility like pole, enclosure/housing with interface electronics, primary & backup power supplies and required connectivity to the Network Infrastructure.	Nos	11		
2	Fixed CCTV Camera with video analytics and supported with local warning lights complete and installed in all respects including mounting facility like pole, enclosures/housings (with incident detection and interface electronics) & gantries /poles (for the local warning lights), primary & backup power supplies and required connectivity to the Network Infrastructure.	System	8		
3	Fixed CCTV Cameras complete and installed in all respects including mounting facility like pole, enclosure/housing with interface electronics for 4 Cameras, primary & backup power supplies and required connectivity to the Network Infrastructure.	Sets (Each Set has 4 Cameras)	10		
4	VMS Displays (Full) complete and installed in all respects including mounting facility like gantry, primary & backup power supplies and required connectivity to the Network Infrastructure.	Nos	3		
5	VMS Displays (Compact) complete and installed in all respects including mounting facility like pole / gantry, primary & backup power supplies and required connectivity to the Network Infrastructure.	Nos	6		
6	VMS (Mobile) complete and installed in all respects including the mobile vehicle on which it is mounted, enclosure/housing, primary & backup power supplies and	Nos	2		

RFP No. 13043/01/2016- HAM/Ambala-Zirakpur

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NHA

Sr.	Project Cost Head	Units	Quantity	Unit Rate Per quarter (Rs.)	Amount (Rs.)
	required connectivity to the Network Infrastructure.			(143.)	
7	Emergency Wayside Telephone complete and installed in all respects including mounting pole & concrete platform, Solar PV-based power supply and required connectivity to the Network Infrastructure	Nos	0		
8	Meteorological System complete and installed in all respects including mounting pole, enclosure / housing, primary and backup power supplies and required connectivity to the Network Infrastructure	Nos	1		
9	Vehicle Actuated Speed detection and warning System complete and installed in all respects including mounting facility like gantry /pole, enclosure/housing, primary & backup power supplies and required connectivity to the Network Infrastructure.	Nos	4		
10	Mobile Radio Communication System complete and installed in all respects including a) Base Station b) Repeater Station c) Vehicle Mounted unit d) Hand-held unit e) Transmission tower with antenna & power supply (primary and backup)	Nos	1 1 8 10 2		
11	Weigh-in-Motion System complete in all respects for temporary installation and operation including enclosure / housing, primary & secondary power supplies and required connectivity to Network Infrastructure	Nos	2		
12	Automatic Traffic cum Classifier System complete and installed in all respects including road-side enclosure/housing, primary & backup power supplies and required connectivity to the Network Infrastructure.	Nos	3		
13	Travel Time Estimation System(TTES) at Toll Plaza	System	1		
14	Network Infrastructure for Data Communication complete and installed in all respects including cabling (Optic fiber and others) enclosures/housings, primary & backup power supplies and required connectivity (Including wireless point-to-point connectivity, if any) to the various field equipment and to & at the ATMS control centre & External Connectivity at the ATMS Control centre to the NHAI ATMS Cloud and the NHAI Master and Regional Control Centres	System	1		

Sr.	Project Cost Head	Units	Quantity	Unit Rate Per quarter (Rs.)	Amount (Rs.)
	ATMS Control Centre complete and installed in all respects including a) Server system consisting of Database, Application, Communication, Web & Camera servers b) Workstation c) CCTV Monitors	Nos / Licenses	7 10		
	 d) Integrated Audio Communication unit including handset / headset e) Video wall of required size f) Supervisory system for CCTV & VIDS including necessary switcher-controller, joystick control(s), supervisory software & excluding workstation 		1 1 1		
15	g) Supervisory system for VMS including software & excluding workstation		1		
	h) ERT system console including ERT Exchange, headset, software & excluding workstation		1		
	i) ATMS software including, at the minimum, the Highway Traffic Management module, Integrated Incident / Accident Management module, Integrated audio communication module, Report Generation module, Communication module & System administration module.		1		
	j) Power supply system including the D.G. set(s), UPS system(s) & power distribution system at the ATMS control centre		1		
	k) Portable Cabin of required size Total Amount (Bid Value) Rs	5.	1		
	Bid Value ords: Rs.				

Note: Above breakup of rates is only for determining the total bid value for shortlisting the successful bidder for work award. However actual payments shall be regulated based on the actual scope of services.

- 1. Assuming contract period of 5 years, quarterly payable amount shall be total bid value ÷ 20. The quoted rates include all the charges payable in full compliance to the Scope of Work and other terms specified in the RFP document.
- 2. NHAI reserves the right to order for increased or decreased quantity by up to $\pm 25\%$ of BOQ items or services, without any change in unit price quoted by Service Provider.

- 3. I/We do hereby confirm that my/ our bid price include all statutory taxes/ levies but excluding service tax. I/ We also declare that any tax, surcharge on tax and / or any other levies, if altered in future and payable under the law, the same shall be borne by me/ us.
- 4. This bid is **valid** for a period of **120 calendar days** from the bid due date.
- 5. I/ We, understand that the
 - (a) applicable service tax shall be reimbursed by NHAI separately on production of proof of payment and CA certificate; and
 - (b) TDS will be deducted against payments as per Applicable Law.
 - (c) In case of any difference in figures and words, the amount mentioned in words will prevail.

Yours sincerely,	
Name	
Designation/ Title of the Authorized Signatory	

FORMAT FOR SUBMISSION OF PBG

Performance Bank Guarantee (PBG)

To,
The Chairman,
National Highways Authority of India
Plot Nos. G-5 & 6, Sector-10
Dwarka, New Delhi – 110075
India

AND WHEREAS it has been stipulated by NHAI in the said letter that the Service Provider shall furnish a Bank Guarantee for the sum specified therein as security for compliance with his obligations in accordance with the terms & conditions of contract.

AND WHEREAS we have agreed to give the Service Provider such a Bank Guarantee:

NOW THEREOF we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Service Provider up to a total of **Rs.**/- (Rupees) only, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of **Rs.**/- as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

- 1. We hereby waive the necessity of your demanding the said debt from the Service Provider before presenting us with the demand.
- 2. We further agree that no change or addition to or other modification of the terms of the service provider or of the works to be performed thereunder or of any of the Contract documents which may be made between you and the Service Provider shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.
- 3. We undertake to pay to the NHAI any money so demanded notwithstanding any dispute or disputes raised by the Service Provider(s) in any suit or proceedings pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Service Provider(s) shall have no claim against us for making such payment.
- 4. The liability of the Bank under this Guarantee shall not be affected by any change in the constitution of the Service Provider or of the Bank.
- 5. This guarantee shall also be operable at our ______branch at New Delhi, from whom, confirmation regarding the issue of this guarantee or extension/ renewal thereof shall be RFP No. 13043/01/2016- HAM/Ambala-Zirakpur

made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.

6.	This	bank guarantee shall be valid from	
7.	Notw (i) (ii) (iii)	ithstanding anything contained herein: Our liability under this Bank Guarantee shall not exceed `/- The Bank Guarantee shall be valid up to We are liable to pay the Guarantee amount or any part thereof under this and only if you serve upon us a written claim or demand on or before	s Guarantee only
Da	te:	Name: Designation: Employee Code Number Telephone Number:	er:
Na	me of	issuing bank branch	-
Ad	ldress _		-
Te	lephon	e number	
E-1	mail: _		
Na	me of	controlling bank branch	-
Ad	ldress		-
Te	lephon	e number	
E-1	mail: _		
Na	me of	bank branch at New Delhi	-
			-
Те	lephon	e number	
E-1	mail: _		

PART-IV

(DRAFT FORM OF CONTRACT AGREEMENT)

DRAFT CONTRACT AGREEMENT

No
This Contract Agreement (hereinafter called the "Contract") is made on thisday of the month of, 2016.
BETWEEN
National Highways Authority of India (NHAI), constituted by an Act of Parliament, The National Highways Authority of India Act, 1988, and having its head office at G 5 & 6, Sector 10, Dwarka, New Delhi-110075 (hereinafter referred to as the "NHAI", which expression shall unless repugnant to or inconsistent with the context, mean and include its successors and assigns) of the first part.
AND
M/s, a company incorporated under the provisions of the Companies Act, 1956 or a firm established in India and having its registered office at (hereinafter referred to as the "Service")
Provider" which expression shall unless repugnant to or inconsistent with the context, mean and include its successors and assigns) of the OTHER PART.
WHEREAS (a) the Service Provider, in the ordinary course of its business, is engaged in providing similar services to their clients, and have represented to NHAI through their bid s, against RFP No. 13043/01/2016/HAM/Ambala-Zirakpur dated dd/mm/yyyy (hereinafter called the "Tender") for Design, Supply Installation, Testing, Commissioning, Configuration, System Integration and Operations and Maintenance of comprehensive Advanced Traffic Management System (ATMS) on National Highways and that they have the required professional skills, personnel and technical resources to provide the required Services; (b) on the basis of the said Tender, NHAI has adjudged the Service Provider as a Successful Bidder and issued Letter of Award (LoA) No
NOW THEREFORE, in consideration of the foregoing and the respective covenants and agreements set forth in this Agreement, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the Parties hereby agree as follows:
1. The mutual rights and obligations of the Service Provider and NHAI shall be as set forth

- in this Contract, in particular:
 - (a) The Service Provider shall carry out the Services in accordance with the provisions of the Contract; and
 - (b) NHAI shall make payments to the Service Provider in accordance with the provisions of the Contract.
- 2. The following schedules/ appendices shall be deemed to form and be read and construed as part of this Contract viz.
 - (a) Schedule A: **General Conditions of Contract**

(b) Schedule B:	Terms of Reference		
(c) Appendices:			
Appendix A	Copy of Financial Bid of the Service Provider		
Appendix B	Letter of Award issued by NHAI.		
Appendix C	Letter of Acceptance submitted by the Service Provider		
Appendix D	Copy of the Performance Security submitted by the Service		
	Provider including copies of confirmation provided by the respective bank.		
Appendix E	Copy of the Technical Bid and/or any subsequent correspondence of the Service Provider/ NHAI		
Appendix F	Copy of RFP Document and subsequent amendment / addendum including Minutes of Pre-bid Meeting, if any		

IN WITNESS WHEREOF, the parties hereto have caused this Contract to be executed by their respective authorized representatives on the day and year first before written.

FOR AND ON BEHALF OF	FOR AND ON BEHALF OF	
(National Highways Authority of India)	(M/s	_)
(Authorized Representative)	(Authorized Representative)	
Name :	Name :	
Designation	Designation :	_
National Highways Authority of India	M/s	
G-5&6, Sector – 10, Dwarka	Address:	
New Delhi – 110075		
In the presence of following witnesses:		
Name :	Name :	
Designation	Designation :	
National Highways Authority of India	M/s	_
G-5&6, Sector – 10, Dwarka	Address :	
New Delhi – 110075		
Name :	Name :	
Designation	Designation :	
National Highways Authority of India	M/s	_
G-5&6, Sector – 10, Dwarka	Address:	
New Delhi – 110075		

DEFINITIONS AND INTERPRETATIONS

1.1 Definition

The words and expressions beginning with capital letters and defined in this Agreement shall, unless the context otherwise requires, have the meaning ascribed thereto herein and the words and expressions defined in the Schedules and used therein shall have the meaning ascribed thereto in the Schedules annexed hereto. Words used in capitals and not defined herein but defined in the RFP shall have the meaning as ascribed thereto in the RFP.

1.2 Interpretation

- 1.2.1 In this Agreement, unless the context otherwise requires,
- a) references to any legislation or any provision thereof shall include amendment or reenactment or consolidation of such legislation or any provision thereof so far as such amendment or re-enactment or consolidation applies or is capable of applying to any transaction entered into hereunder;
- b) references to laws of India or Indian law or regulation having the force of law shall include the laws, acts, ordinances, rules, regulations, bye laws or notifications which have the force of law in the territory of India and as from time to time may be amended, modified, supplemented, extended or re-enacted;
- c) references to a "person" and words denoting a natural person shall be construed as a reference to any individual, firm, company, corporation, society, trust, government, state or agency of a state or any association or partnership (whether or not having separate legal personality) of two or more of the above and shall include successors and assigns;
- d) the table of contents, headings or sub-headings in this Agreement are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement;
- e) the words "include" and "including" are to be construed, without limitation and shall be deemed to be followed by "without limitation" or "but not limited to" whether or not they are followed by such phrases;
- f) any reference to any period of time shall mean a reference to that according to Indian Standard Time;
- g) any reference to day shall mean a reference to a calendar day;
- h) references to a "**business day**" shall be construed as a reference to a day (other than a Sunday and holidays) on which banks in their respective States are generally open for business;
- i) any reference to month shall mean a reference to a calendar month as per the Gregorian calendar;
- j) references to any date, period or time shall mean and include such date, period or time as may be extended pursuant to this Agreement;

- k) any reference to any period commencing "from" a specified day or date and "till" or "until" a specified day or date shall include both such days or dates; provided that if the last day of any period computed under this Agreement is not a business day, then the period shall run until the end of the next business day;
- l) the words importing singular shall include plural and vice versa;
- m) "lakh" means a hundred thousand (100,000) and "crore" means ten million (10,000,000);
- n) references to the "winding-up", "dissolution", "insolvency", or "reorganization" of a company or corporation shall be construed so as to include any equivalent or analogous proceedings under the law of the jurisdiction in which such company or corporation is incorporated or any jurisdiction in which such company or corporation carries on business including the seeking of liquidation, winding-up, reorganization, dissolution, arrangement, protection or relief of debtors;
- o) save and except as otherwise provided in this Agreement, any reference at any time to any agreement, deed, instrument, license or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference; provided that this Sub-clause shall not operate so as to increase liabilities or obligations of NHAI hereunder or pursuant hereto in any manner whatsoever;
- p) any agreement, consent, approval, authorization, notice, communication, information or report required under or pursuant to this Agreement from or by any Party shall be valid and effective only if it is in writing under the hand of a duly authorized representative of such Party, as the case may be, in this behalf and not otherwise;
- q) the Schedules and Recitals to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- r) references to Recitals, Articles, Clauses, Sub-clauses or Schedules in this Agreement shall, except where the context otherwise requires, mean references to Recitals, Articles, Clauses, Sub-clauses and Schedules of or to this Agreement and references to a Paragraph shall, subject to any contrary indication, be construed as a reference to a Paragraph of this Agreement or of the Schedule in which such reference appears; and
- s) the damages payable as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the "**Damages**");
- t) "Additional Service Provider" shall mean the Service Provider appointed by NHAI in addition to the Service Provider for providing the Services;
- u) "Arbitration Act" means the Arbitration and Conciliation Act, 1996 and shall include modifications to or any re-enactment thereof as in force from time to time;
- v) "ATMS" means Advanced Traffic Management System

- w) "Effective Date" shall mean date of this Agreement;
- x) "Material Adverse Effect" means a material adverse effect of any act or event on the ability of either Party to perform any of its obligations under and in accordance with the provisions of this Agreement and which act or event causes a material financial burden or loss to either Party;
- y) "Cure Period" means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Service Provider, and shall commence from the date on which a notice is delivered by NHAI to the Service Provider asking the latter to cure the breach or default specified in such notice;
- z) "Stakeholders" shall mean and include NHAI, the Toll Collection Agency, O & M Operator of Highway Stretch, and Highway Patrol etc.
- 1.2.2 Any word or expression used in this Agreement shall, unless otherwise defined or construed in this Agreement, bear its ordinary English meaning and, for these purposes, the General Clauses Act 1897 shall not apply.

1.3 Arithmetic conventions

All calculations shall be done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down.

1.4 Priority of Agreements, Clauses and Schedules

- 1.4.1 In case of inconsistency between the provisions of this Agreement and the RFP, the terms of this Agreement shall prevail to the extent of such inconsistency.
- 1.4.2 In case of ambiguities or discrepancies within this Agreement, the following shall apply:
 - (a) between two or more Clauses of this Agreement, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other Clauses:
 - (b) between any two Schedules/Articles, the Schedule / Article relevant to the issue shall prevail;
 - (c) between the written description on the drawings/design documents, if any, and the Specifications and Standards, the latter shall prevail; and
 - (d) between any value written in numerals and that in words, the latter shall prevail.

SCHEDULE-A

CONDITIONS OF CONTRACT

1. Scope of Work

The Service Provider shall perform the services specified in Terms of Reference at Schedule-B, of this Contract Agreement.

2. Relationship between the Parties:

Nothing contained herein shall be construed as establishing a relationship of master and servant or of principal and agent as between NHAI and the Service Provider. The Service Provider, subject to this Contract, has complete charge of Personnel performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder. NHAI has no liability w.r.t. the representatives/ employees of the Service Provider.

3. Governing Law and Jurisdiction:

This agreement shall be construed and interpreted in accordance with and governed by by the laws of India, and the courts at Delhi shall have exclusive jurisdiction over matters arising out of or relating to this Agreement.

4. Language:

This Contract has been executed in English, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract.

5. Effectiveness of Contract

This Contract shall come into effect on the date the Contract is signed by both the Parties. The date, the Contract comes into effect is defined as the Effective Date.

6. Commencement of Services:

The Service Provider shall commence the Services to NHAI as per the Schedule-B of this Contract.

7. **Expiration of Contract**:

- (a) The term of this Agreement shall be for a period of 5 (five) years, 6 (six) months commencing from the effective date ("Agreement Period"). This includes 6 (six) months for the time required for installation & commissioning and mobilization of all resources to ensure stipulated of all the services to be provided under this Agreement.
- (b) The Agreement Period may be further extended for a period of another two years on the existing terms and conditions subject to satisfactory performance and continued requirement of NHAI at its sole discretion.

8. Assignment

This Agreement shall not be assigned by the Service Provider to any person / agency save and except with the prior consent in writing of NHAI and NHAI shall be entitled to decline without assigning any reason whatsoever.

Notwithstanding anything to the contrary contained in this Agreement, NHAI may, after giving 30 days' notice to the Service Provider, assign and/ or transfer any of its rights and benefits and/or obligations under this Agreement to an assignee who is, in the reasonable opinion of NHAI, capable of fulfilling all of the NHAI's then outstanding obligations under this Agreement.

9. Severability

If for any reason whatsoever any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Dispute Resolution Procedure set forth under this Agreement or otherwise.

10. Notices

Any notice, request, or consent required or permitted to be given or made pursuant to this Contract shall be in writing. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent to such Party at the address specified below. The mode of service of any notice shall be either courier or registered post or e-mail or fax or by hand.

The addresses for service of Notice shall be:

NHAI: General Manager (Elect)

Attention: Deepak Saxena

Address: National Highways Authority of India, G-5&6, Sector-10, Dwarka,

New Delhi - 110075

Facsimile: ---

E-mail: deepaksaxena@nhai.org

Service Provider:
Attention:
Address:
Facsimile:
E-mail·

11. Payment Terms

- 1. **Advance Payment:** Service Provider may claim an advance payment equivalent to 20% of contract value against bank guarantee of such amount and valid for the entire contract period. The advance payment may be claimed upon successful completion of system acceptance by NHAI for which following are the necessary conditions:
 - a. Completion of the System Integration Tests (of the entire ATMS) to the satisfaction of NHAI AND
 - b. Completion of Training to the O&M organization of the service provider to the satisfaction of NHAI.

The advance payment shall be adjusted against quarterly payments during five year contract period in 20 equal instalments.

2. **Regular payments** shall be made by NHAI to the Service provider only after the start of commercial operation after the system commissioning milestone for which the following are necessary conditions:

- 3. The Service Provider will be paid on quarterly basis a lump sum amount in arrears against invoice for the complete services made available to NHAI, subject to deductions, if any, towards deficiencies in services as per service level agreements mentioned here in.
- 4. Each payment will amount to the Contract value divided by 20 (i.e. Contract period of 5 years each with 4 quarters) subject to deductions of penalties on account of
 - a. Delayed system commissioning and thus a delayed start of commercial operation of the system.
 - b. Inability to meet Service level requirements in system operation
 - c. Inability to meet service level requirements in system maintenance
- 5. The above payment shall be made in Indian Rupees within 30 days of receipt of the invoice by NHAI and /or NHAI's representative. The Service Provider's performance and monthly reports related to the submitted invoice will be evaluated by NHAI or NHAI's designated representative before certifying the same for payment. In case any clarifications / checks etc. is required for payment processing and if it is likely to take some time, NHAI may release 80% of the invoice amount within 30 days of receipt of the same and the balance 20% shall be settled after completion of clarifications/ checks etc. (however, in not more than additional 30 days).
- 6. The quoted rates for all items shall remain unchanged for entire Contract Period.
- 7. The quoted prices are inclusive of all Taxes & duties except Service tax, which shall be reimbursed separately, at actuals based on production of proof of payment and certificate from Chartered Accountant.
- 8. No amount toward cost or expenses incurred, of whatsoever nature, shall be payable separately for the days to be carrying out the services prior to or after the field work such as holding discussion, as considered necessary by NHAI or otherwise, for any purpose with NHAI's Head office or elsewhere, prior, during and after the conduct of an assignment at site.
- 9. Service Provider shall submit reports to NHAI as prescribed under Schedule B along with invoices.

12. Project Administration

The NHAI designates *General Manager (Electronics)* at Head office of NHAI, as its coordinator, who will be responsible for the coordination of activities under this contract, for acceptance and approval of the services and of other deliverables by NHAI and for receiving and approving invoices for the payment.

13. Fraud and Corruption:

13.1 Definitions

It is NHAI's policy that NHAI as well as Service Providers observe the highest standard of ethics during the selection and execution of such contracts. In pursuance of this policy, NHAI defines, for the purpose of this provision, the terms set forth below as follows:

- (a) "corrupt practice" means the offering, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the selection process or in contract execution;
- (b) "fraudulent practice" means a misrepresentation or omission of facts in order to influence a procurement process or execution of a contract with NHAI; and includes collusive practice among bidders, prior to or after bid submission, designed to establish bid prices at artificially high or non-competitive levels and to deprive NHAI of the benefits of free and open competition;

- (c) "collusive practices" means a scheme or arrangement between two or more bidders, with or without the knowledge of NHAI, designed to establish prices at artificial, non-competitive levels;
- (d) "coercive practices" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract;
- (e) "unfair trade practices" means supply of services different from what is ordered on, or change in the Scope of Work which was not agreed to; and
- (f) "restrictive practices" means forming a cartel or arriving at any understanding or arrangement among bidder(s) with the objective of restricting or manipulating a full and fair competition in the bidding process.

13.2 Measures to be taken by NHAI

- (a) NHAI may terminate the contract if it determines at any time that representatives of the Service Provider were engaged in corrupt, fraudulent, collusive or coercive practices during the selection process or the execution of that contract, without the Service Provider having taken timely and appropriate action satisfactory to NHAI to remedy the situation;
- (b) NHAI may also sanction against the Service Provider, including declaring the Service Provider ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the Service Provider has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for, or in executing, a contract with NHAI.

14. Confidentiality of the Assignment/Findings

The Service Provider shall not, during the term of this contract and within one year after its expiration or termination, disclose any proprietary or confidential information relating to the services, this contract or the NHAI's business or operations without the prior written consent of NHAI.

15. Ownership of Equipment & other conditions

- (i) All the material and equipment under the project shall be owned by the Service Provider throughout the duration of contract.
- (ii) It may please be noted that procurement of any ATMS or its subsystems/ Equipment/ Hardware/Software etc. has not been envisaged through this tender. The Service Provider shall be required to provide the services as per the scope of work prescribed herein.
- (iii) The service providers are advised to offer and propose the latest technologies/cost effective/ innovative/ best suitable system and equipment for Traffic Scenario on National Highways and conditions at the project sections.
- (iv) Any studies report or other material, data or information otherwise prepared by the Service Provider for NHAI under the contract including all related database/ files shall belong to and remain the property of NHAI.

16. Insurance cover to be maintained

- (a) All the material and equipment shall be owned by the Service Provider throughout the duration of contract and the service provider shall ensure to maintain proper insurance coverage of its equipment against fire, theft, vandalism or any other perceived risk(s) / natural disaster etc.
- (b) In addition to material and equipment, the Service Provider shall also ensure to have adequate insurance for all its personal working/ deployed under this contract.
- (c) The Service Provider shall indemnify NHAI against any damage/ loss of property or personnel of Service Provider working on any site under this contract.

17. No partnership

This Agreement shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as an agent or representative of, or to otherwise bind, the other Party.

18. Intellectual Property Rights

All Intellectual Property of the respective Parties shall continue to vest with the respective Party and one Party may make use of the Intellectual Property only with the express consent of the other Party.

19. Force Majeure

Neither party shall in any event be liable for any failure to perform its obligations under this Agreement due to any events beyond the reasonable control of either party or any events of force majeure.

19.1 No Party shall be considered in default of performance of its obligations under the terms of this Agreement, if such performance is prevented or delayed for any causes beyond the reasonable control of the Party affected by such event (hereinafter referred to as "Affected Party"), including, but not limited to, fire, flood, explosion, acts of God, public disorder, riots, embargoes, or strikes, acts of military authority, epidemics, strikes, lockouts or other labour disputes, insurrections, civil commotion, war, enemy actions which substantially bars the performance of obligations of the Affected Party (hereinafter referred to as "Force Majeure Event")

19.2 Reporting of Force Majeure

If a Force Majeure Event arises in the aforesaid manner, the Affected Party shall within maximum 24 hours notify the other Party in writing of such condition and the cause thereof. However, in case the Service Provider claims to have suffered a Force Majeure Event, the Service Provider shall continue to perform its obligations under this Agreement as far as is reasonably practical, and shall seek all reasonable alternative means for performance, unless otherwise directed by NHAI.

19.3 Mitigate the Force Majeure Event

Upon occurrence of Force Majeure Event, the Affected Party shall immediately take steps as are reasonably necessary to remove the causes resulting in Force Majeure if within its control and to mitigate the effect thereof. Any costs incurred and

attributable to such event or curing of the Force Majeure Event shall be solely borne by the Affected Party.

20. Dispute Resolution

- (a) Any dispute or difference whatsoever arising between the parties and of or relating to the construction, interpretation, application, meaning, scope, operation or effect of this contract or the validity or the breach thereof, shall be referred to the Society for Affordable Resolution of Disputes (SAROD) and the award made in pursuance thereof shall be final and binding on the parties subject to Provisions of The Arbitration and Conciliation Act, 1996.
- (b) This Contract shall be governed by, and construed in accordance with, the laws of India and courts at New Delhi shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with this Contract.

21. Termination

- (a) Either party may terminate this contract due to breach of terms agreed to in this contract by the other party. However, the party aggrieved by the breach shall give written notice to the other party to this contract indicating that the contract shall be terminated not earlier than 30 days from the date of the receipt of the notice.
- (b) NHAI, in its sole discretion and for any reason whatsoever, may terminate this Contract for (i) for convenience by giving 90 days prior notice without assigning any reason; or (ii) in case of dereliction in performance of stipulated duties by the service provider.
- (c) Notwithstanding anything stated in this Agreement, in the event of any defaults on part of the Service Provider, NHAI shall issue a notice to the Service Provider (hereinafter referred to as **Cure Period Notice**). If the Service Provider fails to cure the default within the Cure Period, as stated in the Cure Period Notice, the Service Provider shall be deemed to be in default of this Agreement, unless the default has occurred solely as due to Force Majeure or for reasons not attributable to the Service Provider. The Cure Period under this Clause shall be calculated from the date of receipt of the notice by the Service Provider or when the default comes into the knowledge of the Service Provider, whichever is earlier. If the service provider fails to remedy the default after lapse of cure period notice, NHAI may consider terminating the contract.
- (d) NHAI may also terminate this contract if in its judgment the Service Provider has engaged in corrupt and fraudulent practice in competing for or in execution / implementation of the project.

22. Consequences of Termination

- (a) Upon Termination, the Service Provider shall transfer all relevant documents / information/ software application developed under the contract / sources code / back up / data/ permissions to NHAI or any other entity as directed by it;
- (b) Upon Termination (except on account of expiry of Term of this Agreement or Force Majeure), NHAI shall be entitled to appropriate the Performance Security.

23. Survival of rights

Notwithstanding anything to the contrary contained in this Agreement, any Termination pursuant to the provisions of this Agreement shall be without prejudice to the accrued rights of either Party including its right to claim and recover money damages, security deposits, and other rights and remedies which it may have in law or contract.

24. Indemnification

- (a) The Service Provider shall indemnify, defend, save and hold harmless, NHAI and M/o Road Transport and Highways (M/o RT&H) and its Officers, Agents against any direct loss, damage, claims, cost and expense of whatever kind and nature (including without limitation, legal fees, claims and expenses incurred in connection with any suit, action or proceeding or any claim asserted, such as fees and expenses incurred), joint or several, that arise out of or are based upon any order passed by any statutory authority including courts, tribunals or other judicial/ quasi judicial authorities, on account of breach of the Service Provider's obligations under this Agreement or any other related agreement or otherwise, any fraud or negligence attributable to the Service Provider or its Agents or Sub-Service Providers, under contract or tort or on any other ground whatsoever, all eventualities of theft, dacoity, robbery, etc., except to the extent that any such suits, proceedings, actions, demands and claims has arisen due to any breach or default of this Agreement on the part of NHAI.
- (b) The Service Provider shall indemnify NHAI and M/o RTH of all legal obligations of its professionals deployed. NHAI and M/o RTH also stand absolved of any liability on account of death or injury sustained by the Service Provider's staff during the performance of their work and also for any damages or compensation due to any dispute between the Service Provider and its staff.
- (c) The remedies provided under this Article are not exclusive and shall not limit any rights or remedies that may otherwise be available to NHAI Indemnified Party at law or in equity.
- (d) The provisions of this Article shall survive Termination.

25. Compensation for default by the SERVICE PROVIDER

- **25.1** In the event of the Service Provider being in breach of this Agreement, unless such default or delay is on account of Force Majeure or through no fault of the Service Provider, the Service Provider shall pay to NHAI, NHAI, all direct costs suffered or incurred by NHAI as a consequence of such breach, within 30 days of receipt of the demand supported by necessary particulars thereof.
- 25.2 The Service Provider shall pay to NHAI all direct costs suffered or incurred by NHAI incurred as a result of any and all losses, claims, damages and liabilities (including, without limitation, legal fees and other expenses incurred in connection with any suit, action or proceeding or any claim asserted, such as fees and expenses incurred), joint or several, that arise out of, or based upon:
 - (i) any untrue statement or misrepresentation of a material fact provided by the Service Provider or an omission to state a material fact required to be communicated;
 - (ii) any non-performance or breach of the roles, responsibilities, representations, warranties, undertakings and declarations contained herein by the Service Provider or its directors, employees, personnel or representatives.
 - (iii) negligence, fraud or misconduct of the Service Provider or any of its employees, agents, affiliates or advisors.

26. Cap on Liability of Parties

Notwithstanding anything stated herein above and under any circumstances, the liability of Service Provider under this Clause for each site shall not exceed the equivalent amount payable for four quarterly payments.

27. Survival

The provisions of this Article shall survive Termination.

28. Representation and warranties of the service provider

The Service Provider declares, represents and warrants as follows:

- **28.1** It is duly organized and validly existing under the laws of India, and has full power and authority to execute and perform its obligations under this Agreement and to carry out the works and provide services contemplated hereby;
- **28.2** It has taken all necessary corporate actions under Applicable Laws to authorize the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;
- **28.3** It has obtained all necessary internal/external approvals, registrations and certifications required from relevant authorities and other entities for fulfilling its obligations as set out in this Agreement;
- **28.4** It has not violated any of the conditions subject to which such approvals, registrations and certifications have been granted or any other applicable regulations and / or guidelines or directives or statutes;
- **28.5** It shall ensure that such approvals, registrations and certifications will remain in force, including, by taking prompt steps for timely renewal of the same;
- **28.6** It undertakes to continue to comply with all Applicable Laws with respect to its roles / obligations under this Agreement;
- **28.7** There are no actions, suits, proceedings, or investigations pending before any court or before any other judicial, quasi- judicial or other authority, the outcome of which may result in the breach of this Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Agreement;
- **28.8** It shall at no time sub-contract any of its obligations under this Agreement without the prior permission from NHAI. Provided that in case the Service Provider proposes to sub-contract any of its obligations under this Agreement, it shall seek written permission along with the details of the activities that it proposes to sub-contract to third parties;
- **28.9** No representation or warranty by the Service Provider contained herein or in any other document furnished by it to NHAI in relation to Applicable Laws contains or will contain any untrue or misleading statement of material fact or omits or will

omit to state a material fact necessary to make such representation or warranty not misleading;

28.10No sums, in cash or kind, have been paid or will be paid, by or on behalf of the Service Provider, to any person by way of fees, commission or otherwise for securing the award of this contract or for entering into this Agreement or for influencing or attempting to influence any officer or employee of NHAI in connection therewith.

Schedule B

TERMS OF REFERENCE (ToR)

(To insert contents of Volume I - Part II)

PART-V BILL OF QUANTITY (BOQ)

Ambala Cantt Zirakpur stretch

	CONTROL CENTER	Km 23.080	Dappar	

Bill of Quantity

S. No	Chainage km	Location	Equipment			Ohaamustian	Proposed Function
o. INO			LHS	Median	RHS	- Observation	Proposed Function
	Before the display board announcing Toll Road start and Left turn for Hisar		Full VMS	CCTV PTZ & ATCC with sensors both LHS and RHS			VMS To inform road users entering the highway section about the traffic status.ATCC: TO Determine the vehicle data related to entry into and exit from the highway stretch.
2	8.2	Intersection		VIDS			To detect possible incidents (Irregular vehicle movement) at the intersection that may lead to accidents with vehicles arriving on the main carriage way
3	10.2	Intersection (Saddopur)		VIDS			To detect possible incidents (Irregular vehicle movement) at the intersection that may lead to accidents with vehicles arriving on the main carriage way
4	11.1	Intersection - Median Gap (Village Jharmdi)		VIDS			To detect possible incidents (Irregular vehicle movement) at the intersection that may lead to accidents with vehicles arriving on the main carriage way
	13.1	Before the next intersection	VAS				
5	13.98 & 14.1	Intersection - Median Gap (Villages Alamgir & Sarsini)		VIDS			To detect possible incidents (Irregular vehicle movement) at the intersection that may lead to accidents with vehicles arriving on the main carriage way
	14.7	Before the next intersection			VAS		

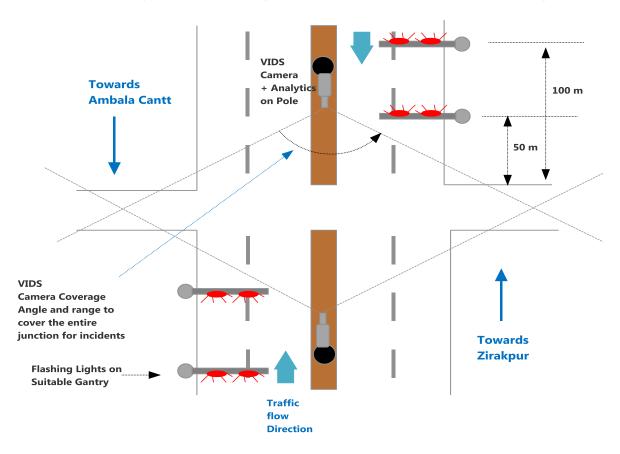
C N-	Chainage km	Location		Equipment		Ohaamustian	Drawaged Function
S. No		Location	LHS	Median	RHS	Observation	Proposed Function
5	16.8	Service road exit and start of Lalru Flyover		CCTV PTZ			
	18.2	Before the next intersection	VAS				
6	19.0	Intersection - Handesra		CCTV PTZ			
7	20.8	Intersecion - Lehli		VIDS			To detect possible incidents (Irregular vehicle movement) at the intersection that may lead to accidents with vehicles arriving on the main carriage way
	21.0	Before the next intersection			VAS		
8	21.8	Exit for Dappar and Flyover		CCTV PTZ			
9	23.08	Toll Plaza	RFID-based Travel time estimation system				
			Me	teorological Station +	ATCC		
11	24.35	Intersection - Golu Marza Village	VIDS				To detect possible incidents (Irregular vehicle movement) at the intersection that may lead to accidents with vehicles arriving on the main carriage way
12	27.15	Flyover		CCTV PTZ			
13	28.4	Median gap		VIDS			To detect possible incidents (Irregular vehicle movement) at the intersection that may lead to accidents with vehicles arriving on the main carriage way
14	29.1	Exit before Dera Bassi flyover	Compact VMS				To provide diversion via Dera bassi if traffic jam on main carriageway
15	32.3	Exit before Dera Bassi flyover			Compact VMS		To provide diversion via Dera bassi if traffic jam on main carriageway
14	29.7	Dera Bassi Flyover		CCTV PTZ			

S. No	Chainage km	Location	Equipment			Observation	Proposed Function
3. NO			LHS	Median	RHS	Observation	Proposed Function
15	31.6	Dera Bassi Flyover		CCTV PTZ			
16	Between the end of above flyover and km 33.6	Median gap for village		VIDS			
17	34.2	Diversion for Mohali airport	Compact VMS				To provide information on exit towards airport
18	35.5	Diversion for Mohali airport			Compact VMS		To provide information on exit towards airport
19	35.1	Intersection towards Mohali & Patiala		CCTV PTZ			
20	35.95	Busy Intersection		CCTV PTZ			
21		Before above intersection	Compact VMS				Warning about Traffic congestion at the above intersection
22		After above intersection			Compact VMS		Warning about Traffic congestion at the above intersection
23	36.8	Before Flyover	Full VMS				Provide information for the road to Shimla, Parwanoo, Manali etc
24	37.5	Flyover at Zirakpur		CCTV PTZ			
25	End of Highway stretch			CCTV PTZ & ATCC with sensors both LHS and RHS	Full VMS		VMS To inform road users entering the highway section about the traffic status.ATCC: TO Determine the vehicle data related to entry into and exit from the highway stretch.

S. No	Chainage km	Location	Equipment			Dramagad Function	Proposed Eunstion
3. NO			LHS	Median	RHS	Observation	Proposed Function

VIDS LOCATION EXPLANATORY SKETCH

Typical VIDS Deployment at Intersections & Median Opening (Gap)



1. The above sketch is limited to explaining the concept of VIDS . The bidder shall design to meet requirements with adequate number of VIDS cameras

S. No	Chainage km	Location	Equipment			Observation	Proposed Function
3. 140			LHS	Median	RHS	Observation	Proposed Function

Supporting Notes

- 1. Fixed CCTV Cameras at all intersections and median gaps other than those covered above with CCTV PTZ
- 2. VIDS at relatively non-busy intersections & median openings (median gaps) where abnormal (i.e. other than the normal directions on the main carriageway) traffic (e.g. sudden turns
- 3. Control Center at Gharaunda Toll Plaza (Chainage 111.5 approx). Need for Portable Cabin- based Control room. Space available.
- 4.No exclusive existing OFC cable / network. Therefore the complete data Communication network Infratructure to be provided including optic fiber cabling
- 5. Mobile Radio Towers at Toll Plaza and at suitable locations.
- 6. ERT s not required as good Mobile connectivity is available atleast from one service provider