

**NATIONAL HIGHWAYS & INFRASTRUCTURE
DEVELOPMENT CORPORATION LTD.**

(Ministry of Road, Transport & Highways)

Government of India

DRAFT CONTRACT AGREEMENT & SCHEDULES

FOR

**Construction of Meka-Roing-Hunli Road from
Existing Km 16 of Roing-Hunli Road to Km 21.5 of
Hunli-Anini Road (Total Length=74.863) to NH
Double lane Specification in Arunachal Pradesh on
Engineering Procurement and Construction(EPC)
basis**

BID DOCUMENT

June– 2016



**National Highways & Infrastructure
Development Corporation Ltd.**
(A Government of India Undertaking)

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Part I

Preliminary

ENGINEERING, PROCUREMENT AND CONSTRUCTION AGREEMENT

THIS AGREEMENT is entered into on this the day of, 20....

BETWEEN

The President of India through the Ministry of Road Transport & Highways, Government of India represented by Managing Director, National Highways and Infrastructure Development Corporation Limited, and having its principle office at 3rd floor, PTI Building, 4th, Parliament street, New Delhi,-110001 (hereinafter referred to as the “Authority” which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) of One Part; **AND**

{-----}, means the selected bidder having its registered office at, (hereinafter referred to as the “**Contractor**” which expression shall, unless repugnant to the context or meaning thereof, include its successors and permitted assigns) of the Other Part.

WHEREAS:

- (A) The Government of India had entrusted to the Authority the development, maintenance and management of “Construction of Meka-Roing-Hunli Road from Existing Km 16 of Roing-Hunli Road to Km 21.5 of Hunli-Anini Road (Total Length=74.863) to NH Double lane Specification in Arunachal Pradesh on Engineering Procurement and Construction(EPC) basis.”
- (B) The Authority had resolved to Construction of Meka-Roing-Hunli Road from Existing Km 16 of Roing-Hunli Road to Km 21.5 of Hunli-Anini Road (Total Length=74.863) to NH Double lane Specification in Arunachal Pradesh on Engineering Procurement and Construction(EPC) basis in accordance with the terms and conditions to be set forth in an agreement to be entered into.
- (C) The Authority had accordingly invited proposals by its Request for Proposal No. *** dated *** (the “Request for Proposals” or “RFP”) for short listing of bidders for EPC of the above referred section of NH and had shortlisted certain bidders including, inter alia, the selected bidder.
- (D) The Authority had prescribed the technical and commercial terms and conditions, and invited bids (the “Request for Proposals” or “RFP”) from the bidders for undertaking the Project.
- (E) After evaluation of the bids received, the Authority had accepted the bid of the selected bidder and issued its Letter of Acceptance No. dated (hereinafter called the “**LOA**”) to the selected bidder for rehabilitation and augmentation of the above section of NH at the contract price specified hereinafter, requiring the selected bidder to inter alia:
 - (i) deliver to the Authority a legal opinion from the legal counsel of the selected bidder with respect to the authority of the selected bidder to enter into this Agreement and the enforceability of the provisions thereof, within 10 (ten) days of the date of issue of LOA; and
 - (ii) execute this Agreement within 15 (fifteen) days of the date of issue of LOA.
- (F) The Contractor has fulfilled the requirements specified in Recital (E) above;

NOW THEREFORE in consideration of the foregoing and the respective covenants and agreements set forth in this Agreement, the sufficiency and adequacy of which is hereby acknowledged, the Authority hereby covenants to pay the Contractor, in consideration of the obligations specified herein, the Contract Price or such other sum as may become payable under the provisions of the

Agreement at the times and in the manner specified by the Agreement and intending to be legally bound hereby, the Parties agree as follows:

The following documents attached hereto shall be deemed to form an integral part of this Contract:

(a) Volume-I:

The Agreement;

Corrigendum to the Agreement;

Addendum, if any, to RFP;

Letter comprising the financial

Bid;

Letter of Acceptance;

Power of Attorney;

Joint Venture Agreement, if any;

Legal opinion;

Any other document to be specified

(b) Volume-II: Technical Bid

ARTICLE 1
DEFINITIONS AND INTERPRETATION

1.1 Definitions

The words and expressions beginning with capital letters and defined in this Agreement (including those in Article 28) 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.

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 re-enactment 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) references to “construction” or “building” include, unless the context otherwise requires, survey and investigation, design, developing, engineering, procurement, supply of plant, materials, equipment, labour, delivery, transportation, installation, processing, fabrication, testing, and commissioning of the Project Highway, including maintenance during the Construction Period, removing of defects, if any, and other activities incidental to the construction and “construct” or “build” shall be construed accordingly;
- (g) References to “development” include, unless the context otherwise requires,

construction, renovation, refurbishing, augmentation, up-gradation and other activities incidental thereto during the Construction Period, and “develop” shall be construed accordingly;

- (h) Any reference to any period of time shall mean a reference to that according to Indian standard time;
- (i) Any reference to day shall mean a reference to a calendar day;
- (j) References to a “business day” shall be construed as a reference to a day (other than a Sunday) on which banks in Delhi are generally open for business;
- (k) Any reference to month shall mean a reference to a calendar month as per the Gregorian calendar;
- (l) References to any date, period or Project Milestone shall mean and include such date, period or Project Milestone as may be extended pursuant to this Agreement;
- (m) 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;
- (n) The words importing singular shall include plural and vice versa;
- (o) References to any gender shall include the other and the neutral gender;
- (p) “Lakh” means a hundred thousand (100,000) and “crore” means ten million (10,000,000);
- (q) “Indebtedness” shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent;
- (r) references to the “winding-up”, “dissolution”, “insolvency”, or “reorganisation” 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, reorganisation, dissolution, arrangement, protection or relief of debtors;
- (s) save and except as otherwise provided in this Agreement, any reference, at any time, to any agreement, deed, instrument, licence or document of any description shall be construed as reference to that agreement, deed, instrument, licence or other document as amended, varied, supplemented, modified or suspended at the time of such reference; provided that this Clause shall not operate so as to increase liabilities or obligations of the Authority hereunder or pursuant hereto in any manner whatsoever;
- (t) any agreement, consent, approval, authorisation, notice, communication, information

or report required under or pursuant to this Agreement from or by any Party or the Authority's Engineer shall be valid and effective only if it is in writing under the hand of a duly authorised representative of such Party or the Authority's Engineer, as the case may be, in this behalf and not otherwise;

- (u) 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;
 - (v) 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;
 - (w) the damages payable by either Party to the other of them, 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**"); and
 - (x) time shall be of the essence in the performance of the Parties' respective obligations. If any time period specified herein is extended for the reasons specified in the Agreement, such extended time shall also be of the essence.
- 1.2.2 Unless expressly provided otherwise in this Agreement, any Documentation required to be provided or furnished by the Contractor to the Authority shall be provided free of cost and in three copies, and if the Authority is required to return any such Documentation with its comments and/or approval, it shall be entitled to retain two copies thereof.
- 1.2.3 The rule of construction, if any, that a contract should be interpreted against the parties responsible for the drafting and preparation thereof, shall not apply.
- 1.2.4 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 Measurements and arithmetic conventions

All measurements and calculations shall be in the metric system and calculations 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 and errors/discrepancies

- 1.4.1 This Agreement, and all other agreements and documents forming part of or referred to in this Agreement are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this Agreement, the priority of this Agreement and other documents and agreements forming part hereof or referred to herein shall, in the event of any conflict

between them, be in the following order:

- (a) This Agreement; and
- (b) All other agreements and documents forming part hereof or referred to herein; i.e. this Agreement at (a) above shall prevail over the agreements and documents at (b).

1.4.2 Subject to the provisions of Clause 1.4.1, 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 the Clauses of this Agreement and the Schedules, the Clauses shall prevail and between Schedules and Annexes, the Schedules shall prevail;
- (c) between any two Schedules, the Schedule relevant to the issue shall prevail;
- (d) between the written description on the Drawings and the Specifications and Standards, the latter shall prevail;
- (e) between the dimension scaled from the Drawing and its specific written dimension, the latter shall prevail; and
- (f) between any value written in numerals and that in words, the latter shall prevail.

{1.5 Joint and several liability

1.5.1 If the Contractor has formed a Consortium of two or more persons for implementing the Project:

- (a) These persons shall, without prejudice to the provisions of this Agreement, be deemed to be jointly and severally liable to the Authority for the performance of the Agreement; and
- (b) The Contractor shall ensure that no change in the composition of the Consortium is effected without the prior consent of the Authority.

1.5.2 Without prejudice to the joint and several liability of all the members of the Consortium, the Lead Member shall represent all the members of the Consortium and shall at all times be liable and responsible for discharging the functions and obligations of the Contractor. The Contractor shall ensure that each member of the Consortium shall be bound by any decision, communication, notice, action or inaction of the Lead Member on any matter related to this Agreement and the Authority shall be entitled to rely upon any such action, decision or communication of the Lead Member. The Authority shall have the right to release payments solely to the Lead Member and shall not in any manner be responsible or liable for the *inter se* allocation of payments among members of the Consortium. }^{\$}

^{\$} This Clause 1.5 may be omitted if the Contractor is not a Consortium. Even if the Contractor is a Consortium, the Authority may, at its discretion, delete this provision.

Part II

Scope of Project

ARTICLE 2

SCOPE OF THE PROJECT

2.1 Scope of the Project

Under this Agreement, the scope of the Project (the “**Scope of the Project**”) shall mean and include:

- (a) construction of the Project Highway on the Site set forth in Schedule-A and as specified in Schedule-B together with provision of Project Facilities as specified in Schedule-C, and in conformity with the Specifications and Standards set forth in Schedule-D;
- (b) maintenance of the Project Highway in accordance with the provisions of this Agreement and in conformity with the requirements set forth in Schedule-E; and
- (c) Performance and fulfilment of all other obligations of the Contractor in accordance with the provisions of this Agreement and matters incidental thereto or necessary for the performance of any or all of the obligations of the Contractor under this Agreement.

ARTICLE 3
OBLIGATIONS OF THE CONTRACTOR

3.1 Obligations of the Contractor

- 3.1.1 Subject to and on the terms and conditions of this Agreement, the Contractor shall undertake the survey, investigation, design, engineering, procurement, construction, and maintenance of the Project Highway and observe, fulfil, comply with and perform all its obligations set out in this Agreement or arising hereunder.
- 3.1.2 The Contractor shall comply with all Applicable Laws and Applicable Permits (including renewals as required) in the performance of its obligations under this Agreement.
- 3.1.3 Subject to the provisions of Clauses 3.1.1 and 3.1.2, the Contractor shall discharge its obligations in accordance with Good Industry Practice and as a reasonable and prudent person.
- 3.1.4 The Contractor shall remedy any and all loss or damage to the Project Highway from the Appointed Date until the end of the Construction Period at the Contractor's cost, save and except to the extent that any such loss or damage shall have arisen from any default or neglect of the Authority.
- 3.1.5 The Contractor shall remedy any and all loss or damage to the Project Highway during the Defects Liability Period at the Contractor's cost to the extent that such loss or damage shall have arisen out of the reasons specified in Clause 17.3.
- 3.1.6 The Contractor shall remedy any and all loss or damage to the Project Highway during the Maintenance Period at the Contractor's cost, including those stated in Clause 14.1.2, save and except to the extent that any such loss or damage shall have arisen on account of any default or neglect of the Authority or on account of a Force Majeure Event.
- 3.1.7 The Contractor shall, at its own cost and expense, in addition to and not in derogation of its obligations elsewhere set out in this Agreement:
- (a) make, or cause to be made, necessary applications to the relevant Government Instrumentalities with such particulars and details as may be required for obtaining Applicable Permits set forth in Schedule-F and obtain and keep in force and effect such Applicable Permits in conformity with the Applicable Laws;
 - (b) procure, as required, the appropriate proprietary rights, licences, agreements and permissions for Materials, methods, processes and systems used or incorporated into the Project Highway;
 - (c) make reasonable efforts to maintain harmony and good industrial relations among the personnel employed by it or its Sub-contractors in connection with the performance of its obligations under this Agreement;
 - (d) Ensure and procure that its Sub-contractors comply with all Applicable Permits and

Applicable Laws in the performance by them of any of the Contractor's obligations under this Agreement;

- (e) not do or omit to do any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement;
- (f) Support, cooperate with and facilitate the Authority in the implementation and operation of the Project in accordance with the provisions of this Agreement;
- (g) ensure that the Contractor and its Sub-contractors comply with the safety and welfare measures for labour in accordance with the Applicable Laws and Good Industry Practice;
- (h) keep, on the Site, a copy of this Agreement, publications named in this Agreement, the Drawings, Documents relating to the Project, and Change of Scope Orders and other communications given under this Agreement. The Authority's Engineer and its authorised personnel shall have the right of access to all these documents at all reasonable times;
- (i) cooperate with other contractors employed by the Authority and personnel of any public authority; and
- (j) not interfere unnecessarily or improperly with the convenience of the public, or the access to and use and occupation of all roads and footpaths, irrespective of whether they are public or in the possession of the Authority or of others.

3.1.8 The Contractor shall undertake all necessary superintendence to plan, arrange, direct, manage, inspect and test the Works.

3.2 Obligations relating to sub-contracts and any other agreements

3.2.1 The Contractor shall not sub-contract any Works in more than 70% (seventy per cent) of the total length of the Project Highway and shall carry out Works directly under its own supervision and through its own personnel in at least 30% (thirty per cent) of the total length of the Project Highway. Provided, however, that in respect of the Works carried out directly by the Contractor, it may enter into contracts for the supply and installation of Materials, Plant, equipment, road furniture, safety devices and labour, as the case may be, for such Works. For the avoidance of doubt, the Parties agree that the Contractor may sub-divide the aforesaid length of 30% (thirty per cent) in no more than 5 (five) sections of the Project Highway. The Parties further agree that all obligations and liabilities under this Agreement for the entire project Highway shall at all times remain with the Contractor. {The Parties also agree that obligation of the Contractor to carry out Works directly in at least 30% (thirty per cent) of the total length of the Project Highway shall be discharged solely by the Lead Member.}^{\$}

3.2.2. In the event any sub-contract for Works, or the aggregate of such sub-contracts with any Sub-contractor, exceeds 5% (five percent) of the Contract Price, the Contractor shall

^{\$} May be deleted if the Contractor is not a Consortium.

communicate the name and particulars, including the relevant experience of the sub-contractor, to the Authority prior to entering into any such sub-contract. The Authority shall examine the particulars of the sub-contractor from the national security and public interest perspective and may require the Contractor, no later than 15 (fifteen) business days from the date of receiving the communication from the Contractor, not to proceed with the sub-contract, and the Contractor shall comply therewith.

- 3.2.3 In the event any sub-contract referred to in Clause 3.2.2 relates to a sub-contractor who has, over the preceding 3 (three) years, not undertaken at least one work of a similar nature with a contract value exceeding 40% (forty per cent) of the value of the sub-contract to be awarded hereunder and received payments in respect thereof for an amount equal to at least such 40% (forty per cent), the Authority may, no later than 15 (fifteen) business days from the date of receiving the communication from the Contractor, require the Contractor not to proceed with such sub-contract, and the Contractor shall comply therewith.
- 3.2.4 It is expressly agreed that the Contractor shall, at all times, be responsible and liable for all its obligations under this Agreement notwithstanding anything contained in the agreements with its Sub-contractors or any other agreement that may be entered into by the Contractor, and no default under any such agreement shall excuse the Contractor from its obligations or liability hereunder.

3.3 Employment of foreign nationals

The Contractor acknowledges, agrees and undertakes that employment of foreign personnel by the Contractor and/or its Sub-contractors and their sub-contractors shall be subject to grant of requisite regulatory permits and approvals including employment/residential visas and work permits, if any required, and the obligation to apply for and obtain the same shall and will always be of the Contractor. Notwithstanding anything to the contrary contained in this Agreement, refusal of or inability to obtain any such permits and approvals by the Contractor or any of its Sub-contractors or their sub-contractors shall not constitute Force Majeure Event, and shall not in any manner excuse the Contractor from the performance and discharge of its obligations and liabilities under this Agreement.

3.4 Contractor's personnel

- 3.4.1 The Contractor shall ensure that the personnel engaged by it or by its Sub-contractors in the performance of its obligations under this Agreement are at all times appropriately qualified, skilled and experienced in their respective functions in conformity with Good Industry Practice.
- 3.4.2 The Authority's Engineer may, for reasons to be specified in writing, direct the Contractor to remove any member of the Contractor's or Sub-contractor's personnel. Provided that any such direction issued by the Authority's Engineer shall specify the reasons for the removal of such person.
- 3.4.3 The Contractor shall on receiving such a direction from the Authority's Engineer order for the removal of such person or persons with immediate effect. It shall be the duty of the Contractor to ensure that such persons are evicted from the Site within 10 (ten) days of any

such direction being issued in pursuance of Clause 3.4.2. The Contractor shall further ensure that such persons have no further connection with the Works or Maintenance under this Agreement. The Contractor shall then appoint (or cause to be appointed) a replacement.

3.5 Advertisement on Project Highway

The Project Highway or any part thereof shall not be used in any manner to advertise any commercial product or services.

3.6 Contractor's care of the Works

The Contractor shall bear full risk in and take full responsibility for the care of the Works, and of the Materials, goods and equipment for incorporation therein, from the Appointed Date until the date of Provisional Certificate (with respect to the Works completed prior to the issuance of the Provisional Certificate) and/or Completion Certificate (with respect to the Works referred to in the Punch List), save and except to the extent that any such loss or damage shall have arisen from any default or neglect of the Authority.

3.7 Electricity, water and other services

The Contractor shall be responsible for procuring of all power, water and other services that it may require.

3.8 Unforeseeable difficulties

Except as otherwise stated in the Agreement:

- (a) the Contractor accepts complete responsibility for having foreseen all difficulties and costs of successfully completing the Works;
- (b) the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs; and
- (c) the Scheduled Completion Date shall not be adjusted to take account of any unforeseen difficulties or costs.

ARTICLE 4
OBLIGATIONS OF THE AUTHORITY

4.1 Obligations of the Authority

- 4.1.1 The Authority shall, at its own cost and expense, undertake, comply with and perform all its obligations set out in this Agreement or arising hereunder.
- 4.1.2 The Authority shall be responsible for the correctness of the Scope of the Project, Project Facilities, Specifications and Standards and the criteria for testing of the completed Works.
- 4.1.3 The Authority shall provide to the Contractor:
- (a) upon receiving the Performance Security under Clause 7.1.1, the Right of Way in accordance with the provisions of Clauses 8.2 and 8.3, within a period of 15 (fifteen) days from the date of this Agreement, on no less than 90% (ninety per cent) of the total length of the Project Highway;
 - (b) approval of the general arrangement drawings (the “GAD”) from railway authorities to enable the Contractor to construct road over-bridges/ under-bridges at level crossings on the Project Highway in accordance with the Specifications and Standards, and subject to the terms and conditions specified in such approval, within a period of 60 (sixty) days from the Appointed Date, and reimbursement of all the costs and expenses paid by the Contractor to the railway authorities for and in respect of the road over-bridges/under bridges; and(c) all environmental clearances as required under Clause 4.3 for the Project Highway are required.
- 4.1.4 Delay in providing the Right of Way or approval of GAD by railway authorities, as the case may be, in accordance with the provisions of Clause 4.1.3 shall entitle the Contractor to Damages in a sum calculated in accordance with the provisions of Clause 8.3 of this Agreement and Time Extension in accordance with the provisions of Clause 10.5 of this Agreement. For the avoidance of doubt, the Parties agree that the Damages for delay in approval of GAD by the railway authorities for a particular road over-bridge/under-bridge shall be deemed to be equal to the Damages payable under the provisions of Clause 8.3 for delay in providing Right of Way for a length of 2 (two) kilometre for each such road over-bridge/under-bridge.
- 4.1.5 Notwithstanding anything to the contrary contained in this Agreement, the Parties expressly agree that the aggregate Damages payable under Clauses 4.1.4, 8.3 and 9.2 shall not exceed 1% (one per cent) of the Contract Price. For the avoidance of doubt, the Damages payable by the Authority under the aforesaid Clauses shall not be additive if they arise concurrently from more than one cause but relate to the same part of the Project Highway.

Both the parties agree that payment of these Damages shall be full and final settlement of all claims of the Contractor and such compensation shall be the sole remedy against delays of the Authority and both parties further agree this as final cure against delays of the Authority.

4.1.6 The Authority agrees to provide support to the Contractor and undertakes to observe, comply with and perform, subject to and in accordance with the provisions of this Agreement and the Applicable Laws, the following:

- (a) upon written request from the Contractor, and subject to the Contractor complying with Applicable Laws, provide reasonable support to the Contractor in procuring Applicable Permits required from any Government Instrumentality for implementation of the Project;
- (b) upon written request from the Contractor, provide reasonable assistance to the Contractor in obtaining access to all necessary infrastructure facilities and utilities, including water and electricity at rates and on terms no less favourable than those generally available to commercial customers receiving substantially equivalent services;
- (c) procure that no barriers that would have a material adverse effect on the works are erected or placed on or about the Project Highway by any Government Instrumentality or persons claiming through or under it, except for reasons of Emergency, national security, law and order or collection of inter-state taxes;
- (d) not do or omit to do any act, deed or thing which may in any manner be violative of any of the provisions of this Agreement;
- (e) support, cooperate with and facilitate the Contractor in the implementation of the Project in accordance with the provisions of this Agreement; and
- (f) upon written request from the Contractor and subject to the provisions of Clause 3.3, provide reasonable assistance to the Contractor and any expatriate personnel of the Contractor or its Sub-contractors to obtain applicable visas and work permits for the purposes of discharge by the Contractor or its Sub-contractors of their obligations under this Agreement and the agreements with the Sub-contractors.

4.2 Maintenance obligations prior to the Appointed Date

The Authority shall, prior to the Appointed Date, maintain the Project Highway, at its own cost and expense, so that its traffic worthiness and safety are at no time materially inferior as compared to its condition 10 (ten) days prior to the last date for submission of the Bid, and in the event of any material deterioration or damage other than normal wear and tear, undertake repair thereof. For the avoidance of doubt, the Authority shall undertake only routine maintenance prior to the Appointed Date, and it shall undertake special repairs only in the event of excessive deterioration or damage caused due to unforeseen events such as floods or earthquake.

4.3 Environmental Clearances

The Authority represents and warrants that the environmental clearances required for construction of the Project shall be procured by the Authority prior to the date of issue of LOA. For the avoidance of doubt, the present status of environmental clearances is specified in Schedule-A.

ARTICLE 5
REPRESENTATIONS AND WARRANTIES

5.1 Representations and warranties of the Contractor

The Contractor represents and warrants to the Authority that:

- (a) it is duly organised 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 transactions contemplated hereby;
- (b) it has taken all necessary corporate and/or other actions under Applicable Laws to authorise the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;
- (c) this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Agreement will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;
- (d) it is subject to the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising thereunder including any obligation, liability or responsibility hereunder;
- (e) the information furnished in the Bid and as updated on or before the date of this Agreement is true and accurate in all respects as on the date of this Agreement;
- (f) the execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its memorandum and articles of association or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- (g) there are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity 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;
- (h) it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this Agreement;

- (i) it has complied with Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have a material adverse effect on its ability to perform its obligations under this Agreement;
- (j) no representation or warranty by it contained herein or in any other document furnished by it to the Authority or to any Government Instrumentality in relation to Applicable Permits 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;
- (k) no sums, in cash or kind, have been paid or will be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for securing the contract or entering into this Agreement or for influencing or attempting to influence any officer or employee of the Authority in connection therewith;
- (l) all information provided by the {selected bidder/ members of the Consortium} in response to the Request for Proposals or otherwise, is to the best of its knowledge and belief, true and accurate in all material respects; and
- (m) nothing contained in this Agreement shall create any contractual relationship or obligation between the Authority and any Sub-contractors, designers, consultants or agents of the Contractor.

5.2 Representations and warranties of the Authority

The Authority represents and warrants to the Contractor that:

- (a) it has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Agreement, exercise its rights and perform its obligations, under this Agreement;
- (b) it has taken all necessary actions under the Applicable Laws to authorise the execution, delivery and performance of this Agreement;
- (c) it has the financial standing and capacity to perform its obligations under this Agreement;
- (d) this Agreement constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof;
- (e) it has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on the Authority's ability to perform its obligations under this Agreement;
- (f) it has complied with Applicable Laws in all material respects;
- (g) it has good and valid right to the Site and has the power and authority to grant the

Right of Way in respect thereof to the Contractor; and

- (h) it has procured Right of Way and environment clearances such that the Contractor can commence construction forthwith on 90% (ninety per cent) of the total length of the Project Highway.

5.3 Disclosure

In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under this Agreement.

ARTICLE 6

DISCLAIMER

6.1 Disclaimer

- 6.1.1 The Contractor acknowledges that prior to the execution of this Agreement, the Contractor has, after a complete and careful examination, made an independent evaluation of the Request for Proposal, Scope of the Project, Specifications and Standards of design, construction and maintenance, Site, local conditions, physical qualities of ground, subsoil and geology, traffic volumes, suitability and availability of access routes to the Site and all information provided by the Authority or obtained, procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. Save as provided in Clause 4.1.2 and Clause 5.2, the Authority makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy, adequacy, correctness, reliability and/or completeness of any assessment, assumptions, statement or information provided by it and the Contractor confirms that it shall have no claim whatsoever against the Authority in this regard.
- 6.1.2 The Contractor acknowledges and hereby accepts to have satisfied itself as to the correctness and sufficiency of the Contract Price.
- 6.1.3 The Contractor acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in Clause 6.1.1 above and hereby acknowledges and agrees that the Authority shall not be liable for the same in any manner whatsoever to the Contractor, or any person claiming through or under any of them, and shall not lead to any adjustment of Contract Price or Scheduled Completion Date.
- 6.1.4 The Parties agree that any mistake or error in or relating to any of the matters set forth in Clause 6.1.1 above shall not vitiate this Agreement, or render it voidable.
- 6.1.5 In the event that either Party becomes aware of any mistake or error relating to any of the matters set forth in Clause 6.1.1 above, that Party shall immediately notify the other Party, specifying the mistake or error.
- 6.1.6 Except as otherwise provided in this Agreement, all risks relating to the Project shall be borne by the Contractor; and the Authority shall not be liable in any manner for such risks or the consequences thereof.

Part III

Construction and Maintenance

ARTICLE 7
PERFORMANCE SECURITY

7.1 Performance Security

- 7.1.1 The Contractor shall, for the performance of its obligations hereunder during the Construction Period, provide to the Authority, within 10 (ten) days of the date of this Agreement, an irrevocable and unconditional guarantee from a Bank in the form set forth in Schedule-G (the “Performance Security”) for an amount equal to 5% (five percent) of the Contract Price. The Performance Security shall be valid until 60 (sixty) days after the Defects Liability Period. Until such time the Performance Security is provided by the Contractor pursuant hereto and the same comes into effect, the Bid Security shall remain in force and effect, and upon such provision of the Performance Security, the Authority shall release the Bid Security to the Contractor.
- 7.1.2 Notwithstanding anything to the contrary contained in this Agreement, the Parties agree that in the event of failure of the Contractor to provide the Performance Security in accordance with the provisions of Clause 7.1.1 and within the time specified therein or such extended period as may be provided by the Authority, in accordance with the provisions of Clause 7.1.3, the Authority may encash the Bid Security and appropriate the proceeds thereof as Damages, and thereupon all rights, privileges, claims and entitlements of the Contractor under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased with the concurrence of the Contractor, and this Agreement shall be deemed to have been terminated by mutual agreement of the Parties.
- 7.1.3 In the event the Contractor fails to provide the Performance Security within 10 (ten) days of this Agreement, it may seek extension of time for a period not exceeding 30 (Thirty) days on payment of Damages for such extended period in a sum calculated at the rate of 0.01% (zero point zero one per cent) of the Contract Price for each day until the Performance Security is provided. For the avoidance of doubt the agreement shall be deemed to be terminated on expiry of additional 30 days time period and Bid security shall be encashed by the Authority.

7.2 Extension of Performance Security

The Contractor may initially provide the Performance Security for a period of 2 (two) years; provided that it shall procure the extension of the validity of the Performance Security, as necessary, at least 2 (two) months prior to the date of expiry thereof. Upon the Contractor providing an extended Performance Security, the previous Performance Security shall be deemed to be released and the Authority shall return the same to the Contractor within a period of 7 (seven) business days from the date of submission of the extended Performance Security.

7.3 Appropriation of Performance Security

- 7.3.1 Upon occurrence of a Contractor’s Default, the Authority shall, without prejudice to its

other rights and remedies hereunder or in law, be entitled to encash and appropriate the relevant amounts from the Performance Security as Damages for such Contractor's Default.

- 7.3.2 Upon such encashment and appropriation from the Performance Security, the Contractor shall, within 30 (thirty) days thereof, replenish, in case of partial appropriation, to its original level the Performance Security, and in case of appropriation of the entire Performance Security provide a fresh Performance Security, as the case may be, and the Contractor shall, within the time so granted, replenish or furnish fresh Performance Security as aforesaid failing which the Authority shall be entitled to terminate the Agreement in accordance with Article 23. Upon replenishment or furnishing of a fresh Performance Security, as the case may be, as aforesaid, the Contractor shall be entitled to an additional Cure Period of 30 (thirty) days for remedying the Contractor's Default, and in the event of the Contractor not curing its default within such Cure Period, the Authority shall be entitled to encash and appropriate such Performance Security as Damages, and to terminate this Agreement in accordance with Article 23.

7.4 Release of Performance Security

The Authority shall return the Performance Security to the Contractor within 60 (sixty) days of the later of the expiry of the Maintenance Period or the Defects Liability Period under this Agreement. Notwithstanding the aforesaid, the Parties agree that the Authority shall not be obliged to release the Performance Security until all Defects identified during the Defects Liability Period have been rectified.

7.5 Retention Money

- 7.5.1 From every payment for Works due to the Contractor in accordance with the provisions of Clause 19.5, the Authority shall deduct 6% (six per cent) thereof as guarantee money for performance of the obligations of the Contractor during the Construction Period (the "**Retention Money**") subject to the condition that the maximum amount of Retention Money shall not exceed 5% (five per cent) of the Contract Price.
- 7.5.2 Upon occurrence of a Contractor's Default, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to appropriate the relevant amounts from the Retention Money as Damages for such Contractor's Default.
- 7.5.3 The Contractor may, upon furnishing an irrevocable and unconditional bank guarantee substantially in the form provided at Annex-II of Schedule-G, require the Authority to refund the Retention Money deducted by the Authority under the provisions of Clause 7.5.1. Provided that the refund hereunder shall be made in tranches of not less than 1% (one per cent) of the Contract Price.
- 7.5.4 Within 15 (fifteen) days of the date of issue of the Completion Certificate, the Authority shall discharge the bank guarantees furnished by the Contractor under the provisions of Clause 7.5.3 and refund the balance of Retention Money remaining with the Authority after adjusting the amounts appropriated under the provisions of Clause 7.5.2 and the amounts refunded under the provisions of Clause 7.5.3.
- 7.5.5 The Parties agree that in the event of Termination of this Agreement, the Retention Money

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and the bank guarantees specified in this Clause 7.5 shall be treated as if they are Performance Security and shall be reckoned as such for the purposes of Termination Payment under Clause 23.6.

ARTICLE 8

RIGHT OF WAY

8.1 The Site

The site of the Project Highway (the “**Site**”) shall comprise the site described in Schedule-A in respect of which the Right of Way shall be provided by the Authority to the Contractor. The Authority shall be responsible for:

- (a) acquiring and providing Right of Way on the Site in accordance with the alignment finalised by the Authority, free from all encroachments and encumbrances, and free access thereto for the execution of this Agreement; and
- (b) obtaining licences and permits for environment clearance for the Project Highway.

8.2 Procurement of the Site

- 8.2.1 The Authority Representative and the Contractor shall, within 15 (fifteen) days of the date of this Agreement, inspect the Site and prepare a memorandum containing an inventory of the Site including the vacant and unencumbered land, buildings, structures, road works, trees and any other immovable property on or attached to the Site. Subject to the provisions of Clause 8.2.3, such memorandum shall have appended thereto an appendix (the “**Appendix**”) specifying in reasonable detail those parts of the Site to which vacant access and Right of Way has not been given to the Contractor. Signing of the memorandum, in two counterparts (each of which shall constitute an original), by the authorised representatives of the Parties shall be deemed to constitute a valid evidence of giving the Right of Way to the Contractor for discharging its obligations under and in accordance with the provisions of this Agreement and for no other purpose whatsoever.

Whenever the Authority is ready to hand over any part or parts of the Site included in the Appendix, it shall inform the Contractor, by notice, the proposed date and time such of handing over. The Authority Representative and the Contractor shall, on the date so notified, inspect the specified parts of the Site, and prepare a memorandum containing an inventory of the vacant and unencumbered land, buildings, structures, road works, trees and any other immovable property on or attached to the Site so handed over. Signing of the memorandum, in two counterparts (each of which shall constitute an original), by the authorised representatives of the Parties shall be deemed to constitute a valid evidence of giving the relevant Right of Way to the Contractor.

- 8.2.2 The Authority shall provide the Right of Way to the Contractor in respect of all land included in the Appendix by the date specified in Schedule-A for those parts of the Site referred to therein, or no later than 90 (ninety) days of the Appointed Date for those parts of the Site which have not been specified in Schedule-A, and in the event of delay for any reason other than Force Majeure or breach of this Agreement by the Contractor, it shall pay to the Contractor, Damages in a sum calculated in accordance with Clause 8.3.
- 8.2.3 Notwithstanding anything to the contrary contained in this Clause 8.2, the Authority shall specify the parts of the Site, if any, for which Right of Way shall be provided to the

Contractor on the dates specified in Schedule-A. Such parts shall also be included in the Appendix prepared in pursuance of Clause 8.2.1. For the avoidance of doubt, the Parties expressly agree that the Appendix shall in no event contain sections of the Project Highway the cumulative length of which exceeds 10% (ten per cent) of the total length of the Project Highway.

8.3 Damages for delay in handing over the Site

- 8.3.1 In the event the Right of Way to any part of the Site is not provided by the Authority on or before the date(s) specified in Clause 8.2 for any reason other than Force Majeure or breach of this Agreement by the Contractor, the Authority shall pay Damages to the Contractor in a sum calculated in accordance with the following formula for and in respect of those parts of the Site to which the Right of Way has not been provided:

Amount of Damages in Rs. per day per metre = $0.05 \times C \times 1/L \times 1/N$

Where

C = the Contract Price; L = length of the Project Highway in metres; and

N = Completion period in days (Appointed Date to Scheduled Completion Date)

In the event that any Damages are due and payable to the Contractor under the provisions of this Clause 8.3.1 for delay in providing the Right of Way, the Contractor shall, subject to the provisions of Clause 10.5, be entitled to Time Extension equal to the period for which the Damages have become due and payable under this Clause 8.3.1, save and except that:

- (a) if any delays involve time overlaps, the overlaps shall not be additive; and
- (b) such Time Extension shall be restricted only to the Works which are affected by the delay in providing the Right of Way.

For the avoidance of doubt, the Parties expressly agree that the Damages specified hereunder and the Time Extension specified in Clause 10.5 shall be restricted only to failure of the Authority to provide the Right of Way for and in respect of the width of the roadway, its embankment and a parallel working strip at least 3 (three) metres wide.

- 8.3.2 Notwithstanding anything to the contrary contained in this Agreement, the Contractor expressly agrees that Works on all parts of the Site for which Right of Way is granted within 90 (ninety) days of the Appointed Date, or with respect to the parts of the Site provided in Schedule-A, no later than the date(s) specified therein, as the case may be, shall be completed before the Scheduled Completion Date and shall not qualify for any Time Extension under the provisions of Clause 8.3.1.
- 8.3.3 Notwithstanding anything to the contrary contained in this Agreement, the Authority may at any time withdraw any Works forming part of this Agreement, subject to such Works not exceeding an aggregate value, such value to be determined in accordance with Schedule-H, equal to 10(ten) percent of the Contract Price.

Provided that if any Works cannot be undertaken within the municipal limits of a town or within any area falling in a reserved forest or wildlife sanctuary, as the case may be, because the requisite clearances or approvals for commencing construction of Works therein have not been given within 240 (two hundred and forty) days of the Appointed date, the affected Works shall be deemed to be withdrawn under the provisions of this Clause 8.3.3 unless the Parties agree to the contrary, and such Works shall not be computed for the purposes of the aforesaid ceiling of 10% (ten per cent) hereunder.

- 8.3.4 In the event of withdrawal of Works under Clause 8.3.3, the Contract Price shall be reduced by an amount equal to 90 (ninety) per cent of the value of the Works withdrawn and the Contractor shall not be entitled to any other compensation or Damages for the withdrawal of Works.

Provided that if any Works are withdrawn after commencement of the Construction of such works, the Authority shall pay to the Contractor 110% (one hundred and ten per cent) of the fair value of the work done, as assessed by the Authority's Engineer:

8.4 Site to be free from Encumbrances

Subject to the provisions of Clause 8.2, the Site shall be made available by the Authority to the Contractor pursuant hereto free from all Encumbrances and occupations and without the Contractor being required to make any payment to the Authority on account of any costs, compensation, expenses and charges for the acquisition and use of such Site for the duration of the Project Completion Schedule. For the avoidance of doubt, it is agreed that the existing rights of way, easements, privileges, liberties and appurtenances to the Site shall not be deemed to be Encumbrances. It is further agreed that, unless otherwise specified in this Agreement, the Contractor accepts and undertakes to bear any and all risks arising out of the inadequacy or physical condition of the Site.

8.5 Protection of Site from encroachments

On and after signing the memorandum and/or subsequent memorandum referred to in Clause 8.2.1, and until the issue of the Completion Certificate, the Contractor shall maintain a round-the-clock vigil over the Site and shall ensure and procure that no encroachment thereon takes place. During the Construction Period, the Contractor shall protect the Site from any and all occupations, encroachments or Encumbrances, and shall not place or create nor permit any Sub-contractor or other person claiming through or under the Agreement to place or create any Encumbrance or security threat over all or any part of the Site or the Project Assets, or on any rights of the Contractor therein or under this Agreement, save and except as otherwise expressly set forth in this Agreement. In the event of any encroachment or occupation on any part of the Site, the Contractor shall report such encroachment or occupation forthwith to the Authority and undertake its removal at its own cost and expenses.

8.6 Special/temporary Right of Way

The Contractor shall bear all costs and charges for any special or temporary right of way required by it in connection with access to the Site. The Contractor shall obtain at its cost such facilities on or outside the Site as may be required by it for the purposes of the Project

Highway and the performance of its obligations under this Agreement.

8.7 Access to the Authority and the Authority's Engineer

- 8.7.1 The Right of Way given to the Contractor hereunder shall always be subject to the right of access of the Authority and the Authority's Engineer and their employees and agents for inspection, viewing and exercise of their rights and performance of their obligations under this Agreement.
- 8.7.2 The Contractor shall ensure, subject to all relevant safety procedures, that the Authority has un-restricted access to the Site during any emergency situation, as decided by the Authority's Engineer.

8.8 Geological and archaeological finds

It is expressly agreed that mining, geological or archaeological rights do not form part of this Agreement with the Contractor for the Works, and the Contractor hereby acknowledges that it shall not have any mining rights or interest in the underlying minerals, fossils, antiquities, structures or other remnants or things either of particular geological or archaeological interest and that such rights, interest and property on or under the Site shall vest in and belong to the Authority or the concerned Government Instrumentality. The Contractor shall take all reasonable precautions to prevent its workmen or any other person from removing or damaging such interest or property and shall inform the Authority forthwith of the discovery thereof and comply with such instructions as the concerned Government Instrumentality may reasonably give for the removal of such property. For the avoidance of doubt, it is agreed that any reasonable expenses incurred by the Contractor hereunder shall be reimbursed by the Authority. It is also agreed that the Authority shall procure that the instructions hereunder are issued by the concerned Government Instrumentality within a reasonable period.

ARTICLE 9

UTILITIES AND TREES

9.1 Existing utilities and roads

Notwithstanding anything to the contrary contained herein, the Contractor shall ensure that the respective entities owning the existing roads, right of way, level crossings, structures, or utilities on, under or above the Site are enabled by it to keep them in continuous satisfactory use, if necessary, by providing suitable temporary diversions with the authority of the controlling body of that road, right of way or utility.

9.2 Shifting of obstructing utilities

The Contractor shall, in accordance with Applicable Laws and with assistance of the Authority, cause shifting of any utility (including electric lines, water pipes and telephone cables) to an appropriate location or alignment, if such utility or obstruction adversely affects the execution of Works or Maintenance of the Project Highway in accordance with this Agreement. The actual cost of such shifting, as approved and communicated by the entity owning the utility, shall be paid by the Contractor and reimbursed by the Authority to the Contractor. In the event of any delay in such shifting by the entity owning the utility beyond a period of 180 (one hundred and eighty) days from the date of notice by the Contractor to the entity owning the utility and to the Authority, the Contractor shall be entitled to Damages in a sum calculated in accordance with the formula specified in Clause 8.3.1 for the period of delay, and to Time Extension in accordance with Clause 10.5 for and in respect of the part(s) of the Works affected by such delay; provided that if the delays involve any time overlaps, the overlaps shall not be additive.

9.3 New utilities

- 9.3.1 The Contractor shall allow, subject to such conditions as the Authority may specify, access to, and use of the Site for laying telephone lines, water pipes, electric cables or other public utilities. Where such access or use causes any financial loss to the Contractor, it may require the user of the Site to pay compensation or damages as per Applicable Laws. For the avoidance of doubt, it is agreed that use of the Site under this Clause 9.3 shall not in any manner relieve the Contractor of its obligation to construct and maintain the Project Highway in accordance with this Agreement and any damage caused by such use shall be restored forthwith at the cost of the Authority.
- 9.3.2 The Authority may, by notice, require the Contractor to connect any adjoining road to the Project Highway, and the connecting portion thereof falling within the Site shall be constructed by the Contractor at the Authority's cost in accordance with Article 10.
- 9.3.3 The Authority may by notice require the Contractor to connect, through a paved road, any adjoining service station, hotel, motel or any other public facility or amenity to the Project Highway, whereupon the connecting portion thereof that falls within the Site shall be constructed by the Contractor on payment of the cost. The cost to be paid by the Authority to the Contractor shall be determined by the Authority's Engineer. For the avoidance of doubt, in the event such road is to be constructed for the benefit of any entity, the Authority

may require such entity to make an advance deposit with the Contractor or the Authority, as the case may be, of an amount equal to the estimated cost as determined by the Authority's Engineer and such advance shall be adjusted against the cost of construction as determined by the Authority's Engineer hereunder.

- 9.3.4 In the event the construction of any Works is affected by a new utility or works undertaken in accordance with this Clause 9.3, the Contractor shall be entitled to a reasonable Time Extension as determined by the Authority's Engineer.

9.4 Felling of trees

The Authority shall assist the Contractor in obtaining the Applicable Permits for felling of trees to be identified by the Authority for this purpose if and only if such trees cause a Material Adverse Effect on the construction or maintenance of the Project Highway. The cost of such felling shall be borne by the Authority and in the event of any delay in felling thereof for reasons beyond the control of the Contractor; it shall be excused for failure to perform any of its obligations hereunder if such failure is a direct consequence of delay in the felling of trees. The Parties hereto agree that the felled trees shall be deemed to be owned by the Authority and shall be disposed in such manner and subject to such conditions as the Authority may in its sole discretion deem appropriate. For the avoidance of doubt, the Parties agree that if any felling of trees hereunder is in a forest area, the Applicable Permit thereof shall be procured by the Authority within the time specified in the Agreement.

ARTICLE 10
DESIGN AND CONSTRUCTION OF THE PROJECT HIGHWAY

10.1 Obligations prior to commencement of Works

10.1.1 Within 20 (twenty) days of the Appointed Date, the Contractor shall:

- (a) appoint its representative, duly authorised to deal with the Authority in respect of all matters under or arising out of or relating to this Agreement;
- (b) appoint a design director (the “**Design Director**”) who will head the Contractor’s design unit and shall be responsible for surveys, investigations, collection of data, and preparation of preliminary and detailed designs;
- (c) undertake and perform all such acts, deeds and things as may be necessary or required before commencement of Works under and in accordance with this Agreement, the Applicable Laws and Applicable Permits; and
- (d) make its own arrangements for quarrying of materials needed for the Project Highway under and in accordance with the Applicable Laws and Applicable Permits.

10.1.2 The Authority shall, within 15 (fifteen) days of the date of this Agreement, appoint an engineer (the “**Authority’s Engineer**”) to discharge the functions and duties specified in this Agreement, and shall notify to the Contractor the name, address and the date of appointment of the Authority’s Engineer forthwith.

10.1.3 Within 30 (thirty) days of the Appointed Date, the Contractor shall submit to the Authority and the Authority’s Engineer a programme (the “**Programme**”) for the Works, developed using networking techniques giving the following details:

Part I Contractor’s organisation for the Project, the general methods and arrangements for design and construction, environmental management plan, Quality Assurance Plan including design quality plan, traffic management and safety plan covering safety of users and workers during construction, Contractor’s key personnel and equipment.

Part II Programme for completion of all stages of construction given in Schedule-H and Project Milestones of the Works as specified in Project Completion Schedule set forth in Schedule-J. The Programme shall include:

- (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of design and stages of Works;
- (b) the periods for reviews under Clause 10.2;
- (c) the sequence and timing of inspections and tests specified in this Agreement.

The Contractor shall submit a revised programme whenever the previous programme is

inconsistent with the actual progress or with the Contractor's obligations.

Part III Monthly cash flow forecast.

- 10.1.4 The Contractor shall compute, on the basis of the Drawings prepared in accordance with Clause 10.2.4, and provide to the Authority's Engineer, the length, area and numbers, as the case may be, in respect of the various items of work specified in Schedule-H and comprising the Scope of the Project. The Parties expressly agree that these details shall form the basis for estimating the interim payments for the Works in accordance with the provisions of Clause 19.3. For the avoidance of doubt, the sum of payments to be computed in respect of all the items of work shall not exceed the Contract Price, as may be adjusted in accordance with the provisions of this Agreement.
- 10.1.5 The Contractor shall appoint a safety consultant (the "**Safety Consultant**") to carry out safety audit at the design stage of the Project Highway in accordance with the Applicable Laws and Good Industry Practice. The Safety Consultant shall be appointed after proposing to the Authority a panel of three names of qualified and experienced firms from whom the Authority may choose one to be the Safety Consultant. Provided, however, that if the panel is not acceptable to the Authority and the reasons for the same are furnished to the Contractor, the Contractor shall propose to the Authority a revised panel of three names from the firms empanelled as safety consultants by the Ministry of Road Transport and Highways/National Highways and Infrastructure Development Corporation Ltd. for obtaining the consent of the Authority. The Contractor shall also obtain the consent of the Authority for the key personnel of the Safety Consultant who shall have adequate experience and qualifications in safety audit of the highway projects. The Authority shall, within 15 (fifteen) days of receiving a proposal from the Contractor hereunder, convey its decision, with reasons, to the Contractor, and if no such decision is conveyed within the said period, the Contractor may proceed with engaging of the Safety Consultant.
- 10.1.6 The safety audit pursuant to Clause 10.1.5 shall be carried out by the Safety Consultant in respect of all such design details that have a bearing on safety of Users as well as pedestrians and animals involved in or associated with accidents. The recommendations of the Safety Consultant shall be incorporated in the design of the Project Highway and the Contractor shall forward to the Authority's Engineer a certificate to this effect together with the recommendations of the Safety Consultant. In the event that any works required by the Safety Consultant shall fall beyond the scope of Schedule-B, Schedule-C or Schedule-D, the Contractor shall make a report thereon and seek the instructions of the Authority for Change in Scope. For the avoidance of doubt, the Safety Consultant to be engaged by the Contractor shall be independent of the design and implementation team of the Contractor.

10.2 Design and Drawings

- 10.2.1 Design and Drawings shall be developed in conformity with the Specifications and Standards set forth in Schedule-D. In the event, the Contractor requires any relaxation in design standards due to restricted Right of Way in any section, the alternative design criteria for such section shall be provided for review of the Authority's Engineer.
- 10.2.2 The Contractor shall appoint a proof check consultant (the "**Proof Consultant**") after proposing to the Authority a panel of three names of qualified and experienced firms from

whom the Authority may choose one to be the Proof Consultant. Provided, however, that if the panel is not acceptable to the Authority and the reasons for the same are furnished to the Contractor, the Contractor shall propose to the Authority a revised panel of three names from the firms empanelled as proof consultants by the Ministry of Road Transport and Highways/National Highways and Infrastructure Development Corporation Ltd. for obtaining the consent of the Authority. The Contractor shall also obtain the consent of the Authority for two key personnel of the Proof Consultant who shall have adequate experience and qualifications in highways and bridges respectively. The Authority shall, within 15 (fifteen) days of receiving a proposal from the Contractor hereunder, convey its decision, with reasons, to the Contractor, and if no such decision is conveyed within the said period, the Contractor may proceed with engaging of the Proof Consultant.

10.2.3 The Proof Consultant shall:

- (a) evolve a systems approach with the Design Director so as to minimise the time required for final designs and construction drawings; and
- (b) proof check the detailed calculations, drawings and designs, which have been approved by the Design Director.

10.2.4 In respect of the Contractor's obligations with respect to the design and Drawings of the Project Highway as set forth in Schedule-I, the following shall apply:

- (a) The Contractor shall prepare and submit, with reasonable promptness and in such sequence as is consistent with the Project Completion Schedule, three copies each of the design and Drawings, duly certified by the Proof Consultant, to the Authority's Engineer for review. Provided, however, that in respect of Major Bridges and Structures, the Authority's Engineer may require additional drawings for its review in accordance with Good Industry Practice.
- (b) by submitting the Drawings for review to the Authority's Engineer, the Contractor shall be deemed to have represented that it has determined and verified that the design and engineering, including field construction criteria related thereto, are in conformity with the Scope of the Project, the Specifications and Standards and the Applicable Laws;
- (c) within 15 (fifteen) days of the receipt of the Drawings, the Authority's Engineer shall review the same and convey its observations to the Contractor with particular reference to their conformity or otherwise with the Scope of the Project and the Specifications and Standards. The Contractor shall not be obliged to await the observations of the Authority's Engineer on the Drawings submitted pursuant hereto beyond the said period of 15 (fifteen) days and may begin or continue Works at its own discretion and risk; Provided, however that in case of a Major Bridge or Structure, the aforesaid period of 15 (fifteen) days may be extended upto 30 (thirty) days;
- (d) if the aforesaid observations of the Authority's Engineer indicate that the Drawings are not in conformity with the Scope of the Project or the Specifications and Standards, such Drawings shall be revised by the Contractor in conformity with the

provisions of this Agreement and resubmitted to the Authority's Engineer for review. The Authority's Engineer shall give its observations, if any, within 10 (ten) days of receipt of the revised Drawings. In the event the Contractor fails to revise and resubmit such Drawings to the Authority's Engineer for review as aforesaid, the Authority's Engineer may withhold the payment for the affected works in accordance with the provisions of Clause 19.5.4. If the Contractor disputes any decision, direction or determination of the Authority's Engineer hereunder, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure;

- (e) no review and/or observation of the Authority's Engineer and/or its failure to review and/or convey its observations on any Drawings shall relieve the Contractor of its obligations and liabilities under this Agreement in any manner nor shall the Authority's Engineer or the Authority be liable for the same in any manner; and if errors, omissions, ambiguities, inconsistencies, inadequacies or other Defects are found in the Drawings, they and the construction works shall be corrected at the Contractor's cost, notwithstanding any review under this Article 10;
- (f) the Contractor shall be responsible for delays in submitting the Drawing as set forth in Schedule-I caused by reason of delays in surveys and field investigations, and shall not be entitled to seek any relief in that regard from the Authority; and
- (g) the Contractor warrants that its designers, including any third parties engaged by it, shall have the required experience and capability in accordance with Good Industry Practice and it shall indemnify the Authority against any damage, expense, liability, loss or claim, which the Authority might incur, sustain or be subject to arising from any breach of the Contractor's design responsibility and/or warranty set out in this Clause.

10.2.5 Any cost or delay in construction arising from review by the Authority's Engineer shall be borne by the Contractor.

10.2.6 Works shall be executed in accordance with the Drawings provided by the Contractor in accordance with the provisions of this Clause 10.2 and the observations of the Authority's Engineer thereon as communicated pursuant to the provisions of Clause 10.2.4 (d). Such Drawings shall not be amended or altered without prior written notice to the Authority's Engineer. If a Party becomes aware of an error or defect of a technical nature in the design or Drawings, that Party shall promptly give notice to the other Party of such error or defect.

10.2.7 Within 90 (ninety) days of the Project Completion Date, the Contractor shall furnish to the Authority and the Authority's Engineer a complete set of as-built Drawings, in 2 (two) hard copies and in micro film form or in such other medium as may be acceptable to the Authority, reflecting the Project Highway as actually designed, engineered and constructed, including an as-built survey illustrating the layout of the Project Highway and setback lines, if any, of the buildings and structures forming part of Project Facilities.

10.3 Construction of the Project Highway

10.3.1 The Contractor shall construct the Project Highway as specified in Schedule-B and Schedule-C, and in conformity with the Specifications and Standards set forth in Schedule-

D. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works. The 1095th (One thousand ninety fifth) day from the Appointed Date shall be the scheduled completion date (the “**Scheduled Completion Date**”) and the Contractor agrees and undertakes that the construction shall be completed on or before the Scheduled Completion Date, including any extension thereof.

- 10.3.2 The Contractor shall construct the Project Highway in accordance with the Project Completion Schedule set forth in Schedule-J. In the event that the Contractor fails to achieve any Project Milestone or the Scheduled Completion Date within a period of 30 (thirty) days from the date set forth in Schedule-J, unless such failure has occurred due to Force Majeure or for reasons solely attributable to the Authority, it shall pay Damages to the Authority of a sum calculated at the rate of 0.05% (zero point zero five percent) of the Contract Price for delay of each day reckoned from the date specified in Schedule –J and until such Project Milestone is achieved or the Works are completed; provided that if the period for any or all Project Milestones or the Scheduled Completion Date is extended in accordance with the provisions of this Agreement, the dates set forth in Schedule-J shall be deemed to be modified accordingly and the provisions of this Agreement shall apply as if Schedule-J has been amended as above; provided further that in the event the Works are completed within or before the Scheduled Completion Date including any Time Extension, applicable for that work or section, the Damages paid under this Clause 10.3.2 shall be refunded by the Authority to the Contractor, but without any interest thereon. For the avoidance of doubt, it is agreed that recovery of Damages under this Clause 10.3.2 shall be without prejudice to the rights of the Authority under this Agreement including the right of Termination thereof. The Parties further agree that Time Extension hereunder shall only be reckoned for and in respect of the affected works as specified in Clause 10.5.2.
- 10.3.3 The Authority shall notify the Contractor of its decision to impose Damages in pursuance with the provisions of this Clause 10.3. provided that no deduction on account of Damages shall be effected by the Authority without notifying the Contractor of its decision to impose the Damages, and taking into consideration the representation, if any, made by the Contractor within 20 (twenty) days of such notice. The Parties expressly agree that the total amount of Damages under Clause 10.3.2 shall not exceed 10% (ten percent) of the Contract Price.

10.4 Maintenance during Construction Period

During the Construction Period, the Contractor shall maintain, at its cost, the existing lane(s) of the Project Highway so that the traffic worthiness and safety thereof are at no time materially inferior as compared to their condition 10 (ten) days prior to the date of this Agreement, and shall undertake the necessary repair and maintenance works for this purpose; provided that the Contractor may, at its cost, interrupt and divert the flow of traffic if such interruption and diversion is necessary for the efficient progress of Works and conforms to Good Industry Practice; provided further that such interruption and diversion shall be undertaken by the Contractor only with the prior written approval of the Authority’s Engineer which approval shall not be unreasonably withheld. For the avoidance of doubt, it is agreed that the Contractor shall at all times be responsible for ensuring safe operation of the Project Highway. It is further agreed that in the event the Project includes construction

of a bypass and realignment of the existing carriageway, the Contractor shall maintain the existing highway in such sections until the new Works are open to traffic.

10.5 Extension of time for completion

10.5.1 Without prejudice to any other provision of this Agreement for and in respect of extension of time, the Contractor shall be entitled to extension of time in the Project Completion Schedule (the “**Time Extension**”) to the extent that completion of any Project Milestone is or will be delayed by any of the following, namely:

- (a) delay in providing the Right of Way, environmental clearances or approval of railway authorities, specified in Clause 4.1.4;
- (b) Change of Scope (unless an adjustment to the Scheduled Completion Date has been agreed under Article 13);
- (c) occurrence of a Force Majeure Event;
- (d) any delay, impediment or prevention caused by or attributable to the Authority, the Authority's personnel or the Authority's other contractors on the Site; and
- (e) any other cause or delay which entitles the Contractor to Time Extension in accordance with the provisions of this Agreement.

10.5.2 The Contractor shall, no later than 15 (fifteen) business days from the occurrence of an event or circumstance specified in Clause 10.5.1, inform the Authority’s Engineer by notice in writing, with a copy to the Authority, stating in reasonable detail with supporting particulars, the event or circumstances giving rise to the claim for Time Extension in accordance with the provisions of this Agreement. Provided that the period of 15 (fifteen) business days shall be calculated from the date on which the Contractor became aware, or should have become aware, of the occurrence of such an event or circumstance.

Provided further that notwithstanding anything to the contrary contained in this Agreement, Time Extension shall be due and applicable only for the Works which are affected by the aforesaid events or circumstances and shall not in any manner affect the Project Completion Schedule for and in respect of the Works which are not affected hereunder.

10.5.3 In the event of the failure of the Contractor to issue to the Authority’s Engineer a notice in accordance with the provisions of Clause 10.5.2 within the time specified therein, the Contractor shall not be entitled to any Time Extension and shall forfeit its right for any such claims in future. For the avoidance of doubt, in the event of failure of the Contractor to issue notice as specified in this clause 10.5.3, the Authority shall be discharged from all liability in connection with the claim.

10.5.4 The Authority’s Engineer shall, on receipt of the claim in accordance with the provisions of Clause 10.5.2, examine the claim expeditiously within the time frame specified herein. In the event the Authority’s Engineer requires any clarifications to examine the claim, the Authority’s Engineer shall seek the same within 15 (fifteen) days from the date of receiving the claim. The Contractor shall, on receipt of the communication of the Authority’s

Engineer requesting for clarification, furnish the same to the Authority's Engineer within 10 (ten) days thereof. The Authority's Engineer shall, within a period of 60 (sixty) days from the date of receipt of such clarifications, forward in writing to the Contractor its determination of Time Extension.

Provided that when determining each extension of time under this Clause 10.5, the Authority's Engineer shall review previous determinations and may increase, but shall not decrease, the total Time Extension.

10.5.5 If the event or circumstance giving rise to the notice has a continuing effect:

- (a) a fully detailed claim shall be considered as interim;
- (b) the Contractor shall, no later than 10 (ten) days after the close of each month, send further interim claims specifying the accumulated delay, the extension of time claimed, and such further particulars as the Authority's Engineer may reasonably require; and
- (c) the Contractor shall send a final claim within 30 (thirty) days after the effect of the event or the circumstance ceases.

Upon receipt of the claim hereunder, the Authority's Engineer shall examine the same in accordance with the provisions of Clause 10.5.4 within a period of 60 (sixty) days of the receipt thereof.

10.6 Incomplete Works

In the event the Contractor fails to complete the Works in accordance with the Project Completion Schedule, including any Time Extension granted under this Agreement, the Contractor shall endeavour to complete the balance work expeditiously and shall pay Damages to the Authority in accordance with the provisions of Clause 10.3.2 for delay of each day until the Works are completed in accordance with the provisions of this Agreement. Recovery of Damages under this Clause shall be without prejudice to the rights of the Authority under this Agreement including the right to termination under Clause 23.1.

10.7 Maintenance Manual

No later than 60 (sixty) days prior to the Project Completion Date, the Contractor shall, in consultation with the Authority's Engineer, evolve a maintenance manual (the **"Maintenance Manual"**) for the regular and preventive maintenance of the Project Highway in conformity with the Specifications and Standards, safety requirements and Good Industry Practice, and shall provide 5 (five) copies thereof to the Authority's Engineer. The Authority's Engineer shall review the Maintenance Manual within 15 (fifteen) days of its receipt and communicate its comments to the Contractor for necessary modifications, if any.

ARTICLE 11

QUALITY ASSURANCE, MONITORING AND SUPERVISION

11.1 Quality of Materials and workmanship

The Contractor shall ensure that the Construction, Materials and workmanship are in accordance with the requirements specified in this Agreement, Specifications and Standards and Good Industry Practice.

11.2 Quality control system

11.2.1 The Contractor shall establish a quality control mechanism to ensure compliance with the provisions of this Agreement (the “**Quality Assurance Plan**” or “**QAP**”).

11.2.2 The Contractor shall, within 30 (thirty) days of the Appointed Date, submit to the Authority’s Engineer its Quality Assurance Plan which shall include the following:

- (a) organisation, duties and responsibilities, procedures, inspections and documentation;
- (b) quality control mechanism including sampling and testing of Materials, test frequencies, standards, acceptance criteria, testing facilities, reporting, recording and interpretation of test results, approvals, check list for site activities, and proforma for testing and calibration in accordance with the Specifications for Road and Bridge Works issued by MORTH, relevant IRC specifications and Good Industry Practice; and
- (c) internal quality audit system.

The Authority’s Engineer shall convey its comments to the Contractor within a period of 21 (twenty-one) days of receipt of the QAP stating the modifications, if any, required, and the Contractor shall incorporate those in the QAP to the extent required for conforming with the provisions of this Clause 11.2.

11.2.3 The Contractor shall procure all documents, apparatus and instruments, fuel, consumables, water, electricity, labour, Materials, samples, and qualified personnel as are necessary for examining and testing the Project Assets and workmanship in accordance with the Quality Assurance Plan.

11.2.4 The cost of testing of Construction, Materials and workmanship under this Article 11 shall be borne by the Contractor.

11.3. Methodology

The Contractor shall, at least 15 (fifteen) days prior to the commencement of the construction, submit to the Authority’s Engineer for review the methodology proposed to be adopted for executing the Works, giving details of equipment to be deployed, traffic management and measures for ensuring safety. The Authority’s Engineer shall complete the review and convey its comments to the Contractor within a period of 10 (ten) days from the

date of receipt of the proposed methodology from the Contractor.

11.4. Inspection and technical audit by the Authority

The Authority or any representative authorised by the Authority in this behalf may inspect and review the progress and quality of the construction of Project Highway and issue appropriate directions to the Authority's Engineer and the Contractor for taking remedial action in the event the Works are not in accordance with the provisions of this Agreement.

11.5 External technical audit

At any time during construction, the Authority may appoint an external technical auditor to conduct an audit of the quality of the Works. The findings of the audit, to the extent accepted by the Authority, shall be notified to the Contractor and the Authority's Engineer for taking remedial action in accordance with this Agreement. The Contractor shall provide all assistance as may be required by the auditor in the conduct of its audit hereunder. Notwithstanding anything contained in this Clause 11.5, the external technical audit shall not affect any obligations of the Contractor or the Authority's Engineer under this Agreement.

11.6 Inspection of construction records

The Authority shall have the right to inspect the records of the Contractor relating to the Works.

11.7 Monthly progress reports

During the Construction Period, the Contractor shall, no later than 10 (ten) days after the close of each month, furnish to the Authority and the Authority's Engineer a monthly report on progress of the Works and shall promptly give such other relevant information as may be required by the Authority's Engineer.

11.8 Inspection

11.8.1 The Authority's Engineer and its authorised representative shall at all reasonable times:

- (a) have full access to all parts of the Site and to all places from which natural Materials are being obtained for use in the Works; and
- (b) during production, manufacture and construction at the Site and at the place of production, be entitled to examine, inspect, measure and test the Materials and workmanship, and to check the progress of manufacture of Materials.

11.8.2 The Contractor shall give the Authority's Engineer and its authorised agents access, facilities and safety equipment for carrying out their obligations under this Agreement.

11.8.3 The Authority's Engineer shall submit a monthly inspection report (the "**Inspection Report**") to the Authority and the Contractor bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. For the avoidance of doubt, such inspection or submission of Inspection Report by the Authority's

Engineer shall not relieve or absolve the Contractor of its obligations and liabilities under this Agreement in any manner whatsoever.

11.9 Samples

The Contractor shall submit the following samples of Materials and relevant information to the Authority's Engineer for pre-construction review:

- (a) manufacturer's test reports and standard samples of manufactured Materials; and
- (b) samples of such other Materials as the Authority's Engineer may require.

11.10 Tests

11.10.1 For determining that the Works conform to the Specifications and Standards, the Authority's Engineer shall require the Contractor to carry out or cause to be carried out tests, at such time and frequency and in such manner as specified in this Agreement, and in accordance with Good Industry Practice for quality assurance. The test checks by the Authority's Engineer shall comprise at least 20 (twenty) percent of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.

11.10.2 In the event that results of any tests conducted under this Clause 11.10 establish any Defects or deficiencies in the Works, the Contractor shall carry out remedial measures and furnish a report to the Authority's Engineer in this behalf. The Authority's Engineer shall require the Contractor to carry out or cause to be carried out tests to determine that such remedial measures have brought the Works into compliance with the Specifications and Standards, and the procedure shall be repeated until such Works conform to the Specifications and Standards. For the avoidance of doubt, the cost of such tests and remedial measures in pursuance thereof shall be solely borne by the Contractor.

11.11 Examination of work before covering up

In respect of the work which the Authority's Engineer is entitled to examine, inspect, measure and/or test before it is covered up or put out of view or any part of the work is placed thereon, the Contractor shall give notice to the Authority's Engineer whenever any such work is ready and before it is covered up. The Authority's Engineer shall then either carry out the examination, inspection or testing without unreasonable delay, or promptly give notice to the Contractor that the Authority's Engineer does not require to do so. Provided, however, that if any work is of a continuous nature where it is not possible or prudent to keep it uncovered or incomplete, the Contractor shall notify the schedule of carrying out such work to give sufficient opportunity, not being less than 3 (three) business days' notice, to the Authority's Engineer to conduct its inspection, measurement or test while the work is continuing. Provided further that in the event the Contractor receives no response from the Authority's Engineer within a period of 3 (three) business days from the date on which the Contractor's notice hereunder is delivered to the Authority's Engineer, the Contractor shall be entitled to assume that the Authority's Engineer would not undertake the said inspection.

11.12 Rejection

If, as a result of an examination, inspection, measurement or testing, any Plant, Materials, design or workmanship is found to be defective or otherwise not in accordance with the provisions of this Agreement, the Authority's Engineer shall reject the Plant, Materials, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the Defect and ensure that the rejected item complies with the requirements of this Agreement.

If the Authority's Engineer requires the Plant, Materials, design or workmanship to be retested, the tests shall be repeated under the same terms and conditions, as applicable in each case. If the rejection and retesting cause the Authority to incur any additional costs, such cost shall be recoverable by the Authority from the Contractor; and may be deducted by the Authority from any monies due to be paid to the Contractor.

11.13 Remedial work

11.13.1 Notwithstanding any previous test or certification, the Authority's Engineer may instruct the Contractor to:

- (a) remove from the Site and replace any Plant or Materials which are not in accordance with the provisions of this Agreement;
- (b) remove and re-execute any work which is not in accordance with the provisions of this Agreement and the Specification and Standards; and
- (c) execute any work which is urgently required for the safety of the Project Highway, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 21.6 shall apply.

11.13.2 If the Contractor fails to comply with the instructions issued by the Authority's Engineer under Clause 11.13.1, within the time specified in the Authority's Engineer's notice or as mutually agreed, the Authority's Engineer may advise the Authority to have the work executed by another agency. The cost so incurred by the Authority for undertaking such work shall, without prejudice to the rights of the Authority to recover Damages in accordance with the provisions of this Agreement, be recoverable from the Contractor and may be deducted by the Authority from any monies due to be paid to the Contractor.

11.14 Delays during construction

Without prejudice to the provisions of Clause 10.3.2, in the event the Contractor does not achieve any of the Project Milestones or the Authority's Engineer shall have reasonably determined that the rate of progress of Works is such that Completion of the Project Highway is not likely to be achieved by the end of the Scheduled Completion Date, it shall notify the same to the Contractor, and the Contractor shall, within 15 (fifteen) days of such notice, by a communication inform the Authority's Engineer in reasonable detail about the steps it proposes to take to expedite progress and the period within which it shall achieve the Project Completion Date.

11.15 Quality control records and Documents

The Contractor shall hand over to the Authority's Engineer a copy of all its quality control records and documents before the Completion Certificate is issued pursuant to Clause 12.2.

11.16 Video recording

During the Construction Period, the Contractor shall provide to the Authority for every calendar quarter, a video recording, which will be compiled into a 3 (three)-hour compact disc or digital video disc, as the case may be, covering the status and progress of Works in that quarter. The video recording shall be provided to the Authority no later than 15 (fifteen) days after the close of each quarter after the Appointed Date.

11.17 Suspension of unsafe Construction Works

- 11.17.1 Upon recommendation of the Authority's Engineer to this effect, the Authority may by notice require the Contractor to suspend forthwith the whole or any part of the Works if, in the reasonable opinion of the Authority's Engineer, such work threatens the safety of the Users and pedestrians.
- 11.17.2 The Contractor shall, pursuant to the notice under Clause 11.17.1, suspend the Works or any part thereof for such time and in such manner as may be specified by the Authority and thereupon carry out remedial measures to secure the safety of suspended works, the Users and pedestrians. The Contractor may by notice require the Authority's Engineer to inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked. Upon receiving the recommendations of the Authority's Engineer, the Authority shall either revoke such suspension or instruct the Contractor to carry out such other and further remedial measures as may be necessary in the reasonable opinion of the Authority, and the procedure set forth in this Clause 11.17 shall be repeated until the suspension hereunder is revoked.
- 11.17.3 Subject to the provisions of Clause 21.6, all reasonable costs incurred for maintaining and protecting the Works or part thereof during the period of suspension (the "**Preservation Costs**"), shall be borne by the Contractor; provided that if the suspension has occurred as a result of any breach of this Agreement by the Authority, the Preservation Costs shall be borne by the Authority.
- 11.17.4 If suspension of Works is for reasons not attributable to the Contractor, the Authority's Engineer shall determine any Time Extension to which the Contractor is reasonably entitled.

ARTICLE 12

COMPLETION CERTIFICATE

12.1 Tests on completion

- 12.1.1 At least 30 (thirty) days prior to the likely completion of the Project Highway, or a Section thereof, the Contractor shall notify the Authority's Engineer of its intent to subject the Project Highway or a Section thereof, to Tests. The date and time of each of the Tests shall be determined by the Authority's Engineer in consultation with the Contractor, and notified to the Authority who may designate its representative to witness the Tests. The Contractor shall either conduct the Tests as directed by the Authority's Engineer or provide such assistance as the Authority's Engineer may reasonably require for conducting the Tests. In the event of the Contractor and the Authority's Engineer failing to mutually agree on the dates for conducting the Tests, the Contractor shall fix the dates by giving not less than 10 (ten) days notice to the Authority's Engineer.
- 12.1.2 All Tests shall be conducted in accordance with Schedule-K. The Authority's Engineer shall either conduct or observe, monitor and review the Tests conducted by the Contractor, as the case may be, and review the results of the Tests to determine compliance of the Project Highway or a Section thereof, with Specifications and Standards and if it is reasonably anticipated or determined by the Authority's Engineer during the course of any Test that the performance of the Project Highway or Section or any part thereof, does not meet the Specifications and Standards, it shall have the right to suspend or delay such Test and require the Contractor to remedy and rectify the Defect or deficiencies. Upon completion of each Test, the Authority's Engineer shall provide to the Contractor and the Authority copies of all Test data including detailed Test results. For the avoidance of doubt, it is expressly agreed that the Authority's Engineer may require the Contractor to carry out or cause to be carried out additional Tests, in accordance with Good Industry Practice, for determining the compliance of the Project Highway or Section thereof with the Specifications and Standards.

12.2 Provisional Certificate

- 12.2.1 Subject to the provisions of Clause 12.2.5, upon completion of all Works forming part of the Project Highway, save and except the Works for which Time Extension has been granted under Clause 10.5, the Authority's Engineer shall, at the request of the Contractor, issue a provisional certificate of completion substantially in the form set forth in Schedule-L (the "**Provisional Certificate**") if the Tests for and in respect of the completed Works are successful. The Provisional Certificate shall have appended thereto a list of outstanding items of work (the "**Punch List**") that need to be completed in accordance with the provisions of this Agreement. The Contractor undertakes to complete the minor outstanding items of works in respect of those Sections of the Project Highway for which the Provisional Certificate has been issued, within a period of 30 (thirty) days of the date of Provisional Certificate, and those parts of the Works in respect of which Time Extension has been granted, within the extended period thereof. For the avoidance of doubt, the Parties agree that the Punch List shall include all Works for which Time Extension has been granted and shall also include any minor outstanding items of work forming part of the completed

Sections if such works do not materially affect the use of the completed Sections for their intended purpose. The Parties further agree that Provisional Certificate shall not be issued if the completed Works can not be safely and reliably placed in service of the Users thereof.

- 12.2.2 Upon issue of Provisional Certificate, the provisions of Articles 14 and 17 shall apply to the completed parts of the Project Highway and the property and ownership of all such completed Works shall vest in the Authority.
- 12.2.3 If the Authority's Engineer determines that the Project Highway or any completed part thereof does not conform to the provisions of this Agreement and cannot be safely and reliably placed in operation, it shall forthwith make a report in this behalf and send copies thereof to the Authority and the Contractor and withhold issuance of the Provisional Certificate until the Defects or deficiencies are rectified by the Contractor and Tests are successful in accordance with this Article 12.
- 12.2.4 Notwithstanding anything to the contrary contained in Clause 12.2.3, the Authority may, at any time after receiving a report from the Authority's Engineer under that Clause, direct the Authority's Engineer to issue a Provisional Certificate under Clause 12.2.1 and such direction shall be complied forthwith.
- 12.2.5 No Provisional Certificate shall be issued under the provisions of this Clause 12.2 until the Contractor has submitted valid claims for payment of at least 80% (eighty per cent) of the amount arrived at after reducing the lump sum price specified in Clause 19.1.1 by the amount attributable to works which have been withdrawn under the provisions of Clause 8.3.3. For the avoidance of doubt and by way of illustration, the Parties agree that if the Contract Price specified in Clause 19.1.1 is Rs. 105 Cr. (Rs. One Hundred And Five Crore) and the works withdrawn under Clause 8.3.3 have a value of Rs. 5 Cr. (Rs. Five Crore), a Provisional Certificate shall not be issued until valid claims for payment of an amount of Rs. 80 Cr. (Rs. Eighty Crore) have been submitted by the Contractor in accordance with the provisions of this Agreement. It is further agreed that all price adjustments made in pursuance of Clause 19.10 shall not be reckoned for computation of the claims for payments referred to in this Clause 12.2.5.

12.3 Completion of remaining Works

All items in the Punch List shall be completed by the Contractor in accordance with the provisions of this Agreement. For any delay in their completion other than for the reasons solely attributable to the Authority or due to Force Majeure, the Authority shall be entitled to recover Damages from the Contractor in accordance with the provisions of Clause 10.3.2 of this Agreement.

12.4 Completion Certificate

- 12.4.1 Upon completion of all Works, including the items specified in the Punch List, and the Authority's Engineer determining the Tests to be successful, it shall forthwith issue to the Contractor and the Authority a certificate substantially in the form set forth in Schedule-L (the "**Completion Certificate**").
- 12.4.2 Upon receiving the Completion Certificate, the Contractor shall remove its equipment,

materials, debris and temporary works from the Site within a period of 30 (thirty) days thereof, failing which the Authority may remove or cause to be removed, such equipment, materials, debris and temporary works and recover from the Contractor an amount equal to 120% (one hundred and twenty per cent) of the actual cost of removal incurred by the Authority.

- 12.4.3 Without prejudice to the obligations of the Contractor specified in Articles 14 and 17, the property and ownership of all the completed Works forming part of the Project Highway shall vest in the Authority.

12.5 Rescheduling of Tests

If the Authority's Engineer certifies to the Authority and the Contractor that it is unable to issue the Completion Certificate or Provisional Certificate, as the case may be, because of events or circumstances on account of which the Tests could not be held or had to be suspended, the Contractor shall be entitled to re-schedule the Tests and hold the same as soon as reasonably practicable.

ARTICLE 13

CHANGE OF SCOPE

13.1 Change of Scope

13.1.1 The Authority may, notwithstanding anything to the contrary contained in this Agreement, require the Contractor to make modifications/alterations to the Works (“**Change of Scope**”) before the issue of the Completion Certificate either by giving an instruction or by requesting the Contractor to submit a proposal for Change of Scope involving additional cost or reduction in cost. Any such Change of Scope shall be made and valued in accordance with the provisions of this Article 13.

13.1.2 Change of Scope shall mean:

- (a) change in specifications of any item of Works;
- (b) omission of any work from the Scope of the Project except under Clause 8.3.3; provided that, subject to Clause 13.5, the Authority shall not omit any work under this Clause in order to get it executed by any other authority; and / or
- (c) any additional work, Plant, Materials or services which are not included in the Scope of the Project, including any associated Tests on completion of construction.

13.1.3 If the Contractor determines at any time that a Change of Scope will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Authority of executing, maintaining or operating the Project Highway, (iii) improve the efficiency or value to the Authority of the completed Project Highway, or (iv) otherwise be of benefit to the Authority, it shall prepare a proposal with relevant details at its own cost. The Contractor shall submit such proposal, supported with the relevant details and the amount of reduction in the Contract Price to the Authority to consider such Change of Scope. The Authority shall, within 15 (fifteen) days of receipt of such proposal, either accept such Change of Scope with modifications, if any, and initiate proceedings therefor in accordance with this Article 13 or reject the proposal and inform the Contractor of its decision. For the avoidance of doubt, the Parties agree that the Contractor shall not undertake any Change of Scope without the express consent of the Authority, save and except any Works necessary for meeting any Emergency.

13.2 Procedure for Change of Scope

13.2.1 In the event of the Authority determining that a Change of Scope is necessary, it may direct the Authority’s Engineer to issue to the Contractor a notice specifying in reasonable detail the works and services contemplated thereunder (the “**Change of Scope Notice**”).

13.2.2 Upon receipt of a Change of Scope Notice, the Contractor shall, with due diligence, provide to the Authority and the Authority’s Engineer such information as is necessary, together with preliminary documentation in support of:

- (a) the impact, if any, which the Change of Scope is likely to have on the Project Completion Schedule if the works or services are required to be carried out during

the Construction Period; and

- (b) the options for implementing the proposed Change of Scope and the effect, if any, each such option would have on the costs and time thereof, including the following details:
 - (i) break down of the quantities, unit rates and cost for different items of work;
 - (ii) proposed design for the Change of Scope; and
 - (iii) proposed modifications, if any, to the Project Completion Schedule of the Project Highway.

For the avoidance of doubt, the Parties expressly agree that, subject to the provisions of Clause 13.4.2, the Contract Price shall be increased or decreased, as the case may be, on account of Change of Scope.

13.2.3 The Contractor's quotation of costs for the Change of Scope shall be determined on the following principles:

- (a) For works where Schedule of Rates (SOR) of concerned circle of State's Public Works Department are available shall be applicable for determination of costs. In case of non-availability of current SOR, the available Schedule of Rates shall be applied by updating the same based on WPI.
- (b) For works not similar in nature to the Works being executed, the cost of work shall be derived on the basis of MORTH Standard Data Book and the applicable schedule of rates for the relevant circle, as published by the respective State Government, and such rates shall be indexed with reference to the WPI once every year, with the base being the month and year of the publication of the said schedule of rates; provided, however, that for any item not included in the schedule of rates, the prevailing market rates as determined by the Authority's Engineer shall apply, and for any item in respect of which MORTH Standard Data Book does not provide the requisite details, the Authority's Engineer shall determine the rate in accordance with Good Industry Practice.

13.2.4 Upon reaching an agreement, the Authority shall issue an order (the "**Change of Scope Order**") requiring the Contractor to proceed with the performance thereof. In the event that the Parties are unable to agree, the Authority may:

- (a) issue a Change of Scope Order requiring the Contractor to proceed with the performance thereof at the rates and conditions approved by the Authority till the matter is resolved in accordance with Article 26; or
- (b) proceed in accordance with Clause 13.5.

13.2.5 The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply *mutatis mutandis* to the works undertaken by the Contractor under this Article 13.

13.3 Payment for Change of Scope

Payment for Change of Scope shall be made in accordance with the payment schedule specified in the Change of Scope Order.

13.4 Restrictions on Change of Scope

- 13.4.1 No Change of Scope shall be executed unless the Authority has issued the Change of Scope Order save and except any Works necessary for meeting any Emergency.
- 13.4.2 Unless the Parties mutually agree to the contrary, the total value of all Change of Scope Orders shall not exceed 10 (ten) per cent of the Contract Price.
- 13.4.3 Notwithstanding anything to the contrary in this Article 13, no change made necessary because of any default of the Contractor in the performance of its obligations under this Agreement shall be deemed to be Change of Scope, and shall not result in any adjustment of the Contract Price or the Project Completion Schedule.

13.5 Power of the Authority to undertake works

- 13.5.1 In the event the Parties are unable to agree to the proposed Change of Scope Orders in accordance with Clause 13.2, the Authority may, after giving notice to the Contractor and considering its reply thereto, award such works or services to any person on the basis of open competitive bidding from amongst bidders who are pre-qualified for undertaking the additional work; provided that the Contractor shall have the option of matching the first ranked bid in terms of the selection criteria, subject to payment of 2% (two per cent) of the bid amount to the Authority^{\$}, and thereupon securing the award of such works or services. For the avoidance of doubt, it is agreed that the Contractor shall be entitled to exercise such option only if it has participated in the bidding process and its bid does not exceed the first ranked bid by more than 10% (ten percent) thereof. It is also agreed that the Contractor shall provide assistance and cooperation to the person who undertakes the works or services hereunder, but shall not be responsible for rectification of any Defects and/ or maintenance of works carried out by other agencies.
- 13.5.2 The works undertaken in accordance with this Clause 13.5 shall conform to the Specifications and Standards and shall be carried out in a manner that minimises the disruption in operation of the Project Highway. The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply *mutatis mutandis* to the works carried out under this Clause 13.5.

^{\$} The Authority shall transfer 75% (seventy five percent) of the amount so received to the first ranked bidder whose bid shall have been matched by the Contractor.

ARTICLE 14

MAINTENANCE

14.1 Maintenance obligations of the Contractor

- 14.1.1 The Contractor shall maintain the Project Highway for a period of 4 (four) years commencing from the date of the Provisional Certificate (the “Maintenance Period”). For the performance of its Maintenance obligations, the contractor shall be paid 0.5% of the Contract Price for the first year and 1%, 1.5%, 2% of the Contract Price for the second, third and fourth year respectively in case of road projects. But in case of stand alone Bridge / structure work, the contractor shall be paid 0.25%, 0.5%, 0.5% and 0.5% of the Contract Price for the first, second, third and fourth year respectively. Amount shall be, inclusive of all taxes. The amount payable for maintenance shall be adjusted to reflect any increase or decrease arising out of variation in WPI to be determined in accordance with the provisions of Clause 19.12. For the avoidance of doubt, it is agreed that in the event no Provisional Certificate is issued, the Maintenance Period shall commence from the date of the Completion Certificate. It is further agreed that the Contract Price hereunder shall be reckoned with reference to the amount specified in Clause 19.1.1, which shall be adjusted to the extent of Change of Scope and the works withdrawn under the provisions of Clause 8.3.3, but shall not include any price adjustments in pursuance of Clause 19.10.
- 14.1.2 During the Maintenance Period, the Authority shall provide to the Contractor access to the Site for Maintenance in accordance with this Agreement. The obligations of the Contractor hereunder shall include:
- (a) permitting safe, smooth and uninterrupted flow of traffic on the Project Highway;
 - (b) undertaking routine maintenance including prompt repairs of potholes, cracks, joints, drains, embankments, structures, pavement markings, lighting, road signs and other traffic control devices;
 - (c) undertaking repairs to structures;
 - (d) informing the Authority of any unauthorised use of the Project Highway;
 - (e) informing the Authority of any encroachments on the Project Highway; and
 - (f) operation and maintenance of all communication, patrolling, and administrative systems necessary for the efficient maintenance of the Project Highway in accordance with the provisions of this Agreement.
- 14.1.3 In respect of any Defect or deficiency not specified in Schedule-E, the Contractor shall, at its own cost, undertake repair or rectification in accordance with Good Industry Practice, save and except to the extent that such Defect or deficiency shall have arisen on account of any default or neglect of the Authority or a Force Majeure Event.
- 14.1.4 The Contractor shall remove promptly from the Project Highway any waste materials (including hazardous materials and waste water), rubbish and other debris (including,

without limitation, accident debris) and keep the Project Highway in a clean, tidy and orderly condition, and in conformity with the Applicable Laws, Applicable Permits and Good Industry Practice.

14.2 Maintenance Requirements

The Contractor shall ensure and procure that at all times during the Maintenance Period, the Project Highway conforms to the maintenance requirements set forth in Schedule-E (the “**Maintenance Requirements**”).

14.3 Maintenance Programme

14.3.1 The Contractor shall prepare a monthly maintenance programme (the **Maintenance Programme**) in consultation with the Authority’s Engineer and submit the same to the Authority’s Engineer not later than 10 (ten) days prior to the commencement of the month in which the Maintenance is to be carried out. For this purpose a joint monthly inspection by the Contractor and the Authority’s Engineer shall be undertaken. The Maintenance Programme shall contain the following:

- (a) The condition of the road in the format prescribed by the Authority’s Engineer;
- (b) the proposed maintenance works; and
- (c) deployment of resources for maintenance works.

14.4 Safety, vehicle breakdowns and accidents

14.4.1 The Contractor shall ensure safe conditions for the Users, and in the event of unsafe conditions, lane closures, diversions, vehicle breakdowns and accidents, it shall follow the relevant operating procedures for removal of obstruction and debris without delay. Such procedures shall conform to the provisions of this Agreement, Applicable Laws, Applicable Permits and Good Industry Practice.

14.4.2 The Contractor shall maintain and operate a round-the-clock vehicle rescue post with one mobile crane having the capacity to lift a truck with a Gross Vehicle Weight of 30,000 (thirty thousand) kilograms; and such post shall be located at km (as per the direction of the authority engineer). The Contractor shall promptly remove any damaged vehicles and debris from the Project Highway to enable safe movement of traffic and shall report all accidents to the police forthwith.

14.5 Lane closure

14.5.1 The Contractor shall not close any lane of the Project Highway for undertaking maintenance works except with the prior written approval of the Authority’s Engineer. Such approval shall be sought by the Contractor through a written request to be made at least 10 (ten) days before the proposed closure of lane and shall be accompanied by particulars thereof. Within 5 (five) business days of receiving such request, the Authority’s Engineer shall grant permission with such modifications as it may deem necessary and a copy of such permission shall be sent to the Authority.

- 14.5.2 Upon receiving the permission pursuant to Clause 14.5.1, the Contractor shall be entitled to close the designated lane for the period specified therein, and in the event of any delay in re-opening such lane, the Contractor shall, for every stretch of 250 (two hundred and fifty) metres, or part thereof, pay Damages to the Authority calculated at the rate of 0.1% (zero point one per cent) of the monthly maintenance payment for each day of delay until the lane has been re-opened for traffic.

14.6 Reduction of payment for non-performance of Maintenance obligations

- 14.6.1 In the event that the Contractor fails to repair or rectify any Defect or deficiency set forth in Schedule-E within the period specified therein, it shall be deemed as failure of performance of Maintenance obligations by the Contractor and the Authority shall be entitled to effect reduction in monthly lump sum payment for maintenance in accordance with Clause 19.7 and Schedule-M, without prejudice to the rights of the Authority under this Agreement, including Termination thereof.
- 14.6.2 If the nature and extent of any Defect justifies more time for its repair or rectification than the time specified in Schedule-E, the Contractor shall be entitled to additional time in conformity with Good Industry Practice. Such additional time shall be determined by the Authority's Engineer and conveyed to the Contractor and the Authority with reasons thereof.

14.7 Authority's right to take remedial measures

In the event the Contractor does not maintain and/or repair the Project Highway or any part thereof in conformity with the Maintenance Requirements, the Maintenance Manual or the Maintenance Programme, as the case may be, and fails to commence remedial works within 15 (fifteen) days of receipt of the Maintenance Inspection Report under Clause 15.2 or a notice in this behalf from the Authority or the Authority's Engineer, as the case may be, the Authority shall, without prejudice to its rights under this Agreement including Termination thereof, be entitled to undertake such remedial measures at the cost of the Contractor, and to recover its cost from the Contractor. In addition to recovery of the aforesaid cost, a sum equal to 20% (twenty per cent) of such cost shall be paid by the Contractor to the Authority as Damages.

14.8 Restoration of loss or damage to Project Highway

Save and except as otherwise expressly provided in this Agreement, in the event that the Project Highway or any part thereof suffers any loss or damage during the Maintenance from any cause attributable to the Contractor, the Contractor shall, at its cost and expense, rectify and remedy such loss or damage forthwith so that the Project Highway conforms to the provisions of this Agreement.

14.9 Overriding powers of the Authority

- 14.9.1 If in the reasonable opinion of the Authority, the Contractor is in material breach of its obligations under this Agreement and, in particular, the Maintenance Requirements, and such breach is causing or likely to cause material hardship or danger to the Users and pedestrians, the Authority may, without prejudice to any of its rights under this Agreement

including Termination thereof, by notice require the Contractor to take reasonable measures immediately for rectifying or removing such hardship or danger, as the case may be.

- 14.9.2 In the event that the Contractor, upon notice under Clause 14.9.1, fails to rectify or remove any hardship or danger within a reasonable period, the Authority may exercise overriding powers under this Clause 14.9.2 and take over the performance of any or all the obligations of the Contractor to the extent deemed necessary by it for rectifying or removing such hardship or danger; provided that the exercise of such overriding powers by the Authority shall be of no greater scope and of no longer duration than is reasonably required hereunder; provided further that any costs and expenses incurred by the Authority in discharge of its obligations hereunder shall be recovered by the Authority from the Contractor, and the Authority shall be entitled to deduct any such costs and expenses incurred from the payments due to the Contractor under Clause 19.7 for the performance of its Maintenance obligations.
- 14.9.3 In the event of a national emergency, civil commotion or any other circumstances specified in Clause 21.3, the Authority may take over the performance of any or all the obligations of the Contractor to the extent deemed necessary by it, and exercise such control over the Project Highway or give such directions to the Contractor as may be deemed necessary; provided that the exercise of such overriding powers by the Authority shall be of no greater scope and of no longer duration than is reasonably required in the circumstances which caused the exercise of such overriding power by the Authority. For the avoidance of doubt, it is agreed that the consequences of such action shall be dealt in accordance with the provisions of Article 21. It is also agreed that the Contractor shall comply with such instructions as the Authority may issue in pursuance of the provisions of this Clause 14.9.3, and shall provide assistance and cooperation to the Authority, on a best effort basis, for performance of its obligations hereunder.

ARTICLE 15

SUPERVISION AND MONITORING DURING MAINTENANCE

15.1 Inspection by the Contractor

- 15.1.1 The Authority's Engineer shall undertake regular inspections to evaluate continuously the compliance with the Maintenance Requirements.
- 15.1.2 The Contractor shall carry out a detailed pre-monsoon inspection of all bridges, culverts and drainage system in accordance with the guidelines contained in IRC: SP35. Report of this inspection together with details of proposed maintenance works as required shall be conveyed to the Authority's Engineer forthwith. The Contractor shall complete the proposed maintenance works before the onset of the monsoon and send a compliance report to the Authority's Engineer. Post monsoon inspection shall be undertaken by the Contractor and the inspection report together with details of any damages observed and proposed action to remedy the same shall be conveyed to the Authority's Engineer forthwith.

15.2 Inspection and payments

- 15.2.1 The Authority's Engineer may inspect the Project Highway at any time, but at least once every month, to ensure compliance with the Maintenance Requirements. It shall make a report of such inspection ("**Maintenance Inspection Report**") stating in reasonable detail the Defects or deficiencies, if any, with particular reference to the Maintenance Requirements, the Maintenance Manual, and the Maintenance Programme, and send a copy thereof to the Authority and the Contractor within 10 (ten) days of such inspection.
- 15.2.2 After the Contractor submits to the Authority's Engineer the Monthly Maintenance Statement for the Project Highway pursuant to Clause 19.6, the Authority's Engineer shall carry out an inspection within 10 (ten) days to certify the amount payable to the Contractor. The Authority's Engineer shall inform the Contractor of its intention to carry out the inspection at least 3 (three) business days in advance of such inspection. The Contractor shall assist the Authority's Engineer in verifying compliance with the Maintenance Requirements.
- 15.2.3 For each case of non-compliance of Maintenance Requirements as specified in the inspection report of the Authority's Engineer, the Authority's Engineer shall calculate the amount of reduction in payment in accordance with the formula specified in Schedule-M.
- 15.2.4 Any deduction made on account of non-compliance will not be paid subsequently even after establishing the compliance thereof. Such deductions will continue to be made every month until the compliance is procured.

15.3 Tests

For determining that the Project Highway conforms to the Maintenance Requirements, the Authority's Engineer shall require the Contractor to carry out, or cause to be carried out, tests specified by it in accordance with Good Industry Practice. The Contractor shall, with due diligence, carry out or cause to be carried out all such tests in accordance with the

instructions of the Authority's Engineer and furnish the results of such tests forthwith to the Authority's Engineer.

15.4 Reports of unusual occurrence

The Contractor shall, during the Maintenance Period, prior to the close of each day, send to the Authority and the Authority's Engineer, by facsimile or e-mail, a report stating accidents and unusual occurrences on the Project Highway relating to the safety and security of the Users and Project Highway. A monthly summary of such reports shall also be sent within 3 (three) business days of the closing of month. For the purposes of this Clause 15.4, accidents and unusual occurrences on the Project Highway shall include:

- (a) accident, death or severe injury to any person;
- (b) damaged or dislodged fixed equipment;
- (c) flooding of Project Highway; and
- (d) any other unusual occurrence.

ARTICLE 16

TRAFFIC REGULATION

16.1 Traffic regulation by the Contractor

- 16.1.1 The Contractor shall take all the required measures and make arrangements for the safety of Users during the construction and maintenance of the Project Highway or a Section thereof in accordance with the provisions of MORTH Specifications. It shall provide, erect and maintain all such barricades, signs, markings, flags, and lights as may be required by Good Industry Practice for the safety of the traffic passing through the Section under construction or maintenance.
- 16.1.2 All works shall be carried out in a manner creating least interference to traffic passing through the Project Highway or a Section thereof. In stretches where construction or maintenance works on the carriageway are taken up, the Contractor shall ensure that proper passage is provided for the traffic. Where it is not possible or safe to allow traffic on part width of the carriageway, a temporary diversion of proper specifications shall be constructed by the Contractor at its own cost. The Contractor shall take prior approval of the Authority's Engineer for any proposed arrangement for traffic regulation during Construction and Maintenance, which approval shall not be unreasonably withheld.

ARTICLE 17

DEFECTS LIABILITY

17.1 Defects Liability Period

17.1.1 The Contractor shall be responsible for all the Defects and deficiencies, except usual wear and tear in the Project Highway or any Section thereof, till the expiry of a period of 4 (four) years commencing from the date of Provisional Certificate (the “**Defects Liability Period**”). Provided that the Defects Liability Period shall in no case be less than 42 (forty two) months from the date of Completion Certificate for and in respect of works for which Time Extension was granted. Provided further that in the event no Provisional Certificate is issued, the Defects Liability Period shall commence from the date of the Completion Certificate. For the avoidance of doubt, any repairs or restoration on account of usual wear or tear in the Project Highway or any Section thereof shall form a part of the Maintenance obligations of the Contractor as specified in Article 14.

17.1.2 Deleted.

17.2 Remediating Defects

Save and except as provided in Clause 14.1.2, the Contractor shall repair or rectify all Defects and deficiencies observed by the Authority’s Engineer during the Defects Liability Period within a period of 15 (fifteen) days from the date of notice issued by the Authority’s Engineer in this behalf, or within such reasonable period as may be determined by the Authority’s Engineer at the request of the Contractor, in accordance with Good Industry Practice.

17.3 Cost of remedying Defects

For the avoidance of doubt, any repair or rectification undertaken in accordance with the provisions of Clause 17.2, including any additional testing, shall be carried out by the Contractor at its own risk and cost, to the extent that such rectification or repair is attributable to:

- (a) the design of the Project;
- (b) Plant, Materials or workmanship not being in accordance with this Agreement and the Specifications and Standards;
- (c) improper maintenance during construction of the Project Highway by the Contractor; and/ or
- (d) failure by the Contractor to comply with any other obligation under this Agreement.

17.4 Contractor’s failure to rectify Defects

In the event that the Contractor fails to repair or rectify such Defect or deficiency within the period specified in Clause 17.2, the Authority shall be entitled to get the same repaired,

rectified or remedied at the Contractor's cost so as to make the Project Highway conform to the Specifications and Standards and the provisions of this Agreement. All costs consequent thereon shall, after due consultation with the Authority and the Contractor, be determined by the Authority's Engineer. The cost so determined and an amount equal to twenty percent of the cost as Damages shall be recoverable by the Authority from the Contractor and may be deducted by the Authority from any monies due to the Contractor.

17.5 Contractor to search cause

- 17.5.1 The Authority's Engineer may instruct the Contractor to examine the cause of any Defect in the Works or part thereof before the expiry of the Defects Liability Period.
- 17.5.2 In the event any Defect identified under Clause 17.5.1 is attributable to the Contractor, the Contractor shall rectify such Defect within the period specified by the Authority's Engineer, and shall bear the cost of the examination and rectification of such Defect.
- 17.5.3 In the event such Defect is not attributable to the Contractor, the Authority's Engineer shall, after due consultation with the Authority and the Contractor, determine the costs incurred by the Contractor on such examination and notify the same to the Contractor, with a copy to the Authority, and the Contractor shall be entitled to payment of such costs by the Authority.

17.6. Extension of Defects Liability Period

The Defects Liability Period shall be deemed to be extended till the identified Defects under Clause 17.2 have been remedied.

ARTICLE 18

AUTHORITY'S ENGINEER

18.1 Appointment of the Authority's Engineer

- 18.1.1 The Authority shall appoint a consulting engineering firm substantially in accordance with the selection criteria set forth in Schedule-N, to be the engineer under this Agreement (the “**Authority's Engineer**”).
- 18.1.2 The appointment of the Authority's Engineer shall be made no later than 15 (fifteen) days from the date of this Agreement. The Authority shall notify the appointment or replacement of the Authority's Engineer to the Contractor.
- 18.1.3 The staff of the Authority's Engineer shall include suitably qualified engineers and other professionals who are competent to assist the Authority's Engineer to carry out its duties.

18.2 Duties and authority of the Authority's Engineer

- 18.2.1 The Authority's Engineer shall perform the duties and exercise the authority in accordance with the provisions of this Agreement, and substantially in accordance with the terms of reference (“**Terms of Reference**” or “**TOR**”) set forth in Annex 1 of Schedule N, but subject to obtaining prior written approval of the Authority before determining:
- (a) any Time Extension;
 - (b) any additional cost to be paid by the Authority to the Contractor;
 - (c) the Termination Payment; or
 - (d) any other matter which is not specified in (a), (b) or (c) above and which creates an obligation or liability on either Party for a sum exceeding Rs. 5,000,000 (Rs. fifty lakh).
- 18.2.2 No decision or communication of the Authority's Engineer shall be effective or valid unless it is accompanied by an attested true copy of the approval of the Authority for and in respect of any matter specified in Clause 18.2.1.
- 18.2.3 The Authority's Engineer shall submit regular periodic reports, at least once every month, to the Authority in respect of its duties and functions under this Agreement. Such reports shall be submitted by the Authority's Engineer within 10 (ten) days of the beginning of every month. For the avoidance of doubt, the Authority's Engineer shall include in its report, compliance of the recommendations of the Safety Consultant.
- #### **18.3 Delegation by the Authority's Engineer**
- 18.3.1 The Authority's Engineer may, by order in writing, delegate any of his duties and responsibilities to suitably qualified and experienced personnel who are accountable to Authority's Engineer, or may revoke any such delegation, under intimation to the Authority

and the Contractor. Provided, however, that the Authority's Engineer shall be responsible and liable for all actions and omissions of such personnel.

18.3.2 Any failure of the Authority's Engineer to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Authority to reject the work, Plant or Materials, which is not in accordance with the provisions of this Agreement and the Specifications and Standards.

18.3.3 Notwithstanding anything stated in Clause 18.3.1 above, the Authority's Engineer shall not delegate the authority to refer any matter for the Authority's prior approval wherever required in accordance with the provisions of Clause 18.2.

18.4 Instructions of the Authority's Engineer

18.4.1 The Authority's Engineer may issue to the Contractor instructions for remedying any Defect. The Contractor shall take such instructions from the Authority's Engineer, or from an assistant to whom appropriate authority has been delegated under Clause 18.3.

18.4.2 The instructions issued by the Authority's Engineer shall be in writing. However, if the Authority's Engineer issues any oral instructions to the Contractor, it shall confirm in writing the oral instructions within 2 (two) working days of issuing them.

18.4.3 In case the Contractor does not receive the confirmation of the oral instruction within the time specified in Clause 18.4.2, the Contractor shall seek the written confirmation of the oral instructions from the Authority's Engineer. The Contractor shall obtain acknowledgement from the Authority's Engineer of the communication seeking written confirmation. In case of failure of the Authority's Engineer or its delegated assistant to reply to the Contractor within 2 (two) days of the receipt of the communication from the Contractor, the Contractor may not carry out the instruction.

18.4.4 In case of any dispute on any of the instructions issued by the delegated assistant, the Contractor may refer the dispute to the Authority's Engineer, who shall then confirm, reverse or vary the instructions within 3 (three) business days of the dispute being referred.

18.5 Determination by the Authority's Engineer

18.5.1 The Authority's Engineer shall consult with each Party in an endeavour to reach agreement wherever this Agreement provides for the determination of any matter by the Authority's Engineer. If such agreement is not achieved, the Authority's Engineer shall make a fair determination in accordance with this Agreement having due regard to all relevant circumstances. The Authority's Engineer shall give notice to both the Parties of each agreement or determination, with supporting particulars.

18.5.2 Each Party shall give effect to each agreement or determination made by the Authority's Engineer in accordance with the provisions of this Agreement. Provided, however, that if any Party disputes any instruction, decision, direction or determination of the Authority's Engineer, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure.

18.6 Remuneration of the Authority's Engineer

The remuneration, cost and expenses of the Authority's Engineer shall be paid by the Authority.

18.7 Termination of the Authority's Engineer

18.7.1 The Authority may, in its discretion, replace the Authority's Engineer at any time, but only after appointment of another Authority's Engineer in accordance with Clause 18.1.

18.7.2 If the Contractor has reasons to believe that the Authority's Engineer is not discharging its duties and functions in accordance with the provisions of this Agreement, it may make a written representation to the Authority and seek termination of the appointment of the Authority's Engineer. Upon receipt of such representation, the Authority shall hold a tripartite meeting with the Contractor and Authority's Engineer and make best efforts for an amicable resolution of the representation. In the event that the appointment of the Authority's Engineer is terminated hereunder, the Authority shall appoint forthwith another Authority's Engineer in accordance with Clause 18.1.

Part IV

Financial Covenants

ARTICLE 19

PAYMENTS

19.1 Contract Price

- 19.1.1 The Authority shall make payments to the Contractor for the Works on the basis of the lump sum price accepted by the Authority in consideration of the obligations specified in this Agreement for an amount of Rs. (Rs.) (the “**Contract Price**”), which shall be subject to adjustments in accordance with the provisions of this Agreement. For the avoidance of doubt, the Parties expressly agree that the Contract Price shall not include the cost of Maintenance which shall be paid separately in accordance with the provisions of Clause 19.7. The Parties further agree that save and except as provided in this Agreement, the Contract Price shall be valid and effective until issue of Completion Certificate.
- 19.1.2 The Contract Price includes all duties, taxes, royalty, and fees that may be levied in accordance with the laws and regulations in force as on the Base Date on the Contractor's equipment, Plant, Materials and supplies acquired for the purpose of this Agreement and on the services performed under this Agreement. Nothing in this Agreement shall relieve the Contractor from its responsibility to pay any tax including any tax that may be levied in India on profits made by it in respect of this Agreement.
- 19.1.3 The Contract Price shall not be adjusted for any change in costs stated in Clause 19.1.2 above, except as stated in Clauses 19.10 and 19.17.
- 19.1.4 The Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs, unless otherwise provided for in this Agreement.
- 19.1.5 Unless otherwise stated in this Agreement, the Contract Price covers all the Contractor's obligations for the Works under this Agreement and all things necessary for the Construction and the remedying of any Defects in the Project Highway.
- 19.1.6 All payments under this Agreement shall be made in Indian Rupees.

19.2 Advance Payment

- 19.2.1 The Authority shall make an interest-bearing advance payment (the “Advance Payment”) equal in amount to 10 (ten) percent of the contract price, for mobilisation expenses and for acquisition of equipment. The Advance payment shall be made in two installments each equal to 5% (five percent) of the Contract Price. The advance payment would be deemed as interest bearing advance at an interest rate of 10% (ten) per annum, to be compounded quarterly. The interest would be recovered along with the recovery of advance payment.
- 19.2.2 The Contractor may apply to the Authority for the first instalment of the Advance Payment at any time after the Appointed Date, along with an irrevocable and unconditional guarantee from a Bank for an amount equivalent to 110% (one hundred and ten per cent) of such instalment, substantially in the form provided at Annex-III of Schedule-G, to remain effective till the complete and full repayment thereof.

19.2.3 Deleted

19.2.4 At any time, after 60 (sixty) days from the Appointed Date, the Contractor may apply to the Authority for the second instalment of the Advance Payment along with an irrevocable and unconditional guarantee from a Bank for an amount equivalent to 110% (one hundred and ten per cent) of such instalment, substantially in the form provided at Annex-III of Schedule-G, to remain effective till the complete and full repayment thereof.

19.2.5 The first and the second instalments shall be paid by the Authority to the Contractor within 15 (fifteen) days of the receipt of its respective requests in accordance with the provisions of this Clause 19.2.

19.2.6 Deleted.

19.2.7 The advance payment shall be repaid through percentage deductions from the stage payments determined by the Authority's Engineer in accordance with Sub-Clause 19.5, as follows:

- (a) deductions shall commence in the next Stage Payment Statement following that in which the total of all certified stage payments (excluding the advance payment and deductions and repayments of retention) exceeds 20% (twenty percent) of the Contract Price; and
- (b) Deductions shall be made at the rate of 15% (fifteen percent) of each Stage Payment Statement with interest until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid along with interest prior to the time when 80% (80 percent) of the Contract Price has been certified for payment.

19.2.8 If the Advance Payment has not been fully repaid prior to Termination under Clause 21.7 or Article 23, as the case may be, the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Authority. Without prejudice to the provisions of Clause 19.2.7, in the event of Termination for Contractor Default, the Advance Payment shall be deemed to carry interest at the rate of 10% (ten per cent) per annum from the date of Advance Payment to the date of recovery by encashment of the Bank Guarantee for the Advance Payment. For the avoidance of doubt, the aforesaid interest shall be payable on each instalment of the Advance Payment, regardless of whether the instalment or any part thereof has been repaid to the Authority prior to Termination.

19.3 Procedure for estimating the payment for the Works

19.3.1 The Authority shall make interim payments to the Contractor as certified by the Authority's Engineer on completion of a stage, in a length, number or area as specified and valued in accordance with the proportion of the Contract Price assigned to each item and its stage in Schedule-H.

19.3.2 The Contractor shall base its claim for interim payment for the stages completed till the end of the month for which the payment is claimed, valued in accordance with Clause 19.3.1, supported with necessary particulars and documents in accordance with this Agreement.

19.3.3 Any reduction in the Contract Price arising out of Change of Scope or the works withdrawn under Clause 8.3 shall not affect the amounts payable for the items or stage payments

thereof which are not affected by such Change of Scope or withdrawal. For avoidance of doubt and by way of illustration, the Parties agree that if the amount assigned to Major Bridges is reduced from Rs. 100 crore to Rs. 80 crore owing to Change of Scope or withdrawal of work, the reduction in payment shall be restricted to relevant payments for Major Bridges only and the payment due in respect of all other stage payments under the item Major Bridges shall not be affected in any manner. The Parties further agree that the adjustments arising out of the aforesaid modifications shall be carried out in a manner that the impact of such modifications is restricted to the said Change of Scope or withdrawal, as the case may be, and does not alter the payments due for and in respect of items or stage payments which do not form part of such Change of Scope or withdrawal.

19.4 Stage Payment Statement for Works

The Contractor shall submit a statement (the “**Stage Payment Statement**”), in 3 copies, by the 7th (seventh) day of the month to the Authority’s Engineer in the form set forth in Schedule-O, showing the amount calculated in accordance with Clause 19.3 to which the Contractor considers himself entitled for completed stage(s) of the Works. The Stage Payment Statement shall be accompanied with the progress reports and any other supporting documents. The Contractor shall not submit any claim for payment of incomplete stages of work.

19.5 Stage Payment for Works

- 19.5.1 Within 10 (ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 19.4, the Authority’s Engineer shall broadly determine the amount due to the Contractor and recommend the release of 90 (ninety) percent of the amount so determined as part payment against the Stage Payment Statement, pending issue of the Interim Payment Certificate by the Authority’s Engineer. Within 10 (ten) days of the receipt of recommendation of the Authority’s Engineer, the Authority shall make electronic payment directly to the Contractor’s bank account.
- 19.5.2 Within 15 (fifteen) days of the receipt of the Stage Payment Statement referred to in Clause 19.4, the Authority’s Engineer shall determine and shall deliver to the Authority and the Contractor an IPC certifying the amount due and payable to the Contractor, after adjusting the payments already released to the Contractor against the said statement. For the avoidance of doubt, the Parties agree that the IPC shall specify all the amounts that have been deducted from the Stage Payment Statement and the reasons therefor.
- 19.5.3 In cases where there is a difference of opinion as to the value of any stage, the Authority’s Engineer’s view shall prevail and interim payments shall be made to the Contractor on this basis; provided that the foregoing shall be without prejudice to the Contractor’s right to raise a Dispute.
- 19.5.4 The Authority’s Engineer may, for reasons to be recorded, withhold from payment:
- (a) the estimated value of work or obligation that the Contractor has failed to perform in accordance with this Agreement and the Authority’s Engineer had notified the Contractor; and

- (b) the estimated cost of rectification of work done being not in accordance with this Agreement.

19.5.5 Payment by the Authority shall not be deemed to indicate the Authority's acceptance, approval, consent or satisfaction with the work done.

19.6 Monthly Maintenance Statement of the Project Highway

19.6.1 The Contractor shall submit to the Authority's Engineer a monthly maintenance statement ("**Monthly Maintenance Statement**") in 3 (three) copies by the 7th (seventh) day of each month in the format set forth in Schedule-O for the Maintenance of the Project Highway during the previous month.

19.6.2 The monthly lump sum amount payable for Maintenance shall be 1/12th (one-twelfth) of the annual cost of Maintenance as specified in Clause 14.1.1.

19.7 Payment for Maintenance of the Project Highway

19.7.1 Within 15 (fifteen) days of receipt of the Monthly Maintenance Statement from the Contractor pursuant to Clause 19.6, the Authority's Engineer shall verify the Contractor's monthly maintenance statement and certify the amount to be paid to the Contractor taking into account:

- (a) Compliance with the Maintenance Requirements; and
- (b) reduction for non-compliance with the Maintenance Requirement in accordance with Clause 19.7.2.

The Authority's Engineer shall deliver to the Authority an IPC approving or amending the monthly maintenance statement to reflect the amount due to the Contractor in accordance with this Agreement.

19.7.2 Maintenance shall be measured in units of one kilometer each; provided, however, that payment thereof shall be made in fixed monthly amounts in accordance with this Agreement. If the Maintenance Requirements set forth in Schedule-E are not met, reduction in payments shall be made in accordance with the provisions of Schedule-M. The reductions for non-compliance with the Maintenance Requirements shall be applied on the basis of monthly inspections by the Authority's Engineer.

19.7.3 The deduction made on account of non-compliance with the Maintenance Requirements shall not be subsequently considered for payment after the compliance is achieved by repair or rectification.

19.7.4 The Authority shall pay to the Contractor every quarter any amount due under any IPC under this Clause 19.7. The payment shall be made no later than 30 (thirty) days from the date of submission of the last IPC for the relevant quarter.

19.8 Payment of Damages

19.8.1 The Contractor may claim Damages due and payable to it in accordance with the provisions of this Agreement.

19.8.2 The Authority's Engineer shall issue the IPC within 15 (fifteen) days of the receipt of the claim under Clause 19.8.1, after making adjustments in accordance with the provisions of this Agreement. The Authority shall pay to the Contractor the amount due under any IPC within a period of 30 (thirty) days from the date of the submission of the claim under this Clause 19.8. In the event of the failure of the Authority to make payment to the Contractor within the specified time, the Authority shall be liable to pay to the Contractor interest thereon and the provisions of Clause 19.9 shall apply *mutatis mutandis* thereto.

19.9 Time of payment and interest

19.9.1 The Authority shall pay to the Contractor any amount due under any payment certificate issued by the Authority's Engineer in accordance with the provisions of this Article 19, or in accordance with any other clause of this Agreement as follows:

- (a) payment shall be made no later than 30 (thirty) days from the date of submission of the Stage Payment Statement by the Contractor to the Authority's Engineer for certification in accordance with the provisions of Clause 19.4 for an IPC; provided that, in the event the IPC is not issued by the Authority's Engineer within the aforesaid period of 30 (thirty) days, the Authority shall pay the amount shown in the Contractor's Stage Payment Statement and any discrepancy therein shall be added to, or deducted from, the next payment certificate issued to the Contractor; and
- (b) payment shall be made no later than 30 (thirty) days from the date of submission of the Final Payment Certificate for Works along with the discharge submitted to the Authority's Engineer in accordance with the provisions of Clause 19.15 for certification.

19.9.2 In the event of the failure of the Authority to make payment to the Contractor within the time period stated in this Clause 19.9, the Authority shall be liable to pay to the Contractor interest at the Base Rate plus 2% (two percent), calculated at quarterly rests, on all sums remaining unpaid from the date on which the same should have been paid, calculated in accordance with the provisions of Clause 19.9.1(a) and (b) and till the date of actual payment.

19.10. Price adjustment for the Works

19.10.1 The amounts payable to the Contractor for Works shall be adjusted in accordance with the provisions of this Clause 19.10.

19.10.2 Subject to the provisions of Clause 19.10.3, the amounts payable to the Contractor for Works, shall be adjusted in the IPC issued by the Authority's Engineer for the increase or decrease in the index cost of inputs for the Works, by the addition or subtraction of the amounts determined by the formulae prescribed in Clause 19.10.4.

19.10.3 To the extent that full compensation for any increase or decrease in costs to the Contractor is not covered by the provisions of this or other Clauses in this Agreement, the costs and

prices payable under this Agreement shall be deemed to include the amounts required to cover the contingency of such other increase or decrease of costs and prices.

19.10.4 The Contract Price shall be adjusted for increase or decrease in rates and price of labour, cement, steel, Plant, machinery and spares, bitumen, fuel and lubricants, and other material inputs in accordance with the principles, procedures and formulae specified below:

- (a) Price adjustment shall be applied on completion of the specified stage of the respective item of work in accordance with Schedule-H;
- (b) Adjustment for each item of work/stage shall be made separately.
- (c) The following expressions and meanings are assigned to the value of the work done:

RW= Value of work done for the completion of a stage under the following items of Schedule-H:

- (i) Road works; and
- (ii) Other works

BR = Value of work done for the completion of a stage under the items Major Bridges and Structures (Schedule-H)

- (d) Price adjustment for changes in cost shall be paid in accordance with the following formulae:
 - (i) $VRW = 0.85 RW \times [PL \times (LI - LO)/LO + PA \times (AI - AO)/AO + PF \times (FI - FO)/FO + PB \times (BI - BO)/BO + PM \times (MI - MO)/MO + PC \times (CI - CO)/CO + PS \times (SI - SO)/SO]$
 - (ii) $VBR = 0.85 BR \times [PL \times (LI - LO)/LO + PA \times (AI - AO)/AO + PF \times (FI - FO)/FO + PM \times (MI - MO)/MO + PC \times (CI - CO)/CO + PS \times (SI - SO)/SO]$

Where

VRW = Increase or decrease in the cost of road works/other works during the period under consideration due to changes in the rates for relevant components as stated in sub-paragraph (e)

VBR = Increase or decrease in the cost of Major Bridges and Structures during the period under consideration due to changes in the rates for relevant components as stated in sub-paragraph (e)

PB, PC, PL, PM, and PS are the percentages of bitumen, cement, labour, other materials, and steel/components (including strands and cables) respectively for the relevant item as stated in sub-paragraph (e)

PA is the percentage of Plant, machinery and spares component for the relevant item as stated in sub-paragraph (e).

PF is the percentage of fuel and lubricants for the relevant items as stated in sub-paragraph (e).

AO = The wholesale price index as published by the Ministry of Commerce & Industry, Government of India (hereinafter called “WPI”) for construction machinery for the month of the Base Date.

AI = The WPI for construction machinery for the month three months prior to the month to which the IPC relates.

BO = The official retail price of bitumen at the nearest refinery at (as per the directions of the authority engineer) on the Base Date.

BI = The official retail price of bitumen at nearest refinery at (as per the directions of the authority engineer), on the first day of the month three months prior to the month to which the IPC relates.

CO = The WPI for grey cement for the month of the Base Date.

CI = The WPI for grey cement for the month three months prior to the month to which the IPC relates.

FO = The official retail price of high speed diesel (HSD) oil at the existing consumer pumps of Indian Oil Corporation (“IOC”) in the State where work is being executed on the Base Date.

FI = The official retail price of HSD at the existing consumer pumps of IOC in the State where work is being executed on the first day of the month three months prior to the month to which the IPC relates.

LO = The consumer price index for industrial workers for the Circle District Roing in the State of Arunachal Pradesh where work is being executed, published by Labour Bureau, Ministry of Labour, Government of India, (hereinafter called “CPI”) for the month of the Base Date.

LI = The CPI for the month three months prior to the month to which the IPC relates.

MO = The WPI for all commodities for the month of the Base Date.

MI = The WPI for all commodities for the month three months prior to the month to which the IPC relates.

SO = The WPI for steel (re-bars) for the month of the Base Date.

SI = The WPI for steel (re-bars) for the month three months prior to the month to which the IPC relates.

(e) The following percentages shall govern the price adjustment of the Contract Price:

Component	Item				
	Road Works				Major Bridges and Structures
	Earthwork, Granular work, and Other works	Bituminous work	Cement Concrete Pavement	Culverts, minor bridges and other structures	
Labour (PL)	20%	20%	20%	15%	15%
Cement (PC)	5%	Nil	20%	15%	15%
Steel (PS)	Nil	Nil	Nil	15%	20%
Bitumen (PB)	Nil	15%	Nil	Nil	Nil
Fuel and lubricants (PF)	10%	10%	10%	10%	10%
Other Materials (PM)	50%	40%	35%	30%	25%
Plant, machinery and spares. (PA)	15%	15%	15%	15%	15%
Total	100%	100%	100%	100%	100%

(f) In case an IPC relates to a month which is within 3 (three) months from the Base Date, no price adjustment shall be applicable.

19.11 Restrictions on price adjustment

Price adjustment shall be due and payable only in respect of the stages of Works for which the Stage Payment Statement has been submitted by the Contractor no later than 30 (thirty)

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days from the date of the applicable Project Milestone or the Scheduled Completion Date, as the case may be, including any Time Extension granted therefor in accordance with the provisions of this Agreement. For the avoidance of doubt, in the event of submission of any Stage Payment Statement after the period specified herein, price adjustment shall be applicable until the date of the respective Project Milestone or the Scheduled Completion Date, as the case may be.

19.12. Price adjustment for Maintenance of Project Highway

Lump sum payment for Maintenance shall be adjusted every quarter for changes in rates and prices of various inputs in accordance with the formula given below:

$$V = P \times (W^I - W^O) / W^O$$

V = Increase or decrease in the quarterly lump sum payment

P = Quarterly lump sum payment due to the Contractor after adjusting any reduction in payment for non compliance of the Maintenance Requirements

W^O = The wholesale price index (all commodities) for the month of the Base Date.

W^I = The wholesale price index (all commodities) for the first day of the quarter under consideration for determining the price adjustment.

19.13 Final Payment Statement

19.13.1 Within 60 (sixty) days after receiving the Completion Certificate under Clause 12.4, the Contractor shall submit to the Authority's Engineer for consideration six copies of a Final Payment Statement (the "**Final Payment Statement**") for Works, with supporting documents showing in detail, in the form prescribed by the Authority's Engineer:

- (a) the summary of Contractor's Stage Payment claims for Works as submitted in accordance with Clause 19.4;
- (b) the amounts received from the Authority against each claim; and
- (c) any further sums which the Contractor considers due to it from the Authority.

If the Authority's Engineer disagrees with or cannot verify any part of the Final Payment Statement, the Contractor shall submit such further information as the Authority's Engineer may reasonably require. The Authority's Engineer shall deliver to the Authority:

- (i) an IPC for those parts of the Final Payment Statement which are not in dispute, along with a list of disputed items which shall then be settled in accordance with the provisions of Article 26; or
- (ii) a Final Payment Certificate in accordance with Clause 19.15 if there are no disputed items.

19.13.2 If the Authority's Engineer does not prescribe the form referred to in Clause 19.13.1 within

15 (fifteen) of the date of issue of the Completion Certificate, the Contractor shall submit the statement in such form as it deems fit.

19.14 Discharge

Upon submission of the Final Payment Statement for Works under Clause 19.13, the Contractor shall give to the Authority, with a copy to the Authority's Engineer, a written discharge confirming that the total of the Final Payment Statement represents full and final settlement of all monies due to the Contractor in respect of this Agreement for all the Works arising out of this Agreement, except for any monies due to either Party on account of any Defect. Provided that such discharge shall become effective only after the payment due has been made in accordance with the Final Payment Certificate issued pursuant to Clause 19.15.

19.15 Final Payment Certificate

19.15.1 Within 30 (thirty) days after receipt of the Final Payment Statement for Works under Clause 19.13, and the written discharge under Clause 19.14, and there being no disputed items of claim, the Authority's Engineer shall deliver to the Authority, with a copy to the Contractor, a final payment certificate (the "**Final Payment Certificate**") stating the amount which, in the opinion of the Authority's Engineer, is finally due under this Agreement or otherwise. For the avoidance of doubt, before issuing the Final Payment Certificate, the Authority's Engineer shall ascertain from the Authority all amounts previously paid by the Authority and for all sums to which the Authority is entitled, the balance, if any, due from the Authority to the Contractor or from the Contractor to the Authority, as the case may be.

19.15.2 The Authority shall, in accordance with the provisions of Clause 19.9, pay to the Contractor the amount which is stated as being finally due in the Final Payment Certificate.

19.16 Final payment statement for Maintenance

19.16.1 Within 30 (thirty) days after completion of the Maintenance Period, the Contractor shall submit to the Authority's Engineer six copies of the final payment statement for Maintenance of the Project Highway, with supporting documents showing the details set forth below in the form prescribed by the Authority's Engineer :

- (a) the total amount claimed in accordance with the monthly statement for Maintenance of Project Highway;
- (b) the amount paid in accordance with the Interim Payment Certificates; and
- (c) any sums which the Contractor considers to be due to it, with supporting documents.

19.16.2 The Authority's Engineer shall certify final payment within 30 (thirty) days of the receipt of the final payment statement of Maintenance under Clause 19.16.1, segregating the items of amount payable from the items of amount disallowed. The Authority shall make payment on the basis of the final payment authorised by the Authority's Engineer within a period of 30 (thirty) days of the receipt of the Final Payment Statement from the Authority's

Engineer.

- 19.16.3 If the Authority's Engineer does not prescribe the form within 15 (fifteen) days of the date of issue of the Completion Certificate, the Contractor shall submit the statement in such form as it deems fit.

19.17 Change in law

- 19.17.1 If as a result of Change in Law, the Contractor suffers any additional costs in the execution of the Works or in relation to the performance of its other obligations under this Agreement, the Contractor shall, within 15 (fifteen) days from the date it becomes reasonably aware of such addition in cost, notify the Authority with a copy to the Authority's Engineer of such additional cost due to Change in Law.
- 19.17.2 If as a result of Change in Law, the Contractor benefits from any reduction in costs for the execution of this Agreement or in accordance with the provisions of this Agreement, either Party shall, within 15 (fifteen) days from the date it becomes reasonably aware of such reduction in cost, notify the other Party with a copy to the Authority's Engineer of such reduction in cost due to Change in Law.
- 19.17.3 The Authority's Engineer shall, within 15 (fifteen) days from the date of receipt of the notice from the Contractor or the Authority, determine any addition or reduction to the Contract Price, as the case may be, due to the Change in Law.

19.18 Correction of Interim Payment Certificates

The Authority's Engineer may by an Interim Payment Certificate make any correction or modification in any previous Interim Payment Certificate issued by the Authority's Engineer.

19.19 Authority's claims

If the Authority considers itself to be entitled to any payment from the Contractor under any Clause of this Agreement, it shall give notice and particulars to the Contractor 20 (twenty) days before making the recovery from any amount due to the Contractor, and shall take into consideration the representation, if any, made by the Contractor in this behalf, before making such recovery.

19.20 Bonus for early completion

In the event that the Project Completion Date occurs prior to the Scheduled Completion Date, the Contractor shall be entitled to receive a payment of bonus equivalent to 0.03% (zero point zero three per cent) of the Contract Price for each day by which the Project Completion Date precedes the Scheduled Completion Date, but subject to a maximum of 3% (three per cent) of the Contract Price. Provided, however, that the payment of bonus, if any, shall be made only after the issue of the Completion Certificate. For the avoidance of the doubt, the Parties agree that for the purpose of determining the bonus payable hereunder, the Contract Price shall always be deemed to be the amount specified in Clause 19.1.1, and

shall exclude any revision thereof for any reason. The Parties also agree that bonus shall be payable only if each work for which Extension of Time has been granted is completed within respective Extended Time.

ARTICLE 20

INSURANCE

20.1 Insurance for Works and Maintenance

20.1.1 The Contractor shall effect and maintain at its own cost the insurances specified in Schedule-P and as per the requirements under the Applicable Laws.

20.1.2 Subject to the provisions of Clause 21.6, the Authority and the Contractor shall, in accordance with its obligations as provided for in this Agreement, be liable to bear the cost of any loss or damage that does not fall within the scope of this Article 20 or cannot be recovered from the insurers.

20.1.3 Subject to the exceptions specified in Clause 20.1.4 below, the Contractor shall, save and except as provided for in this Agreement, fully indemnify, hold harmless and defend the Authority from and against any and all losses, damages, costs, charges and/or claims with respect to:

- (a) the death of or injury to any person; or
- (b) the loss of or damage to any property (other than the Works);

that may arise out of or in consequence of any breach by the Contractor of this Agreement during the execution of the Works or the remedying of any Defects therein.

20.1.4 Notwithstanding anything stated above in Clause 20.1.3, the Authority shall fully indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims arising out of or with respect to

- (a) the use or occupation of land or any part thereof by the Authority;
- (b) the right of the Authority to execute the Works, or any part thereof, on, over, under, in or through any land;
- (c) the damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any Defects therein, in accordance with this Agreement; and
- (d) the death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Authority, its agents, servants or other contractors, not being employed by the Contractor.

Provided that, in the event of any injury or damage as a result of the contributory negligence of the Contractor, the Authority shall be liable to indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims to the extent as may be proportionately determined to be the liability of the Authority, its servants or agents or other contractors not associated with the Contractor in such injury or damage.

20.1.5 Without prejudice to the obligations of the Parties as specified under Clauses 20.1.3 and 20.1.4, the Contractor shall maintain or effect such third party insurances as may be required under the Applicable Laws.

20.1.6 The Contractor shall provide to the Authority, within 30 days of the Appointed Date, evidence of professional liability insurance maintained by its Design Director and/or consultants to cover the risk of professional negligence in the design of Works. The professional liability coverage shall be for a sum of not less than 3% (three per cent) of the Contract Price and shall be maintained until the end of the Defects Liability Period.

20.2 Notice to the Authority

No later than 15 (fifteen) days after the date of this Agreement, the Contractor shall by notice furnish to the Authority, in reasonable detail, information in respect of the insurances that it proposes to effect and maintain in accordance with this Article 20. Within 15 (fifteen) days of receipt of such notice, the Authority may require the Contractor to effect and maintain such other insurances as may be necessary pursuant hereto, and in the event of any difference or disagreement relating to any such insurance, the Dispute Resolution Procedure shall apply.

20.3 Evidence of Insurance Cover

20.3.1 All insurances obtained by the Contractor in accordance with this Article 20 shall be maintained with insurers on terms consistent with Good Industry Practice. Within 10 (ten) days from the Appointed Date, the Contractor shall furnish to the Authority notarised true copies of the certificate(s) of insurance, copies of insurance policies and premia payment receipts in respect of such insurance, and no such insurance shall be cancelled, modified, or allowed to expire or lapse until the expiration of at least 45 (forty-five) days after notice of such proposed cancellation, modification or non-renewal has been delivered by the Contractor to the Authority. The Contractor shall act in accordance with the directions of the Authority. Provided that the Contractor shall produce to the Authority the insurance policies in force and the receipts for payment of the current premia.

20.3.2 The Contractor shall ensure the adequacy of the insurances at all times in accordance with the provisions of this Agreement.

20.4 Remedy for failure to insure

If the Contractor shall fail to effect and keep in force all insurances for which it is responsible pursuant hereto, the Authority shall have the option to either keep in force any such insurances, and pay such premia and recover the costs thereof from the Contractor, or in the event of computation of a Termination Payment, treat an amount equal to the Insurance Cover as deemed to have been received by the Contractor.

20.5 Waiver of subrogation

All insurance policies in respect of the insurance obtained by the Contractor pursuant to this Article 20 shall include a waiver of any and all rights of subrogation or recovery of the insurers thereunder against, inter alia, the Authority, and its assigns, successors,

undertakings and their subsidiaries, Affiliates, employees, insurers and underwriters, and of any right of the insurers to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy or in any way connected with any loss, liability or obligation covered by such policies of insurance.

20.6 Contractor's waiver

The Contractor hereby further releases, assigns and waives any and all rights of subrogation or recovery against, inter alia, the Authority and its assigns, undertakings and their subsidiaries, Affiliates, employees, successors, insurers and underwriters, which the Contractor may otherwise have or acquire in or from or in any way connected with any loss, liability or obligation covered by policies of insurance maintained or required to be maintained by the Contractor pursuant to this Agreement (other than third party liability insurance policies) or because of deductible clauses in or inadequacy of limits of any such policies of insurance.

20.7 Cross liabilities

Any such insurance maintained or effected in pursuance of this Article 20 shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Authority as separately insured.

20.8 Accident or injury to workmen

Notwithstanding anything stated in this Agreement, it is hereby expressly agreed between the Parties that the Authority shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or Sub-contractor, save and except as for death or injury resulting from any act, omission or default of the Authority, its agents or servants. The Contractor shall indemnify and keep indemnified the Authority from and against all such claims, proceedings, damages, costs, charges, and expenses whatsoever in respect of the above save and except for those acts, omissions or defaults for which the Authority shall be liable.

20.9 Insurance against accident to workmen

The Contractor shall effect and maintain during the Agreement such insurances as may be required to insure the Contractor's personnel and any other persons employed by it on the Project Highway from and against any liability incurred in pursuance of this Article 20. Provided that for the purposes of this Clause 20.9, the Contractor's personnel/any person employed by the Contractor shall include the Sub-contractor and its personnel. It is further provided that, in respect of any persons employed by any Sub-contractor, the Contractor's obligations to insure as aforesaid under this Clause 20.9 shall be discharged if the Sub-contractor shall have insured against any liability in respect of such persons in such manner that the Authority is indemnified under the policy. The Contractor shall require such Sub-contractor to produce before the Authority, when required, such policy of insurance and the receipt for payment of the current premium within 10 (ten) days of such demand being made by the Authority.

20.10 Application of insurance proceeds

The proceeds from all insurance claims, except for life and injury, shall be applied for any necessary repair, reconstruction, reinstatement, replacement, improvement, delivery or installation of the Project Highway and the provisions of this Agreement in respect of construction of works shall apply *mutatis mutandis* to the works undertaken out of the proceeds of insurance.

20.11 Compliance with policy conditions

Each Party hereby expressly agrees to fully indemnify the other Party from and against all losses and claims arising from its failure to comply with conditions imposed by the insurance policies effected in accordance with this Agreement.

Part V

Force Majeure and Termination

ARTICLE 21

FORCE MAJEURE

21.1 Force Majeure

As used in this Agreement, the expression “Force Majeure” or “Force Majeure Event” shall mean occurrence in India of any or all of Non-Political Event, Indirect Political Event and Political Event, as defined in Clauses 21.2, 21.3 and 21.4 respectively, if it affects the performance by the Party claiming the benefit of Force Majeure (the “**Affected Party**”) of its obligations under this Agreement and which act or event (i) is beyond the reasonable control of the Affected Party, and (ii) the Affected Party could not have prevented or overcome by exercise of due diligence and following Good Industry Practice, and (iii) has Material Adverse Effect on the Affected Party.

21.2 Non-Political Event

A Non-Political Event shall mean one or more of the following acts or events:

- (a) act of God, epidemic, extremely adverse weather conditions, lightning, earthquake, landslide, cyclone, flood, volcanic eruption, chemical or radioactive contamination or ionising radiation, fire or explosion (to the extent of contamination or radiation or fire or explosion originating from a source external to the Site);
- (b) strikes or boycotts (other than those involving the Contractor, Sub-contractors or their respective employees/representatives, or attributable to any act or omission of any of them) interrupting supplies and services to the Project Highway for a continuous period of 24 (twenty-four) hours and an aggregate period exceeding 10 (ten) days in an Accounting Year, and not being an Indirect Political Event set forth in Clause 21.3;
- (c) any failure or delay of a Sub-contractor but only to the extent caused by another Non-Political Event;
- (d) any judgement or order of any court of competent jurisdiction or statutory authority made against the Contractor in any proceedings for reasons other than (i) failure of the Contractor to comply with any Applicable Law or Applicable Permit, or (ii) on account of breach of any Applicable Law or Applicable Permit or of any contract, or (iii) enforcement of this Agreement, or (iv) exercise of any of its rights under this Agreement by the Authority;
- (e) the discovery of geological conditions, toxic contamination or archaeological remains on the Site that could not reasonably have been expected to be discovered through a site inspection; or
- (f) any event or circumstances of a nature analogous to any of the foregoing.

21.3 Indirect Political Event

An Indirect Political Event shall mean one or more of the following acts or events:

- (a) an act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage;
- (b) industry-wide or State-wide strikes or industrial action for a continuous period of 24 (twenty-four) hours and exceeding an aggregate period of 10 (ten) days in an Accounting Year;
- (c) any civil commotion, boycott or political agitation which prevents construction of the Project Highway by the Contractor for an aggregate period exceeding 10 (ten) days in an Accounting Year;
- (d) any failure or delay of a Sub-contractor to the extent caused by any Indirect Political Event;
- (e) any Indirect Political Event that causes a Non-Political Event; or
- (f) any event or circumstances of a nature analogous to any of the foregoing.

21.4 Political Event

A Political Event shall mean one or more of the following acts or events by or on account of any Government Instrumentality:

- (a) Change in Law, only if consequences thereof cannot be dealt with under and in accordance with the provisions of Clause 19.17;
- (b) compulsory acquisition in national interest or expropriation of any Project Assets or rights of the Contractor or of the Sub-Contractors;
- (c) unlawful or unauthorised or without jurisdiction revocation of, or refusal to renew or grant without valid cause, any clearance, licence, permit, authorisation, no objection certificate, consent, approval or exemption required by the Contractor or any of the Sub-contractors to perform their respective obligations under this Agreement; provided that such delay, modification, denial, refusal or revocation did not result from the Contractor's or any Sub-contractor's inability or failure to comply with any condition relating to grant, maintenance or renewal of such clearance, licence, authorisation, no objection certificate, exemption, consent, approval or permit;
- (d) any failure or delay of a Sub-contractor but only to the extent caused by another Political Event; or
- (e) any event or circumstances of a nature analogous to any of the foregoing.

21.5 Duty to report Force Majeure Event

21.5.1 Upon occurrence of a Force Majeure Event, the Affected Party shall by notice report such occurrence to the other Party forthwith. Any notice pursuant hereto shall include full particulars of:

- (a) the nature and extent of each Force Majeure Event which is the subject of any claim for relief under this Article 21 with evidence in support thereof;
- (b) the estimated duration and the effect or probable effect which such Force Majeure Event is having or will have on the Affected Party's performance of its obligations under this Agreement;
- (c) the measures which the Affected Party is taking or proposes to take for alleviating the impact of such Force Majeure Event; and
- (d) any other information relevant to the Affected Party's claim.

21.5.2 The Affected Party shall not be entitled to any relief for or in respect of a Force Majeure Event unless it shall have notified the other Party of the occurrence of the Force Majeure Event as soon as reasonably practicable, and in any event no later than 10 (ten) days after the Affected Party knew, or ought reasonably to have known, of its occurrence, and shall have given particulars of the probable material effect that the Force Majeure Event is likely to have on the performance of its obligations under this Agreement.

21.5.3 For so long as the Affected Party continues to claim to be materially affected by such Force Majeure Event, it shall provide the other Party with regular (and not less than weekly) reports containing information as required by Clause 21.5.1, and such other information as the other Party may reasonably request the Affected Party to provide.

21.6 Effect of Force Majeure Event on the Agreement

21.6.1 Upon the occurrence of any Force Majeure after the Appointed Date, the costs incurred and attributable to such event and directly relating to this Agreement (the "**Force Majeure costs**") shall be allocated and paid as follows:

- (a) upon occurrence of a Non-Political Event, the Parties shall bear their respective Force Majeure costs and neither Party shall be required to pay to the other Party any costs thereof;
- (b) upon occurrence of an Indirect Political Event, all Force Majeure costs attributable to such Indirect Political Event, and not exceeding the Insurance Cover for such Indirect Political Event, shall be borne by the Contractor, and to the extent Force Majeure costs exceed such Insurance Cover, one half of such excess amount shall be reimbursed by the Authority to the Contractor for the Force Majeure events; and
- (c) upon occurrence of a Political Event, all Force Majeure costs attributable to such Political Event shall be reimbursed by the Authority to the Contractor.

For the avoidance of doubt, Force Majeure costs may include costs directly attributable to the Force Majeure Event, but shall not include debt repayment obligations, if any, of the

Contractor.

- 21.6.2 Save and except as expressly provided in this Article 21, neither Party shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant hereto.
- 21.6.3 Upon the occurrence of any Force Majeure Event during the Construction Period, the Project Completion Schedule for and in respect of the affected Works shall be extended on a day for day basis for such period as performance of the Contractor's obligations is affected on account of the Force Majeure Event or its subsisting effects.

21.7 Termination Notice for Force Majeure Event

- 21.7.1 If a Force Majeure Event subsists for a period of 60 (sixty) days or more within a continuous period of 120 (one hundred and twenty) days, either Party may in its discretion terminate this Agreement by issuing a Termination Notice to the other Party without being liable in any manner whatsoever, save as provided in this Article 21, and upon issue of such Termination Notice, this Agreement shall, notwithstanding anything to the contrary contained herein, stand terminated forthwith; provided that before issuing such Termination Notice, the Party intending to issue the Termination Notice shall inform the other Party of such intention and grant 15 (fifteen) days time to make a representation, and may after the expiry of such 15 (fifteen) days period, whether or not it is in receipt of such representation, in its sole discretion issue the Termination Notice.

21.8 Termination Payment for Force Majeure Event

- 21.8.1 In the event of this Agreement being terminated on account of a Non-Political Event, the Termination Payment shall be an amount equal to the sum payable under Clause 23.5.

Provided that in the event Termination occurs during the Maintenance Period, the Authority's Engineer shall only determine the value of Works associated with Maintenance.

- 21.8.2 If Termination is on account of an Indirect Political Event, the Termination Payment shall include:

- (a) any sums due and payable under Clause 23.5; and
- (b) the reasonable cost, as determined by the Authority's Engineer, of the Plant and Materials procured by the Contractor and transferred to the Authority for use in Construction or Maintenance, only if such Plant and Materials are in conformity with the Specifications and Standards;

Provided that in the event Termination occurs during the Maintenance Period, the Authority's Engineer shall only determine the value of Works associated with Maintenance.

- 21.8.3 If Termination is on account of a Political Event, the Authority shall make a Termination Payment to the Contractor in an amount that would be payable under Clause 23.6.2 as if it were an Authority Default.

21.9 Dispute resolution

In the event that the Parties are unable to agree in good faith about the occurrence or existence of a Force Majeure Event, such Dispute shall be finally settled in accordance with the Dispute Resolution Procedure; provided that the burden of proof as to the occurrence or existence of such Force Majeure Event shall be upon the Party claiming relief and/or excuse on account of such Force Majeure Event.

21.10 Excuse from performance of obligations

If the Affected Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations to the extent it is unable to perform on account of such Force Majeure Event; provided that:

- (a) the suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force Majeure Event;
- (b) the Affected Party shall make all reasonable efforts to mitigate or limit damage to the other Party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence; and
- (c) when the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party notice to that effect and shall promptly resume performance of its obligations hereunder.

ARTICLE 22

SUSPENSION OF CONTRACTOR'S RIGHTS

22.1 Suspension upon Contractor Default

Upon occurrence of a Contractor Default, the Authority shall be entitled, without prejudice to its other rights and remedies under this Agreement including its rights of Termination hereunder, to (i) suspend carrying out of the Works or Maintenance or any part thereof, and (ii) carry out such Works or Maintenance itself or authorise any other person to exercise or perform the same on its behalf during such suspension (the “**Suspension**”). Suspension hereunder shall be effective forthwith upon issue of notice by the Authority to the Contractor and may extend up to a period not exceeding 90 (ninety) days from the date of issue of such notice.

22.2 Authority to act on behalf of Contractor

During the period of Suspension hereunder, all rights and liabilities vested in the Contractor in accordance with the provisions of this Agreement shall continue to vest therein and all things done or actions taken, including expenditure incurred by the Authority for discharging the obligations of the Contractor under and in accordance with this Agreement shall be deemed to have been done or taken for and on behalf of the Contractor and the Contractor undertakes to indemnify the Authority for all costs incurred during such period. The Contractor hereby licences and sub-licences respectively, the Authority or any other person authorised by it under Clause 22.1 to use during Suspension, all Intellectual Property belonging to or licenced to the Contractor with respect to the Project Highway and its design, engineering, construction and maintenance, and which is used or created by the Contractor in performing its obligations under the Agreement.

22.3 Revocation of Suspension

22.3.1 In the event that the Authority shall have rectified or removed the cause of Suspension within a period not exceeding 60 (sixty) days from the date of Suspension, it shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement. For the avoidance of doubt, the Parties expressly agree that the Authority may, in its discretion, revoke the Suspension at any time, whether or not the cause of Suspension has been rectified or removed hereunder.

22.3.2 Upon the Contractor having cured the Contractor Default within a period not exceeding 60 (sixty) days from the date of Suspension, the Authority shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement.

22.4 Termination

22.4.1 At any time during the period of Suspension under this Article 22, the Contractor may by notice require the Authority to revoke the Suspension and issue a Termination Notice. The Authority shall, within 15 (fifteen) days of receipt of such notice, terminate this Agreement under and in accordance with Article 23.

22.4.2 Notwithstanding anything to the contrary contained in this Agreement, in the event that Suspension is not revoked within 90 (ninety) days from the date of Suspension hereunder, the Agreement shall, upon expiry of the aforesaid period, be deemed to have been terminated by mutual agreement of the Parties and all the provisions of this Agreement shall apply, *mutatis mutandis*, to such Termination as if a Termination Notice had been issued by the Authority upon occurrence of a Contractor Default.

ARTICLE 23

TERMINATION

23.1 Termination for Contractor Default

23.1.1 Save as otherwise provided in this Agreement, in the event that any of the defaults specified below shall have occurred, and the Contractor fails to cure the default within the Cure Period set forth below, or where no Cure Period is specified, then within a Cure Period of 60 (sixty) days, the Contractor shall be deemed to be in default of this Agreement (the “**Contractor Default**”), unless the default has occurred solely as a result of any breach of this Agreement by the Authority or due to Force Majeure. The defaults referred to herein shall include:

- (a) the Contractor fails to provide, extend or replenish, as the case may be, the Performance Security in accordance with this Agreement;
- (b) subsequent to the replenishment or furnishing of fresh Performance Security in accordance with Clause 7.3, the Contractor fails to cure, within a Cure Period of 30 (thirty) days, the Contractor Default for which the whole or part of the Performance Security was appropriated;
- (c) the Contractor does not achieve the latest outstanding Project Milestone due in accordance with the provisions of Schedule-J, subject to any Time Extension, and continues to be in default for 45 (forty five) days;
- (d) the Contractor abandons or manifests intention to abandon the construction or Maintenance of the Project Highway without the prior written consent of the Authority;
- (e) the Contractor fails to proceed with the Works in accordance with the provisions of Clause 10.1 or stops Works and/or the Maintenance for 30 (thirty) days without reflecting the same in the current programme and such stoppage has not been authorised by the Authority’s Engineer;
- (f) the Project Completion Date does not occur within the period specified in Schedule-J for the Scheduled Completion Date, or any extension thereof;
- (g) failure to complete the Punch List items within the periods stipulated therefor in Clause 12.2.1;
- (h) the Contractor fails to rectify any Defect, the non rectification of which shall have a Material Adverse Effect on the Project, within the time specified in this Agreement or as directed by the Authority’s Engineer;
- (i) the Contractor subcontracts the Works or any part thereof in violation of this Agreement or assigns any part of the Works or the Maintenance without the prior

approval of the Authority;

- (j) the Contractor creates any Encumbrance in breach of this Agreement;
- (k) an execution levied on any of the assets of the Contractor has caused a Material Adverse Effect ;
- (l) the Contractor is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for the Contractor or for the whole or material part of its assets that has a material bearing on the Project;
- (m) the Contractor has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the Authority, a Material Adverse Effect;
- (n) a resolution for winding up of the Contractor is passed, or any petition for winding up of the Contractor is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 (ninety) days of the date thereof or the Contractor is ordered to be wound up by court except for the purpose of amalgamation or reconstruction; provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of the Contractor are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Contractor under this Agreement; and provided that:
 - (i) the amalgamated or reconstructed entity has the capability and experience necessary for the performance of its obligations under this Agreement; and
 - (ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and has a credit worthiness at least as good as that of the Contractor as at the Appointed Date;
- (o) any representation or warranty of the Contractor herein contained which is, as of the date hereof, found to be materially false or the Contractor is at any time hereafter found to be in breach thereof;
- (p) the Contractor submits to the Authority any statement, notice or other document, in written or electronic form, which has a material effect on the Authority's rights, obligations or interests and which is false in material particulars;
- (q) the Contractor has failed to fulfil any obligation, for which failure Termination has been specified in this Agreement; or
- (r) the Contractor commits a default in complying with any other provision of this Agreement if such a default causes a Material Adverse Effect on the Project or on the Authority.

23.1.2 Without prejudice to any other rights or remedies which the Authority may have under this Agreement, upon occurrence of a Contractor Default, the Authority shall be entitled to

terminate this Agreement by issuing a Termination Notice to the Contractor; provided that before issuing the Termination Notice, the Authority shall by a notice inform the Contractor of its intention to issue such Termination Notice and grant 15 (fifteen) days to the Contractor to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

- 23.1.3 After termination of this Agreement for Contractor Default, the Authority may complete the Works and/or arrange for any other entities to do so. The Authority and these entities may then use any Materials, Plant and equipment, Contractor's documents and other design documents made by or on behalf of the Contractor.

23.2 Termination for Authority Default

- 23.2.1 In the event that any of the defaults specified below shall have occurred, and the Authority fails to cure such default within a Cure Period of 90 (ninety) days or such longer period as has been expressly provided in this Agreement, the Authority shall be deemed to be in default of this Agreement (the "Authority Default") unless the default has occurred as a result of any breach of this Agreement by the Contractor or due to Force Majeure. The defaults referred to herein shall include: (a) the Authority commits a material default in complying with any of the provisions of this Agreement and such default has a Material Adverse Effect on the Contractor; (b) the Authority has failed to make payment of any amount due and payable to the Contractor within the period specified in this Agreement;
- (c) the Authority has failed to provide, within a period of 180 (one hundred and eighty) days from the Appointed Date, the environmental clearances required for construction of the Project Highway;
- (d) the Authority repudiates this Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by this Agreement; or
- (e) the Authority's Engineer fails to issue the relevant Interim Payment Certificate within 60 (sixty) days after receiving a statement and supporting documents.

- 23.2.2 Without prejudice to any other right or remedy which the Contractor may have under this Agreement, upon occurrence of an Authority Default, the Contractor shall be entitled to terminate this Agreement by issuing a Termination Notice to the Authority; provided that before issuing the Termination Notice, the Contractor shall by a notice inform the Authority of its intention to issue the Termination Notice and grant 15 (fifteen) days to the Authority to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

If on the consideration of the Authority's representation or otherwise, the contractor does not issue the Termination Notice on such 15th day and prefers to continue with the project, it is deemed that the cause of action of the Termination Notice has been condoned by the Contractor. Hence he forfeits his right to any other remedy on that count.

23.3 Termination for Authority's convenience

Notwithstanding anything stated hereinabove, the Authority may terminate this Agreement

for convenience. The termination shall take effect 30 (thirty) days from the date of notice hereunder.

23.4 Requirements after Termination

Upon Termination of this Agreement in accordance with the terms of this Article 23, the Contractor shall comply with and conform to the following:

- (a) deliver to the Authority all Plant and Materials which shall have become the property of the Authority under this Article 23;
- (b) deliver all relevant records, reports, Intellectual Property and other licences pertaining to the Works, Maintenance, other design documents and in case of Termination occurring after the Provisional Certificate has been issued, the “as built” Drawings for the Works;
- (c) transfer and/or deliver all Applicable Permits to the extent permissible under Applicable Laws; and
- (d) vacate the Site within 15 (fifteen) days.

23.5 Valuation of Unpaid Works

23.5.1 Within a period of 45 (forty-five) days after Termination under Clause 23.1, 23.2 or 23.3, as the case may be, has taken effect, the Authority’s Engineer shall proceed in accordance with Clause 18.5 to determine as follows the valuation of unpaid Works (the “**Valuation of Unpaid Works**”):

- (a) value of the completed stage of the Works, less payments already made;
- (b) reasonable value of the partially completed stages of works as on the date of Termination, only if such works conform with the Specifications and Standards; and
- (c) value of Maintenance, if any, for completed months, less payments already made,

and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement; and (ii) all taxes due to be deducted at source.

23.5.2 The Valuation of Unpaid Works shall be communicated to the Authority, with a copy to the Contractor, within a period of 30 (thirty) days from the date of Termination.

23.6 Termination Payment

23.6.1 Upon Termination on account of Contractor’s Default under Clause 23.1, the Authority shall:

- (a) encash and appropriate the Performance Security and Retention Money, or in the event the Contractor has failed to replenish or extend the Performance Security, claim the amount stipulated in Clause 7.1.1, as agreed pre-determined compensation to the

Authority for any losses, delays and cost of completing the Works and Maintenance, if any;

- (b) encash and appropriate the bank guarantee, if any, for and in respect of the outstanding Advance Payment and interest thereon; and
- (c) pay to the Contractor, by way of Termination Payment, an amount equivalent to the Valuation of Unpaid Works after adjusting any other sums payable or recoverable, as the case may be, in accordance with the provisions of this Agreement.

23.6.2 Upon Termination on account of an Authority Default under Clause 23.2 or for Authority's convenience under Clause 23.3, the Authority shall:

- (a) return the Performance Security and Retention Money forthwith;
- (b) encash and appropriate the bank guarantee, if any, for and in respect of the outstanding Advance Payment; and
- (c) pay to the Contractor, by way of Termination Payment, an amount equal to:
 - (i) Valuation of Unpaid Works;
 - (ii) the reasonable cost, as determined by the Authority's Engineer, of the Plant and Materials procured by the Contractor and transferred to the Authority for its use, only if such Plant and Materials are in conformity with the Specifications and Standards;
 - (iii) the reasonable cost of temporary works, as determined by the Authority's Engineer; and
 - (iv) 10% (ten per cent) of the cost of the Works and Maintenance that are not commenced or not completed,

and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement, and (ii) all taxes due to be deducted at source.

23.6.3 Termination Payment shall become due and payable to the Contractor within 30 (thirty) days of a demand being made by the Contractor to the Authority with the necessary particulars, and in the event of any delay, the Authority shall pay interest at the Base Rate plus 2% (two percent), calculated at quarterly rests, on the amount of Termination Payment remaining unpaid; provided that such delay shall not exceed 90 (ninety) days. For the avoidance of doubt, it is expressly agreed that Termination Payment shall constitute full discharge by the Authority of its payment obligations in respect thereof hereunder.

23.6.4 The Contractor expressly agrees that Termination Payment under this Article 23 shall constitute a full and final settlement of all claims of the Contractor on account of Termination of this Agreement and that it shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

23.7 Other rights and obligations of the Parties

Upon Termination for any reason whatsoever

- (a) property and ownership in all Materials, Plant and Works and the Project Highway shall, as between the Contractor and the Authority, vest in the Authority in whole; provided that the foregoing shall be without prejudice to Clause 23.6
- (b) risk of loss or damage to any Materials, Plant or Works and the care and custody thereof shall pass from the Contractor to the Authority; and
- (c) the Authority shall be entitled to restrain the Contractor and any person claiming through or under the Agreement from entering upon the Site or any part of the Project except for taking possession of materials, stores, implements, construction plants and equipment of the Contractor, which have not been vested in the Authority in accordance with the provisions of this Agreement.

23.8 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, insurance proceeds, security deposits, and other rights and remedies, which it may have in law or Agreement. All rights and obligations of either Party under this Agreement, including Termination Payments, shall survive the Termination to the extent such survival is necessary for giving effect to such rights and obligations.

Part VI

Other Provisions

ARTICLE 24

ASSIGNMENT AND CHARGES

24.1 Restrictions on assignment and charges

This Agreement shall not be assigned by the Contractor to any person, save and except with the prior consent in writing of the Authority, which consent the Authority shall be entitled to decline without assigning any reason.

24.2 Hypothecation of Materials or Plant

Notwithstanding the provisions of Clause 24.1, the Contractor may pledge or hypothecate to its lenders, any Materials or Plant prior to their incorporation in the Works. Further, the Contractor may, by written notice to the Authority, assign its right to receive payments under this Agreement either absolutely or by way of charge, to any person providing financing to the Contractor in connection with the performance of the Contractor's obligations under this Agreement. The Contractor acknowledges that any such assignment by the Contractor shall not relieve the Contractor from any obligations, duty or responsibility under this Agreement.

ARTICLE 25

LIABILITY AND INDEMNITY

25.1 General indemnity

25.1.1 The Contractor will indemnify, defend, save and hold harmless the Authority and its officers, servants, agents, Government Instrumentalities and Government owned and/or controlled entities/enterprises, (the “**Authority Indemnified Persons**”) against any and all suits, proceedings, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by the Contractor of any of its obligations under this Agreement or from any negligence under the Agreement, including any errors or deficiencies in the design documents, or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of this Agreement on the part of the Authority Indemnified Persons.

25.2 Indemnity by the Contractor

25.2.1 Without limiting the generality of Clause 25.1, the Contractor shall fully indemnify, hold harmless and defend the Authority and the Authority Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:

- (a) failure of the Contractor to comply with Applicable Laws and Applicable Permits;
- (b) payment of taxes required to be made by the Contractor in respect of the income or other taxes of the Sub-contractors, suppliers and representatives; or
- (c) non-payment of amounts due as a result of Materials or services furnished to the Contractor or any of its Sub-contractors which are payable by the Contractor or any of its Sub-contractors.

25.2.2 Without limiting the generality of the provisions of this Article 25, the Contractor shall fully indemnify, hold harmless and defend the Authority Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which the Authority Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Contractor or by the Sub-contractors in performing the Contractor’s obligations or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Contractor shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Project Highway, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, the Contractor shall promptly make every reasonable effort to secure for the Authority a licence, at no cost to the Authority, authorising continued use of the infringing work. If the Contractor is unable to secure such licence within a reasonable time, the Contractor shall, at its own expense, and

without impairing the Specifications and Standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

25.3 Notice and contest of claims

In the event that either Party receives a claim or demand from a third party in respect of which it is entitled to the benefit of an indemnity under this Article 25 (the “**Indemnified Party**”) it shall notify the other Party (the “**Indemnifying Party**”) within 15 (fifteen) days of receipt of the claim or demand and shall not settle or pay the claim without the prior approval of the Indemnifying Party, which approval shall not be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim or demand, it may conduct the proceedings in the name of the Indemnified Party, subject to the Indemnified Party being secured against any costs involved, to its reasonable satisfaction.

25.4 Defence of claims

- 25.4.1 The Indemnified Party shall have the right, but not the obligation, to contest, defend and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such Party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder, and reasonable costs and expenses thereof shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the Indemnified Party in respect of loss to the full extent provided by this Article 25, the Indemnifying Party shall be entitled, at its option, to assume and control the defence of such claim, action, suit or proceeding, liabilities, payments and obligations at its expense and through the counsel of its choice; provided it gives prompt notice of its intention to do so to the Indemnified Party and reimburses the Indemnified Party for the reasonable cost and expenses incurred by the Indemnified Party prior to the assumption by the Indemnifying Party of such defence. The Indemnifying Party shall not be entitled to settle or compromise any claim, demand, action, suit or proceeding without the prior written consent of the Indemnified Party, unless the Indemnifying Party provides such security to the Indemnified Party as shall be reasonably required by the Indemnified Party to secure the loss to be indemnified hereunder to the extent so compromised or settled.
- 25.4.2 If the Indemnifying Party has exercised its rights under Clause 25.3, the Indemnified Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the Indemnifying Party (which consent shall not be unreasonably withheld or delayed).
- 25.4.3 If the Indemnifying Party exercises its rights under Clause 25.3, the Indemnified Party shall nevertheless have the right to employ its own counsel, and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of the Indemnified Party, when and as incurred, unless:
- (a) the employment of counsel by such party has been authorised in writing by the Indemnifying Party; or
 - (b) the Indemnified Party shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Party in the conduct

of the defence of such action; or

- (c) the Indemnifying Party shall not, in fact, have employed independent counsel reasonably satisfactory to the Indemnified Party, to assume the defence of such action and shall have been so notified by the Indemnified Party; or
- (d) the Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either:
 - (i) that there may be specific defences available to it which are different from or additional to those available to the Indemnifying Party; or
 - (ii) that such claim, action, suit or proceeding involves or could have a material adverse effect upon it beyond the scope of this Agreement:

Provided that if Sub-clauses (b), (c) or (d) of this Clause 25.4.3 shall be applicable, the counsel for the Indemnified Party shall have the right to direct the defence of such claim, demand, action, suit or proceeding on behalf of the Indemnified Party, and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder.

25.5 No consequential claims

Notwithstanding anything to the contrary contained in this Article 25, the indemnities herein provided shall not include any claim or recovery in respect of any cost, expense, loss or damage of an indirect, incidental or consequential nature, including loss of profit, except as expressly provided in this Agreement.

25.6 Survival on Termination

The provisions of this Article 25 shall survive Termination.

ARTICLE 26

DISPUTE RESOLUTION

26.1 Dispute Resolution

- 26.1.1 Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the “**Dispute**”) shall, in the first instance, be attempted to be resolved amicably in accordance with the conciliation procedure set forth in Clause 26.2.
- 26.1.2 The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith, and further agree to provide each other with reasonable access during normal business hours to all non-privileged records, information and data pertaining to any Dispute.

26.2 Conciliation

In the event of any Dispute between the Parties, either Party may call upon the Authority’s Engineer, or such other person as the Parties may mutually agree upon (the “**Conciliator**”) to mediate and assist the Parties in arriving at an amicable settlement thereof. Failing mediation by the Conciliator or without the intervention of the Conciliator, either Party may require such Dispute to be referred to the Chairman of the Authority and the Chairman of the Board of Directors of the Contractor for amicable settlement, and upon such reference, the said persons shall meet no later than 7 (seven) business days from the date of reference to discuss and attempt to amicably resolve the Dispute. If such meeting does not take place within the 7 (seven) business day period or the Dispute is not amicably settled within 15 (fifteen) days of the meeting or the Dispute is not resolved as evidenced by the signing of written terms of settlement within 30 (thirty) days of the notice in writing referred to in Clause 26.1.1 or such longer period as may be mutually agreed by the Parties, either Party may refer the Dispute to arbitration in accordance with the provisions of Clause 26.3.

26.3 Arbitration

- 26.3.1 Any Dispute, which is not resolved amicably as provided in clause 26.1 & 26.2 shall be finally settled by arbitration as set forth below:
- (i) The Dispute shall be finally settled by arbitration in accordance with the Arbitration & Conciliation Act, 1996, or any statutory amendment thereof. The Arbitral tribunal shall consist of 3 Arbitrators, one each to be appointed by NHIDCL and the Contractor. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding Arbitrator. In case of failure of the two Arbitrators, appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the Arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the Chairman of the Executive Committee of the Indian Roads Congress.

- (ii) Neither party shall be limited in the proceedings before such Tribunal to the evidence or arguments before the other party/ Independent consultant.
- (iii) Arbitration may be commenced during or after the Contract Period, provided that the obligations of NHIDCL and the Contractor shall not be altered by reason of the arbitration being conducted during the Contract Period.
- (iv) If one of the parties fails to appoint its Arbitrator in pursuance of Sub-Clause (i) above, within 30 days after receipt of the notice of the appointment of its Arbitrator by the other party, then the Chairman of the Executive Committee of the Indian Roads Congress, shall appoint the Arbitrator. A certified Copy of the order of the Chairman of the Executive Committee of the Indian Roads Congress making such an appointment shall be furnished to each of the parties.
- (v) Arbitration proceedings shall be held at Delhi, India, and the language of the Arbitration Proceedings and that of all documents and communications between the parties shall be English.
- (vi) The expenses incurred by each party in connection with preparation, presentation, etc., of its proceedings shall be borne by each party itself.
- (vii) The fees and expenses payable to the Arbitrators shall be as per the schedule of remuneration and expenses for Arbitrators notified by NHAI vide letter no. 11041/217/2007-Admin. Dt. 13th January 2010 reproduced herein below, or any amendment thereof:

S.No.	Particulars	Schedule Amount payable per Arbitrator / per case
1	Arbitrator Fee	Rs. 15,000/- per day subject to a maximum of Rs. 4 lakhs per case Or Rs. 2.5 lakhs (lump sum) subject to publishing the Award within 12 months. 12 months will be reckoned from the date of first hearing.
2	Reading Charges	Rs. 15,000/-
3	Secretarial Assistance and incidental charges (telephone, fax, postage etc.)	Rs. 20,000/-
4	Charges for publishing/ declaration of the Award	Maximum of Rs. 20,000/-
5	Other expenses (actuals against bills subject to the prescribed ceiling) – applicable for the days of hearing only.	

	Travelling Expenses and Lodging and Boarding	Economy class by air, first class AC by train, AC car by road (i) Upto Rs. 15,000/- per day (metro cities) (ii) Upto Rs. 7,000/- per day (other cities) (iii) Rs. 3,000/- per day (own arrangement)
6	Local Travel	Rs. 1,500/- per day
7	Extra charges for days other than hearing / meeting days (maximum for 2 days)	Rs. 3,500/- per day
Note	1. Lodging, boarding and traveling expenses shall be allowed only for those members who are residing 100 kms away from place of meeting. 2. Delhi, Mumbai, Chennai, Kolkata, Bangalore and Hyderabad shall be considered as Metro cities.	

26.3.2 Deleted.

26.3.3 The arbitrators shall make a reasoned award (the “**Award**”). Any Award made in any arbitration held pursuant to this Article 26 shall be final and binding on the Parties as from the date it is made, and the Contractor and the Authority agree and undertake to carry out such Award without delay.

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

26.3.5 This Agreement and the rights and obligations of the Parties shall remain in full force and effect, pending the Award in any arbitration proceedings hereunder.

26.3.6 In the event the Party against whom the Award has been granted challenges the Award for any reason in a court of law, it shall make an interim payment to the other Party for an amount equal to 75% (seventy five per cent) of the Award, pending final settlement of the Dispute. The aforesaid amount shall be paid forthwith upon furnishing an irrevocable Bank Guarantee for a sum equal to 120 % (one hundred and twenty per cent) of the aforesaid amount. Upon final settlement of the Dispute, the aforesaid interim payment shall be adjusted and any balance amount due to be paid or returned, as the case may be, shall be paid or returned with interest calculated at the rate of 10% (ten per cent) per annum from the date of interim payment to the date of final settlement of such balance.

26.4 Adjudication by Regulatory Authority, Tribunal or Commission

In the event of constitution of a statutory regulatory authority, tribunal or commission, as

the case may be, with powers to adjudicate upon disputes between the Contractor and the Authority, all Disputes arising after such constitution shall, instead of reference to arbitration under Clause 26.3, be adjudicated upon by such regulatory authority, tribunal or commission in accordance with the Applicable Law and all references to Dispute Resolution Procedure shall be construed accordingly. For the avoidance of doubt, the Parties hereto agree that the adjudication hereunder shall not be final and binding until an appeal against such adjudication has been decided by an appellate tribunal or court of competent jurisdiction, as the case may be, or no such appeal has been preferred within the time specified in the Applicable Law.

ARTICLE 27

MISCELLANEOUS

27.1 Governing law and jurisdiction

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

27.2 Waiver of immunity

Each Party unconditionally and irrevocably:

- (a) agrees that the execution, delivery and performance by it of this Agreement constitute commercial acts done and performed for commercial purpose;
- (b) agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Party with respect to its assets;
- (c) waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
- (d) consents generally in respect of the enforcement of any judgement or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgement that may be made or given in connection therewith).

27.3 Delayed payments

The Parties hereto agree that payments due from one Party to the other Party under the provisions of this Agreement shall be made within the period set forth therein, and if no such period is specified, within 30 (thirty) days of receiving a demand along with the necessary particulars. In the event of delay beyond such period, the defaulting Party shall pay interest for the period of delay calculated at a rate equal to Base Rate plus 2 (two) percent, calculated at quarterly rests, and recovery thereof shall be without prejudice to the rights of the Parties under this Agreement including Termination thereof.

27.4 Waiver

- 27.4.1 Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:-

- (a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;
- (b) shall not be effective unless it is in writing and executed by a duly authorised representative of the Party; and
- (c) shall not affect the validity or enforceability of this Agreement in any manner.

27.4.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

27.5 Liability for review of Documents and Drawings

Except to the extent expressly provided in this Agreement:

- (a) no review, comment or approval by the Authority or the Authority's Engineer of any Document or Drawing submitted by the Contractor nor any observation or inspection of the construction, or maintenance of the Project Highway nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Contractor from its obligations, duties and liabilities under this Agreement, the Applicable Laws and Applicable Permits; and
- (b) the Authority shall not be liable to the Contractor by reason of any review, comment, approval, observation or inspection referred to in Sub-clause (a) above.

27.6 Exclusion of implied warranties etc.

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by either Party not contained in a binding legal agreement executed by both Parties.

27.7 Survival

27.7.1 Termination shall:

- (a) not relieve the Contractor or the Authority, as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof; and
- (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of, or caused by, acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

27.7.2 All obligations surviving Termination shall only survive for a period of 3 (three) years following the date of such Termination.

27.8 Entire Agreement

This Agreement and the Schedules together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof, and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn. For the avoidance of doubt, the Parties hereto agree that any obligations of the Contractor arising from the Request for Proposals shall be deemed to form part of this Agreement and treated as such.

27.9 Severability

If for any reason whatever, 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.

27.10 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 or be an agent or representative of, or to otherwise bind, the other Party.

27.11 Third parties

This Agreement is intended solely for the benefit of the Parties, and their respective successors and permitted assigns, and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Agreement.

27.12 Successors and assigns

This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and permitted assigns.

27.13 Notices

Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated by this Agreement shall be in writing and shall:

- (a) in the case of the Contractor, be given by facsimile or e-mail and by letter delivered by hand to the address given and marked for attention of the person set out below or to such other person as the Contractor may from time to time designate by notice to the Authority; provided that notices or other communications to be given to an address outside Delhi may, if they are subsequently confirmed by sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile or e-mail to the person as the Contractor may from time to time designate by notice to the Authority;

(address of the selected bidder)***

- (b) in the case of the Authority, be given by facsimile or e-mail and by letter delivered by hand and be addressed to the Chairman of the Authority with a copy delivered to the Authority Representative or such other person as the Authority may from time to time designate by notice to the Contractor; provided that if the Contractor does not have an office in Delhi it may send such notice by facsimile or e-mail and by registered acknowledgement due, air mail or by courier; and
- (c) any notice or communication by a Party to the other Party, given in accordance herewith, shall be deemed to have been delivered when in the normal course of post it ought to have been delivered and in all other cases, it shall be deemed to have been delivered on the actual date and time of delivery; provided that in the case of facsimile or e-mail, it shall be deemed to have been delivered on the working day following the date of its delivery.

27.14 Language

All notices required to be given by one Party to the other Party and all other communications, Documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in English language.

27.15 Counterparts

This Agreement may be executed in two counterparts, each of which, when executed and delivered, shall constitute an original of this Agreement.

27.16 Confidentiality

The Parties shall treat the details of this Agreement as private and confidential, except to the extent necessary to carry out obligations under it or to comply with Applicable Laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous agreement of the Authority.

27.17 Copyright and Intellectual Property rights

27.17.1 As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor. The Contractor shall be deemed (by signing this Agreement) to give to the Authority a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:

- (a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- (b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- (c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by this Agreement, including replacements of any computers supplied by the Contractor:

27.17.2 The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Authority for purposes other than those permitted under this Clause 27.17.

27.17.3 As between the Parties, the Authority shall retain the copyright and other intellectual property rights in this Agreement and other documents made by (or on behalf of) the Authority. The Contractor may, at its cost, copy, use, and obtain communication of these documents for the purposes of this Agreement. They shall not, without the Authority's consent, be copied, used or communicated to a third party by the Contractor, except as

necessary for the purposes of the contract.

27.18 Limitation of Liability

27.18.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with this Agreement, save and except as provided under Articles 23 and 25.

27.18.2 The total liability of one Party to the other Party under and in accordance with the provisions of this Agreement, save and except as provided in Articles 23 and 25, shall not exceed the Contract Price. For the avoidance of doubt, this Clause shall not limit the liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

ARTICLE 28 DEFINITIONS

28.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

“Accounting Year” means the financial year commencing from the first day of April of any calendar year and ending on the thirty-first day of March of the next calendar year;

“Advance Payment” shall have the meaning set forth in Clause 19.2;

“Affected Party” shall have the meaning set forth in Clause 21.1;

“Affiliate” means, in relation to either Party {and/or Members}, a person who controls, is controlled by, or is under the common control with such Party {or Member} (as used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person, whether by operation of law or by contract or otherwise);

“Agreement” means this Agreement, its Recitals, the Schedules hereto and any amendments thereto made in accordance with the provisions contained in this Agreement;

“Applicable Laws” means all laws, brought into force and effect by GOI or the State Government including rules, regulations and notifications made thereunder, and judgements, decrees, injunctions, writs and orders of any court of record, applicable to this Agreement and the exercise, performance and discharge of the respective rights and obligations of the Parties hereunder, as may be in force and effect during the subsistence of this Agreement;

“Applicable Permits” means all clearances, licences, permits, authorisations, no objection certificates, consents, approvals and exemptions required to be obtained or maintained under Applicable Laws in connection with the construction, operation and maintenance of the Project Highway during the subsistence of this Agreement;

“Appointed Date” means that date which is later of the 15th day of the date of this Agreement, the date on which the Contractor has delivered the Performance Security in accordance with the provisions of Article 7 and the date on which the Authority has provided the Right of Way on no less than 90% (Ninety per cent) of the total length of Project Highway;

“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;

“Authority” shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

“Authority Default” shall have the meaning set forth in Clause 23.2;

“Authority’s Engineer” shall have the meaning set forth in Clause 18.1;

“Authority Representative” means such person or persons as may be authorised in writing by the Authority to act on its behalf under this Agreement and shall include any person or persons having authority to exercise any rights or perform and fulfil any obligations of the Authority under this Agreement;

“Bank” means a bank incorporated in India and having a minimum net worth of Rs. 1,000 Crore (Rupees One Thousand Crore) or any other bank acceptable to the Authority;

“Base Rate” means the floor rate of interest announced by the State Bank of India for all its lending operations;

“Base Date” means the last date of that calendar month, which date precedes the Bid Due Date by at least 28 (twenty eight) days;

“Bid” means the documents in their entirety comprised in the bid submitted by the selected bidder/Consortium in response to the Request for Proposals in accordance with the provisions thereof;

“Bid Security” means the bid security provided by the Contractor to the Authority in accordance with the Request for Proposal, and which is to remain in force until substituted by the Performance Security;

“Change in Law” means the occurrence of any of the following after the Base Date:

- (a) the enactment of any new Indian law;
- (b) the repeal, modification or re-enactment of any existing Indian law;
- (c) the commencement of any Indian law which has not entered into effect until the Base Date;
- (d) a change in the interpretation or application of any Indian law by a judgement of a court of record which has become final, conclusive and binding, as compared to such interpretation or application by a court of record prior to the Base Date; or
- (e) Deleted;

“Change of Scope” shall have the meaning set forth in Article 13;

“Change of Scope Notice” shall have the meaning set forth in Clause 13.2.1;

“Change of Scope Order” shall have the meaning set forth in Clause 13.2.4;

“Completion Certificate” shall have the meaning set forth in Clause 12.4;

{**“Consortium”** means the consortium of entities which have formed a joint venture for implementation of this Project;}^{\$}

“Construction” shall have the meaning set forth in Clause 1.2.1 (f);

“Construction Period” means the period commencing from the Appointed Date and ending on the date of the Completion Certificate;

“Contract Price” means the amount specified in Clause 19.1.1;

“Contractor” shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

“Contractor Default” shall have the meaning set forth in Clause 23.1;

“Cure Period” means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default and shall:

- (a) commence from the date on which a notice is delivered by one Party to the other Party asking the latter to cure the breach or default specified in such notice;
- (b) not relieve any Party from liability to pay Damages or compensation under the provisions of this Agreement; and
- (c) not in any way be extended by any period of Suspension under this Agreement; provided that if the cure of any breach by the Contractor requires any reasonable action by the Contractor that must be approved by the Authority or the Authority’s Engineer hereunder, the applicable Cure Period shall be extended by the period taken by the Authority or the Authority’s Engineer to accord their approval;

“Damages” shall have the meaning set forth in paragraph (w) of Clause 1.2.1;

“Defect” means any defect or deficiency in Construction of the Works or any part thereof, which does not conform with the Specifications and Standards, and in the case of Maintenance, means any defect or deficiency which is specified in Schedule-E;

“Defects Liability Period” shall have the meaning set forth in Clause 17.1;

“Dispute” shall have the meaning set forth in Clause 26.1.1;

“Dispute Resolution Procedure” means the procedure for resolution of Disputes set forth in Article 26;

^{\$} This definition may be omitted if the Contractor is not a Consortium.

“Drawings” means all of the drawings, calculations and documents pertaining to the Project Highway as set forth in Schedule-I, and shall include ‘as built’ drawings of the Project Highway;

“Document” or “Documentation” means documentation in printed or written form, or in tapes, discs, drawings, computer programmes, writings, reports, photographs, films, cassettes, or expressed in any other written, electronic, audio or visual form;

“Emergency” means a condition or situation that is likely to endanger the safety or security of the individuals on or about the Project Highway, including Users thereof, or which poses an immediate threat of material damage to any of the Project Assets;

“Encumbrances” means, in relation to the Project Highway, any encumbrances such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations, and shall include any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Project Highway, where applicable herein but excluding utilities referred to in Clause 9.1;

“EPC” means engineering, procurement and construction;

“Final Payment Certificate” shall have the meaning set forth in Clause 19.15.1;

“Final Payment Statement” shall have the meaning set forth in Clause 19.13.1;

“Force Majeure” or “Force Majeure Event” shall have the meaning ascribed to it in Clause 21.1;

“GAD” or “General Arrangement Drawings” shall have the meaning set forth in Clause 4.1.3 (b);

“GOI” or “Government” means the Government of India;

“Good Industry Practice” means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and experienced contractor engaged in the same type of undertaking as envisaged under this Agreement and which would be expected to result in the performance of its obligations by the Contractor in accordance with this Agreement, Applicable Laws and Applicable Permits in reliable, safe, economical and efficient manner;

“Government Instrumentality” means any department, division or sub-division of the Government or the State Government and includes any commission, board, authority, agency or municipal and other local authority or statutory body including panchayat under the control of the Government or the State Government, as the case may be, and having jurisdiction over all or any part of the Project Highway or the performance of all or any of the services or obligations of the Contractor under or pursuant to this Agreement;

“IRC” means the Indian Roads Congress;

“Indemnified Party” means the Party entitled to the benefit of an indemnity pursuant to Article 25;

“Indemnifying Party” means the Party obligated to indemnify the other Party pursuant to Article 25;

“Indirect Political Event” shall have the meaning set forth in Clause 21.3;

“Insurance Cover” means the aggregate of the maximum sums insured under the insurances taken out by the Contractor pursuant to Article 20, and includes all insurances required to be taken out by the Contractor under Clauses 20.1 and 20.9 but not actually taken, and when used in the context of any act or event, it shall mean the aggregate of the maximum sums insured and payable or deemed to be insured and payable in relation to such act or event;

“Intellectual Property” means all patents, trade marks, service marks, logos, get-up, trade names, internet domain names, rights in designs, blue prints, programmes and manuals, drawings, copyright (including rights in computer software), database rights, semiconductor, topography rights, utility models, rights in know-how and other intellectual property rights, in each case whether registered or unregistered and including applications for registration, and all rights or forms of protection having equivalent or similar effect anywhere in the world;

“Interim Payment Certificate” or **“IPC”** means the interim payment certificate issued by the Authority’s Engineer for payment to the Contractor in respect of Contractor’s claims for payment raised in accordance with the provisions of this Agreement;

{“Lead Member“ shall, in the case of a consortium, mean the member of such consortium who shall have the authority to bind the contractor and each member of the Consortium; and shall be deemed to be the Contractor for the purposes of this Agreement; the Lead Member shall itself undertake and perform at least 30 (thirty) per cent of the total length of the Project Highway,

“LOA” or **“Letter of Acceptance”** means the letter of acceptance referred to in Recital (E);

“Maintenance” means the maintenance of the Project Highway as set forth in Article 14 for the period specified therein;

“Maintenance Inspection Report” shall have the meaning set forth in Clause 15.2.1;

“Maintenance Manual” shall have the meaning ascribed to it in Clause 10.7;

“Maintenance Programme” shall have the meaning set forth in Clause 14.3;

“Maintenance Period” shall have the meaning set forth in Clause 14.1.1;

“Maintenance Requirements” shall have the meaning set forth in Clause 14.2;

“Major Bridge” means a bridge having a total length of more than 60 (sixty) metres between the inner faces of the dirt walls as specified in IRC:5-1998;

“Manual” shall mean the Manual of Standards and Specifications for Two Laning of Highways (IRC:SP:73);

“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;

“Materials” are all the supplies used by the Contractor for incorporation in the Works or for the maintenance of the Project Highway;

“Monthly Maintenance Statement” shall have the meaning set forth in Clause 19.6.1;

“MORTH” means the Ministry of Road Transport and Highways or any substitute thereof dealing with Highways;

“Non-Political Event” shall have the meaning set forth in Clause 21.2;

“Parties” means the parties to this Agreement collectively and “Party” shall mean any of the parties to this Agreement individually;

“Performance Security” shall have the meaning set forth in Clause 7.1;

“Plant” means the apparatus and machinery intended to form or forming part of the Works;

“Political Event” shall have the meaning set forth in Clause 21.4;

“Programme” shall have the meaning set forth in Clause 10.1.3;

“Project” means the construction and maintenance of the Project Highway in accordance with the provisions of this Agreement, and includes all works, services and equipment relating to or in respect of the Scope of the Project;

“Project Assets” means all physical and other assets relating to (a) tangible assets such as civil works and equipment including foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road over-bridges, drainage works, traffic signals, sign boards, kilometre-stones, toll plaza, electrical systems, communication systems, rest areas,

relief centres, maintenance depots and administrative offices; and (b) Project Facilities situated on the Site;

“Project Completion Date” means the date on which the Provisional Certificate is issued and in the event no Provisional Certificate is issued, the date on which the Completion Certificate is issued;

“Project Completion Schedule” means the progressive Project Milestones set forth in Schedule-J for completion of the Project Highway on or before the Scheduled Completion Date;

“Project Facilities” means all the amenities and facilities situated on the Site, as described in Schedule-C;

“Project Highway” means the Site comprising the existing road and proposed bypasses forming part of “Construction of Meka-Roing-Hunli Road from Existing Km 16 of Roing-Hunli Road to Km 21.5 of Hunli-Anini Road (Total Length=74.863) to NH Double lane Specification in Arunachal Pradesh on Engineering Procurement and Construction(EPC) basis.” and all Project Assets, and its subsequent development and augmentation in accordance with this Agreement;

“Project Milestone” means the project milestone set forth in Schedule-J;

“Proof Consultant” shall have the meaning set forth in Clause 10.2.2;

“Provisional Certificate” shall have the meaning set forth in Clause 12.2;

“Punch List” shall have the meaning set forth in Clause 12.2.1;

“Quality Assurance Plan” or “QAP” shall have the meaning set forth in Clause 11.2;

“Re.”, “Rs.” or “Rupees” or “Indian Rupees” means the lawful currency of the Republic of India;

“Request for Proposals” or “RFP” shall have the meaning set forth in Recital ‘D’;

“Retention Money” shall have the meaning set forth in Clause 7.5.1;

“Right of Way” means the constructive possession of the Site free from encroachments and encumbrances, together with all way leaves, easements, unrestricted access and other rights of way, howsoever described, necessary for construction and maintenance of the Project Highway in accordance with this Agreement;

“Safety Consultant” shall have the meaning set forth in Clause 10.1.5;

“Scheduled Completion Date” shall be the date set forth in Clause 10.3.1;

“Scope of the Project” shall have the meaning set forth in Clause 2.1;

“Section” means a part of the Project Highway;

“Site” shall have the meaning set forth in Clause 8.1;

“Specifications and Standards” means the specifications and standards relating to the quality, quantity, capacity and other requirements for the Project Highway, as set forth in Schedule-D, and any modifications thereof, or additions thereto, as included in the design and engineering for the Project Highway submitted by the Contractor to, and expressly approved by, the Authority;

“Stage Payment Statement” shall have the meaning set forth in Clause 19.4;

“Structures” means an elevated road or a flyover, as the case may be;

“Sub-contractor” means any person or persons to whom a part of the Works or the Maintenance has been subcontracted by the Contractor and the permitted legal successors in title to such person, but not an assignee to such person;

“Suspension” shall have the meaning set forth in Article 22;

“Taxes” means any Indian taxes including excise duties, customs duties, value added tax, sales tax, local taxes, cess and any impost or surcharge of like nature (whether Central, State or local) on the goods, Materials, equipment and services incorporated in and forming part of the Project Highway charged, levied or imposed by any Government Instrumentality, but excluding any interest, penalties and other sums in relation thereto imposed on any account whatsoever. For the avoidance of doubt, Taxes shall not include taxes on corporate income;

“Termination” means the expiry or termination of this Agreement;

“Termination Notice” means the communication issued in accordance with this Agreement by one Party to the other Party terminating this Agreement;

“Termination Payment” means the amount payable by either Party to the other upon Termination in accordance with Article 23;

“Terms of Reference” or “TOR” shall have the meaning set forth in Clause 18.2.1;

“Tests” means the tests set forth in Schedule-K to determine the completion of Works in accordance with the provisions of this Agreement;

“Time Extension” shall have the meaning set forth in Clause 10.5.1;

“User” means a person who travels or intends to travel on the Project Highway or any part thereof in/on any vehicle;

“Valuation of Unpaid works” shall have the meaning set forth in Clause 23.5.1;

“Works” means all works including survey and investigation, design, engineering, procurement, construction, Plant, Materials, maintenance, temporary works and other things necessary to complete the Project Highway in accordance with this Agreement; and

“WPI” means the wholesale price index for various commodities as published by the Ministry of Commerce and Industry, GOI and shall include any index which substitutes the WPI, and any reference to WPI shall, unless the context otherwise requires, be construed as a reference to the WPI published for the period ending with the preceding month.

IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

SIGNED, SEALED AND
DELIVERED

For and on behalf of

NHIDCL by:

(Signature)

(Name)

(Designation)

SIGNED, SEALED AND
DELIVERED

For and on behalf of

THE CONTRACTOR by:

(Signature)

(Name)

(Designation)

In the presence of: 1.

2.

{ COUNTERSIGNED and accepted by:

Name and particulars of other members of the Consortium }

29 INTEGRITY PACT

29.1 The Integrity Pact shall be signed by both the parties on Rs. 100 stamp as draft Integrity Pact enclosed.

INTEGRITY PACT

BETWEEN

NATIONAL HIGHWAYS & INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED

(NHIDCL) hereinafter referred to as "**The Principal**" (which expression, unless repugnant to the context thereof, shall mean and include its legal representatives, heirs and assigns)

AND

..... hereinafter referred to as "**The Bidder/Contractor**" (which expression, unless repugnant to the context thereof, shall mean and include its legal representatives, heirs and assigns)

Preamble

The Principal intends to award, under laid down organizational procedures, contract(s) for **(Name of the contract) (hereinafter referred to as the 'Project')**. The Principal necessarily requires full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s) and/or Contractor(s).

In order to achieve these goals, the Principal may appoint an Independent External Monitor (IEM), who will monitor the tender process and the execution of the contract for compliance with the Integrity Pact by all parties concerned, for all works covered in the Project.

Section 1 - Commitments of the Principal

- (1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
 - a. No employee of the Principal, personally or through family members or through any other channel, will in connection with the tender for or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit, which the person is not legally entitled to.

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- b. The Principal will, during the tender process treat all Contractor(s)/Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Contractor(s)/Bidder(s) the same information and will not provide to any Contractor(s)/Bidder(s), confidential/additional information through which the Contractor(s)/Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - c. The Principal will exclude from the process all known prejudiced persons. **The Principal shall** obtain bids from **only** those parties who have been short-listed or pre qualified or through a process of open advertisement/web publishing or any combination thereof.
- (2) If the Principal obtains information on the conduct of any of its employees, Contractor(s) and/or Bidder(s), which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and **subject to its discretion**, can **additionally** initiate disciplinary actions.
 - (3) The Principal will enter into agreements with identical conditions with all Contractor(s)/Bidder(s) **for the different Work Packages in the aforesaid Project**
 - (4) The Principal will disqualify from the tender process all Contractor(s)/Bidder(s) in the range of Rs 50 Crore and above, who do not sign this Pact or violate its provisions.

Section 2 - Commitments of the Bidder(s) / Contractor(s)

- (1) The Bidder(s) / Contractor(s) commit(s) itself/themselves to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
 - (a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage, of any kind whatsoever, during the tender process or during the execution of the contract.
 - (b) The Bidder(s)/Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

- (c) The Bidder(s)/Contractor(s) will not use improperly, for purpose of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- (d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly the Bidder(s)/Contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only. Copy of the "Guidelines on Indian Agents of Foreign Suppliers" is annexed and marked as Annex-"A".
- (e) The Bidder(s)/ Contractor(s) will, when submitting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- (2) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3: Disqualification from tender process and/ or exclusion from future contracts.

- (1) If the Bidder(s)/ Contractor(s), before awarding the Project or during execution has committed a transgression by violating Section 2 above or in any other form so as to put his reliability or credibility in question, the Principal, at its sole discretion, is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or terminate the contract, if already awarded, for that reason, without prejudice to any other legal rights or remedies available to the Principal under the relevant clauses of GCC /SCC of the tender/contract.
- (2) If the Contractor(s)/Bidder(s) has committed a transgression through a violation of any of the terms under Section 2 above or in any other form such as to put his reliability or credibility into question, the Principal will also be entitled to exclude such Contractor(s)/Bidder(s) from future tenders/contract award processes. The imposition and duration of the exclusion will be determined by the Principal, keeping in view the severity of the transgression. The severity will be determined by the circumstances of the case, in particular, the number of transgressions and/or the amount of the damage.
- (3) If it is observed after payment of final bill but before the expiry of validity of Integrity Pact that the contractor has committed a transgression, through a violation

of any of the terms under Section 2 above or any other term(s) of this Pact, during the execution of contract, the Principal will be entitled to exclude the contractor from further tender/contract award processes.

- (4) The exclusion will be imposed for a minimum period of six (6) months and a maximum period of three (3) years.
- (5) If the Contractor(s)/Bidder(s) can prove that he has restored/recouped the damage to the Principal caused by him and has installed a suitable corruption prevention system, the Principal may, at its sole discretion, revoke or reduce the exclusion period before the expiry of the period of such exclusion.

Section 4: Compensation for Damages

- (1) If the Principal has disqualified the Bidder(s)/Contractor(s) from the tender process prior to the awarding of the Project according to Section 3, the Earnest Money Deposit (BID SECURITY)/Bid Security furnished, if any, along with the offer, as per terms of the Invitation of Tender, shall also be forfeited. The Bidder(s)/Contractor(s) understands and agrees that this will be in addition to the disqualification and exclusion of the Contractor (s)/Bidder(s) as may be imposed by the Principal, in terms of Section 3 above.
- (2) If, at any time after the awarding of the Project, the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Security Deposit/Performance Bank Guarantee furnished by the contractor, if any, as per the terms of the NIT/Contract shall be forfeited without prejudice to any other legal rights and remedies available to the Principal under the relevant clauses of General/ Special Conditions of Contract.

The Contractor(s)/Bidder(s) be in addition to the Bidder(s)/Contractor(s), as terms of Section 3 *above* understands and agrees that this will disqualification and exclusion of the may be imposed by the Principal in

Section 5: Previous transgression

- (1) The Bidder(s)/Contractor(s) herein declares that it has committed no transgressions in the last 3 years with any other Company in any country conforming to the anti corruption approach as detailed herein or with government/ any other Public Sector Enterprise in India that could justify its

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exclusion from the tender process.

- (2) If at any point of time during the tender process or after the awarding of the Contract, it is found that the Bidder(s)/Contractor(s) has made an incorrect statement on this subject, he can be disqualified from the tender process or if, as the case may be, that the Contract, is already awarded, it will be terminated for such reason and the Bidder(s)/Contractor(s) can be black listed in terms of Section 3 above.

Section 6: Independent External Monitor / Monitors

- (1) The Principal shall, in case where the Project Value is in excess of Rs 50 Crore and above, appoint competent and credible Independent External Monitor(s) with clearance from Central Vigilance Commission. The Monitor shall review independently, the cases referred to it to assess whether and to what extent the parties concerned comply with the obligations under this Integrity Pact.
- (2) In case of non-compliance of the provisions of the Integrity Pact, the complaint/non-compliance is to be lodged by the aggrieved party with the Nodal Officer only, as shall be appointed by the MD, NHIDCL. The Nodal Officer shall refer the complaint/non-compliance so received by him to the aforesaid Monitor.
- (3) The Monitor will not be subject to any instructions by the representatives of the parties and will perform its functions neutrally and independently. The Monitor shall report to the Managing Director, NHIDCL.
- (4) The Bidder(s)/Contractor(s) accepts that the Monitor shall have the right to access, without restriction, all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his/her request and demonstration of a valid interest, unrestricted and unconditional access to its project documentation. The Monitor is under contractual obligation to treat the information and documents of the Bidder (s) /Contractor(s) with confidentiality.
- (5) The Principal will provide to the Monitor, sufficient information about all meetings among the parties related to the Project, provided such meetings could have an impact on the contractual relations between the Principal and the Contractor.
- (6) As soon as the Monitor notes, or believes to note, a violation of this Pact, he will so inform the Principal and request the Principal to discontinue and/or take corrective action, or to take other relevant action (s). The Monitor can in this regard submit non-binding recommendations. However, beyond this, the Monitor has no right to demand from the parties that they act in a specific manner and/or refrain from action and/or tolerate action.
- (7) The Monitor will submit a written report to the MD, NHIDCL within 4 to 6

weeks from the date of reference or intimation to it and, should the occasion arise, submit proposals for corrective actions for the violation or the breaches of the provisions of the agreement noticed by the Monitor.

- (8) If the Monitor has reported to the MD, NHIDCL, of a substantiated suspicion of an offence under relevant IPC/PC Act, and the MD, NHIDCL, has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Chief Vigilance Officer, NHIDCL / MD.
- (9) The word 'Monitor' means Independent External Monitor and includes both singular and plural forms.

Section 7 Criminal Contractor(s)/charges against violating Bidder(s) / Subcontractor(s)

If the Principal obtains knowledge of conduct of a Bidder/Contractor or any employee or a representative or an associate of a Bidder/Contractor, which constitutes a criminal offence under the IPC/PC Act, or if the Principal has substantive suspicion in this regard, the Principal will forthwith inform the same to the Chief Vigilance Officer, NHIDCL/MD.

Section 8 - Duration of the Integrity Pact

This Pact shall come into force when both parties have legally signed it. The Pact shall expire, in case of the Contractor(s), 3 (three) months after the last payment under the Contract is made and in case of the unsuccessful Bidder(s), 2 (two) months after the contract for the project has been awarded.

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

The Bidder(s)/Contractor(s), however, understands and agrees that even upon the completion of the Project and/or the last payment under the Contract having been made, if any transgression/violation of the terms of this Pact comes/is brought to the notice of the Principal, it may, subject to its discretion, blacklist and/or exclude such Bidder(s)/Contractor(s) as provided for in Section 3, without prejudice to any other legal right or remedy so available to the Principal.

Section 9 - Other provisions

- (1) This Agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi.
- (2) Changes and supplements as well as termination notices need to be made in writing.
- (3) If the Bidder/Contractor is a partnership or a consortium, this Agreement must be signed by all partners or consortium members.
- (4) Should one or several provisions of this Agreement turn out to be invalid, the remainder of this Agreement shall remain valid and binding. In such a case, the parties will strive to come to an Agreement in accordance to their original intentions.
- (5) Wherever he or his as indicated in the above sections, the same may be read as he/she or his/her, as the case may be.

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

(Office Seal)

(Office Seal)

Place _

Date _

Witness 1:

(Name & Address)

Witness 2:

(Name & Address)

Schedules

SCHEDULE-A
(See Clauses 2.1 and 8.1)

SITE OF THE TWO LANE/FOUR LANE PROJECT HIGHWAY

1 THE SITE

- 1.1** Site of the Two-Lane Project Highway shall include the land, buildings, structures and road works as described in Annex-I of this Schedule-A.
- 1.2** The dates of handing over the Right of way to the Contractor are specified in Annex-II of this Schedule-A.
- 1.3** An inventory of the Site including the land, buildings, structures, road works, trees and any other immovable property on or attached to the Site shall be prepared jointly by the Authority Representative and the Concessionaire and such inventory shall form part of the memorandum referred to in Clause 10.3.1 of the Agreement.
- 1.4** Additional land required for Toll Plazas, Traffic Aid Posts for construction of works specified in Change of Scope Order issued under Clause 16.2.3 of this agreement shall be acquired in accordance with the provisions of Clause 10.3.6 of this Agreement. Upon acquisition, such land shall form part of the Site and vest in the Authority.
- 1.5** The status of the environment clearances obtained or awaited is given in Annex IV.

Annex – I

(Schedule-A)

Site

[Note: Through suitable drawings and description in words, the land , buildings, structures and road works comprising the site shall be specified briefly but precisely in this Annex-I]

1. The Site

The Site of the Two-Lane National Highway (NH) double lane standards Project Highway from km 000.000 (Ex. Km 16+000 of Roing-Hunli road) to km 74.863 (Km 21.5 of Hunli Anini Road) in the State of Arunachal Pradesh. The land, carriageway and structures comprising the Site are described below. The construction package for the project includes developing the new two lane carriageway (NH) Double lane standards. An Index Map and location plan of the project highway is given at **Appendix A-1**.

2. Land

The site of the project highway comprises the land (Proposed right of way) as described below;

Existing RoW Details

S. No.	Chainage (km)		ROW (m)	Remarks
	From	To		
NIL				

3. Carriageway

The existing carriageway of the Project Highway is a two-lane carriageway except for Km 0.00-74.863.

4. Major Bridges

The site includes the following major Bridges

S.No.	Chainage (km)	Type of Structure			No of Spans with span length (m)	Width (m)
		Foundation	Substructure	Superstructure		
NIL						

5. Railway Over Bridges / Road under Bridges

Sl. No.	Chainage (km)	Type of Structures	No. of Spans	Width (m)
NIL				

6. Grade Separators

Sl. No.	Chainage	Type of	No. of Spans	Width (m)
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	(Km)	Structure	with span length (m)	
NIL				

7. Minor Bridges

The Site includes the following Minor Bridges:

S.No.	Chainage	Type of Structure			No of Spans with span length (m)	Width
	(km)	Foundation	Substructure	Superstructure		(m)
NIL						

8. Railway Level Crossings

The Site includes the following Railway Level Crossing:

S. No.	Location (km)	Remarks
NIL		

9. Underpasses (vehicular, non-vehicular):

The site includes the following underpass:-

S. No.	Chainage (km)	Type of Structure	No. of Spans with span length (m)	Width (m)
NIL				

10. Culverts

The Site has the following culverts:

S No	Chainage (Km)	Type of Culvert	Span/Opening with span length (m)	Width (m)
NIL				

11. Bus Bays and Truck Lay Bys

The total number of bus bays and truck lay bays on the project highway is noted below.

1 Number of Bus bays on LHS	: Nil
2 Number of Bus bays on RHS	: Nil
3 Number of Truck lay bays on LHS	: Nil
4 Number of Truck lay bays on RHS	: Nil

12 Road Side Drains

The Details of the Road Side drain are given below:

S. No.	Location		Type	
	From km	To km	Masonry/cc (Pucca)	Earthen (Kutchha)
NIL				

13 Major Junctions

The details of major junctions are given below:

S No	Location (km)	At Grade	Separated	Category of Cross Road			
				NH	SH	MDR	Others
NIL							

(NH: National Highway, SH: State Highway, MDR: Major District Road)

14 Minor Junctions

The details of minor junctions are given below:

S No	Location (km)	Side	Type	
			T Junction	Cross Road
NIL				

15 Bypasses

Sl. No.	Name of Bypass (town)	Chainage (km) From...to	Length (in Km)	Carriageway	
				Width (m)	Type
NIL					

16 Detail of any other structures

SI. No.	Chainage (Km)	Type of Structure	No. of Spans with span length (m)	Width (m)
NIL				

Annex II
(Schedule-A)

Dates for providing Right of Way

The dates on which the Authority shall provide Right of Way to the Contractor on different parts of the Site are stated below:

Sl. No	From Km to Km (Design Chainage)	Design Length (Km)	Width (m)	Date of providing ROW*
1	2	3	4	5
(i) Full Right of Way (full width)				On Appointed date
(a) Stretch	0.000 to 74.863	74.863 km	24.0 m	
(b) Stretch				
(c) Stretch				
		Total length 74.863 km		

Annex – III
(Schedule-A)
Alignment Plans

The alignment plan of the Project Highway is enclosed in digital form.

Annex – IV
(Schedule-A)
Environment Clearances

The project road is a designated Military (GS road) road. As per MoEF circular, Environmental clearance is not required.



“Construction of Meka-Roing-Hunli Road from Existing Km 16 of Roing-Hunli Road to Km 21.5 of Hunli-Anini Road (Total Length=74.863) to NH Double lane Specification in Arunachal Pradesh on Engineering Procurement and Construction(EPC) basis”

SCHEDULE - B

(See Clause 2.1)

DEVELOPMENT OF THE PROJECT HIGHWAY

1 Development of the Project Highway

Development of the Project Highway shall include construction of the Project Highway as described in this Schedule-B and in Schedule-C.

2 Rehabilitation and augmentation

Rehabilitation and augmentation shall include construction of the Two-Lane with paved shoulder Project Highway as described in Annex-I of this Schedule-B and Annex-I of Schedule-C.

3 Specifications and Standards

The Project Highway shall be designed and constructed in conformity with the Specifications and Standards specified in Annex-I of Schedule-D.

ANNEX - I (Schedule-B)

1. Widening of the Existing Highway

1.1 The Project Highway is a new alignment as shown in the alignment plans specified in Annex III of Schedule-A.

1.2 Width of Carriageway

1.2.1 Two-Laning carriageway with NH double lane standard shoulder shall be undertaken. The paved carriageway shall be 7m wide. Without paved shoulders in accordance with the typical cross section drawings in the Manual.

Provided that in the built-up areas the width of the carriageway shall be as specified in the following table:

Sl No	Built-up Stretch	Location (km to km) Design Chainage	Width (m)	Typical cross section
NIL				

1.2.2 Except as otherwise provided in this agreement, the width of the paved carriageway and cross- sectional features shall conform to clause 1.1 above.

2. Geometric design and General Features

2.1 General

Geometric design and general features of the Project Highway shall be in accordance with Section 2 of the Manual IRC: SP: 48-1988 IRC 52-1998.

2.2 Design speed

The design speed shall be the minimum design speed of 30 km/hr. for steep hilly terrain.

2.3 Improvement of the existing road geometrics

In the following sections, where improvement of the existing road geometrics to the prescribed standards is not possible, the existing road geometrics shall be improved to the extent possible within the given right of way and proper road signs and safety measures shall be provided:

NIL

2.3.1 In the following locations bypasses, Geometric Improvements & short realignments shall be provided:

Bypasses

Sl. No.	Name of Bypass	Existing KM		Design Chainage		Design Length (Km)	Type of Deficiency
		From (Km.)	To (Km.)	From (Km.)	To (Km.)		
1				0.000	27.363	27.363	Sub Standard geometric, involvement of 40 km wild life century fragile & unstable hill faces & snow bound region.
2				27.363	53.363	26	
3				53.363	74.863	21.5	
					total	74.863	

Geometric Improvements & Short realignments

Sl. No.	Existing KM		Proposed Chainage		Design Length(Km)	Type of Deficiency
	From (Km.)	To (Km.)	From (Km.)	To (Km.)		
NIL						

2.4 Right of Way

Details of the Existing Right of Way are given in Annex II of Schedule-A. Details of Proposed Right of Way are given below:

S. No.	Chainage (km)		ROW (m)	Remarks
	From	To		
1.	0.000	74.863	24	

2.5 Type of shoulders

- (a) In built-up section footpaths/fully paved shoulders are to be provided in the following stretches:

S. No.	Existing Chainage		Design Chainage		Fully paved shoulders / footpaths	Reference to cross section
	From km	To km	From km	To km		
NIL						

- (b) As per MoRTH circular no. NH-12037/633/2006/NH-1 total formation width including of longitudinal drain is 12m. and paved carriageway of 7.0 m width shall be provided and balance width shall be covered with 150 mm thick compacted layer of granular material received from excavation.
- (c) Design and specifications of paved shoulders and granular material shall conform to the requirements specified in paragraphs 5.9.9 and 5.9.10 of the Manual.

2.6 Lateral and vertical clearances at underpasses

2.6.1 Lateral and vertical clearances at underpasses and provision of guardrails/crash barriers shall be as per the paragraph 2.11 of the Manual.

2.6.2 Lateral clearance: The width of the opening at the underpasses shall be as follows:

Sl No	Location (Design Chainage) (from Km to km)	Span / Opening (m)	Remarks
NIL			

2.7 Lateral and vertical clearance at overpasses

2.7.1 Lateral and vertical clearances at over passes shall be as per paragraph 2.12 of the Manual.

2.7.2 Lateral clearance: The size of the opening at the overpasses shall be as follows:

Sl No	Location (Design Chainage) (from Km to km)	Span / Opening (m)	Remarks
Nil			

2.8 Service roads/Slip Roads

Service roads/Slip Roads shall be constructed at the locations and of the lengths indicated below:

Sl. No.	Proposed Chainage		Design Length(Km)	Remarks
	From (Km.)	To (Km.)		
1	NIL			

2.9 Grade separated structures

2.9.1 Grade separated structures shall be provided as per paragraph 2.14 of the Manual. The requisite particulars are given below:

S. No.	Location of Structure (Design Chainage)	Length (m)	Number and length of spans (m)	Approach gradient	Remarks, if any
1	NIL				

2.9.2 In the case of grade separated structures, the type of structure and the level of the Project Highway and the cross roads shall be as follows:

S. No.	Location (Design Chainage)	Type of Structure Length (m)	Vertical Clearance	Remarks, if any
1	NIL			

2.10 Cattle and pedestrian under pass / over pass

Cattle and pedestrian underpass/ overpass shall be constructed as follows:

S. No.	Location (km)	Type of Crossing	Width (m)
1	NIL		

3. Intersections and grade separators

All intersections and grade separators shall be as per Section 3 of the Manual. Existing intersections which are deficient shall be improved to the prescribed standards.

Properly designed intersections shall be provided at the locations and of types and features given in the tables below:

(a) At-grade intersections

Major Intersections – As per Drawings

Sl. No.	Location of intersection		Type of Intersection	Other Features
	Existing KM	Design Chainage		
1		0.000	Y – Type	

Minor Intersections – As given in the drawings for standard junctions

S No	Location of Intersection, Design Chainage (km)	Type		Side
		Y Junction	Cross Road	
NIL				

(b) Grade separated intersection with/without ramps

S. No.	Location (Design Chainage)	Salient Features	Minimum Length of viaduct to be provided	Road to be carried over/under the structures
1	NIL			

4. Road embankment and cut section

4.1 Widening and improvement of the existing road embankment/cuttings and construction of new road embankment / cuttings shall conform to the standards and specifications given in Section 4 of the Manual and the specified cross sectional details. Deficiencies in the plan and profile of the existing road shall be corrected.

4.2 Raising of the existing road

The existing road shall be raised in the following sections, as per profile:

SI No	Section (Design Chainage)	Length (m)	Extent of Raising (m)
NIL			

5. Pavement design

5.1 Pavement design shall be carried out in accordance with Section 5 of the Manual.

5.2 Type of pavement

The pavement shall be flexible type, except at toll plaza where rigid pavement shall be provided.

5.3 Design requirements

Pavement design shall be as per specifications of IRC: SP: 48-1988, IRC 52-1998.

5.3.1 Design Period and strategy

Flexible pavement for new pavement or for widening and strengthening of the existing pavement shall be designed for a minimum design period of 15 years. Stage construction shall not be permitted.

5.3.2 Design Traffic

Notwithstanding anything to the contrary contained in this Agreement or the Manual, the Contractor shall design the pavement for minimum design traffic in million standard axles given below:

S No.	Chainage		Traffic msa
	From	To	
1	0.000	74.863	7.0

5.4 Reconstruction of stretches

As per profile

6. Roadside drainage

Drainage system including surface and subsurface drains for the Project Highway shall be provided as per section 6 of the Manual. Detail of drains has been given in Typical Cross-Sections

Standard Road side Longitudinal Drain & Catch Water Drain (Left Side)

Chainage (00000m to 74863m)		Length	120	140	20
From	To		640	740	100

980	1060	80	15440	15460	20
1380	1460	80	15540	15580	40
1500	1600	100	15640	15700	60
1740	1780	40	15760	15800	40
1880	2040	160	15880	15900	20
2080	2120	40	16000	16100	100
2200	2240	40	16280	16440	160
2300	2340	40	16560	16600	40
2420	2480	60	16660	16720	60
2540	2600	60	16740	16800	60
2660	2680	20	16840	17020	180
3040	3140	100	17120	17160	40
3220	3240	20	17220	17240	20
3320	3340	20	17340	17440	100
3440	3560	120	17520	17600	80
3700	3740	40	17660	17780	120
3820	3900	80	17800	17860	60
4200	4220	20	17900	17980	80
4360	4420	60	18460	18500	40
4460	4520	60	18600	18640	40
4820	4900	80	18740	18980	240
4960	5020	60	19020	19280	260
5060	5100	40	19340	19380	40
5200	5280	80	19600	19620	20
5320	5360	40	19880	19920	40
5440	7280	1840	20040	20120	80
7320	7980	660	20180	20220	40
8000	9520	1520	20420	20500	80
9580	10980	1400	21480	21500	20
11000	11320	320	21920	22060	140
11880	11900	20	22100	22180	80
12140	12180	40	22280	22340	60
12220	12240	20	22400	22440	40
12700	12760	60	22740	22800	60
12840	13100	260	23260	23300	40
13360	13880	520	23540	23580	40
13940	14040	100	23840	23920	80
14340	14360	20	24800	24820	20
14580	14640	60	24980	25060	80
14720	14840	120	25340	25460	120
15060	15140	80	25660	25720	60
15160	15180	20	25820	25900	80
15240	15320	80	26100	26220	120

26420	26440	20
26500	26540	40
26680	26760	80
27040	27060	20
27140	27180	40
27260	27300	40
27703	27723	20
27983	28043	60
28443	28503	60
28823	28883	60
29083	29123	40
29343	29363	20
29503	29583	80
29663	29723	60
30123	30183	60
30303	30363	60
30803	30923	120
31003	31143	140
31303	31343	40
31503	31563	60
31623	31663	40
31743	31803	60
31883	31903	20
32463	32483	20
32503	32563	60
33163	33263	100
33343	33463	120
33643	33683	40
33863	33923	60
34283	34303	20
34383	34403	20
34423	34443	20
34543	34603	60
34763	34883	120
35403	35463	60
35533	35583	50
36023	36103	80
36263	36363	100
36503	36563	60
37403	37463	60
37603	37803	200
38083	38143	60
38263	38343	80

38503	38523	20
38663	38723	60
38763	38803	40
38963	39043	80
39083	39183	100
39283	39503	220
39523	39683	160
39743	39903	160
40283	40343	60
40403	40463	60
40443	40543	100
40723	40803	80
40843	40883	40
41143	41183	40
41243	41283	40
41323	41383	60
41523	41563	40
41603	41683	80
41723	41803	80
41843	41903	60
41943	42203	260
42223	42263	40
42423	42443	20
42583	42723	140
42903	42923	20
43023	43083	60
43143	43203	60
43223	43283	60
43383	43403	20
43443	43483	40
43583	43623	40
43683	43723	40
43743	43943	200
44003	44023	20
44123	44163	40
44203	44643	440
44703	44843	140
45003	45043	40
45063	45263	200
45443	45703	260
45743	46143	400
46283	46483	200
46503	46523	20

46583	46743	160	57863	57883	20
47123	47623	500	57903	57923	20
47763	48043	280	58103	58223	120
48123	48403	280	58243	58303	60
48503	48783	280	58343	58423	80
48903	48923	20	58503	58543	40
48983	49123	140	58683	58803	120
49163	49303	140	59203	59263	60
49443	49923	480	59703	59763	60
50003	50543	540	59803	59963	160
50603	50923	320	60023	60043	20
51083	51123	40	60083	60103	20
51223	51243	20	60183	60223	40
51343	51823	480	60263	60403	140
51843	51943	100	60783	60843	60
51963	52203	240	61023	61043	20
52223	52303	80	61183	61263	80
52343	52543	200	61283	61303	20
52643	52723	80	61503	61603	100
52923	52983	60	61783	61803	20
53043	53103	60	61843	61883	40
53183	53203	20	62063	62643	580
53523	53543	20	62663	62683	20
53643	53663	20	62763	62843	80
53723	53763	40	63283	63323	40
53883	53943	60	63803	63823	20
53963	53983	20	63943	64003	60
54103	54183	80	64043	64123	80
54243	54403	160	64163	64203	40
54463	54483	20	64343	64363	20
54603	54623	20	64403	64443	40
54643	54683	40	64683	64703	20
54783	54803	20	64723	64783	60
54863	54943	80	65003	65083	80
55003	55103	100	65143	65463	320
55463	55483	20	65643	65663	20
55723	55743	20	65743	65943	200
55863	55963	100	66503	66523	20
56063	56183	120	66543	66683	140
57243	57263	20	66723	66823	100
57383	57443	60	66943	67203	260
57563	57603	40	68343	68363	20
57723	57783	60	69003	69063	60

69463	69723	260
69783	69823	40
69843	69883	40
69963	70123	160
70263	70283	20
70483	70543	60
70643	70943	300
71083	71143	60
71383	71423	40

71623	71803	180
72243	72303	60
72323	72843	520
72903	72983	80
73043	73063	20
73103	73183	80
73203	74103	900
74243	74663	420
74723	74803	80

Total

31910 m

Standard Road side Longitudinal Drain & Catch Water Drain (Right Side)

Chainage (0000m to 74863m)		Length
From	To	
0	960	960
980	2360	1380
2380	2500	120
2520	5300	2780
5480	5800	320
5920	6100	180
6480	6530	50
7840	7920	80
8320	8340	20
9180	9340	160
9600	9660	60
9840	9920	80
10460	10520	60
10640	10660	20
10740	10760	20
11180	11200	20
11220	11340	120
11400	11680	280
11700	12800	1100

12820	13100	280
13360	16180	2820
16260	17040	780
17060	17880	820
17900	18980	1080
19000	24000	5000
24020	27360	3340
23363	26943	3580
27003	31463	4460
31503	35723	4220
35743	36463	720
36603	49323	12720
53363	56023	2660
56063	57803	1740
57823	58423	600
58443	66683	8240
66723	71443	4720
71603	73343	1740
73403	73543	140
73563	74083	520

Total

67990 m

7. Design of structures

7.1 General

7.1.1 All bridges, culverts and structures shall be designed and constructed in accordance with section 7 of the Manual and shall conform to the cross-sectional features and other details specified therein.

7.1.2 Width of the carriageway of new bridges and structures shall be as follows:

SI No	Bridge at Km	Width of carriageway and cross sectional features
1	13.228	10.5 m
2	16.233	10.5 m
3	18.983	10.5 m
4	30.970	10.5 m
5	40.572	10.5 m
6	47.706	10.5 m
7	56.053	10.5 m
8	66.500	10.5 m
9	71.543	10.5 m
10	74.178	10.5 m

7.1.3 The following structures shall be provided with footpaths:

SI No	Location at Km	Remarks
Nil		

7.1.4 All bridges shall be high-level bridges

No exception

7.1.5 The following structures shall be designed to carry utility services specified in the table below:

SI No	Bridge at Km	Utility Service to be carried	Remarks
Nil			

7.1.6 Cross-section of the new culverts and bridges at deck level for the Project Highway shall conform to the typical cross-sections given in section 7 of the Manual.

7.2 Culverts

7.2.1 Overall width of all culverts shall be equal to the roadway width of the approaches.

7.2.4 Additional new culverts shall be constructed as per particulars given in the table below:

SSr. No.	Culvert location (m)	Type (Proposed)	Span/Opening (m)
	(Design Chainage)		
1	200	Slab	1 x 2 x 2
2	330	Slab	1 x 2 x 2
3	410	Slab	1 x 2 x 2
4	500	Slab	1 x 2 x 2
5	750	Slab	1 x 2 x 2
6	880	Slab	1 x 2 x 2
7	960	Slab	1 x 6 x 4
8	1300	Slab	1 x 2 x 2
9	1480	Slab	1 x 2 x 2
10	1660	Slab	1 x 2 x 2
11	1700	Slab	1 x 2 x 2
12	1780	Slab	1 x 2 x 2
13	1850	Slab	1 x 3 x 3
14	2270	Slab	1 x 2 x 2
15	2360	Slab	1 x 6 x 4
16	2500	Slab	1 x 2 x 2
17	2600	Slab	1 x 2 x 2
18	2785	Slab	1 x 4 x 3
19	2880	Slab	1 x 2 x 2
20	3160	Slab	1 x 2 x 2
21	3270	Slab	1 x 2 x 2
22	3410	Slab	1 x 4 x 3
23	3550	Slab	1 x 2 x 2
24	3650	Slab	1 x 2 x 2
25	3800	Slab	1 x 3 x 3
26	3940	Slab	1 x 2 x 2
27	4100	Slab	1 x 2 x 2
28	4340	Slab	1 x 2 x 2
29	4420	Slab	1 x 2 x 2
30	4590	Slab	1 x 2 x 2
31	4670	Slab	1 x 2 x 2
32	4740	Slab	1 x 2 x 2
33	4770	Slab	1 x 2 x 2
34	5020	Slab	1 x 2 x 2
35	5150	Slab	1 x 2 x 2
36	5360	Slab	1 x 3 x 3
37	5460	Slab	1 x 2 x 2
38	5520	Slab	1 x 2 x 2

39	5670	Slab	1 x 2 x 2
40	5750	Slab	1 x 2 x 2
41	5850	Slab	1 x 2 x 2
42	6070	Slab	1 x 2 x 2
43	6320	Slab	1 x 3 x 3
44	6620	Slab	1 x 2 x 2
45	6740	Slab	1 x 2 x 2
46	7010	Slab	1 x 2 x 2
47	7120	Slab	1 x 2 x 2
48	7230	Slab	1 x 4 x 4
49	7430	Slab	1 x 2 x 2
50	7725	Slab	1 x 2 x 2
51	7995	Slab	1 x 4 x 4
52	8075	Slab	1 x 2 x 2
53	8285	Slab	1 x 2 x 2
54	8445	Slab	1 x 2 x 2
55	8525	Slab	1 x 2 x 2
56	8615	Slab	1 x 2 x 2
57	8675	Slab	1 x 2 x 2
58	8825	Slab	1 x 2 x 2
59	8975	Slab	1 x 2 x 2
60	9135	Slab	1 x 2 x 2
61	9375	Slab	1 x 2 x 2
62	9560	Slab	1 x 3 x 3
63	9655	Slab	1 x 2 x 2
64	9775	Slab	1 x 2 x 2
65	9975	Slab	1 x 2 x 2
66	10075	Slab	1 x 2 x 2
67	10225	Slab	1 x 2 x 2
68	10325	Slab	1 x 2 x 2
69	10580	Slab	1 x 2 x 2
70	10835	Slab	1 x 2 x 2
71	10995	Slab	1 x 3 x 3
72	11075	Slab	1 x 2 x 2
73	11135	Slab	1 x 2 x 2
74	11375	Slab	1 x 2 x 2
75	11455	Slab	1 x 2 x 2
76	11585	Slab	1 x 2 x 2

77	11690	Slab	1 x 3 x 3
78	11845	Slab	1 x 2 x 2
79	12075	Slab	1 x 2 x 2
80	12125	Slab	1 x 2 x 2
81	12370	Slab	1 x 2 x 2
82	12485	Slab	1 x 2 x 2
83	12600	Slab	1 x 2 x 2
84	12675	Slab	1 x 2 x 2
85	12810	Slab	1 x 2 x 2
86	13915	Slab	1 x 2 x 2
87	14065	Slab	1 x 2 x 2
88	14225	Slab	1 x 2 x 2
89	14305	Slab	1 x 4 x 3
90	14555	Slab	1 x 2 x 2
91	14675	Slab	1 x 2 x 2
92	14975	Slab	1 x 2 x 2
93	15055	Slab	1 x 2 x 2
94	15225	Slab	1 x 3 x 3
95	15525	Slab	1 x 2 x 2
96	15640	Slab	1 x 2 x 2
97	15750	Slab	1 x 2 x 2
98	15825	Slab	1 x 2 x 2
99	15975	Slab	1 x 2 x 2
100	16475	Slab	1 x 2 x 2
101	16555	Slab	1 x 2 x 2
102	16835	Slab	1 x 2 x 2
103	17055	Slab	1 x 6 x 6
104	17105	Slab	1 x 2 x 2
105	17295	Slab	1 x 2 x 2
106	17510	Slab	1 x 2 x 2
107	17655	Slab	1 x 2 x 2
108	17890	Slab	1 x 3 x 3
109	18305	Slab	1 x 2 x 2
110	18455	Slab	1 x 2 x 2
111	18555	Slab	1 x 2 x 2
112	19525	Slab	1 x 2 x 2
113	19645	Slab	1 x 2 x 2
114	19775	Slab	1 x 2 x 2
115	19835	Slab	1 x 2 x 2
116	19975	Slab	1 x 2 x 2
117	20035	Slab	1 x 2 x 2
118	20325	Slab	1 x 2 x 2
119	20525	Slab	1 x 2 x 2

120	20635	Slab	1 x 2 x 2
121	20760	Slab	1 x 3 x 3
122	20865	Slab	1 x 2 x 2
123	20915	Slab	1 x 2 x 2
124	21055	Slab	1 x 2 x 2
125	21215	Slab	1 x 2 x 2
126	21415	Slab	1 x 2 x 2
127	21605	Slab	1 x 6 x 4
128	21725	Slab	1 x 2 x 2
129	21825	Slab	1 x 2 x 2
130	21890	Slab	1 x 4 x 3
131	22085	Slab	1 x 2 x 2
132	22215	Slab	1 x 2 x 2
133	22365	Slab	1 x 2 x 2
134	22475	Slab	1 x 2 x 2
135	22685	Slab	1 x 2 x 2
136	22865	Slab	1 x 2 x 2
137	22975	Slab	1 x 2 x 2
138	23335	Slab	1 x 2 x 2
139	23515	Slab	1 x 2 x 2
140	23605	Slab	1 x 2 x 2
141	23775	Slab	1 x 2 x 2
142	23825	Slab	1 x 2 x 2
143	24015	Slab	1 x 2 x 2
144	24265	Slab	1 x 2 x 2
145	24325	Slab	1 x 2 x 2
146	24425	Slab	1 x 2 x 2
147	24600	Slab	1 x 2 x 2
148	24695	Slab	1 x 2 x 2
149	24850	Slab	1 x 2 x 2
150	25125	Slab	1 x 2 x 2
151	25325	Slab	1 x 2 x 2
152	25475	Slab	1 x 2 x 2
153	25575	Slab	1 x 2 x 2
154	25805	Slab	1 x 2 x 2
155	25925	Slab	1 x 2 x 2
156	26075	Slab	1 x 2 x 2
157	26315	Slab	1 x 2 x 2
158	26400	Slab	1 x 2 x 2
159	26590	Slab	1 x 2 x 2
160	26660	Slab	1 x 2 x 2
161	26800	Slab	1 x 2 x 2
162	26975	Slab	1 x 2 x 2

163	27125	Slab	1 x 2 x 2
164	27225	Slab	1 x 2 x 2
165	27463	Slab	1x2x2
166	27643	Slab	1x2x2
167	27783	Slab	1x2x2
168	27988	Slab	1x2x2
169	28083	Slab	1x2x2
170	28203	Slab	1x2x2
171	28313	Slab	1x2x2
172	28403	Slab	1x2x2
173	28543	Slab	1x2x2
174	28698	Slab	1x2x2
175	28813	Slab	1x2x2
176	28953	Slab	1x2x2
177	29063	Slab	1x2x2
178	29323	Slab	1x2x2
179	29483	Slab	1x3x3
180	29643	Slab	1x2x2
181	29763	Slab	1x2x2
182	29893	Slab	1x2x2
183	30113	Slab	1x2x2
184	30263	Slab	1x2x2
185	30523	Slab	1x2x2
186	30653	Slab	1x2x2
187	31173	Slab	1x2x2
188	31243	Slab	1x2x2
189	31393	Slab	1x2x2
190	31723	Slab	1x2x2
191	31973	Slab	1x2x2
192	32113	Slab	1x2x2
193	32213	Slab	1x2x2
194	32313	Slab	1x2x2
195	32423	Slab	1x2x2
196	32613	Slab	1x2x2
197	32713	Slab	1x2x2
198	32953	Slab	1x2x2
199	33113	Slab	1x2x2
200	33313	Slab	1x2x2
201	33538	Slab	1x3x3
202	33613	Slab	1x2x2
203	33788	Slab	1x4x4
204	33993	Slab	1x2x2
205	34143	Slab	1x2x2

206	34263	Slab	1x2x2
207	34363	Slab	1x2x2
208	34493	Slab	1x2x2
209	34733	Slab	1x4x3
210	34943	Slab	1x2x2
211	35113	Slab	1x2x2
212	35213	Slab	1x2x2
213	35303	Slab	1x2x2
214	35513	Slab	1x2x2
215	35673	Slab	1x2x2
216	35783	Slab	1x2x2
217	35893	Slab	1x2x2
218	35993	Slab	1x2x2
219	36123	Slab	1x2x2
220	36223	Slab	1x2x2
221	36463	Slab	1x2x2
222	36613	Slab	1x2x2
223	36763	Slab	1x4x4
224	36838	Slab	1x2x2
225	37103	Slab	1x2x2
226	37253	Slab	1x4x3
227	37313	Slab	1x2x2
228	37563	Slab	1x2x2
229	37913	Slab	1x2x2
230	38033	Slab	1x2x2
231	38213	Slab	1x2x2
232	38423	Slab	1x2x2
233	38593	Slab	1x2x2
234	38883	Slab	1x2x2
235	38963	Slab	1x2x2
236	39083	Slab	1x2x2
237	39263	Slab	1x2x2
238	39733	Slab	1x2x2
239	40043	Slab	1x2x2
240	40113	Slab	1x2x2
241	40263	Slab	1x2x2
242	40828	Slab	1x2x2
243	40963	Slab	1x2x2
244	41083	Slab	1x2x2
245	41213	Slab	1x2x2
246	41443	Slab	1x2x2
247	41613	Slab	1x3x3
248	41718	Slab	1x2x2

249	41853	Slab	1x2x2
250	42223	Slab	1x6x6
251	42313	Slab	1x2x2
252	42473	Slab	1x2x2
253	42703	Slab	1x2x2
254	42813	Slab	1x2x2
255	43023	Slab	1x2x2
256	43113	Slab	1x2x2
257	43233	Slab	1x2x2
258	43343	Slab	1x6x4
259	43463	Slab	1x2x2
260	43663	Slab	1x2x2
261	43763	Slab	1x2x2
262	43983	Slab	1x2x2
263	44063	Slab	1x2x2
264	44183	Slab	1x3x3
265	44243	Slab	1x2x2
266	44683	Slab	1x2x2
267	44963	Slab	1x2x2
268	45113	Slab	1x2x2
269	45163	Slab	1x2x2
270	45263	Slab	1x2x2
271	45463	Slab	1x2x2
272	45743	Slab	1x2x2
273	45913	Slab	1x2x2
274	46163	Slab	1x2x2
275	46298	Slab	1x2x2
276	46513	Slab	1x2x2
277	46588	Slab	1x2x2
278	46763	Slab	1x2x2
279	46963	Slab	1x2x2
280	47113	Slab	1x2x2
281	48063	Slab	1x2x2
282	48163	Slab	1x2x2
283	48313	Slab	1x2x2
284	48493	Slab	1x2x2
285	48623	Slab	1x2x2
286	48803	Slab	1x2x2
287	48893	Slab	1x2x2
288	48993	Slab	1x2x2
289	49163	Slab	1x2x2
290	49333	Slab	1x2x2
291	49433	Slab	1x2x2

292	49563	Slab	1x3x3
293	49943	Slab	1x2x2
294	50013	Slab	1x2x2
295	50283	Slab	1x2x2
296	50548	Slab	1x2x2
297	50613	Slab	1x2x2
298	50953	Slab	1x4x3
299	51023	Slab	1x2x2
300	51123	Slab	1x2x2
301	51248	Slab	1x2x2
302	51343	Slab	1x2x2
303	51433	Slab	1x2x2
304	51533	Slab	1x2x2
305	51813	Slab	1x4x4
306	51963	Slab	1x2x2
307	52093	Slab	1x4x3
308	52223	Slab	1x4x3
309	52553	Slab	1x3x3
310	52613	Slab	1x2x2
311	52763	Slab	1x2x2
312	52933	Slab	1x2x2
313	53033	Slab	1x3x3
314	53163	Slab	1x2x2
315	53273	Slab	1x2x2
316	53413	Slab	1x2x2
317	53593	Slab	1x2x2
318	53713	Slab	1x2x2
319	53873	Slab	1x4x3
320	54063	Slab	1x2x2
321	54163	Slab	1x2x2
322	54228	Slab	1x2x2
323	54443	Slab	1x2x2
324	54563	Slab	1x2x2
325	54753	Slab	1x2x2
326	54813	Slab	1x2x2
327	55013	Slab	1x2x2
328	55138	Slab	1x2x2
329	55313	Slab	1x2x2
330	55453	Slab	1x2x2
331	55603	Slab	1x2x2
332	55693	Slab	1x2x2
333	55838	Slab	1x2x2
334	55963	Slab	1x2x2

335	56283	Slab	1x2x2
336	56463	Slab	1x2x2
337	56548	Slab	1x2x2
338	56673	Slab	1x2x2
339	56813	Slab	1x2x2
340	57063	Slab	1x2x2
341	57213	Slab	1x2x2
342	57293	Slab	1x2x2
343	57463	Slab	1x2x2
344	57563	Slab	1x2x2
345	57713	Slab	1x2x2
346	57823	Slab	1x2x2
347	58093	Slab	1x2x2
348	58213	Slab	1x2x2
349	58333	Slab	1x2x2
350	58453	Slab	1x6x6
351	58643	Slab	1x2x2
352	58863	Slab	1x2x2
353	58973	Slab	1x2x2
354	59113	Slab	1x2x2
355	59263	Slab	1x2x2
356	59443	Slab	1x2x2
357	59563	Slab	1x2x2
358	59713	Slab	1x2x2
359	59863	Slab	1x2x2
360	59963	Slab	1x2x2
361	60148	Slab	1x2x2
362	60313	Slab	1x2x2
363	60463	Slab	1x2x2
364	60563	Slab	1x2x2
365	60753	Slab	1x2x2
366	60863	Slab	1x4x4
367	61013	Slab	1x2x2
368	61193	Slab	1x2x2
369	61283	Slab	1x2x2
370	61463	Slab	1x2x2
371	61713	Slab	1x2x2
372	61913	Slab	1x2x2
373	62003	Slab	1x2x2
374	62073	Slab	1x2x2
375	62313	Slab	1x2x2
376	62738	Slab	1x2x2
377	62913	Slab	1x2x2

378	63083	Slab	1x2x2
379	63213	Slab	1x2x4
380	63353	Slab	1x4x4
381	63443	Slab	1x2x2
382	63683	Slab	1x2x2
383	63863	Slab	1x2x2
384	63913	Slab	1x2x2
385	64033	Slab	1x2x2
386	64163	Slab	1x2x3
387	64263	Slab	1x2x2
388	64398	Slab	1x2x2
389	64613	Slab	1x2x2
390	64713	Slab	1x4x3
391	64983	Slab	1x2x2
392	65133	Slab	1x2x2
393	65313	Slab	1x2x2
394	65433	Slab	1x2x2
395	65543	Slab	1x2x2
396	65723	Slab	1x2x2
397	65993	Slab	1x2x2
398	66113	Slab	1x2x2
399	66213	Slab	1x2x2
400	66313	Slab	1x2x2
401	66513	Slab	1x2x2
402	66973	Slab	1x2x2
403	67263	Slab	1x2x2
404	67313	Slab	1x2x2
405	67403	Slab	1x2x2
406	67513	Slab	1x2x2
407	67713	Slab	1x2x2
408	67863	Slab	1x2x2
409	68013	Slab	1x2x2
410	68163	Slab	1x2x2
411	68313	Slab	1x2x2
412	68433	Slab	1x6x4
413	68563	Slab	1x2x2
414	68753	Slab	1x2x2
415	68863	Slab	1x2x2
416	68988	Slab	1x2x2
417	69213	Slab	1x2x2
418	69313	Slab	1x4x3
419	69378	Slab	1x2x2
420	69443	Slab	1x2x2

421	69763	Slab	1x2x2
422	69943	Slab	1x2x2
423	70143	Slab	1x2x2
424	70253	Slab	1x2x2
425	70353	Slab	1x2x2
426	70463	Slab	1x2x2
427	70623	Slab	1x2x2
428	70683	Slab	1x2x2
429	70813	Slab	1x2x2
430	71108	Slab	1x4x3
431	71253	Slab	1x2x2
432	71883	Slab	1x2x2
433	72028	Slab	1x2x2
434	72163	Slab	1x2x2

435	72323	Slab	1x2x2
436	72493	Slab	1x2x2
437	72858	Slab	1x2x2
438	72963	Slab	1x2x2
439	73088	Slab	1x2x2
440	73203	Slab	1x2x2
441	73613	Slab	1x2x2
442	73653	Slab	1x2x2
443	73973	Slab	1x2x2
444	74483	Slab	1x2x2
445	74663	Slab	1x2x2
446	74703	Slab	1x2x2
447	74853	Slab	1x4x4

Total no of culverts = 447

7.2.6 Floor protection works shall be as specified in the relevant IRC Codes and Specifications

7.3 Bridges

7.3.1 Additional new bridges

New bridges at the following locations on the Project Highway shall be constructed. GADs for the new bridges are attached in the drawings folder.

S. No.	Location, Design Chainage (km)	Span length (m) and numbers	Total length (m)	Remarks
1	13.228	6x40	240	Asupani
2	16.233	2x10	20	
3	18.983	1x30	30	
4	30.970	2x30	60	Airi Nala
5	40.572	1x40	40	Litti
6	47.706	3x10	30	Ayyu
7	56.053	2x30	60	Bi Nala
8	66.500	1x40	40	Ithun Nala
9	71.543	1 X 15.5 + 1X 150 + 1 X 15.5	181	Special High level Bridge at river Eha
10	74.178	1 X 15.5 + 1X 130 + 1 X 15.5	161	Special High level Bridge at river Ithun

7.3.3 The railings of existing bridges shall be replaced by crash barriers at the following locations:

Sl No	Location at Km	Remarks
Nil		

7.3.4 Repairs/replacements of railing/parapets of the existing bridges shall be undertaken as follows:

S. No.	Existing km	Design chainage (km)	Remarks
1			NIL

7.3.5 Drainage system for bridge decks

An effective drainage system for bridge decks shall be provided as specified in paragraph 7.21 of the Manual

7.3.6 Structures in marine environment

Nil

7.4 Rail-road bridges

7.4.1 Design, construction and detailing of ROB/RUB shall be as specified in section 7 of the Manual.

7.4.2 Road over bridges (road over rail) shall be provided at the following locations, as per GAD drawings attached:

Sl No	Location of Level Crossing (chainage km)	Length of Bridge
Nil		

7.4.3 Road under bridges (road under railway line) shall be provided at the following level crossings, as per GAD drawings attached:

Sl No	Location of Level Crossing (chainage km)	Length of Bridge
Nil		

7.5 Grade separated structures

The grade separated structures shall be provided at the locations and of the type and length specified in paragraphs 2.9 and 3 of this Annex-I.

7.6 Repairs and strengthening of structures

The existing structures to be repaired/ strengthened, and the nature and extent of repairs / strengthening required are given below:

A – Bridges

S. No.	Existing km	Design Chain age (km)	Nature and extent of repairs/strengthening to be carried out
			Major Bridge

NIL
Minor Bridge
NIL

B – ROB / RUB

Nil

C – Overpasses/Underpasses and other structures

Nil

7.7 List of Major Bridges and Structures

The following is the list of the Major Bridges and Structures:

Sr. No.	Name of structure	Location (Design Chainage)
1	Major bridge	13.228
2	Major bridge	30.970
3	Major bridge	56.053
4	Major bridge	71.543
5	Major bridge	74.178

8. Traffic control devices and road safety works

8.1 Traffic control devices and road safety works shall be provided in accordance with Section 9 of the Manual.

8.2 Specifications of the reflecting sheeting.

Retro-reflective sheeting of High Intensity Grade with encapsulated lens or with micro prismatic retro reflective element in accordance with ASTM Standard D 4956-04.

9. Roadside furniture

9.1 Roadside furniture shall be provided in accordance with the provisions of section 11 of the Manual.

9.2 Overhead traffic signs: location and size

Overhead traffic signs of minimum 4 nos. shall be provided at the project terminals and major intersections given below:

Sr. No.	Design Chainage	Size	Location
1	0.000	Full width	Start of the project

2	27.363	Full width	Munli
3	53.363	Full width	Kronli
4	74.863	Full width	End of the project

10. Compulsory afforestation

As per Forest Conservation Act, twice the number of trees to be cut shall be planted.

11. Hazardous locations

The safety barriers shall also be provided at the following hazardous locations:

S No.	From Chainage (m)	To Chainage (m)	Distance (m)		30	3751	3890	139
1	31	82	51		31	4077	4178	102
2	85	115	30		32	4211	4297	86
3	133	163	30		33	4306	4379	72
4	176	257	80		34	4385	4489	104
5	299	368	69		35	4625	4721	96
6	456	543	86		36	4753	4820	67
7	594	677	84		37	4821	4882	61
8	744	803	58		38	4927	5023	96
9	807	870	63		39	5030	5110	80
10	915	980	65		40	5124	5185	61
11	1162	1241	79		41	5214	5454	239
12	1273	1344	71		42	5338	5583	245
13	1468	1498	30		43	5520	5771	251
14	1600	1660	60		44	5763	6002	239
15	1680	1741	61		45	6090	6308	217
16	2083	2113	30		46	6399	6614	214
17	2130	2160	30		47	6639	6853	215
18	2206	2275	69		48	7810	7892	82
19	2310	2413	102		49	7936	8040	104
20	2425	2489	63		50	8263	8358	95
21	2525	2617	92		51	8475	8560	85
22	2618	2686	67		52	8621	8695	74
23	2722	2842	119		53	8768	8851	82
24	2859	2936	77		54	8901	8984	83
25	3025	3104	79		55	9172	9239	67
26	3198	3259	60		56	9262	9373	111
27	3285	3371	86		57	9489	9724	235
28	3503	3586	83		58	9787	9916	129
29	3599	3717	118		59	10015	10114	99
					60	10135	10231	96

61	10271	10342	70
62	10433	10511	78
63	10522	10610	88
64	10685	10781	95
65	10935	11032	97
66	11055	11121	66
67	11185	11258	73
68	11266	11320	54
69	11322	11377	55
70	11387	11443	56
71	11468	11549	81
72	11638	11727	89
73	11805	11835	30
74	11871	11937	66
75	11992	12067	75
76	12073	12153	80
77	12175	12263	88
78	12312	12403	91
79	12457	12534	78
80	12543	12633	90
81	12652	12727	75
82	12841	12922	81
83	13010	13072	62
84	13354	13522	169
85	13547	13641	95
86	13784	13850	66
87	13987	14116	129
88	14155	14225	70
89	14259	14310	51
90	14320	14385	65
91	14419	14459	40
92	14562	14628	67
93	14847	14883	36
94	14926	14986	60
95	15071	15137	66
96	15168	15226	58
97	15235	15337	103
98	15453	15545	91
99	15603	15693	90
100	15833	15923	89
101	15977	16062	85
102	16146	16181	36

103	16274	16330	57
104	16386	16464	78
105	16485	16619	134
106	16671	16743	73
107	16793	16875	81
108	16961	17008	46
109	17098	17151	52
110	17209	17264	54
111	17323	17432	109
112	17464	17520	56
113	17544	17592	47
114	17606	17663	58
115	17719	17799	80
116	17819	17935	116
117	17947	18027	80
118	18137	18207	70
119	18245	18273	28
120	18373	18403	30
121	18414	18502	88
122	18616	18740	124
123	18921	18967	46
124	19018	19060	42
125	19105	19187	81
126	19252	19348	96
127	19486	19610	124
128	19631	19711	81
129	19764	19811	48
130	19941	20040	99
131	20164	20243	79
132	20310	20392	82
133	20531	20631	100
134	20673	20818	145
135	20864	20957	94
136	20997	21082	85
137	21179	21277	97
138	21397	21493	95
139	21532	21678	145
140	21706	21781	76
141	21879	22015	136
142	22107	22187	81
143	22212	22286	74
144	22404	22458	54
145	22523	22597	75

146	22647	22722	75
147	22756	22825	69
148	22899	23045	146
149	23227	23315	88
150	23323	23391	68
151	23484	23571	87
152	23746	23825	79
153	23864	23922	58
154	23966	24047	81
155	24093	24167	75
156	24223	24297	75
157	24425	24498	73
158	24528	24589	61
159	24642	24700	58
160	24768	24954	186
161	25072	25160	88
162	25225	25313	87
163	25487	25619	132
164	25786	25907	121
165	26022	26119	97
166	26264	26342	79
167	26344	26442	98
168	26473	26553	81
169	26609	26698	88
170	26745	26857	112
171	26895	26979	84
172	27007	27079	72
173	27095	27267	173
174	27499	27532	33
175	27563	27621	58
176	27661	27685	24
177	27759	27789	30
178	27829	27894	65
179	27921	28019	98
180	28084	28122	38
181	28180	28208	28
182	28258	28294	36
183	28348	28382	34
184	28421	28471	50
185	28529	28559	30
186	28615	28648	33
187	28711	28740	29
188	28806	28915	109

189	29084	29161	77
190	29214	29249	35
191	29298	29326	28
192	29379	29396	17
193	29472	29520	48
194	29611	29653	42
195	29747	29798	51
196	29925	29994	69
197	30096	30169	73
198	30207	30302	95
199	30344	30426	82
200	30499	30560	61
201	30635	30669	34
202	30739	30767	28
203	30858	30914	56
204	31018	31052	34
205	31163	31194	31
206	31231	31259	28
207	31307	31333	26
208	31409	31439	30
209	31474	31534	60
210	31586	31631	45
211	31695	31810	115
212	31878	31906	28
213	31959	31983	24
214	32045	32063	18
215	32109	32134	25
216	32202	32266	64
217	32307	32333	26
218	32376	32389	13
219	32426	32461	35
220	32508	32602	94
221	32705	32771	66
222	32945	33021	76
223	33126	33163	37
224	33215	33242	27
225	33363	33399	36
226	33433	33508	75
227	33529	33587	58
228	33635	33698	63
229	33775	33826	51
230	33918	33939	21
231	33992	34013	21

232	34070	34110	40
233	34155	34179	24
234	34222	34288	66
235	34404	34459	55
236	34758	34912	154
237	35042	35140	98
238	35229	35298	69
239	35341	35385	44
240	35593	35721	128
241	35795	35870	75
242	35917	35978	61
243	36056	36109	53
244	36202	36290	88
245	36418	36594	176
246	36719	36875	156
247	36974	37066	92
248	37174	37268	94
249	37403	37487	84
250	37595	37751	156
251	37873	38067	194
252	38277	38403	126
253	38487	38567	80
254	38628	38670	42
255	38816	38833	17
256	39093	39173	80
257	39281	39347	66
258	39422	39447	25
259	39513	39552	39
260	39620	39638	18
261	39743	39809	66
262	39945	40010	65
263	40047	40167	120
264	40326	40401	75
265	40485	40548	63
266	40610	40647	37
267	40739	40794	55
268	40862	40873	11
269	40920	40938	18
270	40991	41026	35
271	41067	41087	20
272	41129	41174	45
273	41197	41210	13
274	41313	41369	56

275	41391	41426	35
276	41519	41526	7
277	41591	41629	38
278	41781	41825	44
279	41843	41923	80
280	41959	41985	26
281	42089	42159	70
282	42194	42248	54
283	42294	42314	20
284	42409	42432	23
285	42537	42547	10
286	42602	42616	14
287	42666	42734	68
288	42815	42838	23
289	42887	42982	95
290	43025	43116	91
291	43261	43288	27
292	43301	43378	77
293	43400	43429	29
294	43516	43544	28
295	43600	43621	21
296	43704	43733	29
297	43833	43877	44
298	43995	44041	46
299	44136	44202	66
300	44356	44382	26
301	44474	44492	18
302	44589	44614	25
303	44715	44743	28
304	44873	44891	18
305	44981	44992	11
306	45035	45059	24
307	45261	45290	29
308	45511	45539	28
309	45646	45667	21
310	45727	45738	11
311	45911	45959	48
312	46089	46113	24
313	46282	46317	35
314	46392	46410	18
315	46503	46531	28
316	46563	46598	35
317	46685	46703	18

318	46802	46835	33
319	46955	46976	21
320	47103	47119	16
321	47272	47305	33
322	47575	47629	54
323	47775	47843	68
324	48043	48080	37
325	48227	48268	41
326	48468	48504	36
327	48655	48715	60
328	48758	48782	24
329	48810	48825	15
330	48906	48929	23
331	48980	49007	27
332	49019	49041	22
333	49050	49075	25
334	49099	49124	25
335	49191	49226	35
336	49261	49323	62
337	49329	49351	22
338	49361	49421	60
339	49444	49492	48
340	49638	49819	181
341	49894	49947	53
342	50037	50071	34
343	50153	50173	20
344	50190	50211	21
345	50264	50301	37
346	50341	50376	35
347	50386	50426	40
348	50483	50494	11
349	50541	50570	29
350	50597	50628	31
351	50736	50769	33
352	50898	50949	51
353	51079	51098	19
354	51173	51199	26
355	51240	51255	15
356	51307	51343	36
357	51378	51423	45
358	51437	51509	72
359	51679	51714	35
360	51747	51771	24

361	51824	51840	16
362	51906	51943	37
363	52010	52021	11
364	52055	52114	59
365	52121	52177	56
366	52203	52252	49
367	52349	52397	48
368	52416	52483	67
369	52496	52524	28
370	52591	52625	34
371	52659	52712	53
372	52721	52745	24
373	52814	52826	12
374	52881	52891	10
375	53004	53021	17
376	53042	53086	44
377	53155	53164	9
378	53276	53302	26
379	53409	53529	120
380	53553	53653	100
381	53874	54024	150
382	54182	54262	80
383	54353	54433	80
384	54573	54713	140
385	54813	54903	90
386	54953	55093	140
387	55126	55226	100
388	55298	55438	140
389	55525	55645	120
390	55774	55894	120
391	55945	56025	80
392	56082	56182	100
393	56235	56355	120
394	56461	56541	80
395	56698	56898	200
396	57082	57182	100
397	57198	57278	80
398	57286	57406	120
399	57447	57517	70
400	57648	57788	140
401	57859	57934	75
402	58086	58166	80
403	58344	58464	120

404	58489	58569	80
405	58647	58887	240
406	58923	59023	100
407	59229	59309	80
408	59695	59795	100
409	59942	60092	150
410	60142	60262	120
411	60406	60506	100
412	60671	60741	70
413	60759	60879	120
414	61036	61116	80
415	61338	61488	150
416	61541	61661	120
417	61691	61771	80
418	61861	62001	140
419	62116	62216	100
420	62353	62453	100
421	62514	62664	150
422	62754	62854	100
423	62951	63071	120
424	63233	63333	100
425	63387	63507	120
426	63537	63657	120
427	63687	63757	70
428	63833	63913	80
429	63948	64108	160
430	64117	64197	80
431	64240	64440	200
432	64571	64671	100
433	64840	64930	90
434	65016	65116	100
435	65365	65565	200
436	65682	65762	80
437	65829	66049	220
438	66135	66335	200
439	66413	66493	80
440	66565	66665	100
441	66757	66897	140
442	66938	67038	100
443	67140	67210	70
444	67346	67456	110
445	67497	67577	80
446	67659	67779	120

447	67912	68032	120
448	68239	68379	140
449	68441	68521	80
450	68640	68780	140
451	68833	68903	70
452	68976	69076	100
453	69176	69296	120
454	69323	69503	180
455	69661	69766	105
456	69779	69899	120
457	69961	70081	120
458	70107	70287	180
459	70371	70471	100
460	70572	70732	160
461	70838	70938	100
462	71075	71215	140
463	71288	71408	120
464	71658	71758	100
465	71975	72075	100
466	72408	72658	250
467	72784	72884	100
468	73104	73304	200
469	73489	73629	140
470	73778	73898	120
471	73996	74076	80
472	74291	74371	80
473	74391	74491	100
474	74574	74724	150

Total **36011 m**

12. Special requirements for hill roads

The new alignment is passing through steep hilly terrain. However as per para 14.5 and 14.8 of the Manual of Roads and Bridges.

All special features shall be provided as per Manual.

The side slope shall be protected by using suitable slope protection measures all along the highway on Hill side and Valley side. The details of the minimum protection work as tabulated below

Sr. No.	Protection work	Height										Total
		Upto 4m	5m	6m	7m	8m	9m	10m	11m	12m	Standard	
1	RR Masonary	-	-	-	243	187	261	176	94	317		1278 m
2	Gabion wall	0	532	1198	1074	15904	0	0	0	0		18708 m
3	Toe wall	0	0	0	0	0	0	0	0	0	442	442m
4	Retaining wall(m)	8791	1437	1052	336	0	0	0	0	0		11616 m
5	Breast wall	0	0	0	0	0	0	0	0	0	17599	17599 m

The chainage wise details of Protection works are given in Annexure II.

Contractor shall identify areas and provide the suitable protection measures to stabilize all the landslides along with the design for the review of the Authority Engineer. No change of scope shall be considered for the same. The same shall be dealt properly and adequate safety /Protection measures with proper design shall be provided.

13. Change of Scope

The length of Structures and bridges specified herein above shall be treated as an approximate assessment. Further investigations shall be determined by the Contractor in accordance with the Specifications and Standards. A change of scope shall not constitute a Change of Scope, save and except any variations in the length arising out of a Change of Scope. Article 13.

14. Typical cross-sections of the Project Highway

Following Typical Cross Sections are indicated in the Table below.

S. No.	Proposed Chainage		Design Length in KM	C/S-Type	Remark
	From	To			
1	0	74.863	74.863	Type III, IV,V, VI, VII, VIII	Type of Cross Section shall be provided as per the profile & site Condition.

Drawings have been provided separately.

Annexure-II (A(i))			
Right Side for Ch. 0-74.863Km (Banded Retaining)			
Chainage (0- 74.863 Km)		Length	Height
From	To	(m)	(m)
2350	2355	5	2
2353	2358	5	5
2363	2368	5	5
2367	2372	5	3
6470	6500	30	5
6825	6900	75	4
7720	7770	50	3
7770	7800	30	4
7800	7818	18	3
7818	7825	7	2
7963	7967	5	2
7965	7970	5	4
7970	7975	5	5
7990	7995	5	5
7995	8000	5	4
8000	8003	3	3
8003	8007	3	2
8250	8260	10	2
8260	8275	15	3
8275	8280	5	2
8805	8810	5	2
9506	9510	4	2
9510	9520	10	3
9520	9525	5	4
9555	9560	5	4
9560	9565	5	2
10281	10288	8	2
10288	10295	7	4
10295	10300	5	5
10305	10310	5	7
10310	10315	5	5
10315	10320	5	4
10320	10330	10	3
10554	10560	6	3
10560	10572	12	4

10572	10577	5	2
10800	10820	20	2
10957	10965	8	3
10965	10970	5	4
10970	10975	5	6
10980	10985	5	6
10985	10990	5	5
10990	10995	5	3
10995	11000	5	2
11334	11337	3	3
11340	11343	3	3
11343	11366	23	4
11366	11371	5	3
11371	11373	2	2
11673	11683	10	3
16238	16243	5	4
17033	17043	10	4
17868	17873	5	3
17873	17877	4	7
17877	17878	1	6
17878	17883	5	2
19483	19486	3	2
19486	19503	17	3
19503	19513	10	4
19513	19518	5	3
19518	19523	5	2
19813	19833	20	2
19953	19983	30	4
20283	20293	10	3
20293	20317	24	4
20317	20328	11	3
20328	20335	7	2
20723	20748	25	3
20788	20793	5	3
20793	20798	5	4
20798	20803	5	3
20986	20997	11	2
21053	21057	4	2
21548	21553	5	2
21553	21561	8	3

21588	21593	5	4
21643	21648	5	2
21648	21653	5	3
21653	21658	5	2
22053	22065	12	4
22065	22073	8	5
22193	22200	6	2
22200	22203	3	3
22203	22213	10	4
22213	22225	12	3
22225	22233	8	2
22353	22363	10	2
22889	22893	4	2
22893	22899	6	3
22899	22903	4	2
22903	22909	6	3
22909	22913	4	2
22913	22938	25	3
22938	22948	10	4
22948	22953	5	5
22953	22958	5	6
22958	22963	5	7
22963	22968	5	6
22968	22983	15	5
22983	22993	10	6
22993	22998	5	5
22998	23008	10	4
23008	23013	5	3
23013	23018	5	2
23583	23593	10	3
23593	23613	20	4
23613	23623	10	3
23978	23986	8	3
23986	23993	7	5
23993	24008	15	6
24008	24023	15	5
24023	24027	4	4
24027	24033	6	3
24668	24673	5	3
24673	24700	27	4
24700	24713	13	3
25103	25113	10	3

25113	25123	10	4
25543	25583	40	2
25756	25763	7	3
25763	25779	16	4
25779	25793	14	5
25793	25798	5	4
25798	25803	5	2
26043	26053	10	4
26053	26063	10	6
26063	26073	10	4
26073	26083	10	2
26563	26573	10	3
26573	26583	10	4
26583	26593	10	3
26593	26600	7	2
26593	26600	7	2
40401	40403	2	6
40403	40408	5	5
74843	74863	20	3
74863	74873	10	2

Annexure-II (A(ii))			
Left Side for Ch. 0-74.863Km (Banded Retaining)			
Chainage		Length (m)	Height (m)
From	To		
0	50	50	2
140	145	5	2
145	160	15	3
160	180	20	4
180	200	20	5
200	220	20	4
220	228	8	3
228	230	2	2
250	270	20	3
270	280	10	4
280	300	20	3
368	370	2	2

370	380	10	3
380	400	20	4
400	420	20	5
420	430	10	4
430	481	51	3
481	486	4	4
486	490	4	5
490	495	5	6
495	500	5	7
510	518	8	7
518	525	7	6
525	540	15	5
540	543	3	4
543	550	7	4
550	560	10	3
560	570	10	2
605	620	15	3
620	624	4	2
730	740	10	5
740	760	20	6
760	790	30	5
790	800	10	4
800	812	12	4
812	822	9	3
822	830	8	2
840	870	30	2
925	930	5	2
930	940	10	3
940	943	3	4
943	945	3	5
945	955	10	6
955	960	5	5
960	965	5	3
1080	1100	20	2
1140	1162	22	2
1162	1190	28	3
1200	1210	10	2
1210	1241	31	3
1241	1250	9	2
1273	1280	7	2

1280	1290	10	4
1290	1300	10	5
1300	1310	10	4
1770	1780	10	3
1780	1790	10	4
1790	1800	10	2
2035	2040	5	7
2040	2050	10	4
2113	2120	7	2
2120	2125	5	3
2125	2145	20	4
2145	2150	5	3
2340	2345	5	2
2345	2350	5	5
2377	2380	3	6
2380	2383	3	5
2383	2390	7	4
2390	2400	10	3
2400	2405	5	2
2480	2490	10	4
2490	2500	10	6
2510	2520	10	5
2520	2525	5	3
2784	2785	1	2
2785	2787	2	3
2787	2795	8	4
2795	2800	5	3
2800	2805	5	2
2910	2920	10	2
2920	2960	40	3
2960	3000	40	2
3140	3170	30	3
3170	3175	5	2
3250	3271	21	4
3290	3295	5	4
3295	3300	5	5
3300	3305	5	2
3781	3785	5	3
3785	3790	5	4
3790	3795	5	3

3902	3910	8	2
3910	3920	10	4
3920	3930	10	5
3930	3940	10	6
3940	3960	20	5
3960	3990	30	4
3990	4000	10	3
4106	4120	14	2
4145	4153	8	2
4153	4157	3	3
4157	4165	8	2
4220	4223	3	2
4223	4225	2	3
4225	4230	5	5
4230	4245	15	6
4245	4250	5	4
4250	4255	5	3
4420	4425	5	3
4425	4430	5	4
4430	4435	5	3
4645	4650	5	2
4650	4655	5	4
4655	4660	5	5
4660	4665	5	7
4670	4675	5	6
4675	4681	6	4
4681	4685	5	3
4753	4760	7	2
4760	4770	10	3
4770	4780	10	2
4900	5000	100	4
5050	5100	50	2
5340	5380	40	4
6825	6900	75	4
11320	11325	5	3
11325	11330	5	6
11374	11380	6	6
11380	11384	4	5
11384	11390	6	4
11390	11394	4	2

11410	11415	5	2
11415	11460	45	3
11460	11470	10	2
11620	11635	15	2
11635	11650	15	3
11650	11660	10	4
11660	11665	5	5
11665	11670	5	6
11680	11685	5	6
11685	11690	5	5
11690	11695	5	4
11695	11700	5	3
11700	11705	5	2
11820	11832	12	3
11923	11934	11	2
11980	12010	30	2
12030	12034	4	2
12034	12045	11	3
12045	12052	7	2
12100	12105	5	3
12105	12110	5	4
12110	12115	5	5
12115	12120	5	3
12320	12321	1	2
12321	12335	14	3
12335	12340	5	4
12340	12345	5	6
12355	12360	5	6
12360	12365	5	5
12365	12375	10	3
12460	12470	10	2
12500	12505	5	2
12505	12520	15	3
12520	12527	7	2
12580	12585	5	2
12585	12590	5	3
12590	12600	10	2
12770	12780	10	5
12780	12790	10	7
12790	12800	10	5

12800	12810	10	3
14040	14050	10	2
14210	14230	20	2
14276	14280	4	3
14280	14290	10	7
14290	14295	5	6
14295	14300	5	4
14300	14310	10	3
14500	14520	20	2
14520	14530	10	3
14530	14541	11	4
14541	14550	9	5
14550	14559	9	3
14559	14560	1	2
14860	14877	17	2
14940	14970	30	2
15490	15495	5	3
15495	15500	5	5
15500	15505	5	7
15505	15510	5	5
15510	15515	5	2
15590	15602	12	4
15602	15613	11	6
15613	15615	2	7
15615	15620	5	5
15720	15730	10	3
15790	15800	10	4
15810	15820	10	6
15820	15830	10	5
15830	15840	10	4
15940	15950	10	4
15950	15960	10	5
15960	15962	2	6
15962	15970	8	5
15970	15974	4	4
15974	15980	6	2
16240	16250	10	6
16250	16256	6	2
16441	16446	4	2
16446	16461	16	3

16461	16470	9	2
16520	16522	2	3
16522	16535	13	4
16535	16540	5	3
16590	16595	5	2
16595	16616	21	3
16616	16620	4	2
16805	16815	10	3
17010	17012	2	2
17012	17015	3	4
17015	17020	5	6
17040	17060	20	3
17250	17261	11	2
17261	17280	19	3
17280	17283	3	2
17855	17860	5	3
17860	17865	5	6
17880	17885	5	6
17885	17890	5	2
17994	18020	26	2
18090	18130	40	2
18178	18190	12	2
18280	18300	20	3
18300	18304	4	2
18340	18370	30	2
18530	18550	20	2
18660	18685	25	2
18685	18695	10	3
	27636	3	2
27636	27643	7	3
27894	27903	9	2
28078	28083	5	2
28083	28093	10	3
28093	28098	5	2
28188	28198	10	2
28273	28283	10	2
28299	28303	4	3
28303	28313	10	4
28313	28320	7	3
28320	28323	3	2

28393	28397	4	2
28397	28405	8	3
28689	28696	7	2
28943	28953	10	3
28953	28963	10	2
29053	29063	10	3
29063	29065	2	2
29263	29273	10	2
29273	29283	10	2
29323	29333	10	2
29421	29423	2	2
29423	29433	10	3
29433	29436	3	2
29473	29483	10	3
29628	29638	10	2
29638	29643	5	3
29758	29763	5	2
29763	29765	2	3
29765	29773	8	2
29883	29893	10	3
30073	30083	10	3
30083	30085	2	2
30233	30243	10	3
30243	30247	4	4
30247	30253	6	5
30253	30263	10	6
30263	30273	10	5
30273	30283	10	2
30393	30403	10	2
30403	30423	20	3
30423	30426	3	2
30513	30518	5	2
30518	30533	15	3
30533	30538	5	2
30635	30639	4	2
30639	30643	4	3
30643	30653	10	4
30653	30663	10	5
30663	30673	10	4
30673	30681	8	3

30681	30683	2	2
30683	30684	1	2
31423	31443	20	2
31443	31453	10	3
31453	31463	10	2
31703	31713	10	2
31713	31733	20	3
32416	32418	2	2
32418	32426	8	3
32426	32430	4	2
32925	32933	8	2
32933	32938	5	4
32938	32943	5	3
32943	32953	10	4
32953	32958	5	3
32958	32963	5	2
33041	33043	2	2
33293	33303	10	2
33493	33503	10	3
33503	33523	20	4
33523	33538	15	5
33538	33543	5	3
33543	33548	5	2
33558	33563	5	2
33743	33753	10	3
33753	33762	9	4
33762	33783	21	3
33783	33788	5	4
33788	33793	5	3
33793	33801	8	2
33984	33998	14	4
33998	34003	5	3
34130	34133	3	2
34133	34147	14	3
34147	34155	8	4
34155	34163	8	3
34163	34168	5	2
34474	34481	7	2
34480	34496	16	3
34497	34503	6	2

34717	34723	6	3
34723	34733	10	4
34733	34737	4	3
34903	34913	10	2
34913	34923	10	3
34923	34939	16	4
34939	34963	24	3
34963	34973	10	2
35323	35333	10	3
35333	35341	8	2
35353	35363	10	2
35363	35367	4	3
35763	35783	20	2
35963	35978	15	2
35978	35983	5	3
35983	35993	10	4
35993	36003	10	3
36163	36173	10	3
36408	36410	2	2
36410	36448	38	3
36448	36453	5	4
36453	36473	20	3
36594	36599	5	4
36598	36602	4	5
36602	36603	1	6
36603	36613	10	7
36613	36614	1	7
36614	36633	19	6
36633	36643	10	4
36643	36653	10	2
36907	36913	6	2
36913	36923	10	2
37203	37208	5	2
37208	37213	5	3
37213	37248	35	4
37248	37258	10	3
37515	37523	8	3
37523	37533	10	5
37533	37553	20	6
37553	37563	10	5

37563	37573	10	3
38003	38023	20	2
38023	38043	20	3
38043	38053	10	2
38403	38413	10	4
38413	38423	10	5
38423	38433	10	3
38433	38443	10	2
38574	38584	10	2
38584	38593	9	3
38593	38599	6	4
38599	38603	4	3
38603	38608	5	2
38823	38833	10	3
38833	38834	1	4
38903	38913	10	7
38913	38923	10	5
38923	38934	11	4
38934	38943	9	3
39243	39253	10	2
39253	39273	20	3
39273	39283	10	2
39703	39708	5	2
39708	39713	5	6
39738	39743	5	5
40003	40010	7	4
40010	40013	3	5
40013	40025	12	6
40025	40034	9	5
40035	40043	8	6
40043	40044	1	7
40063	40073	10	6
40073	40083	10	4
40083	40093	10	3
40583	40593	10	2
40593	40603	10	3
40603	40613	10	2
40663	40683	20	2
40683	40703	20	3
40703	40723	20	4

40723	40733	10	2
40943	40963	20	5
40963	40973	10	4
40973	40983	10	3
40983	40993	10	2
40993	41013	20	3
41013	41023	10	2
41023	41033	10	5
41033	41043	10	7
41043	41093	50	6
41093	41113	20	5
41193	41203	10	6
41213	41223	10	5
41223	41233	10	3
41303	41313	10	2
41403	41413	10	2
41413	41423	10	4
41423	41433	10	5
41433	41463	30	6
41463	41473	10	5
41473	41483	10	4
41483	41493	10	3
41583	41593	10	2
41593	41603	10	5
41823	41833	10	4
41833	41843	10	7
41843	41853	10	5
41913	41923	10	2
42213	42223	10	3
42273	42283	10	4
42283	42293	10	7
42323	42333	10	6
42333	42343	10	3
42463	42473	10	2
42473	42503	30	3
42503	42513	10	2
42533	42543	10	2
42763	42773	10	4
42773	42793	20	3
42793	42803	10	2

42803	42823	20	3
42823	42833	10	2
42863	42873	10	2
42933	42963	30	5
42963	42973	10	4
43333	43343	10	3
43633	43643	10	4
43643	43653	10	6
43663	43673	10	5
43673	43683	10	4
44073	44113	40	2
44113	44123	10	3
44663	44693	30	3
44883	44943	60	3
44943	44963	20	4
44963	44973	10	5
44973	44983	10	4
45723	45733	10	2
46163	46173	10	2
46173	46183	10	3
46183	46193	10	2
46203	46213	10	2
46213	46233	20	3
48803	48813	10	2
48893	48903	10	2
49323	49333	10	6
49343	49353	10	6
49353	49363	10	4
49383	49393	10	2
49933	49943	10	2
49973	49983	10	6
49983	49993	10	5
49993	50003	10	3
50943	50953	10	4
50953	50963	10	2
50973	50983	10	5
51023	51033	10	5
51033	51053	20	3
51063	51073	10	2
52763	52803	40	3

52803	52813	10	2
52823	52833	10	2
52833	52853	20	3
53153	53173	20	3
53243	53273	30	2
53473	53483	10	2
53483	53493	10	4
53493	53503	10	5
53503	53513	10	4
53513	53523	10	3
53563	53573	10	3
53573	53603	30	5
53603	53613	10	4
53613	53623	10	2
53773	53783	10	3
53783	53813	30	4
53813	53853	40	3
53853	53863	10	4
53863	53873	10	3
53993	54003	10	2
54003	54013	10	4
54013	54043	30	5
54043	54063	20	4
54063	54083	20	3
54203	54213	10	3
54213	54223	10	5
54233	54243	10	4
54513	54533	20	3
54533	54563	30	4
54563	54583	20	5
54583	54593	10	3
54713	54723	10	3
54723	54733	10	4
54733	54753	20	5
54753	54763	10	4
54763	54773	10	3
55123	55133	10	2
55133	55153	20	4
55153	55163	10	3
55163	55173	10	2

55303	55373	70	2
55373	55383	10	3
55383	55403	20	4
55403	55433	30	5
55433	55443	10	6
55453	55463	10	7
55463	55473	10	3
55503	55513	10	2
55513	55523	10	3
55523	55533	10	2
55613	55623	10	3
55623	55633	10	6
55703	55713	10	5
55713	55723	10	3
55763	55773	10	3
55773	55783	10	4
55783	55803	20	6
55853	55863	10	5
55863	55873	10	3
55973	56003	30	6
56003	56013	10	3
56013	56023	10	4
56063	56073	10	3
56203	56213	10	2
56213	56223	10	4
56223	56233	10	3
56233	56243	10	2
56263	56273	10	3
56273	56283	10	6
56283	56293	10	4
56313	56323	10	2
56323	56333	10	3
56333	56343	10	2
56423	56433	10	3
56433	56443	10	4
56443	56453	10	5
56453	56463	10	6
56463	56473	10	5
56473	56503	30	6
56503	56513	10	5

56513	56523	10	4
56523	56543	20	3
56813	56843	30	2
56933	56943	10	2
56943	56953	10	3
56953	57003	50	4
57003	57023	20	3
57023	57033	10	4
57033	57103	70	3
57103	57113	10	4
57113	57123	10	3
57123	57143	20	2
57143	57163	20	3
57163	57203	40	2
57203	57233	30	3
57453	57473	20	5
57473	57483	10	4
57483	57503	20	3
57503	57513	10	2
57653	57703	50	2
57803	57813	10	5
57823	57833	10	4
57943	57963	20	6
57963	57973	10	5
57973	57983	10	3
57983	58003	20	2
58003	58033	30	3
58033	58073	40	4
58073	58083	10	5
58083	58093	10	4
58433	58443	10	2
58453	58463	10	4
58463	58473	10	3
58473	58483	10	2
58633	58653	20	3
58653	58673	20	4
58823	58833	10	2
58833	58863	30	3
58863	58873	10	4
58873	58913	40	5

58913	58953	40	6
58953	58973	20	7
58973	58983	10	6
58983	58993	10	4
58993	59003	10	3
59003	59013	10	2
60133	60143	10	3
60143	60153	10	6
60153	60163	10	3
60503	60523	20	3
60523	60533	10	4
60533	60543	10	5
60543	60553	10	6
60553	60573	20	7
60573	60583	10	6
60583	60593	10	5
60593	60603	10	3
60613	60623	10	2
60623	60673	50	3
60683	60753	70	5
60853	60863	10	6
60863	60873	10	4
60873	60893	20	3
60893	60913	20	4
60913	60923	10	2
61923	61933	10	3
61933	61943	10	4
61943	61953	10	5
61953	61983	30	6
61983	61993	10	7
62003	62013	10	4
62013	62023	10	2
62703	62713	10	3
62713	62723	10	4
62723	62733	10	2
63343	63353	10	3
63423	63433	10	2
63433	63443	10	5
63443	63453	10	4
63453	63483	30	3

63483	63493	10	5
63493	63503	10	6
63513	63523	10	7
63523	63533	10	4
63673	63683	10	3
64013	64033	20	3
64143	64153	10	3
64153	64163	10	6
64223	64233	10	2
64233	64243	10	3
64243	64253	10	4
64253	64273	20	5
64273	64293	20	6
64293	64303	10	5
64303	64313	10	4
64313	64323	10	2
64383	64403	20	2
64813	64823	10	2
64963	64973	10	2
64973	64983	10	6
64983	64993	10	5
64993	65003	10	4
65003	65013	10	2
65493	65503	10	3
65503	65513	10	4
65513	65523	10	6
65553	65563	10	4
65563	65583	20	3
65583	65603	20	2
65953	65963	10	4
66013	66023	10	6
66023	66053	30	4
66053	66083	30	3
66083	66093	10	2
67373	67383	10	2
67383	67393	10	3
67393	67403	10	4
67403	67413	10	5
67413	67423	10	6
67423	67433	10	5

67433	67453	20	4
67453	67463	10	3
67483	67493	10	4
67493	67523	30	5
67523	67533	10	4
67533	67543	10	5
67543	67563	20	6
67563	67573	10	4
67573	67593	20	5
67593	67603	10	4
67603	67623	20	3
67623	67633	10	2
67633	67643	10	3
67643	67653	10	4
67653	67663	10	5
67663	67673	10	3
67673	67703	30	4
67703	67713	10	5
67713	67723	10	7
67733	67773	40	6
67773	67793	20	5
67793	67823	30	4
67823	67883	60	3
67883	67903	20	2
67903	67913	10	3
67913	67923	10	2
68013	68083	70	2
68083	68123	40	3
68123	68133	10	4
68133	68183	50	3
68183	68233	50	4
68233	68263	30	5
68263	68273	10	4
68273	68283	10	2
68283	68293	10	3
68293	68303	10	6
68333	68343	10	3
68443	68513	70	7
68643	68663	20	7
68663	68723	60	6

68723	68733	10	7
68733	68753	20	6
68753	68763	10	4
68783	68793	10	4
68793	68803	10	5
68803	68813	10	4
68813	68833	20	3
68833	68853	20	2
68903	68913	10	2
68933	68943	10	2
68943	68953	10	4
68953	68963	10	3
68963	68983	20	2
68983	68993	10	3
68993	69003	10	2
69133	69143	10	2
69143	69153	10	3
69153	69163	10	4
69163	69173	10	3
69173	69193	20	2
69193	69253	60	3
69253	69273	20	2
69293	69303	10	3
69303	69313	10	2
69363	69373	10	2
69373	69383	10	3
69423	69443	20	2
69753	69763	10	3
69913	69923	10	2
69923	69933	10	5
69953	69963	10	5
70133	70143	10	5
70153	70173	20	6
70173	70193	20	5
70193	70203	10	4
70223	70233	10	2

70233	70243	10	3
70243	70253	10	4
70293	70303	10	2
70303	70313	10	6
70333	70343	10	7
70343	70363	20	6
70433	70443	10	7
71173	71183	10	3
71183	71203	20	4
71203	71223	20	3
71253	71263	10	2
71263	71273	10	4
71273	71293	20	3
71293	71303	10	4
71303	71333	30	5
71333	71343	10	4
71343	71353	10	2
71433	71443	10	3
71863	71873	10	3
71873	71883	10	4
71903	71913	10	6
71913	71953	40	5
71953	71973	20	6
71973	71993	20	7
72163	72183	20	6
72183	72203	20	5
72203	72223	20	4
72223	72233	10	2
73083	73093	10	2
74703	74713	10	3
74823	74833	10	4
74833	74843	10	6

Banded Retaining Wall		Height			
		Upto 4	5	6	7
Length (0-27.363 Km)	LHS	2186	266	169	50
	RHS	1082	134	56	14
	Total	3268	400	225	64
Length (27.363-53.363 Km)	LHS	2213	282	225	52
	RHS	0	5	2	0
	Total	2213	287	227	52
Length (53.363-74.863 Km)	LHS	3280	750	600	220
	RHS	30	0	0	0
	Total	3310	750	600	220

4250	4340	90
4344	4385	41
4691	4721	30
5050	5122	72
5165	5185	20
5214	5235	21
5790	6000	210
9850	9863	13
10470	10475	5
11230	11300	70
11850	11910	60
12020	12030	10
12120	12160	40
12215	12235	20
12370	12565	195
12664	12760	96
12852	13074	222
13350	13750	400
13785	13888	102
13900	13970	70
14152	14190	38
14260	14276	16
14320	14340	20
14420	14500	80
14550	14625	75
14630	14940	310
14970	15020	50
15050	15120	70
15236	15276	40
15280	15450	170
15463	15490	27
15522	15580	58
15635	15690	55
15740	15780	40
15850	15900	50
15920	15930	10
15974	16020	46
16080	16110	30
16260	16446	186
16455	16461	6
16502	16580	78
16630	16670	40
16860	16886	26
16950	17013	63
17103	17155	52
17338	17453	115
17648	17651	3
17673	17849	176

Annexure-II (B(i)) Right Side for Ch. 0-74.863Km (Breast Wall)		
Chainage		Length (m)
From	To	
550	594	44
624	730	106
822	855	33
890	935	45
985	1070	85
1370	1410	40
1470	1650	180
1730	1744	14
1744	1746	1
1746	1760	14
1870	1925	55
1930	2025	95
2050	2113	63
2180	2240	60
2310	2340	30
2430	2470	40
2525	2670	145
2752	2775	23
2820	2825	5
2860	2936	76
3010	3110	100
3205	3225	20
3305	3327	22
3430	3545	115
3580	3773	193
3810	3855	45
4070	4095	25
4125	4135	10
4180	4223	43

17898	17983	85
18137	18183	46
18241	18254	14
27657	27693	36
27983	28043	60
28117	28188	71
28433	28529	96
28963	29003	40
29068	29129	61
29343	29383	40
29527	29608	81
29658	29753	95
30293	30383	90
30560	30628	68
30684	30773	89
30823	30922	99
31036	31103	67
31307	31343	36
31550	31666	116
31758	31803	45
31893	31959	66
31996	32073	77
32083	32109	26
32128	32173	45
32328	32413	85
33388	33443	55
33618	33713	95
33863	33984	121
34223	34253	30
34263	34347	84
34373	34463	90
34593	34673	80
34973	35063	90
35103	35140	37
35403	35489	86
35533	35618	85
35688	35733	45
35885	35938	53
36015	36143	128
36943	37063	120
37163	37198	35
37843	37874	31
37953	37993	40
38067	38153	86
38493	38543	50
38786	38815	29
39093	39183	90
39353	39463	110

40273	40323	50
40753	40793	40
40853	40923	70
41173	41193	20
41243	41273	30
41323	41403	80
41853	41903	50
41933	41973	40
42173	42213	40
42403	42463	60
43423	43493	70
43583	43623	40
43843	43933	90
47813	47853	40
49273	49303	30
49713	49753	40
50223	50273	50
50283	50363	80
50383	50423	40
51773	51823	50
51923	51943	20
51993	52083	90
52233	52313	80
52653	52703	50
52713	52743	30
52943	53013	70
53033	53103	70
53623	53693	70
53723	53773	50
53913	53993	80
54253	54403	150
54603	54623	20
54843	54973	130
54983	55033	50
55933	55963	30
56093	56203	110
56303	56313	10
56403	56413	10
56543	56583	40
57243	57263	20
57843	57863	20
58143	58313	170
58323	58383	60
58483	58543	60
58683	58693	10
58723	58793	70
59723	59793	70
59813	59823	10

60203	60213	10
60353	60493	140
60823	60843	20
61783	61823	40
62933	63063	130
63123	63183	60
63603	63663	60
64173	64193	20
64353	64373	20
64413	64453	40
64483	64603	120
65023	65053	30
65143	65263	120
65433	65463	30
65673	65713	40
65723	65863	140
65933	65953	20
66323	66393	70
66413	66443	30
66593	66663	70
66753	66823	70
68353	68363	10
69033	69083	50
69113	69123	10
69613	69693	80
69973	70123	150
70453	70463	10
70493	70533	40
70733	70783	50
71113	71123	10
71763	71843	80
72753	72853	100
73093	73213	120
73243	73333	90
74013	74023	10
74493	74623	130

1930	2023	93
2023	2025	2
2080	2090	10
2540	2550	10
3045	3077	32
3440	3515	75
3840	3845	5
5060	5075	15
5780	6000	220
6251	6310	59
7580	7593	13
7840	7948	108
8018	8083	65
8093	8133	40
8213	8263	50
8276	8323	47
8473	8503	30
8523	8658	135
8903	9328	425
9603	9628	25
9735	9888	153
10015	10053	38
10090	10219	129
10383	10553	170
10593	10683	90
10708	10768	60
11163	11186	23
11203	11300	97
12873	13077	204
13354	13618	264
13693	13753	60
13798	13847	49
14598	14603	5
16274	16413	139
16563	16573	10
16863	16889	26
16950	16998	48
17673	17693	20
17913	17935	22
-	-	-
56083	56153	70
58773	58793	20
66613	66653	40
66753	66803	50
68353	68363	10
69973	69983	10
73263	73343	80
73573	73593	20

Annexure-II (B(ii)) Left Side for Ch. 0-74.863Km (Breast Wall)		
Chainage		Length (m)
From	To	
680	700	20
1510	1560	50
1740	1750	10
1890	1925	35

73623	73643	20
73653	73733	80
73763	73793	30
73803	74023	220
74273	74313	40
74483	74583	100

47653	47673	20
47723	47753	30
56053	56063	10
58443	58453	10
66683	66723	40

Breast Wall		Length
(0- 27.363 Km)	LHS	3181
	RHS	5589
	Total	8770
(27.363- 53.363 Km)	LHS	0
	RHS	4579
	Total	4579
(53.363- 74.863 Km)	LHS	790
	RHS	3460
	Total	4250

Toe Wall		Length
(0- 27.363 Km)	LHS	65
	RHS	217
	Total	282
(27.363- 53.363 Km)	LHS	50
	RHS	30
	Total	80
(53.363- 74.863 Km)	LHS	60
	RHS	20
	Total	80

Annexure-II (C(i)) Right Side for Ch. 0-74.863Km (Toe Wall)		
Chainage		Length (m)
From	To	
5320	5425	105
7553	7558	5
9528	9558	30
16203	16213	10
21033	21053	20
21561	21588	27
21593	21613	20
47663	47673	10
47723	47743	20
58443	58453	10
71493	71503	10

Annexure-II (D(i)) Right Side for Ch. 0-74.863Km (RR Masonary Wall)			
Chainage		Length (m)	Height (m)
From	To		
2357	2363	6	8
6430	6470	40	8
7975	7980	5	7
7980	7985	5	10
7985	7990	5	7
10975	10980	5	8
-	-	-	-
-	-	-	-

Annexure-II (C(ii)) Left Side for Ch. 0-74.863Km (Toe Wall)		
Chainage		Length (m)
From	To	
9533	9558	25
16178	16218	40

Annexure-II (D(ii)) Left Side for Ch. 0-74.863Km (RR Masonary Wall)			
Chainage		Length (m)	Height (m)
From	To		
500	510	10	8
2350	2353	3	9
2353	2357	3	10

2357	2360	3	11
2360	2367	7	12
2367	2370	3	10
2370	2373	3	9
2373	2377	3	7
2500	2510	10	7
4665	4670	5	8
11330	11337	7	8
11337	11340	3	9
11340	11360	20	10
11360	11367	7	9
11367	11370	3	8
11370	11374	4	7
11670	11680	10	8
12345	12355	10	7
15800	15810	10	7
16235	16240	5	9
17020	17040	20	9
17865	17875	10	10
17875	17880	5	8
38839	38848	9	8
38848	38854	6	11
38853	38863	10	10
38863	38873	10	9
38873	38883	10	10
38883	38893	10	8
38893	38903	10	7
39713	39718	5	9
39718	39723	5	11
39723	39728	5	10
39729	39734	5	9
39734	39738	4	7
40044	40047	3	7
40047	40053	6	8
40053	40063	10	7
41203	41213	10	8
42293	42303	10	8
42303	42313	10	9
42313	42323	10	8
43653	43663	10	7
49333	49343	10	8
49943	49953	10	9
49953	49963	10	12
49963	49973	10	8
50933	50943	10	7
50983	50993	10	7
50993	51003	10	8
51003	51013	10	11

51013	51023	10	9
54223	54233	10	7
55443	55453	10	7
55633	55643	10	10
55643	55653	10	12
55653	55673	20	13
55673	55693	20	14
55693	55703	10	9
55793	55803	10	8
55803	55813	10	9
55813	55823	10	11
55823	55833	10	13
55833	55843	10	14
55843	55853	10	11
56023	56033	10	9
56033	56043	10	15
56043	56053	10	16
57813	57823	10	8
61993	62003	10	8
63503	63513	10	7
65523	65533	10	10
65533	65543	10	16
65543	65553	10	9
65963	65973	10	8
65973	65983	10	10
65983	65993	10	11
65993	66003	10	10
66003	66013	10	8
67723	67733	10	7
68303	68323	20	13
68323	68333	10	10
68373	68393	20	10
68393	68403	10	8
68403	68413	10	7
68413	68423	10	9
68423	68433	10	10
68433	68443	10	9
68513	68523	10	7
68523	68543	20	8
68543	68573	30	9
68573	68583	10	8
68583	68613	30	9
68613	68623	10	8
68623	68643	20	7
69933	69943	10	9
69943	69953	10	7
70143	70153	10	9

70313	70333	20	7
70363	70373	10	9
70373	70383	10	14
70383	70393	10	13
70393	70403	10	12
70403	70433	30	11
71883	71893	10	7
71893	71903	10	8
71993	72013	20	7
72013	72023	10	11
72023	72033	10	15
72033	72043	10	17
72043	72053	10	18
72053	72063	10	19
72063	72073	10	21
72073	72083	10	25
72083	72093	10	25
72093	72103	10	24
72103	72113	10	20
72113	72123	10	16
72123	72133	10	13
72133	72143	10	10
72143	72163	20	9
74843	74853	10	10
74853	74863	10	15
74863	74873	10	18
74873	74883	10	12
74883	74893	10	10
74893	74903	10	13

74.863 Km)	Total	14 0	11	17 0	110	70	300
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Annexure-II (E(i)) Right Side for Ch. 0-74.863Km (Gabion Wall)			
Chainage		Length (m)	Height (m)
From	To		
520	550	30	5
1280	1310	30	6
1310	1320	10	7
1320	1370	50	8
1760	1770	10	8
1770	1784	14	7
1784	1870	86	8
1925	1930	5	8
2113	2120	7	7
2120	2140	20	6
2140	2150	10	7
2150	2180	30	8
2240	2310	70	8
2383	2430	47	8
2825	2860	35	8
3110	3150	40	8
3150	3160	10	7
3160	3205	45	8
3225	3305	80	8
3855	4070	215	8
4223	4230	7	7
4230	4236	6	6
4236	4240	4	5
4245	4250	5	5
4385	4660	275	8
4660	4665	5	5
4670	4675	5	6
4675	4691	16	7
4721	5050	329	8
5550	5680	130	8
12160	12215	55	8
12235	12321	86	8
12321	12330	9	7
12330	12335	5	6
13970	14152	182	8
14190	14260	70	8
14340	14420	80	8
14625	14630	5	8

RR Masonary Wall		Height					
		7	8	9	10	11	12 and above
Length (0- 27.363 Km)	LHS	37	40	41	36	3	7
	RHS	10	51	0	5	0	0
	Total	47	91	41	41	3	7
Length (27.36 3- 53.363 Km)	LHS	56	85	50	25	21	10
	RHS	0	0	0	0	0	0
	Total	56	85	50	25	21	10
Length (53.36 3-		14	11	17			
	LHS	0	0	0	110	70	300
	RHS	0	0	0	0	0	0

15276	15280	4	8
15450	15463	13	8
16020	16080	60	8
16461	16468	7	7
16468	16502	33	8
16580	16605	25	8
16605	16629	24	7
16629	16630	1	8
16670	16860	190	8
16886	16947	61	8
17152	17335	183	8
17450	17645	195	8
17648	17670	22	8
18760	18770	10	5
18770	18780	10	7
18780	18940	160	8
18940	18945	5	7
19010	19015	5	6
19015	19018	2	7
19018	19200	182	8
19200	19210	10	7
22290	22296	6	7
22296	22310	14	8
26116	26120	4	5
26120	26123	3	6
26123	26150	27	8
26150	26160	10	7
26160	26170	10	6
27145	27150	5	5
27363	27630	267	8
27630	27636	6	7
27648	27657	9	6
27693	27698	5	7
27698	27983	285	8
28198	28203	5	8
28228	28232	4	5
28232	28258	26	8
28529	28923	394	8
29003	29053	50	8
29263	29273	10	7
29273	29283	10	5
29283	29293	10	6
29293	29298	5	7
29298	29308	10	8
29326	29330	4	8
29329	29338	9	5
29338	29340	2	6
29340	29343	3	7

29383	29433	50	8
29433	29436	3	7
29436	29446	10	6
30773	30778	5	6
30778	30823	45	8
31103	31136	33	8
31168	31176	8	8
31233	31243	10	7
31243	31246	3	8
31246	31259	13	7
31259	31307	48	8
31513	31550	37	8
32073	32083	10	8
32583	32588	5	5
32588	32903	315	8
33049	33053	4	8
33053	33062	9	6
33062	33148	86	8
33303	33313	10	8
33313	33323	10	6
33323	33328	5	7
33328	33388	60	8
33443	33463	20	8
33568	33573	5	8
33573	33578	5	6
33578	33615	37	8
33615	33618	3	7
33998	34008	10	7
34008	34130	122	8
34130	34138	8	7
34138	34153	15	6
34153	34163	10	5
34163	34168	5	6
34168	34173	5	7
34173	34223	50	8
34503	34513	10	8
34513	34523	10	6
34523	34593	70	8
34903	34912	9	8
34912	34915	3	6
35333	35341	8	5
35341	35353	12	6
35353	35383	30	8
35489	35493	4	6
35493	35533	40	8
35795	35798	3	8
35798	35803	5	6
35803	35813	10	7

35813	35863	50	8
36143	36153	10	8
37793	37803	10	7
37803	37843	40	8
38543	38567	24	8
38567	38575	8	7
38574	38587	13	6
38587	38595	8	5
38595	38603	8	6
38603	38608	5	7
38608	38663	55	8
38683	38786	103	8
38816	38893	77	8
38893	38903	10	5
38903	38913	10	6
38913	38923	10	7
38923	39093	170	8
39273	39281	8	8
39281	39283	2	7
39283	39353	70	8
39463	39553	90	8
39773	39828	55	8
39844	40003	159	8
40363	40368	5	7
40368	40378	10	8
40593	40603	10	8
40603	40613	10	7
40613	40673	60	8
40673	40713	40	7
40713	40753	40	8
40923	40953	30	8
40953	40963	10	7
40963	41153	190	8
41163	41173	10	8
41273	41303	30	8
41303	41313	10	7
41313	41323	10	6
41483	41493	10	8
41493	41503	10	6
41503	41513	10	7
41513	41593	80	8
41733	41743	10	5
41743	41803	60	8
41903	41913	10	8
41913	41933	20	6
41973	41983	10	7
41983	41993	10	8
42063	42173	110	8

42213	42393	180	8
42393	42403	10	7
42483	42493	10	7
42493	42513	20	5
42513	42523	10	6
42523	42543	20	7
42543	42553	10	6
42763	42773	10	6
42773	42783	10	5
42783	42843	60	8
43623	43643	20	8
44033	44083	50	6
44083	44103	20	5
44513	44523	10	5
44523	44993	470	8
45263	45923	660	8
46163	46173	10	8
46173	46193	20	6
46213	46223	10	6
46223	46253	30	5
46253	46263	10	6
46263	46283	20	7
46283	46293	10	8
46293	46303	10	7
46323	46353	30	8
46533	47073	540	8
48503	48513	10	7
48513	48553	40	8
48563	49263	700	8
49343	49353	10	8
49353	49363	10	7
49363	49393	30	8
49393	49403	10	6
49933	49943	10	7
49943	50043	100	8
50423	50613	190	8
50613	50623	10	7
50623	50683	60	8
50943	51113	170	8
51123	51313	190	8
51833	51853	20	7
51853	51873	20	8
51883	51923	40	8
52333	52353	20	8
52483	52493	10	8
52543	52653	110	8
52803	52813	10	8
52813	52823	10	7

53513	53523	10	6
53523	53553	30	8
53553	53563	10	6
53613	53623	10	6
53813	53823	10	5
53823	53853	30	6
53853	53863	10	7
54623	54773	150	8
54833	54843	10	7
55033	55223	190	8
55823	55833	10	7
55833	55843	10	6
55843	55933	90	8
55963	55973	10	7
55973	56013	40	8
56013	56023	10	6
56203	56213	10	5
56283	56293	10	6
56293	56303	10	8
56413	56443	30	6
56443	56463	20	5
56463	56473	10	6
56473	56483	10	7
56483	56503	20	6
56503	56533	30	7
56533	56543	10	6
57263	57283	20	8
57283	57293	10	7
57293	57503	210	8
57863	58013	150	8
58543	58633	90	8
58633	58653	20	7
58653	58663	10	6
58663	58683	20	7
58793	58993	200	8
60163	60173	10	6
60173	60183	10	7
60183	60203	20	8
60493	60753	260	8
60753	60763	10	5
60763	60773	10	7
60773	60823	50	8
61823	61913	90	8
61913	61943	30	7
61943	61973	30	6
61973	61983	10	7
61983	61993	10	6
62003	62283	280	8

62883	62893	10	7
63433	63443	10	5
63443	63453	10	7
63453	63473	20	8
63473	63483	10	7
63663	63673	10	6
63673	63683	10	7
63683	63833	150	8
63833	63843	10	7
63843	63853	10	6
63853	63873	20	7
63873	64023	150	8
64193	64233	40	8
64233	64243	10	6
64243	64253	10	5
64303	64313	10	6
64313	64353	40	8
64453	64483	30	7
64603	64613	10	7
64613	64763	150	8
65053	65123	70	8
65123	65133	10	7
65133	65143	10	8
65463	65613	150	8
65953	65973	20	5
66043	66083	40	5
66083	66093	10	6
66093	66103	10	5
66393	66403	10	8
66403	66413	10	7
67423	67433	10	5
67433	67443	10	6
67443	67513	70	8
67653	67663	10	7
67663	67673	10	6
67673	67683	10	5
67733	67783	50	7
67783	67993	210	8
68733	68743	10	7
68743	68753	10	6
68753	68763	10	7
68763	68963	200	8
69123	69143	20	6
69153	69173	20	5
69173	69183	10	6
69183	69193	10	5
69953	69963	10	6
69963	69973	10	8

70153	70223	70	8
70223	70233	10	7
70233	70243	10	5
70253	70453	200	8
71123	71163	40	8
71163	71173	10	7
71173	71193	20	6
71193	71213	20	5
71213	71223	10	6
71223	71233	10	7
71233	71443	210	8
71643	71763	120	8
71843	71873	30	6
71873	71883	10	7
71883	72733	850	8
74023	74063	40	8

39543	39552	9	5
39552	39553	1	6
39773	39828	55	8
39844	39873	29	8
40743	40753	10	5
42233	42243	10	8
42243	42253	10	6
44513	44553	40	6
44553	44563	10	7
44563	44573	10	6
44773	44783	10	7
44783	44793	10	5
45663	45673	10	6
45843	45853	10	5
45853	45863	10	6
45863	45883	20	7
45883	45893	10	5
48663	48673	10	7
48673	48703	30	8
48703	48713	10	6
49033	49043	10	7
62173	62183	10	7
62183	62203	20	5
62533	62573	40	8
62573	62583	10	6
62673	62683	10	6
74023	74083	60	8

Annexure-II (E(ii)) Left Side for Ch. 0-74.863Km (Gabion Wall)			
Chainage		Length (m)	Height (m)
From	To		
1925	1930	5	8
4450	4460	10	6
6760	6810	50	8
7600	7800	200	6
16886	16947	61	8
17660	18940	10	8
18770	18780	10	6
18780	18790	10	7
18790	18940	150	8
18940	18945	5	7
19010	19015	5	6
19015	19018	2	7
19018	19190	172	8
19190	19200	10	7
22290	22296	6	5
22296	22310	14	7
26123	26130	7	6
26130	26150	20	8
26150	26160	10	6
28848	28853	5	5
28853	28868	15	6
31513	31543	30	6
33383	33388	5	5
39463	39493	30	8

Gabion Wall		Height			
		5	6	7	8
Length (0-27.363 Km)	LHS	6	243	41	468
	RHS	63	84	157	3095
	Total	69	327	198	3563
Length (27.363-53.363 Km)	LHS	59	136	60	154
	RHS	164	315	366	7397
	Total	223	451	426	7551
Length (53.363-74.863 Km)	LHS	20	20	10	100
	RHS	220	400	440	4690
	Total	240	420	450	4790

SCHEDULE – C

(See Clause 2.1)

PROJECT FACILITIES

1. Project Facilities

The Contractor shall construct the Project Facilities in accordance with the provisions of this Agreement. Such Project Facilities shall include:

- (a) Roadside furniture;
- (b) Truck lay-bys;
- (c) Bus-bays and bus shelters;

2. Description of Project Facilities

Each of the Project Facilities is described below showing:

S. No.	Project Facility	Location	Design Requirements	Other essential details
1	Traffic Signs and Pavement Markings	Entire length	As per Schedule D	
2	Crash barrier	CD structures, high embankment and sharp horizontal curve	As per Schedule D	
3	Road Boundary Stones	Entire length	As per Schedule D	
4	Kilometer and 200m stones	Entire length	As per Schedule D	
5	Overhead Traffic Signs	Project terminals and major intersections	As per Schedule D	
6	Road side Delineators	Horizontal curves	As per Schedule D	
7	Truck Lay-bye	Chainage (km.) 12.900	As per Schedule D	LHS. Location to be finalized in consultation with Authority.
8	Bus bay	Chainage (km.) 0.00	As per Schedule D	RHS. Location to be finalized in consultation with Authority.
9	Bus bay	Chainage (km.) 5.150	As per Schedule D	LHS. Location to be finalized in consultation with Authority.
10	Bus bay	Chainage (km.) 9.250	As per Schedule D	LHS. Location to be finalized in consultation with Authority.
11	Bus bay	Chainage (km.) 13.700	As per Schedule D	LHS. Location to be finalized in consultation with Authority.
12	Bus bay	Chainage (km.) 16.900	As per Schedule D	LHS. Location to be finalized in consultation with Authority.

13	Bus bay	Chainage (km.) 22.000	As per Schedule D	LHS. Location to be finalized in consultation with Authority.
14	Bus bay	Chainage (km.) 27.300 (Munli Camp)	As per Schedule D	LHS. Location to be finalized in consultation with Authority.
15	Bus shelters	7 locations	As per Schedule D	Location to be finalized in consultation with Authority.

SCHEDULE – D

(See Clause 2.1)

SPECIFICATIONS AND STANDARDS

1. Construction

The Contractor shall comply with the Specifications and Standards set forth in Annex-I of this Schedule-D for construction of the Project Highway.

1. Design Standards

The Project Highway including Project Facilities shall conform to design requirements set out in the following documents:

Manual of Standards and Specifications for Two Laning of State Highways published by the Indian Roads Congress – IRC: 52-2001 and IRC: SP: 48-1998

Annex – I

(Schedule-D)

Specifications and Standards for Construction

1 Specifications and Standards

All Materials, works and construction operations shall conform to the Manual of Specifications and Standards for Two-Lane Highways (IRC: 52-2001), Hill Road Manual IRC: SP: 48-1998 referred to as the Manual, MORTH Specifications for Road and Bridge Works. Where the specification for a work is not given, Good Industry Practice shall be adopted to the satisfaction of the Authority's Engineer.

2 Deviations from the Specifications and Standards

The terms “Concessionaire”, “Independent Engineer” and “Concession Agreement” used in the Manual shall be deemed to be substituted by the terms “Contractor”, “Authority's Engineer” and “Agreement” respectively.

Notwithstanding anything to the contrary contained in the Paragraph 1 above, the following Specifications and Standards shall apply to the Project Highway, and for purposes of this Agreement, aforesaid Specifications and Standards shall be deemed to be amended to the extent

set forth below:

S. No.	Item	Description of Deviation	Clause reference of IRC: SP: 73-2007
1	Change of cross section	As per MoRTH circular no. NH-12037/633/2006/NH-1 total formation width including of longitudinal drain is 12m. Paved carriageway of 7.0 m width shall be provided and balance width shall be covered with 150 mm thick compacted layer of granular material received from Excavation.	2.3 & 2.5 Two lane Manual

SCHEDULE - E
(See Clauses 2.1 and 14.2)

MAINTENANCE REQUIREMENTS

1 Maintenance Requirements

- 1.1 The Contractor shall, at all times maintain the Project Highway in accordance with the provisions of this Agreement, Applicable Laws and Applicable Permits.
- 1.2 The Contractor shall repair or rectify any Defect or deficiency set forth in Paragraph 2 of this Schedule-E within the time limit specified therein and any failure in this behalf shall constitute non-fulfillment of the Maintenance obligations by the Contractor. Upon occurrence of any breach hereunder, the Authority shall be entitled to effect reduction in monthly lump sum payment as set forth in Clause 14.6 of this Agreement, without prejudice to the rights of the Authority under this Agreement, including Termination thereof.
- 1.3 All Materials, works and construction operations shall conform to the MORTH Specifications for Road and Bridge Works, and the relevant IRC publications. Where the specifications for a work are not given, Good Industry Practice shall be adopted.

2 Repair/rectification of Defects and deficiencies

The obligations of the Contractor in respect of Maintenance Requirements shall include repair and rectification of the Defects and deficiencies specified in Annex - I of this Schedule-E within the time limit set forth therein.

3 Other Defects and deficiencies

In respect of any Defect or deficiency not specified in Annex - I of this Schedule-E, the Authority's Engineer may, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards, and any deviation or deterioration beyond the permissible limit shall be repaired or rectified by the Contractor within the time limit specified by the Authority's Engineer.

4 Extension of time limit

Notwithstanding anything to the contrary specified in this Schedule-E, if the nature and extent of any Defect or deficiency justifies more time for its repair or rectification than the time specified herein, the Contractor shall be entitled to additional time in conformity with Good Industry Practice. Such additional time shall be determined by the Authority's

Engineer and conveyed to the Contractor and the Authority with reasons thereof.

5 Emergency repairs/restoration

Notwithstanding anything to the contrary contained in this Schedule-E, if any Defect, deficiency or deterioration in the Project Highway poses a hazard to safety or risk of damage to property, the Contractor shall promptly take all reasonable measures for eliminating or minimizing such danger.

6 Daily inspection by the Contractor

The Contractor shall, through its engineer, undertake a daily visual inspection of the Project Highway and maintain a record thereof in a register to be kept in such form and manner as the Authority's Engineer may specify. Such record shall be kept in safe custody of the Contractor and shall be open to inspection by the Authority and the Authority's Engineer at any time during office hours.

7. Pre-monsoon inspection / Post-monsoon inspection

The Contractor shall carry out a detailed pre-monsoon inspection of all bridges, culverts and drainage system before 1st June every year in accordance with the guidelines contained in IRC: SP35. Report of this inspection together with details of proposed maintenance works as required on the basis of this inspection shall be sent to the Authority's Engineer before the 10th June every year. The Contractor shall complete the required repairs before the onset of the monsoon and send to the Authority's Engineer a compliance report. Post monsoon inspection shall be done by the 30th September and the inspection report together with details of any damages observed and proposed action to remedy the same shall be sent to the Authority's Engineer.

8. Repairs on account of natural calamities

All damages occurring to the Project Highway on account of a Force Majeure Event or default or neglect of the Authority shall be undertaken by the Authority at its own cost. The Authority may instruct the Contractor to undertake the repairs at the rates agreed between the Parties.

Annex - I
(Schedule-E)

Repair/rectification of Defects and deficiencies

The Contractor shall repair and rectify the Defects and deficiencies specified in this Annex-I of Schedule-E within the time limit set forth in the table below.

Nature of Defect or deficiency		Time limit for repair/rectification
ROADS		
(a)	Carriageway and paved shoulders	
(i)	Breach or blockade	Temporary restoration of traffic within 24 hours; permanent restoration within 15 (fifteen) days
(ii)	Roughness value exceeding 2,200 mm in a stretch of 1 km (as measured by a calibrated bump integrator)	120 (one hundred and twenty) days
(iii)	Pot holes	24 hours
(iv)	Any cracks in road surface	15 (fifteen) days
(v)	Any depressions, rutting exceeding 10 mm in road surface	30 (thirty) days
(vi)	Bleeding/skidding	7 (seven) days
(vii)	Any other defect/distress on the road	15 (fifteen) days
(viii)	Damage to pavement edges	15 (fifteen) days
(ix)	Removal of debris, dead animals	6 hours
(b)	Granular earth shoulders, side slopes, drains and culverts	
(i)	Variation by more than 1 % in the prescribed slope of camber/cross fall (shall not be less than the	7 (seven) days

	camber on the main carriageway)	
Nature of Defect or deficiency		Time limit for repair/rectification
(ii)	Edge drop at shoulders exceeding 40 mm	7 (seven) days
(iii)	Variation by more than 15% in the prescribed side (embankment) slopes	30 (thirty) days
(iv)	Rain cuts/gullies in slope	7 (seven) days
(v)	Damage to or silting of culverts and side drains	7 (seven) days
(vi)	Desilting of drains in urban/semi-urban areas	24 hours
(vii)	Railing, parapets, crash barriers	7 (seven) days (Restore immediately if causing safety hazard)
(c)	Road side furniture including road sign and pavement marking	
(i)	Damage to shape or position, poor visibility or loss of retro-reflectivity	48 hours
(ii)	Painting of km stone, railing, parapets, crash barriers	As and when required/Once every year
(iii)	Damaged/missing road signs requiring replacement	7 (seven) days
(iv)	Damage to road mark ups	7 (seven) days
(d)	Road lighting	
(i)	Any major failure of the system	24 hours
(ii)	Faults and minor failures	8 hours
(e)	Trees and plantation	
(i)	Obstruction in a minimum head-room of 5 m above carriageway or obstruction in visibility of road signs	24 hours

(ii)	Removal of fallen trees from carriageway	4 hours
(iii)	Deterioration in health of trees and bushes	Timely watering and treatment
Nature of Defect or deficiency		Time limit for repair/rectification
(iv)	Trees and bushes requiring replacement	30 (thirty) days
(v)	Removal of vegetation affecting sight line and road structures	15 (fifteen) days
(f)	Rest area	
(i)	Cleaning of toilets	Every 4 hours
(ii)	Defects in electrical, water and sanitary installations	24 hours
(g)	Toll Plazas	
(h)	Other Project Facilities and Approach roads	
(i)	Damage in approach roads, pedestrian facilities, truck lay-byes, bus-bays, bus-shelters, cattle crossings, Traffic Aid Posts, Medical Aid Posts and service roads	15 (fifteen) days
(ii)	Damaged vehicles or debris on the road	4 (four) hours
(iii)	Malfunctioning of the mobile crane	4 (four) hours
Bridges		
(a)	Superstructure	
(i)	Any damage, cracks, spalling/ scaling Temporary measures Permanent measures	within 48 hours within 15 (fifteen) days or as specified by the Authority's Engineer

(b)	Foundations	
(i)	Scouring and/or cavitation	15 (fifteen) days
(c)	Piers, abutments, return walls and wing walls	
(i)	Cracks and damages including settlement and tilting, spalling, scaling	30 (thirty) days
Nature of Defect or deficiency		Time limit for repair/rectification
(d)	Bearings (metallic) of bridges	
(i)	Deformation, damages, tilting or shifting of bearings	15 (fifteen) days Greasing of metallic bearings once in a year
(e)	Joints	
(i)	Malfunctioning of joints	15 (fifteen) days
(f)	Other items	
(i)	Deforming of pads in elastomeric bearings	7 (seven) days
(ii)	Gathering of dirt in bearings and joints; or clogging of spouts, weep holes and vent-holes	3 (three) days
(iii)	Damage or deterioration in kerbs, parapets, handrails and crash barriers	3 (three) days (immediately within 24 hours if posing danger to safety)
(iv)	Rain-cuts or erosion of banks of the side slopes of approaches	7 (seven) days
(v)	Damage to wearing coat	15 (fifteen) days
(vi)	Damage or deterioration in approach slabs, pitching, apron, toes, floor or guide bunds	30 (thirty) days
(vii)	Growth of vegetation affecting the structure or obstructing the waterway	15 (fifteen) days
(g)	Hill Roads	
(i)	Damage to retaining wall/breast	7 (seven) days

	wall	
(ii)	Landslides requiring clearance	12 (twelve) hours
(iii)	Snow requiring clearance	24 (twenty four) hours

Note: Where necessary, the Authority may modify the time limit for repair/rectification, or add to the nature of Defect or deficiency before issuing the bidding document, with the approval of the competent authority.

SCHEDULE - F
(See Clause 3.1.7(a))

APPLICABLE PERMITS

1 Applicable Permits

- 1.1 The Contractor shall obtain, as required under the Applicable Laws, the following Applicable Permits:
- (a) Permission of the State Government for extraction of boulders from quarry;
 - (b) Permission of Village Panchayats and Pollution Control Board for installation of crushers;
 - (c) Licence for use of explosives;
 - (d) Permission of the State Government for drawing water from river/reservoir;
 - (e) Licence from inspector of factories or other competent Authority for setting up batching plant;
 - (f) Clearance of Pollution Control Board for setting up batching plant;
 - (g) Clearance of Village Panchayats and Pollution Control Board for setting up asphalt plant;
 - (h) Permission of Village Panchayats and State Government for borrow earth; and
 - (i) Any other permits or clearances required under Applicable Laws.
- 1.2 Applicable Permits, as required, relating to environmental protection and conservation shall have been procured by the Authority in accordance with the provisions of this Agreement.

SCHEDULE - G

(See Clauses 7.1.1, 7.5.3 and 19.2)

FORM OF BANK GUARANTEE

Annex-I

(See Clause 7.1.1)

Performance Security

The Managing Director,
National Highways & Infrastructural Development Corporation Ltd.
PTI Building, 3rd Floor,
4, Parliament Street
New Delhi - 110001

WHEREAS:

- (A) _____ [name and address of contractor] (hereinafter called the “Contractor”) and National Highways and Infrastructure Development Corporation Ltd. , (hereinafter called the “Authority”) have entered into an agreement (hereinafter called the “Agreement”) for the construction of “Construction of Meka-Roing-Hunli Road from Existing Km 16 of Roing-Hunli Road to Km 21.5 of Hunli-Anini Road (Total Length=74.863) to NH Double lane Specification in Arunachal Pradesh on Engineering Procurement and Construction(EPC) basis subject to and in accordance with the provisions of the Agreement
- (B) The Agreement requires the Contractor to furnish a Performance Security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the {Construction Period/ Defects Liability Period and Maintenance Period} (as defined in the Agreement) in a sum of Rs..... cr. (Rupees crore) (the “**Guarantee Amount**”).
- (C) We, through our branch at (the “**Bank**”) have agreed to furnish this bank guarantee (*hereinafter called the “Guarantee”*) by way of Performance Security.

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

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Contractor’s obligations during the {Construction Period/ Defects Liability Period and Maintenance Period} under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the

Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of General Manager in the National Highways Authority of India, that the Contractor has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.
3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfillment and/ or performance of all or any of the obligations of the Contractor contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Agreement or for the fulfillment, compliance and/or performance of all or any of the obligations of the Contractor under the Agreement.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by

the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on ****^{\$}. Unless a demand or claim under this Guarantee is made in writing before expiry of the Guarantee, the Bank shall be discharged from its liabilities hereunder.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.
12. Notwithstanding anything contained herein before, our liability under this Bank Guarantee is restricted to Rs. _____ (Rs. _____ in words) and the bank guarantee shall remain valid till _____. Unless a claim or a demand in writing is served upon us on or before _____ all our liability under this Bank Guarantee shall cease.
13. This guarantee shall also be operatable at our..... Branch at New Delhi, from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.
14. Bank Guarantee has been sent to authority's bank through SFMS gateway as per the details below:-

S.no.	Particulars	Details
-------	-------------	---------

^{\$} Insert date being 2 (two) years from the date of issuance of this Guarantee (in accordance with Clause 7.2 of the Agreement).

1	Name of Beneficiary	National Highways & Infrastructure Development Corporation Limited
2	Beneficiary Bank Account No.	90621010002659
3	Beneficiary Bank Branch	IFSC SYNB0009062
4	Beneficiary Bank Branch Name	Transport Bhawan, New Delhi
5	Beneficiary Bank Address	Syndicate Bank transport Bhawan, 1 st Parliament Street, New Delhi-110001

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

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

- (i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- (ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

Annex – II
(Schedule - G)
(See Clause 7.5.3)

Form for Guarantee for Withdrawal of Retention Money

The Managing Director,
National Highways & Infrastructural Development Corporation Ltd.
PTI Building, 3rd Floor,
4, Parliament Street
New Delhi - 110001

WHEREAS:

- (A) [name and address of contractor] (hereinafter called the “**Contractor**”) has executed an agreement (hereinafter called the “**Agreement**”) with the National Highways and Infrastructure Development Corporation Ltd., (hereinafter called the “**Authority**”) for the “Construction of Meka-Roing-Hunli Road from Existing Km 16 of Roing-Hunli Road to Km 21.5 of Hunli-Anini Road (Total Length=74.863) to NH Double lane Specification in Arunachal Pradesh on Engineering Procurement and Construction(EPC) basis.” subject to and in accordance with the provisions of the Agreement.
- (B) In accordance with Clause 7.5.3 of the Agreement, the Contractor may withdraw the retention money (hereinafter called the “**Retention Money**”) after furnishing to the Authority a bank guarantee for an amount equal to the proposed withdrawal.
- (C) We, through our branch at (the “**Bank**”) have agreed to furnish this bank guarantee (hereinafter called the “**Guarantee**”) for the amount of Rs. -----
-- cr. (Rs.-----crore) (the “**Guarantee Amount**”).

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

1. The Bank hereby unconditionally and irrevocably undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the Authority, under the hand of an officer not below the rank of General Manager in the National Highways Authority of India, that the Contractor has committed default in the due and faithful performance of all or any of its obligations for under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement

and its decision that the Contractor is in default shall be final, and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.

3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Retention Money and any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Retention Money.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.
8. The Guarantee shall cease to be in force and effect 90 (ninety) days after the date of the Completion Certificate specified in Clause 12.4 of the Agreement.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed

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

11. This Guarantee shall come into force with immediate effect and shall remain in force and effect up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.
12. Notwithstanding anything contained herein before, our liability under this Bank Guarantee is restricted to Rs. _____ (Rs. _____ in words) and the bank guarantee shall remain valid till _____. Unless a claim or a demand in writing is served upon us on or before _____ all our liability under this Bank Guarantee shall cease.
13. This guarantee shall also be operatable at our..... Branch at New Delhi, from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.
14. Bank Guarantee has been sent to authority's bank through SFMS gateway as per the details below:-

S.no.	Particulars	Details
1	Name of Beneficiary	National Highways & Infrastructure Development Corporation Limited
2	Beneficiary Bank Account No.	90621010002659
3	Beneficiary Bank Branch	IFSC SYNB0009062
4	Beneficiary Bank Branch Name	Transport Bhawan, New Delhi
5	Beneficiary Bank Address	Syndicate Bank transport Bhawan, 1 st Parliament Street, New Delhi- 110001

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

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

- (i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- (ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

Annex – III
(Schedule - G)
(See Clause 19.2)

Form for Guarantee for Advance Payment

The Managing Director,
National Highways & Infrastructural Development Corporation Ltd.
PTI Building, 3rd Floor,
4, Parliament Street
New Delhi - 110001

WHEREAS:

- (A) [name and address of contractor] (hereinafter called the “**Contractor**”) has executed an agreement (hereinafter called the “**Agreement**”) with the National Highways and Infrastructure Corporation Ltd., (hereinafter called the “**Authority**”) for the “Construction of Meka-Roing-Hunli Road from Existing Km 16 of Roing-Hunli Road to Km 21.5 of Hunli-Anini Road (Total Length=74.863) to NH Double lane Specification in Arunachal Pradesh on Engineering Procurement and Construction(EPC) basis” subject to and in accordance with the provisions of the Agreement
- (B) In accordance with Clause 19.2 of the Agreement, the Authority shall make to the Contractor an interest free advance payment (herein after called “**Advance Payment**”) equal to 10% (ten per cent) of the Contract Price; and that the Advance Payment shall be made in three installments subject to the Contractor furnishing an irrevocable and unconditional guarantee by a scheduled bank for an amount equivalent to 110% (one hundred and ten percent) of such installment to remain effective till the complete and full repayment of the installment of the Advance Payment as security for compliance with its obligations in accordance with the Agreement. The amount of {first/second/third} installment of the Advance Payment is Rs. --- --- cr. (Rupees ----- crore) and the amount of this Guarantee is Rs. ----- cr. (Rupees ----- crore) (the “**Guarantee Amount**”)§.
- (C) We, through our branch at (the “**Bank**”) have agreed to furnish this bank guarantee (*hereinafter called the “**Guarantee**”*) for the Guarantee Amount.

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

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful repayment on time of the aforesaid instalment of the Advance Payment under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any

§ The Guarantee Amount should be equivalent to 110% of the value of the applicable instalment.

reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of General Manager in the National Highways Authority of India, that the Contractor has committed default in the due and faithful performance of all or any of its obligations for the repayment of the instalment of the Advance Payment under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.
3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Advance Payment or to extend the time or period of its repayment or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Advance Payment.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by

the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on ****.^{\$} Unless a demand or claim under this Guarantee is made in writing on or before the aforesaid date, the Bank shall be discharged from its liabilities hereunder.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
11. This Guarantee shall come into force with immediate effect and shall remain in force and effect up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.
12. Notwithstanding anything contained herein before, our liability under this Bank Guarantee is restricted to Rs. _____ (Rs. _____ in words) and the bank guarantee shall remain valid till _____. Unless a claim or a demand in writing is served upon us on or before _____ all our liability under this Bank Guarantee shall cease.
13. This guarantee shall also be operatable at our..... Branch at New Delhi, from whom, confirmation regarding the issue of this guarantee or extension / renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.
14. Bank Guarantee has been sent to authority's bank through SFMS gateway as per the details below:-

^{\$} Insert a date being 90 (ninety) days after the end of one year from the date of payment of the Advance payment to the Contractor (in accordance with Clause 19.2 of the Agreement).

S.no.	Particulars	Details
1	Name of Beneficiary	National Highways & Infrastructure Development Corporation Limited
2	Beneficiary Bank Account No.	90621010002659
3	Beneficiary Bank Branch	IFSC SYNB0009062
4	Beneficiary Bank Branch Name	Transport Bhawan, New Delhi
5	Beneficiary Bank Address	Syndicate Bank transport Bhawan, 1 st Parliament Street, New Delhi- 110001

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

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

- (i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- (ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

(See Clauses 10.1.4 and 19.3)

1.1 The Contract Price for this Agreement is Rs. _____

1.2 Proportions of the Contract Price for different stages of Construction of the Project Highway shall be as specified below:

Item	Weightage percentage to Contract Price	Stage for Payment	Percentage weightage
1	2	3	4
Road works including culverts, minor bridges, underpasses, overpasses, approaches to ROB/RUB/ Major Bridges/ Structures (but excluding service roads)	49.24 %	<p>A- Widening and strengthening of existing Road</p> <p>(1) Earthwork up to top of the sub-grade (2) Granular work (sub-base, base, shoulders) (3) Bituminous work (4) Widening and repair of culverts (5) Widening and repair of minor bridges</p> <p>B- New 2-lane realignment/bypass</p> <p>(1) Earthwork up to top of the sub-grade (2) Granular work (sub-base, base, shoulders) (3) Bituminous work (a) DBM (b) BC (4) CC Pavement</p> <p>C- New culverts, minor bridges, underpasses, overpasses on existing road, realignments,</p>	<p>44.06</p> <p>17.70</p> <p>8.15</p> <p>6.68</p>

		bypasses: (1) Culverts (2) Minor bridges (3) Cattle/Pedestrian	19.24% 4.17 %
		underpasses (4) Pedestrian overpasses (5) Grade separated structures (a) Underpasses (b) Overpass	
Major Bridge works and ROB/RUB	11.90 %	A- Widening and repairs of Major Bridges (1) Foundation (2) Sub-structure (3) Super-structure (including crash barriers etc. complete) B- Widening and repair of (a) ROB (b) RUB C- New Major Bridges (1) Foundation (2) Sub-structure (3) Super-structure (including crash barriers etc. complete) (4) Protection Work D- New rail-road bridges (a) ROB (b) RUB	40% 20% 40%
Structures (elevated sections, reinforced earth)	0.00 %	(1) Foundation (2) Sub-structure (3) Super-structure (including crash barriers etc. complete) (4) Protection Work (a) Toe Wall, Retaining Wall, Breast Wall, RR Masonry Wall (b) Gabion Wall	

Other works	38.86 %	i) Service roads	0.00%
		ii) Junctions	0.03 %
		iii) Road side drains	
		(a) Catch Water & Lined Drain	24.21 %
		(b) Berm Drain	1.58 %
		(iv) Road signs, markings, km stones, safety devices....	0.78 %
		(v)Project facilities	
		(a) Bus lay Bay	2.37 %
		(b) Truck Lay Bay	0.30 %
		(vi)Repairs to bridges/ structures	
		a) Providing wearing coat	
		b) Replacements of bearings, joints	
		c) Providing Crash Barriers	
		d) Other items (Pitching, Drainage Chute, Sump and Rain Water Harvesting)	
		vii) Road side Plantation	
		viii) Repair of protection Works	
		ix) other miscellaneous items	4.06%
		x) W-metal beam crash barriers	3.41 %
		xi) Protection works	
		a) RR Masonary wall	9.99%
		b) Toe wall and banded retaining wall	9.27%
		c) Breast Wall	11.71%
		d) Gabion wall	32.29%

1.3 Procedure of estimating the value of work done

1.3.1 Road works including approaches to minor bridges, Major Bridges and Structures(excluding service roads).

Procedure for estimating the value of road work done shall be as follows:

Table 1.3.1

Stage of Payment	Percentage - weightage	Payment Procedure

A-Widening and strengthening		Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in a length of not less than 10 (ten) percent of the total length. @ Rs. per km
(1) Earthwork up to top of the sub-grade	0.00 %	
(2) Granular work (sub-base, base, shoulders)	0.00 %	Rs. per km
(3) Bituminous work	0.00 %	Rs. per km
(4) Widening and repair of culverts	0.00 %	Cost of ten completed culverts shall be determined pro rata with respect to the total number of culverts. Payment shall be made on the completion of ten culverts. @ Rs. per nos.
(5) Widening and repair of minor bridges	0.00 %	Cost of each minor bridge shall be determined on pro rata basis with respect to the total linear length of the minor bridges. Payment shall be made on the completion of a minor bridge. @ Rs. per meter length
B- New 2-lane realignment, bypass		Unit of measurement is linear length. Payment of each stage shall be made on pro rata basis on completion of a stage in full length or 5 (five) km length.
(1) Earthwork up to top of the sub-grade	44.06 %	(1) @ Rs. per km
(2) Granular work (sub-base, base, shoulders)	17.70 %	(2) @ Rs. per km
(3) Bituminous work	14.83 %	(3) @ Rs. per km
(4) CC Pavement	0.0 %	(4) Nil

C- New culverts, minor bridges, underpasses, overpasses on existing road, realignments, bypasses: (1) Culverts (2) Minor bridges (3) Cattle/Pedestrian underpasses	19.24 % 4.17 % 0.0 %	Cost of each culvert shall be determined on pro rata basis with respect to the total number of culverts. Payment shall be made on the completion of five culverts. Cost of each minor bridge shall be determined on pro rata basis with respect to the total linear length of the minor bridges. Payment shall be made on the completion of a minor bridge Cost of each cattle/pedestrian underpass shall be determined on pro rata basis with respect to the total number of cattle/pedestrian underpasses. Payment shall be made on the completion of the number of cattle/pedestrian (1) @ Rs. per nos (2) @ Rs. per meter length (3) @ Rs. per meter length
(4) Pedestrian Overpasses (5) Grade separated structures (a) Underpasses (b) Overpasses	NIL NIL NIL NIL	Underpasses specified below: Total no. Stage for Payment: (i) 1 to 5 - on completion of all, (ii) 6 or more -on completion of five Nil NIL NIL

@. For example, if the total length of bituminous work to be done is 100 km, the cost per km of bituminous work shall be determined as follows:

Cost per km = $P \times \text{weightage for road work} \times \text{weightage for bituminous work} \times (1/L)$ Where

P= Contract Price

L = Total length in km

Similarly, the rates per km for stages (1), (2) and (4) above shall be worked out.

1.3.2 Major Bridge works and ROB/RUB.

Procedure for estimating the value of Major Bridge works and of ROB/RUB shall be as stated in table 1.3.2:

Table 1.3.2

Stage of Payment	Weightage	Payment Procedure
A- Widening and repairs of Major Bridges Foundation: On completion of the foundation work including foundations for wing and return walls	NIL	Cost of each Major Bridge (widening and repairs) shall be determined on pro rata basis with respect to the total linear length (m) of the Major Bridges (widening and repairs). Payment shall be made completion of each stage of a Major Bridge as per the weightage given in this table.
Sub-structure: On completion of abutments, piers up to the abutment/pier cap		
Super-structure: On completion of the super structure in all respects including hand rails/crash barriers, wing walls, return walls, guide bunds, if any, tests on completion etc., bridge complete in all respects and fit for use.		
B- Widening and repairs of (a) ROB (b) RUB	NIL	Cost of each ROB/RUB (widening and repairs) shall be determined on pro rata basis with respect to the total linear of the ROB/RUB (widening and repairs). Payment shall be made completion of an ROB/RUB
C- New Major Bridges		Cost of each Major Bridge shall be determined on pro rata basis with respect to the total linear length (m) of the Major Bridges. Payment shall be made on completion of each stage of
(1) Foundation: On completion of the foundation work including foundations for wing and return walls	40%	

(2) Sub-structure: On completion of abutments, piers up to the abutment/pier cap	20%	a Major Bridge as per the weightage given in this table
(3) Super- structure: On completion of the super structure in all respects including hand rails/crash barriers, wing walls, return walls, guide bunds, if any, tests on completion etc., complete in all respects and fit for use	40%	
D- New Rail-road bridges (a) ROB (b) RUB	NIL	Cost of each ROB/RUB shall be determined on pro rata basis with respect to the total linear length (m) of the ROB/RUB. Payment shall be made on completion of each stage.

1.3.3 Structures

Procedure for estimating the value of structure work shall be as stated in table 1.3.3:

Table 1.3.3

Stage of payment	Weightage	Payment procedure
(1) Foundation: On completion of the foundation works including foundations for wing and return walls	NIL	Cost of each structure shall be determined on pro rata basis in respect to the total linear length (m) of all the structures.
(2) Sub-structure: On completion of abutments, piers up to the abutment/pier cap	NIL	Payment shall be made on completion of each stage of a structure as per the weightage given in this table.

(3) Super-structure: On completion of the Structure along with super structure, including hand rails/crash barriers, wing walls, return walls, tests on completion etc., elevated structure complete in all respects and fit for use.	NIL	
<p>Protection Work</p> <p>(6) (i) Reinforced Earth & Retaining Wall, Toe Wall, Breast Wall, RR Masonry</p> <p>(ii) Gabion Wall</p>	<p>NIL</p> <p>NIL</p>	<p>Payment shall be made on pro rata basis on completion of 25 (twenty five) percent of total area.</p>

1.3.4 Other works.

Procedure for estimating the value of other works done shall be as stated in table 1.3.4:

Table 1.3.4

Stage of Payment	Weightage	Payment Procedure
(i) Service roads	0.00 %	Unit of measurement is linear length in km. Cost per km shall be determined on pro rata basis with respect to the total length of the service roads. Payment shall be made for completed service road in a length of not less than 20 (twenty) percent of the total length of service roads.
(ii) Junctions	0.03 %	Unit of measurement is each completed junction. Payment of each junction shall be made on pro rata basis with respect to the total of all junctions.
(iii) (a) Road side drains (Catch Water Drain, Lined Drain)	24.21 %	Unit of measurement is linear length in km. Payment shall be made on pro rata basis on completion of a stage in a length of not less than 10 % (ten per cent) of the total length.
(b) Berm Drain	1.58 %	
(iv) Road signs, markings, km stones, safety devices, ...	0.78 %	

(v) Project Facilities		Payment shall be made on pro rata basis for completed facilities.
a) Bus bays	2.37 %	
b) Truck lay-byes	0.30 %	
c) Rest areas	0.00%	
d) others	Nil	
vi) Repairs to existing bridges/structures		Payment shall be made for completed items.
a) Providing wearing coat		
b) Replacement of bearing, joints		
c) Providing crash barriers		
(d) Other items (Pitching, Drainage Chute, Sump and Rain Water Harvesting)		
(vii) Roadside plantation	0.00 %	Unit of measurement is linear length. Payment shall be made on pro rata basis on completion of a stage in a length of not less than 10% (ten per cent) of the total length.
(viii) Repair of protection works	0.00%	Payment shall be made on pro rata basis every six months.
(ix) Other misc. items	4.06%	Payment shall be made on pro rata basis every six months.
(x)W metal beam crash barriers	3.41%	Unit of measurement is linear length. Payment shall be made on pro rata basis on completion of a stage in a length of not less than 10% (ten per cent) of the total length.
(xi) Protection works		Payment shall be made on pro rata basis every six months.
(a) RR Masonary wall	9.99%	Payment shall be made on pro rata basis every six months.
(b)Toe wall and Banded retaining wall	9.27%	Payment shall be made on pro rata basis every six months.
(c)Breast wall	11.71%	Payment shall be made on pro rata basis every six months.
(d) Gabion wall	32.29%	Payment shall be made on pro rata

		basis every six months.
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2. Procedure for payment for Maintenance

- 2.1 The cost for maintenance shall be as stated in Clause 14.1.1.
- 2.2 Payment for Maintenance shall be made in quarterly installments in accordance with the provisions of Clause 19.7.

SCHEDULE - I
(See Clause 10.2.4)
DRAWINGS

1 Drawings

In compliance of the obligations set forth in Clause 10.2 of this Agreement, the Contractor shall furnish to the Authority's Engineer, free of cost, all Drawings listed in Annex-I of this Schedule-I.

2 Additional Drawings

If the Authority's Engineer determines that for discharging its duties and functions under this Agreement, it requires any drawings other than those listed in Annex-I, it may by notice require the Contractor to prepare and furnish such drawings forthwith. Upon receiving a requisition to this effect, the Contractor shall promptly prepare and furnish such drawings to the Authority's Engineer, as if such drawings formed part of Annex-I of this Schedule-I.

Annex - I
(Schedule - I)

List of Drawings

- (a) Working Drawings of all the components/elements of the Project Highway as determined by Authority Engineer/NHIDCL, and
- (b) As-built drawings for the Project Highway components/elements as determined by Authority Engineer /NHIDCL. As-built drawings shall be duly certified by Authority Engineer.

A broad list of the drawings of the various components/elements of the Project Highway and project facilities required to be submitted by the Contractor is given below:

- (a) Drawings of horizontal alignment, vertical profile and cross sections
- (b) Drawings of cross drainage works
- (c) Drawings of interchanges, major intersections, grade separators, underpasses, ROBs and Major Bridges
- (d) Drawings of toll plaza layout, toll collection systems and roadway near toll plaza
- (e) Drawings of Control Centre
- (f) Drawings of drainage system
- (g) Drawing of a truck parking lay bye with furniture and drainage system
- (h) Drawings of road furniture items including traffic signage, markings, safety barriers, etc.
- (i) Drawings of traffic diversion plans and traffic control measures
- (j) Drawings of road drainage measures
- (k) Drawings of typical details slope protection measures
- (l) Drawings of landscaping and horticulture

- (m) Drawings of pedestrian crossings
- (n) Drawings of street lighting
- (o) Layout/Configuration of ATMS
- (p) General arrangement of Base camp and Administrative Block
- (q) Drawing of service area

SCHEDULE - J
(See Clause 10.3.2)

PROJECT COMPLETION SCHEDULE

1 Project Completion Schedule

During Construction period, the Contractor shall comply with the requirements set forth in this Schedule-J for each of the Project Milestones and the **Scheduled Completion Date**. Within 15 (fifteen) days of the date of each Project Milestone, the Contractor shall notify the Authority of such compliance along with necessary particulars thereof.

2 Project Milestone-I

2.1 Project Milestone-I shall occur on the date falling on the 180th (one hundred and eightieth) day from the Appointed Date (the “**Project Milestone-I**”).

2.2 Prior to the occurrence of Project Milestone-I, the Contractor shall have commenced construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 10% (ten per cent) of the Contract Price.

3 Project Milestone-II

3.1 Project Milestone-II shall occur on the date falling on the 550th (Five hundred and fiftieth) day from the Appointed Date (the “**Project Milestone-II**”).

3.2 Prior to the occurrence of Project Milestone-II, the Contractor shall have continued with construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 40% (thirty five per cent) of the Contract Price.

4 Project Milestone-III

4.1 Project Milestone-III shall occur on the date falling on the 915th (Nine hundred and fifteenth) day from the Appointed Date (the “**Project Milestone-III**”).

4.2 Prior to the occurrence of Project Milestone-III, the Contractor shall have continued with construction of the Project Highway and submitted to the Authority duly and validly prepared Stage Payment Statements for an amount not less than 80% (seventy per cent) of the Contract Price.

5 Scheduled Completion Date

- 5.1 The Scheduled Completion Date shall occur on the 1095th (one thousand ninety fifth) day from the Appointed Date.
- 5.2 On or before the Scheduled Completion Date, the Contractor shall have completed construction in accordance with this Agreement.

6 Extension of time

Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Project Completion Schedule shall be deemed to have been amended accordingly.

SCHEDULE - K(See Clause 12.1.2)

Tests on Completion

1 Schedule for Tests

- 1.1 The Contractor shall, no later than 30 (thirty) days prior to the likely completion of construction, notify the Authority's Engineer and the Authority of its intent to subject the Project Highway to Tests, and no later than 10 (ten) days prior to the actual date of Tests, furnish to the Authority's Engineer and the Authority detailed inventory and particulars of all works and equipment forming part of Works.
- 1.2 The Contractor shall notify the Authority's Engineer of its readiness to subject the Project Highway to Tests at any time after 10 (ten) days from the date of such notice, and upon receipt of such notice, the Authority's Engineer shall, in consultation with the Contractor, determine the date and time for each Test and notify the same to the Authority who may designate its representative to witness the Tests. The Authority's Engineer shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Article 12 and this Schedule-K.

2 Tests

- 2.1 Visual and physical test: The Authority's Engineer shall conduct a visual and physical check of construction to determine that all works and equipment forming part thereof conform to the provisions of this Agreement. The physical tests shall include all the tests required for quality control or as decided in consultation with the Authority's Engineer at the time of physical tests as per relevant IRC code Manual .
- 2.2 Riding quality test: Riding quality of each lane of the carriageway shall be checked with the help of a calibrated bump integrator and the maximum permissible roughness for purposes of this Test shall be 2,000 (two thousand) mm for each kilometre.
- 2.3 Tests for bridges: All major and minor bridges shall be subjected to the rebound hammer and ultrasonic pulse velocity tests, to be conducted in accordance with the procedure described in Special Report No. 17: 1996 of the IRC Highway Research Board on Non destructive Testing Techniques, at two spots in every span, to be chosen at random by the Authority's Engineer. Bridges with a span of 15 (fifteen) metres or more shall also be subjected to load testing.
- 2.4 Other tests: The Authority's Engineer may require the Contractor to carry out or cause to be carried additional tests, in accordance with Good Industry Practice, for determining the compliance of the Project Highway with Specifications and Standards.
- 2.5 Environmental audit: The Authority's Engineer shall carry out a check to

determine conformity of the Project Highway with the environmental requirements set forth in Applicable Laws and Applicable Permits.

- 2.6 Safety Audit: The Authority's Engineer shall carry out, or cause to be carried out, a safety audit to determine conformity of the Project Highway with the safety requirements and Good Industry Practice.

3 Agency for conducting Tests

All Tests set forth in this Schedule-K shall be conducted by the Authority's Engineer or such other agency or person as it may specify in consultation with the Authority.

4 Completion Certificate

Upon successful completion of Tests, the Authority's Engineer shall issue the Completion Certificate in accordance with the provisions of Article 12.

SCHEDULE - L
(See Clause 12.2 and 12.4)

PROVISIONAL CERTIFICATE

1 I, (Name of the Authority's Engineer), acting as the Authority's Engineer, under and in accordance with the Agreement dated (the "**Agreement**"), for Construction of Meka-Roing-Hunli road from Existing Km 16 of Roing-Hunli Road to Km 21.5 of Hunli-Anini Road (Total Length=74.863)(the "**Project Highway**") on Engineering, Procurement and Construction (EPC) basis through (Name of Contractor), hereby certify that the Tests in accordance with Article 12 of the Agreement have been undertaken to determine compliance of the Project Highway with the provisions of the Agreement.

2 Works that are incomplete on account of Time Extension have been specified in the Punch List appended hereto, and the Contractor has agreed and accepted that it shall complete all such works in the time and manner set forth in the Agreement. In addition, certain minor works are incomplete and these are not likely to cause material inconvenience to the Users of the Project Highway or affect their safety. The Contractor has agreed and accepted that as a condition of this Provisional Certificate, it shall complete such minor works within 30 (thirty) days hereof. These minor works have also been specified in the aforesaid Punch List.

3 In view of the foregoing, I am satisfied that the Project Highway from km Existing Km 16 of Roing-Hunli Road to Km 21.5 of Hunli-Anini Road (Total Length=74.863) can be safely and reliably placed in service of the Users thereof, and in terms of the Agreement, the Project Highway is hereby provisionally declared fit for entry into operation on this the day of 20.....

ACCEPTED, SIGNED, SEALED

SIGNED, SEALED AND

AND DELIVERED

DELIVERED

For and on behalf of

For and on behalf of

CONTRACTOR by:

AUTHORITY's ENGINEER by:

(Signature)

(Signature)

COMPLETION CERTIFICATE

- 1 I, (Name of the Authority's Engineer), acting as the Authority's Engineer, under and in accordance with the Agreement dated (the "Agreement"), for **Construction of Meka-Roing-Hunli Road from Existing Km 16 of Roing-Hunli Road to Km 21.5 of Hunli-Anini Road (Total Length=74.863) to NH Double lane Specification in Arunachal Pradesh on Engineering Procurement and Construction(EPC) basis** (the "Project Highway") on Engineering, Procurement and Construction (EPC) basis through (Name of Contractor), hereby certify that the Tests in accordance with Article 12 of the Agreement have been successfully undertaken to determine compliance of the Project Highway with the provisions of the Agreement, and I am satisfied that the Project Highway can be safely and reliably placed in service of the Users thereof.
- 2 It is certified that, in terms of the aforesaid Agreement, all works forming part of Project Highway have been completed, and the Project Highway is hereby declared fit for entry into operation on this the day of 20.....

SIGNED, SEALED AND DELIVERED

For and on behalf of

the Authority's Engineer by:

(Signature)

(Name)

(Designation)

(Address)

SCHEDULE - M
(See Clauses 14.6, 15.2 and 19.7)

PAYMENT REDUCTION FOR NON-COMPLIANCE

1. Payment reduction for non-compliance with the Maintenance Requirements

- 1.1 Monthly lump sum payments for maintenance shall be reduced in the case of non-compliance with the Maintenance Requirements set forth in Schedule-E.
- 1.2 Any deduction made on account of non-compliance with the Maintenance Requirements shall not be paid even after compliance subsequently. The deductions shall continue to be made every month until compliance is done.
- 1.3 The Authority's Engineer shall calculate the amount of payment reduction on the basis of weightage in percentage assigned to non-conforming items as given in Paragraph 2.

2. Percentage reductions in lump sum payments

- 2.1 The following percentages shall govern the payment reduction:

S. No.	Item/Defect/Deficiency	Percentage
(a)	Carriageway/Pavement	
(i)	Potholes, cracks, other surface defects	15%
(ii)	Repairs of Edges, Rutting	5%
(b)	Road, Embankment, Cuttings, Shoulders	
(i)	Edge drop, inadequate crossfall, undulations, settlement, potholes, ponding, obstructions	10%
(ii)	Deficient slopes, raincuts, disturbed pitching, vegetation growth, pruning of trees	5%
(c)	Bridges and Culverts	
(i)	Desilting, cleaning, vegetation growth, damaged pitching, flooring, parapets, wearing course, footpaths, any damage to foundations	20%

S. No.	Item/Defect/Deficiency	Percentage
(ii)	Any Defects in superstructures, bearings and sub-structures	10%
(iii)	Painting, repairs/replacement kerbs, railings, parapets, guideposts/crash barriers	5%
(d)	Roadside Drains	
(i)	Cleaning and repair of drains	5%
(e)	Road Furniture	
(i)	Cleaning, painting, replacement of road signs, delineators, road markings, 200 m/km/5 th km stones	5%
(f)	Miscellaneous Items	
(i)	Removal of dead animals, broken down/accident vehicles, fallen trees, road blockades or malfunctioning of mobile crane	10%
(ii)	Any other Defects in accordance with paragraph 1.	5%
(g)	Defects in Other Project Facilities	5%

2.2 The amount to be deducted from monthly lump-sum payment for non compliance of particular item shall be calculated as under:

$$R = P / IOO \times M \times L1 / L$$

Where P = Percentage of particular item/Defect/deficiency for deduction

M = Monthly lump-sum payment in accordance with the Bid

L1 = Non-complying length

L = Total length of the road,

R = Reduction (the amount to be deducted for non compliance for a particular item/Defect/deficiency

The total amount of reduction shall be arrived at by summation of reductions for such items/Defects/deficiency or non compliance.

For any Defect in a part of one kilometer, the non-conforming length shall be taken as one kilometer.

SCHEDULE - N
(See Clause 18.1.1)

SELECTION OF AUTHORITY’S ENGINEER

1 Selection of Authority’s Engineer

- 1.1 The provisions of the Model Request for Proposal for Selection of Technical Consultants, issued by the Ministry of Finance in May 2009, or any substitute thereof shall apply for selection of an experienced firm to discharge the functions and duties of an Authority’s Engineer.
- 1.2 In the event of termination of the Technical Consultants appointed in accordance with the provisions of Paragraph 1.1, the Authority shall appoint another firm of Technical Consultants forthwith and may engage a government-owned entity in accordance with the provisions of Paragraph 3 of this Schedule-N.

2 Terms of Reference

The Terms of Reference for the Authority’s Engineer (the “**TOR**”) shall substantially conform with Annex 1 to this Schedule N.

3 Appointment of Government entity as Authority’s Engineer

Notwithstanding anything to the contrary contained in this Schedule, the Authority may in its discretion appoint a government-owned entity as the Authority’s Engineer; provided that such entity shall be a body corporate having as one of its primary functions the provision of consulting, advisory and supervisory services for engineering projects; provided further that a government-owned entity which is owned or controlled by the Authority shall not be eligible for appointment as Authority’s Engineer.

Annex – I
(Schedule - N)
TERMS OF REFERENCE FOR AUTHORITY’S ENGINEER

1 Scope

- 1.1 These Terms of Reference (the “**TOR**”) for the Authority’s Engineer are being specified pursuant to the EPC Agreement dated (the “**Agreement**”), which has been entered into between the National Highways and Infrastructure Development Corporation Ltd. (the “**Authority**”) and (the “**Contractor**”) for the **Construction of Meka-Roing-Hunli from Existing Km 16 of Roing-Hunli Road to Km 21.5 of Hunli-Anini Road (Total Length=74.863Km) to NH Double lane Specification in Arunachal Pradesh on Engineering Procurement and Construction (EPC) basis** on Engineering, Procurement, Construction (EPC) basis, and a copy of which is annexed hereto and marked as Annex-A to form part of this TOR.
- 1.2 The TOR shall apply to construction and maintenance of the Project Highway.

2 Definitions and interpretation

- 2.1 The words and expressions beginning with or in capital letters and not defined herein but defined in the Agreement shall have, unless repugnant to the context, the meaning respectively assigned to them in the Agreement.
- 2.2 References to Articles, Clauses and Schedules in this TOR shall, except where the context otherwise requires, be deemed to be references to the Articles, Clauses and Schedules of the Agreement, and references to Paragraphs shall be deemed to be references to Paragraphs of this TOR.
- 2.3 The rules of interpretation stated in Clauses 1.2, 1.3 and 1.4 of the Agreement shall apply, *mutatis mutandis*, to this TOR.

3. General

- 3.1 The Authority’s Engineer shall discharge its duties in a fair, impartial and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice.
- 3.2 The Authority’s Engineer shall perform the duties and exercise the authority in accordance with the provisions of this Agreement, but subject to obtaining prior written approval of the Authority before determining:
- (a) any Time Extension;

- (b) any additional cost to be paid by the Authority to the Contractor;
 - (c) the Termination Payment; or
 - (d) any other matter which is not specified in (a), (b) or (c) above and which creates an obligation or liability on either Party for a sum exceeding Rs. 5,000,000 (Rs. fifty lakh).
- 3.3 The Authority's Engineer shall submit regular periodic reports, at least once every month, to the Authority in respect of its duties and functions under this Agreement. Such reports shall be submitted by the Authority's Engineer within 10 (ten) days of the beginning of every month.
- 3.4 The Authority's Engineer shall inform the Contractor of any delegation of its duties and responsibilities to its suitably qualified and experienced personnel; provided, however, that it shall not delegate the authority to refer any matter for the Authority's prior approval in accordance with the provisions of Clause 18.2.
- 3.5 The Authority's Engineer shall aid and advise the Authority on any proposal for Change of Scope under Article 13.
- 3.6 In the event of any disagreement between the Parties regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Agreement, the Authority's Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature.

4 Construction Period

- 4.1 During the Construction Period, the Authority's Engineer shall review the Drawings furnished by the Contractor along with supporting data, including the geo-technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites, topographical surveys, and the recommendations of the Safety Consultant in accordance with the provisions of Clause 10.1.6. The Authority's Engineer shall complete such review and send its observations to the Authority and the Contractor within 15 (fifteen) days of receipt of such Drawings; provided, however that in case of a Major Bridge or Structure, the aforesaid period of 15 (fifteen) days may be extended upto 30 (thirty) days. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards.
- 4.2 The Authority's Engineer shall review any revised Drawings sent to it by the Contractor and furnish its comments within 10 (ten) days of receiving such Drawings.

- 4.3 The Authority's Engineer shall review the Quality Assurance Plan submitted by the Contractor and shall convey its comments to the Contractor within a period of 21 (twenty-one) days stating the modifications, if any, required thereto.
- 4.4 The Authority's Engineer shall complete the review of the methodology proposed to be adopted by the Contractor for executing the Works, and convey its comments to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed methodology from the Contractor.
- 4.5 The Authority's Engineer shall grant written approval to the Contractor, where necessary, for interruption and diversion of the flow of traffic in the existing lane(s) of the Project Highway for purposes of maintenance during the Construction Period in accordance with the provisions of Clause 10.4.
- 4.6 The Authority's Engineer shall review the monthly progress report furnished by the Contractor and send its comments thereon to the Authority and the Contractor within 7 (seven) days of receipt of such report.
- 4.7 The Authority's Engineer shall inspect the Construction Works and the Project Highway and shall submit a monthly Inspection Report bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. In particular, the Authority's Engineer shall include in its Inspection Report, the compliance of the recommendations made by the Safety Consultant.
- 4.8 The Authority's Engineer shall conduct the pre-construction review of manufacturer's test reports and standard samples of manufactured Materials, and such other Materials as the Authority's Engineer may require.
- 4.9 For determining that the Works conform to Specifications and Standards, the Authority's Engineer shall require the Contractor to carry out, or cause to be carried out, tests at such time and frequency and in such manner as specified in the Agreement and in accordance with Good Industry Practice for quality assurance. For purposes of this Paragraph 4.9, the tests specified in the IRC Special Publication-11 (Handbook of Quality Control for Construction of Roads and Runways) and the Specifications for Road and Bridge Works issued by MORTH (the "Quality Control Manuals") or any modification/substitution thereof shall be deemed to be tests conforming to Good Industry Practice for quality assurance.
- 4.10 The Authority's Engineer shall test check at least 20 (twenty) percent of the quantity or number of tests prescribed for each category or type of test for quality control by the Contractor.
- 4.11 The timing of tests referred to in Paragraph 4.9, and the criteria for

acceptance/ rejection of their results shall be determined by the Authority's Engineer in accordance with the Quality Control Manuals. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.

- 4.12 In the event that results of any tests conducted under Clause 11.10 establish any Defects or deficiencies in the Works, the Authority's Engineer shall require the Contractor to carry out remedial measures.
- 4.13 The Authority's Engineer may instruct the Contractor to execute any work which is urgently required for the safety of the Project Highway, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 21.6 shall apply.
- 4.14 In the event that the Contractor fails to achieve any of the Project Milestones, the Authority's Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Authority's Engineer shall determine that completion of the Project Highway is not feasible within the time specified in the Agreement, it shall require the Contractor to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which the Project Completion Date shall be achieved. Upon receipt of a report from the Contractor, the Authority's Engineer shall review the same and send its comments to the Authority and the Contractor forthwith.
- 4.15 The Authority's Engineer shall obtain from the Contractor a copy of all the Contractor's quality control records and documents before the Completion Certificate is issued pursuant to Clause 12.4.
- 4.16 Authority's Engineer may recommend to the Authority suspension of the whole or part of the Works if the work threatens the safety of the Users and pedestrians. After the Contractor has carried out remedial measure, the Authority's Engineer shall inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked.
- 4.17 In the event that the Contractor carries out any remedial measures to secure the safety of suspended works and Users, and requires the Authority's Engineer to inspect such works, the Authority's Engineer shall inspect the suspended works within 3 (three) days of receiving such notice, and make a report to the Authority forthwith, recommending whether or not such suspension may be revoked by the Authority.
- 4.18 The Authority's Engineer shall carry out, or cause to be carried out, all the Tests specified in Schedule-K and issue a Completion Certificate or

Provisional Certificate, as the case may be. For carrying out its functions under this Paragraph 4.18 and all matters incidental thereto, the Authority's Engineer shall act under and in accordance with the provisions of Article 12 and Schedule-K.

5. Maintenance Period

- 5.1 The Authority's Engineer shall aid and advise the Contractor in the preparation of its monthly Maintenance Programme and for this purpose carry out a joint monthly inspection with the Contractor.
- 5.2 The Authority's Engineer shall undertake regular inspections, at least once every month, to evaluate compliance with the Maintenance Requirements and submit a Maintenance Inspection Report to the Authority and the Contractor.
- 5.3 The Authority's Engineer shall specify the tests, if any, that the Contractor shall carry out, or cause to be carried out, for the purpose of determining that the Project Highway is in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Contractor in this behalf.
- 5.4 In respect of any defect or deficiency referred to in Paragraph 3 of Schedule-E, the Authority's Engineer shall, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards and shall also specify the time limit for repair or rectification of any deviation or deterioration beyond the permissible limit.
- 5.5 The Authority's Engineer shall examine the request of the Contractor for closure of any lane(s) of the Project Highway for undertaking maintenance/repair thereof, and shall grant permission with such modifications, as it may deem necessary, within 5 (five) days of receiving a request from the Contractor. Upon expiry of the permitted period of closure, the Authority's Engineer shall monitor the reopening of such lane(s), and in case of delay, determine the Damages payable by the Contractor to the Authority under Clause 14.5.

6 Determination of costs and time

- 6.1 The Authority's Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Agreement.
- 6.2 The Authority's Engineer shall determine the period of Time Extension that is required to be determined by it under the Agreement.
- 6.3 The Authority's Engineer shall consult each Party in every case of

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determination in accordance with the provisions of Clause 18.5.

7. Payments

- 7.1 The Authority's Engineer shall withhold payments for the affected works for which the Contractor fails to revise and resubmit the Drawings to the Authority's Engineer in accordance with the provisions of Clause 10.2.4 (d).
- 7.2 Authority's Engineer shall -
- (a) within 10 (ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 19.4, determine the amount due to the Contractor and recommend the release of 90 (ninety) percent of the amount so determined as part payment, pending issue of the Interim Payment Certificate; and
 - (b) within 15 (fifteen) days of the receipt of the Stage Payment Statement referred to in Clause 19.4, deliver to the Authority and the Contractor an Interim Payment Certificate certifying the amount due and payable to the Contractor, after adjustments in accordance with the provisions of Clause 19.10.
- 7.3 The Authority's Engineer shall, within 15 (fifteen) days of receipt of the Monthly Maintenance Statement from the Contractor pursuant to Clause 19.6, verify the Contractor's monthly statement and certify the amount to be paid to the Contractor in accordance with the provisions of the Agreement.
- 7.4 The Authority's Engineer shall certify final payment within 30 (thirty) days of the receipt of the final payment statement of Maintenance in accordance with the provisions of Clause 19.16.

8. Other duties and functions

The Authority's Engineer shall perform all other duties and functions as specified in the Agreement.

9 Miscellaneous

- 9.1 A copy of all communications, comments, instructions, Drawings or Documents sent by the Authority's Engineer to the Contractor pursuant to this TOR, and a copy of all the test results with comments of the Authority's Engineer thereon, shall be furnished by the Authority's Engineer to the Authority forthwith.
- 9.2 The Authority's Engineer shall retain at least one copy each of all Drawings and Documents received by it, including 'as-built' Drawings, and keep them

in its safe custody.

- 9.3 Within 90 (ninety) days of the Project Completion Date, the Authority's Engineer shall obtain a complete set of as-built Drawings, in 2 (two) hard copies and in micro film form or in such other medium as may be acceptable to the Authority, reflecting the Project Highway as actually designed, engineered and constructed, including an as-built survey illustrating the layout of the Project Highway and setback lines, if any, of the buildings and structures forming part of Project Facilities; and shall hand them over to the Authority against receipt thereof.
- 9.4 The Authority's Engineer, if called upon by the Authority or the Contractor or both, shall mediate and assist the Parties in arriving at an amicable settlement of any Dispute between the Parties.
- 9.5 The Authority's Engineer shall inform the Authority and the Contractor of any event of Contractor's Default within one week of its occurrence.

SCHEDULE - O
(See Clauses 19.4.1, 19.6.1, and 19.8.1)

Forms of Payment Statements

1. Stage Payment Statement for Works

The Stage Payment Statement for Works shall state:

- (a) the estimated amount for the Works executed in accordance with Clause 19.3.1 subsequent to the last claim;
- (b) amounts reflecting adjustments in price for the aforesaid claim;
- (c) the estimated amount of each Change of Scope Order executed subsequent to the last claim;
- (d) amounts reflecting adjustment in price, if any, for (c) above in accordance with the provisions of Clause 13.2.3 (a);
- (e) total of (a), (b), (c) and (d) above;
- (f) Deductions:
 - (i) Any amount to be deducted in accordance with the provisions of the Agreement except taxes;
 - (ii) Any amount towards deduction of taxes; and
 - (iii) Total of (i) and (ii) above.
- (g) Net claim: (e) – (f) (iii);
- (h) The amounts received by the Contractor upto the last claim:
 - (i) For the Works executed (excluding Change of Scope orders);
 - (ii) For Change of Scope Orders, and
 - (iii) Taxes deducted

2. Monthly Maintenance Payment Statement

The monthly Statement for Maintenance Payment shall state:

- (a) the monthly payment admissible in accordance with the provisions of the Agreement;
- (b) the deductions for maintenance work not done;
- (c) net payment for maintenance due, (a) minus (b);
- (d) amounts reflecting adjustments in price under Clause 19.12; and
- (e) amount towards deduction of taxes

3. Contractor's claim for Damages

Note: The Contractor shall submit its claims in a form acceptable to the Authority.

SCHEDULE - P
(See Clause 20.1)

INSURANCE

1. Insurance during Construction Period

- 1.1 The Contractor shall effect and maintain at its own cost, from the Appointed Date till the date of issue of the Completion Certificate, the following insurances for any loss or damage occurring on account of Non Political Event of Force Majeure, malicious act, accidental damage, explosion, fire and terrorism:
- (a) insurance of Works, Plant and Materials and an additional sum of 15 (fifteen) per cent of such replacement cost to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the Works and of removing debris of whatsoever nature; and
 - (b) insurance for the Contractor's equipment and Documents brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.
- 1.2 The insurance under paragraph 1.1 (a) and (b) above shall cover the Authority and the Contractor against all loss or damage from any cause arising under paragraph 1.1 other than risks which are not insurable at commercial terms.

2. Insurance for Contractor's Defects Liability

The Contractor shall effect and maintain insurance cover for the Works from the date of issue of the Completion Certificate until the end of the Defects Liability Period for any loss or damage for which the Contractor is liable and which arises from a cause occurring prior to the issue of the Completion Certificate. The Contractor shall also maintain other insurances for maximum sums as may be required under the Applicable Laws and in accordance with Good Industry Practice.

3. Insurance against injury to persons and damage to property

- 3.1 The Contractor shall insure against its liability for any loss, damage, death or bodily injury, or damage to any property (except things insured under Paragraphs 1 and 2 of this Schedule or to any person (except persons insured under Clause 20.9), which may arise out of the Contractor's performance of this Agreement. This insurance shall be for a limit per occurrence of not less than the amount stated below with no limit on the number of occurrences.
- The insurance cover shall be not less than Contract Value.
- 3.2 The insurance shall be extended to cover liability for all loss and damage to

the Authority's property arising out of the Contractor's performance of this Agreement excluding:

- (a) the Authority's right to have the construction works executed on, over, under, in or through any land, and to occupy this land for the Works; and
- (b) damage which is an unavoidable result of the Contractor's obligations to execute the Works.

4. **Insurance to be in joint names**

The insurance under paragraphs 1 to 3 above shall be in the joint names of the Contractor and the Authority.