

BIDDING DOCUMENT

National Open Competitive Procurement

for

Procurement of Works

**(Engineering, Procurement, Construction (“EPC”) following two envelope
Bidding Process with e-Procurement)**

GOVERNMENT OF UTTARAKHAND

**PROJECT IMPLEMENTATION UNIT,
 Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE)
 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road,
 Dehradun- 248013, Uttarakhand**

REQUEST FOR BID NO.: 02A/BR/RFB-EPC/UPREPARE/2024

NATIONAL OPEN COMPETITIVE PROCUREMENT

(Engineering, Procurement, Construction “EPC”)

NAME OF WORK	:	Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh.
PERIOD OF SALE OF BIDDING DOCUMENT	:	FROM 06.01.2025 to 10.02.2025
TIME AND DATE OF PRE-BID MEETING	:	DATE 20.01.2025 TIME 11:30 A.M.
LAST DATE AND TIME FOR RECEIPT OF BIDS	:	DATE 10.02.2025 TIME 05:00 P.M.
* TIME AND DATE OF OPENING OF BIDS – Technical Part	:	DATE 11.02.2025 TIME 3:30 P.M.
PLACE OF OPENING OF BIDS	:	Office of Program Manager, PIU-PWD, U-PREPARE, 5 th Floor, USDMA Building, 36 IT Park, Sahastradhara Road, Dehradun, Uttarakhand-248013
OFFICER INVITING BIDS	:	Program Manager, PIU-PWD, U-PREPARE

REQUEST FOR BIDS

(RFB)

GOVERNMENT OF UTTARAKHAND

PROJECT IMPLEMENTATION UNIT,
 Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE)
 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road,
 Dehradun-248013, Uttarakhand

REQUEST FOR BID NO. 02A/BR/RFB-EPC/UPREPARE/2024

NATIONAL OPEN COMPETITIVE PROCUREMENT

**(Engineering, Procurement, Construction (“EPC”) following two envelope
Bidding Process with e-Procurement)**

Name of Project: Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE)
Contract Title: Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh.
Loan Number: 9654-IN
RFB Reference No.: 02A/BR/RFB-EPC/UPREPARE/2024
Date: 06.01.2025

1. The Government of India has applied for financing from the World Bank toward the cost of the Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE), and intends to apply a part of the proceeds to cover eligible payments under the contract for construction of works as detailed below:
Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh.
2. Bidding will be conducted through national open competitive procurement using a Request for Bids (RFB) method as specified in the World Bank’s “Procurement Regulations for IPF Borrowers, Fourth Edition November 2020. (“Procurement Regulations”), and is open to all Bidders as defined in the Procurement Regulations.
3. Bidders from India should, however, be registered as Class A or equivalent contractor with the Government of Uttarakhand or other State Governments/Government of India, or State/Central Government undertakings. Bidders from India, who are not registered as above, on the date of bidding, can also participate provided they get themselves registered by the time of contract signing, if they become successful bidders.
4. The **Program Manager, PIU-PWD, Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE)** now invites online Bids from eligible Bidders for the construction of works detailed in the table below. Interested bidders may obtain

further information and inspect the bidding document at the address¹ given below during office hours [10:00 to 17:00 hours]. Bidders are advised to note the clauses on eligibility (Section I Clause 4) and minimum qualification criteria (Section III – Evaluation and Qualification Criteria), to qualify for the award of the contract. In addition, please refer to paragraphs 3.14 and 3.15 of the “Procurement Regulations” setting forth the World Bank’s policy on conflict of interest.

5. The bidding document is available online on <http://uktenders.gov.in> from **06.01.2025 to 10.02.2025** for a non-refundable fee as indicated below in the form of a Demand Draft on any Scheduled Bank payable at Dehradun in favour of **Program Manager, PIU-PWD, U-PREPARE, Dehradun payable at Dehradun**. Payment documents are to be submitted as per the procedure described in paragraph 9 below. Bidders will be required to register on the website. The bidders would be responsible for ensuring that any addenda available on the website is also downloaded and incorporated.
 6. For submission of the bid, the bidder is required to have Digital Signature Certificate (DSC) from one of the Certifying Authorities authorised by Government of India for issuing DSC. Aspiring bidders who have not obtained the user ID and password for participating in e-procurement in this Project, may obtain the same from the website: <http://uktenders.gov.in>. A non-refundable fee of **INR 5000.00** is required to be paid. The mode of payment shall be in the form of DD drawn in favour of **Program Manager, PIU-PWD, U-PREPARE, Dehradun payable at Dehradun**, from any Scheduled/ Nationalized Bank. Payment documents are to be submitted alongwith other documents listed in paragraph 9 below before the bid submission deadline.
 7. Bids comprise two Parts, namely the Technical Part and the Financial Part, and both parts must be submitted simultaneously online on <http://uktenders.gov.in> on or before **05:00 P.M. on 10.02.2025** and the ‘Technical Part’ of the bids will be publicly opened online at the address given below on the **11.02.2025 at 3:30 P.M.**, in the presence of the bidders’ designated representatives and anyone who chooses to attend. The “Financial Part” shall remain unopened in the e-procurement system until the second public Bid opening for the financial part. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on the next working day at the same time and venue. The electronic bidding system would not allow any late submission of bids.
 8. All Bids must be accompanied by a bid security of the amount **INR 28,70000 only (Rupees twenty eight Lakh seventy Thousand only)**, drawn in favour of **Program Manager, PIU-PWD, U-PREPARE, Dehradun payable at Dehradun**, Bid security will have to be in any one of the forms as specified in the bidding document. Procedure for submission of bid security is described in Para 9.
-

9. The bidders are required to submit (a) original payment documents towards the cost of bidding document; and registration on e-procurement website (if applicable); (b) original bid security in approved form; and (c) original affidavit regarding correctness of information furnished with bidding document in the office of **Program Manager, Project Implementation Unit, Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE), 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road, Dehradun-248013, Uttarakhand**, before the bid submission deadline, either by registered post/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened.
10. A pre-bid meeting will be held on **20.01.2025 at 11:30 A.M.** at the office of **Program Manager, Project Implementation Unit, Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE), 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road, Dehradun-248013, Uttarakhand**, to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in ITB Clause 7.4 of 'Instructions to Bidders' of the bidding document. Bidders are advised to download the bidding document prior to the pre-bid meeting in order for bidders to have a good understanding of the scope of work under this contract for discussion and clarification at the pre-bid meeting.
11. Other details can be seen in the bidding document. The Authority shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Authority shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.
12. The address(es) referred to above are:

Program Manager
Project Implementation Unit-Public Works Department (PIU-PWD),
Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE),
5th Floor, USDMA Building, 36 IT Park,
Sahastradhara Road, Dehradun, Uttarakhand
PIN Code: 248013
Country: India
Telephone: 9759001154/9411166945
Electronic mail address: piupwd@ukdisasterrecovery.in
Website- <http://ukdisasterrecovery.in/>
<http://u-prepare.com/>

TABLE

Package No.	Name of Work	Bid Security (in INR)	Cost of Document (Rs.)	Period of Completion
1	2	3	4	5
02A/BR/RFB-EPC/UPREPA RE/2024	Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh.	INR 28,70000.00 only (Rupees Twenty EightLakh Seventy Thouonly)	5000/-	18 Months

Seal of office

Table of Contents

Request for Bids (RFB)	
Part I : Bidding Procedures	
Section I. Instructions to Bidders	
Section II. Bid Data Sheet	
Section III. Evaluation and Qualification Criteria	
Section IV. Bidding Forms	
Section V. Eligible Countries	
Section VI. Fraud and Corruption	
Section VII. Work Requirements: Conditions of Contract together with Schedules	

Part II: Definitions and Interpretation	
ARTICLE 1	DEFINITIONS AND INTERPRETATION
Part III: Scope of the Sub-Project	
ARTICLE 2	SCOPE OF THE SUB-PROJECT
ARTICLE 3	OBLIGATIONS OF THE CONTRACTOR
ARTICLE 4	OBLIGATIONS OF THE AUTHORITY
ARTICLE 5	REPRESENTATIONS AND WARRANTIES
ARTICLE 6	DISCLAIMER
Part IV: Design and Construction of the Sub-Project	
ARTICLE 7	PERFORMANCE SECURITY
ARTICLE 8	RIGHT OF WAY
ARTICLE 9	UTILITIES AND TREES
ARTICLE 10	DESIGN AND CONSTRUCTION OF THE SUB-PROJECT
ARTICLE 11	QUALITY ASSURANCE, MONITORING AND SUPERVISION
ARTICLE 12	COMPLETION CERTIFICATE
ARTICLE 13	CHANGE OF SCOPE
ARTICLE 14	MAINTENANCE
ARTICLE 15	SUPERVISION AND MONITORING DURING MAINTENANCE
ARTICLE 16	TRAFFIC REGULATION
ARTICLE 17	DEFECTS LIABILITY
ARTICLE 18	AUTHORITY'S ENGINEER
Part V: Financial Covenants	
ARTICLE 19	PAYMENTS
ARTICLE 20	INSURANCE

Part VI: Force Majeure and Termination	
ARTICLE 21	FORCE MAJEURE
ARTICLE 22	SUSPENSION OF CONTRACTOR'S RIGHTS
ARTICLE 23	TERMINATION
Part VII: Other Provisions	
ARTICLE 24	ASSIGNMENT AND CHARGES
ARTICLE 25	LIABILITY AND INDEMNITY
ARTICLE 26	DISPUTE RESOLUTION
ARTICLE 27	MISCELLANEOUS
ARTICLE 28	DEFINITIONS

Schedules	
SCHEDULE - A	SITE OF THE SUB-PROJECT
SCHEDULE - B	DEVELOPMENT OF THE SUB-PROJECT
SCHEDULE - C	SUB-PROJECT FACILITIES
SCHEDULE - D	SPECIFICATIONS AND STANDARDS
SCHEDULE - E	MAINTENANCE REQUIREMENTS
SCHEDULE - F	APPLICABLE PERMITS
SCHEDULE - G	FORM OF BANK GUARANTEE
SCHEDULE - H	CONTRACT PRICE WEIGHTAGES
SCHEDULE - I	DRAWINGS
SCHEDULE - J	SUB-PROJECT COMPLETION SCHEDULE
SCHEDULE - K	TESTS ON COMPLETION
SCHEDULE - L	PROVISIONAL CERTIFICATE
SCHEDULE - M	PAYMENT REDUCTION FOR NON-COMPLIANCE
SCHEDULE - N	SELECTION OF AUTHORITY'S ENGINEER
SCHEDULE - O	FORMS OF PAYMENT STATEMENTS
SCHEDULE - P	INSURANCE
SCHEDULE - Q	TESTS ON COMPLETION OF MAINTENANCE PERIOD
SCHEDULE - R	TAKING OVER CERTIFICATE
SCHEDULE - S	PERFORMANCE CERTIFICATE
SOCIAL MANAGEMENT PLAN	
ENVIRONMENTAL MANAGEMENT PLAN	

PART I: BIDDING PROCEDURES

Section I - Instructions to Bidders

A. General

- 1. Scope of Bid**
- 1.1 In connection with the Specific Procurement Notice – Request for Bids (RFB), **specified in the Bid Data Sheet** (BDS), the Employer, as **specified in the BDS**, issues this bidding document for the provision of Works as specified in Section VII, Works' Requirements. The name, identification and number of lots (contracts) of this RFB are **specified in the BDS**.
- 1.2 Through out this bidding document:
- (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, including if **specified in the BDS**, distributed or received through the electronic-procurement system used by the Employer) with proof of receipt;
 - (b) if the context so requires, “singular” means “plural” and vice- versa;
 - (c) “Day” means calendar day, unless otherwise specified as “Business Day”. A Business Day is any day that is a working day of the Borrower. It excludes the Borrower’s official public holidays;
 - (d) “Works” refers to Works, subject of this Bidding document, to be executed on EPC contracting arrangement; and
 - (e) the term “ES” means environmental and social (including Sexual Exploitation, and Assault (SEA));
- “Sexual Exploitation and Assault” “(SEA)” stands for the following:
- (i) Sexual exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed operations/project, sexual exploitation occurs when access to or benefit from a Bank Financed Goods, Works, Non-consulting Services or Consulting Services is used to extract sexual gain.
 - (ii) Sexual assault is defined as sexual activity with another

person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of “rape”, especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration.

- 2. Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called “Borrower”) specified in the BDS has received or has applied for financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount specified in the BDS, toward the project named in the BDS. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this bidding document is issued.
 - 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank, and will be subject, in all respects, to the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan account for the purpose of any payment to persons or entities, or for any import of goods, equipment, plant, or materials, if such payment or import is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
- 3. Fraud and Corruption**
 - 3.1 The Bank requires compliance with the Bank’s Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG’s Sanctions Framework, as set forth in Section VI.
 - 3.2 In further pursuance of this policy, Bidders shall permit and shall cause their agents (whether declared or not), subcontractors, sub-consultants, service providers, suppliers, and their personnel, to permit the Bank to inspect all accounts, records and other documents relating to any initial election process, prequalification process, bid submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

- 4. Eligible Bidders**
- 4.1 A Bidder may be a firm that is a private entity, or a state-owned Enterprise or institution subject to ITB 4.6, or any combination of them in the form of a joint venture (JV), under an existing agreement, or with the intent to enter into such an agreement supported by a letter of intent, unless otherwise **specified in the BDS**. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during Contract execution. This authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all members. Unless **specified in the BDS**, there is no limit on the number of members in a JV. The joint venture agreement shall be registered in the place **specified in BDS** so as to be legally valid and binding on members.
- 4.2 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the Bidder:
- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
 - (b) receives or has received any direct or indirect subsidy from another Bidder; or
 - (c) has the same legal representative as another Bidder; or
 - (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the Bid of another Bidder, or influence the decisions of the Authority regarding this bidding process; or
 - (e) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid; or
 - (f) any of its affiliates has been hired (or is proposed to be hired) by the Authority or Borrower as Engineer for the Contract implementation; or
 - (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or

- were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
- (h) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding document or specifications of the contract, and/or the Bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.
- 4.3 A firm that is a Bidder (either individually or as a JV member) shall not participate in more than one Bid, except for permitted alternative Bids. This includes participation as a Subcontractor in other Bids. Such participation shall result in the disqualification of all Bids in which the firm is involved. A firm that is not a Bidder or a JV member may participate as a subcontractor in more than one Bid.
- 4.4 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.8. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or sub-consultants for any part of the Contract including related Services.
- 4.5 A Bidder that has been sanctioned by the Bank, pursuant to the Bank's Anti-Corruption Guidelines, in accordance with its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework as described in Section VI paragraph 2.2 d., shall be ineligible to be prequalified for, initially selected for, bid for, propose for, or be awarded a Bank-financed Contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address **specified in the BDS**.
- 4.6 Bidders that are state-owned enterprises or institutions in the Employer's Country may be eligible to compete and be awarded a

Contract(s) only if they can establish, in a manner acceptable to the Bank, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Employer.

- 4.7 A Bidder shall not be under suspension from Bidding by the Authority as the result of the operation of a Bid-Securing or Proposal-Securing Declaration.
 - 4.8 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of Works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of Works or services from that country, or any payments to any country, person, or entity in that country. When the Works are implemented across jurisdictional boundaries (and more than one country is a Borrower, and is involved in the procurement), then exclusion of a firm or individual on the basis of ITB 4.8 (a) above by any country may be applied to that procurement across other countries involved, if the Bank and the Borrowers involved in the procurement agree.
 - 4.9 A Bidder shall provide such documentary evidence of eligibility satisfactory to the Employer, as the Authority shall reasonably request.
- 5. Eligible Materials, Equipment and Services**
- 5.1 The materials, equipment and services to be supplied under the Contract and financed by the Bank may have their origin in any country subject to the restrictions specified in Section V, Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment and services.

B. Contents of Bidding Document

**6. Sections of
Bidding Document**

6.1 The bidding document consists of Parts 1, 2, and 3, which include all the sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITB 8.

PART 1 Bidding Procedures

- Section I - Instructions to Bidders (ITB)
- Section II - Bid Data Sheet (BDS)
- Section III - Evaluation and Qualification Criteria
- Section IV - Bidding Forms
- Section V - Eligible Countries
- Section VI - Fraud and Corruption

PART 2 Works' Requirements

- Section VII - Works' Requirements: Conditions of Contract together with Schedules.

PART 3 Drawings

- 6.2 The Specific Procurement Notice – Request for Bids (SPN-RFB) issued by the Authority is not part of this bidding document.
- 6.3 Unless obtained directly from the Authority or downloaded from the official website specified in the ‘E-Procurement Notice’, the Authority is not responsible for the completeness of the bidding document, responses to requests for clarification, the minutes of the pre-Bid meeting (if any), or Addenda to the bidding document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Authority or downloaded from the official website specified in the ‘E-Procurement Notice’ shall prevail.
- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information and documentation as is required by the bidding document.

**7. Clarification of
Bidding
Document, Site
Visit, Pre-Bid
Meeting**

- 7.1 The electronic bidding system specified in the BDS provides for online clarifications. A Bidder requiring any clarification on the bidding document may notify the Authority online or raise its inquiries during the pre-Bid meeting if provided for in accordance with ITB 7.4. Clarifications requested through any other mode shall not be considered by the Employer. The Authority will respond to any request for clarification, provided that such request is received prior to the deadline for submission of Bids within a period specified in the BDS. Description of clarification

sought and the response of the Authority shall be uploaded for information of all Bidders without identifying the source of request for clarification. Should the clarification result in changes to the essential elements of the bidding document, the Authority shall amend the bidding document following the procedure under ITB 8 and ITB 22.2. It is the bidder's responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document.

- 7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into a Contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.
- 7.3 The Bidder and any of its personnel or agents will be granted permission by the Authority to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Authority and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
- 7.4 If so **specified in the BDS**, the Bidder's designated representative is invited to attend a pre-Bid meeting and/or a Site of Works visit. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 7.5 The Bidder is requested, to submit any questions only through the e-procurement portal, not later than one week before the meeting. Clarifications requested through any other mode shall not be considered by the Employer.
- 7.6 Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be uploaded online on e-procurement system. Any modification to the bidding document that may become necessary as a result of the pre-Bid meeting shall be made by the Authority exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-Bid meeting. It is the bidder's responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document. Non attendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.

- 8. Amendment of Bidding Document**
- 8.1 At any time prior to the deadline for submission of bids, the Authority may amend the bidding document by issuing addenda.
 - 8.2 Any addendum issued shall be part of the bidding document and shall be deemed to have been communicated to all the bidders. The addenda will appear on the e-procurement system under “Latest Corrigendum”, and Email notification is also automatically sent to those bidders who have started working on the tender, unless otherwise specified in the BDS. The Authority shall not be liable for any information not received by the bidder. It is the bidders’ responsibility to verify the website for the latest information related to this bid.
 - 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Authority may, at its discretion, extend the deadline for the submission of Bids, pursuant to ITB 22.2.

C. Preparation of Bids

- 9. Cost of Bidding**
- 9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Authority shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.
- 10. Language of Bid**
- 10.1 The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Employer, shall be written in English. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Bid, such translation shall govern.
- 11. Documents Comprising the Bid**
- 11.1 The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously.
 - 11.2 The Technical Part shall contain the following:
 - (a) Letter of Bid – Technical Part prepared in accordance with ITB 12 and ITB 14;
 - (b) Bid Security in accordance with ITB 19.1;
 - (c) Alternative Bid – Technical Part, if permissible, in accordance with ITB 13, the Technical Part of any Alternative Bid;

- (d) Authorization: written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.3, and in accordance with ITB 20.4 in case of a JV;
- (e) Bidder's Eligibility: documentary evidence in accordance with ITB 17 establishing the Bidder's eligibility to Bid;
- (f) Qualifications: documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the Contract if its Bid is accepted;
- (g) Conformity: a technical proposal in accordance with ITB 16;
- (h) Construction methodology as detailed in Para 1.1 of Section III Evaluation Criteria;
- (i) Contractor Registration certificate (as per RFB), if applicable; and
- (j) any other document and schedules required in the BDS.

11.3 The Financial Part shall contain the following:

- (a) Letter of Bid – Financial Part: prepared in accordance with ITB 12 and ITB 14;
- (b) Alternative Bid - Financial Part: if permissible in accordance with ITB 13, the Financial Part of any Alternative Bid; and
- (c) any other document required in the BDS.

11.4 The Technical Part shall not include any information related to the Bid price. Where material financial information related to the Bid Price is contained in the Technical Part the Bid shall be declared non-responsive.

11.5 In addition to the requirements under ITB 11.2, Bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement.

11.6 The Bidder shall furnish in the Letter of Bid – Financial Part information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid, and to

Contract execution if the Bidder is awarded the contract.

- | | |
|---|--|
| 12. Letters of Bid and Schedules | <p>12.1 The Letter of Bid – Technical Part, Letter of Bid – Financial Part, Schedules, and all documents listed under Clause 11, shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.3. All blank spaces shall be filled in with the information requested.</p> |
| 13. Alternative Bids | <p>13.1 Unless otherwise specified in the BDS, alternative Bids shall not be considered.</p> <p>13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the BDS, and the method of evaluating different alternative times for completion will be described in Section III, Evaluation and Qualification Criteria.</p> <p>13.3 Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the requirements of the bidding document must first Price the Employer's design as described in the bidding document and shall further provide all information necessary for a complete evaluation of the alternative by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the Bidder with the Most Advantageous Bid conforming to the basic technical requirements shall be considered by the Employer.</p> <p>13.4 When specified in the BDS, Bidders are permitted to submit alternative technical solutions for specified parts of the Works. Such parts will be identified in the BDS and described in Section VII, <i>Works' Requirements</i>. The method for their evaluation will be stipulated in Section III, Evaluation and Qualification Criteria.</p> |
| 14. Bid Prices and Discounts | <p>14.1 The prices and discounts quoted by the Bidder in the Letter of Bid – Financial Part shall conform to the requirements specified below.</p> <p>14.2 Deleted.</p> <p>14.3 The Price to be quoted in the Letter of Bid – Financial Part, in accordance with ITB 12.1, shall be the total Price of the Bid, including any discounts offered.</p> <p>14.4 Deleted.</p> |

14.5 Unless otherwise **specified in the BDS** and the Contract, the prices quoted by the Bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract.

14.6 Deleted.

14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of Bids, shall be included in the prices and the total Bid Price submitted by the Bidder.

14.8 Bidders may like to ascertain availability of tax/duty exemption benefits available in India. They are solely responsible for obtaining such benefits which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the Authority will not compensate the bidder (Contractor). The bidder shall furnish alongwith his bid a declaration to this effect in the Declaration Form at provided in Section IV of the bidding document.

14.9 Where the bidder has quoted taking into account such benefits, it must give all information required for issue of certificates in terms of the Government of India's relevant Notifications as per the declaration format. In case the bidder has not provided the required information or has indicated to be furnished later on in the Declaration Format, the same shall be construed that the goods/construction equipment for which certificate is required is Nil.

To the extent the Authority determines the quantities indicated therein are reasonable keeping in view the approved design, work requirements, construction program and methodology, the certificates will be issued within 60 days of signing of the contract and no subsequent changes will be permitted. In case of materials pertaining to Variation items and quantities, the certificate shall be issued only on request from the Contractor when in need and duly certified by the Engineer.

14.10 No certificate will be issued for items where no quantity/capacity of equipment is indicated in the statement.

14.11 If the bidder has considered the tax/duty exemption for materials/construction equipment to be bought for the work, the bidder shall confirm and certify that the Authority will not be required to undertake any responsibilities of the Government of India Scheme or the said exemptions being available during the Contract execution, except issuing the required certificate. The

bids which do not conform to the above provisions or any condition by the bidder which makes the bid subject to availability of tax/duty exemption for materials/construction equipment or compensation on withdrawal of any variations to the said exemptions will be treated as non-responsive and rejected.

- 14.12 Any delay in procurement of the construction equipment/machinery/goods as a result of the above shall not be a cause for granting any extension of time.

15. Currencies of Bid and Payment

- 15.1 The currency of the bid and the currency of payments shall entirely be Indian Rupees only.

16. Documents Comprising the Technical Proposal

- 16.1 The Bidder shall furnish a technical proposal in the Technical Part of the Bid, including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV, Bidding Forms, in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work's requirements and the completion time.

17. Documents Establishing the Eligibility and Qualifications of the Bidder

- 17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid – Technical Part, included in Section IV, Bidding Forms.
- 17.2 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract, the Bidder shall provide the information requested in the corresponding information sheets included in Section IV, Bidding Forms.

18. Period of Validity of Bids

- 18.1 Bids shall remain valid for the period **specified in the BDS**. The Bid Validity period starts from the date fixed for the Bid submission deadline (as prescribed by the Authority in accordance with ITB 22.1). A Bid valid for a shorter period shall be rejected by the Authority as non responsive.
- 18.2 In exceptional circumstances, prior to the expiration of the Bid validity period, the Authority may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB 19, it shall also be extended for forty five (45) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid, except as provided in ITB 18.3.
- 18.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Bid validity period, the Contract

Price shall be determined as follows:

- (a) in the case of **fixed price** contracts, the Contract price shall be the Bid price adjusted by the factor **specified in the BDS;**
- (b) in the case of **adjustable** price contracts, no adjustment shall be made; or
- (c) in any case, Bid evaluation shall be based on the Bid price without taking into consideration the applicable correction from those indicated above.

19. Bid Security

- 19.1 The Bidder shall furnish as part of the Technical Part of its Bid, a Bid Security as **specified in the BDS**, in original form, and for the amount **specified in the BDS**.
- 19.2 Notused.
- 19.3 If a Bid Security is specified pursuant to ITB 19.1, the Bid Security shall be a demand guarantee in any of the following forms at the Bidder's option:
 - (a) an unconditional bank guarantee issued by a Nationalized or Scheduled bank located in India;
 - (b) an irrevocable letter of credit issued by a Nationalized or Scheduled bank located in India;
 - (c) a cashier's or certified check or demand draft issued by a Nationalized or Scheduled bank located in India;
 - (d) another security **specified in the BDS**,
- 19.4 In the case of a bank guarantee, the Bid Security shall be submitted using the Bid Security Form included in Section IV, Bidding Forms. The form must include the complete name of the Bidder. The Bid Security shall be valid for forty-five (45) days beyond the original validity period of the Bid, or beyond any period of extensión if requested under ITB 18.2.
- 19.5 If a Bid Security is specified pursuant to ITB 19.1, any Bid not accompanied by a substantially *responsive* Bid Security in accordance with ITB 19.3 shall be rejected by the Authority as non-responsive.
- 19.6 If a Bid Security is specified pursuant to ITB 19.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the Contract and furnishing the Performance Security and if required in the BDS,

the Environmental and Social (ES) Performance Security pursuant to ITB 50.

- 19.7 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security pursuant to ITB 50.
- 19.8 The Bid Security may be forfeited:
 - (a) if a Bidder withdraws/modifies/substitutes its Bid during the period of Bid validity specified by the Bidder on the Letter of Bid - Technical Part and repeated in Letter of Bid - Financial Part, or any extension thereto provided by the Bidder; or
 - (b) if the Bidder does not accept the correction of its Bid Price pursuant to ITB 36; or
 - (c) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 49; or
 - (ii) furnish a Performance Securityand if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB 50.

- 19.9 The Bid Security of a JV shall be in the name of the JV that submits the Bid. If the JV has not been constituted into a legally enforceable JV, at the time of Bidding, the Bid Security shall be in the names of all future members as named in the letter of intent mentioned in ITB 4.1 and ITB 11.2.

20. Format and Signing of Bid

- 20.1 The Bidder shall prepare the Bid, in accordance with this Instruction, ITB 11 and ITB 21.
- 20.2 Bidders shall mark as “CONFIDENTIAL” information in their Bids which is confidential to their business.
- 20.3 The Bid shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as **specified in the BDS** and shall be uploaded alongwith the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid where entries or amendments have been made shall be signed or initialled by the person signing the Bid.

- 20.4 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives. Documents establishing authority to sign the bid on behalf of the JV shall be uploaded alongwith the bid.
- 20.5 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialled by the person signing the Bid.

D. Online Submission of Bids

21. Sealing and Marking of Bids

- 21.1 Bids, both Technical and Financial Parts, shall be submitted online on the e-procurement system specified in BDS 7.1. Detailed guidelines for viewing bids and submission of online bids are given on the website. The Request for Bids under this Project is published on this website. Any citizen or prospective bidder can logon to this website and view the Request for Bids and can view the details of Works for which bids are invited. A prospective bidder can submit its bid online; however, the bidder is required to have enrolment/registration in the website, and should have valid Digital Signature Certificate (DSC) in the form of smartcard/e-token obtained from any certifying agency authorised by the Government of India (for class of DSC specified in BDS). The bidder should register in the website using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging into the website. The bidder can then login the website through the secured login by entering the password of the e-token & the user id/ password chosen during registration. After getting the bid schedules, the Bidder should go through them carefully and submit the specified documents, alongwith the bid, otherwise the bid will be rejected. The bidders shall fill up online, the forms that are available for online filling on the e-portal. The rest of the forms shall be download by the bidders and filled up. The filled up pages shall then be scanned and uploaded on the e-procurement portal alongwith the scanned copies of the supporting documents.
- 21.2 The e-Procurement system will scan the uploaded documents for virus and if a document uploaded by bidder is found to have virus, the system will reject the uploaded file. Bidders shall take due care to ensure that the documents uploaded by them in e-Procurement system are virus free. The e-Procurement system restricts bidders from uploading file attachments larger than the file size specified in BDS. Hence, the bidders are informed to

restrict the size of file attachments uploaded as part of their bid response to less than this size per file.

- 21.3 The original (a) Bid Security in approved form, (b) Power of Attorney (s), (c) payment documents towards the cost of bidding document; and registrationon e-procurement website (ifapplicable), and (d) affidavit regarding correctness of information furnished with bidding document, shall be delivered by the Bidder to the office **specified in the BDS** before the bid submission deadline. Hardcopy of rest of the bid or any other document are not to be submitted.
- 21.4 In case of non-receipt of these original documents, the bid will be declared non-responsive and will not be opened.
- 21.5 The completed bid comprising of documents indicated in ITB 12, should be uploaded on the e-procurement portal alongwith scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of the bid security.
- 21.6 All the documents are required to be signed digitally by the bidder. After electronic online bid submission, the system generates a unique bid identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission.
- 21.7 Physical, e-mail, Telex, Cable or Facsimile bids will be rejected as non-responsive.

22. Deadline for Submission of Bids

- 22.1 Bids, both Technical and Financial Parts, must be uploaded online no later than the date and time **specified in the BDS**.
- 22.2 The Authority may, at its discretion, extend the deadline for the submission of Bids by amending the bidding document in accordance with ITB 8, in which case all rights and obligations of the Authority and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

23. Late Bids

- 23.1 The electronic bidding system would not allow any late submission of bids after due date & time as per server time.

24. Withdrawal, Substitution, and Modification of Bids

- 24.1 Bidders may modify their bids by using the appropriate option for bid modification on e-procurement portal, before the deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of bidding document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last

modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw his bid by using the appropriate option for bid withdrawal, before the deadline for submission of bids, however, if the bid is withdrawn, re-submission of the bid is not allowed (or allowed **if specified in BDS**).

- 24.1 Bids requested to be withdrawn in accordance with ITB 24.1 shall not be available in the system, and shall therefore not be opened.
- 24.2 No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the expiration of the period of Bid validity specified by the Bidder on the Letter of Bid or any extension thereof. This will result in the forfeiture of the Bid Security pursuant to ITB 19.7.

E. Public Opening of Technical Parts of Bids

25. Public Opening of Technical Parts of Bids

- 25.1 The Authority shall publicly open Technical Parts of all Bids received by the deadline, at the date, time and place **specified in the BDS**, in the presence of Bidders' designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The Financial Parts of the bids shall remain unopened in the e-procurement system, until the subsequent public opening, following the evaluation of the Technical Parts of the Bids. In all cases, original documents submitted as specified in ITB 21 shall be first scrutinized, and Bids that do not comply with the provisions of ITB 21 will be declared non-responsive and will not be opened. Thereafter, bidders' names, the presence or absence of a Bid Security, if one was required, alternative bids – technical parts, if any, and such other details as the Authority may consider appropriate will be notified, online by the Authority at the time of bid opening.

In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.

- 25.2 The electronic summary of the bid opening will be generated and uploaded online. The Authority will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Technical Parts of Bids, and technical parts of Alternative Bids if any, that are opened at

technical Bid opening shall be considered further for evaluation.

F. Evaluation of Bids – General Provisions

- | | |
|--|---|
| 26. Confidentiality | 26.1 Information relating to the evaluation of Bids and recommendation of Contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until information on Intention to Award the Contract is transmitted to all Bidders in accordance with ITB 45. In cases where ITB 45 is not applicable, such information shall not be disclosed until Notification of Award is transmitted in accordance with ITB 47. |
| | 26.2 Any effort by a Bidder to influence the Authority in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid. |
| | 26.3 Notwithstanding ITB 26.2, from the time of Bid opening to the time of Contract award, if a Bidder wishes to contact the Authority on any matter related to the Bidding process, it shall do so in writing. |
| 27. Clarification of Bids | 27.1 To assist in the examination, evaluation, and comparison of the Bids, and qualification of the Bidders, the Authority may, at its discretion, ask any Bidder for a clarification of its Bid giving a reasonable time for a response. Any clarification submitted by a Bidder that is not in response to a request by the Authority shall not be considered. The Employer's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Authority in the evaluation of the Bids, in accordance with ITB 36. |
| | 27.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Employer's request for clarification, its Bid may be rejected. |
| 28. Deviations, Reservations, and Omissions | 28.1 During the evaluation of Bids, the following definitions apply: <ul style="list-style-type: none"> (a) "Deviation" is a departure from the requirements specified in the bidding document; (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding document; and (c) "Omission" is the failure to submit part or all of the |

information or documentation required in the bidding document.

- | | |
|--|---|
| 29. Nonmaterial Nonconformities | <p>29.1 Provided that a Bid is substantially responsive, the Authority may waive any non conformities in the Bid which do not constitute a material deviation, reservation or omission.</p> <p>29.2 Provided that a Bid is substantially responsive, the Authority may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify non material non conformities in the Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the Price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.</p> |
|--|---|

G. Evaluation of Technical Parts of Bids

- | | |
|--|---|
| 30. Evaluation of Technical Parts | <p>30.1 In evaluating the Technical Parts of each Bid, the Authority shall use the criteria and methodologies listed in this ITB and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.</p> |
| 31. Determination of Responsiveness | <p>31.1 The Employer's determination of a Bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11.</p> <p>31.2 A substantially responsive Bid is one that metes the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:</p> <ul style="list-style-type: none"> (a) if accepted, would: <ul style="list-style-type: none"> (i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or (ii) limit in any substantial way, inconsistent with the bidding document, the Employer's rights or the Bidder's obligations under the proposed Contract; or (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids. <p>31.3 The Authority shall examine the technical aspects of the Bid submitted in accordance with ITB 16, in particular, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.</p> |

- 31.4 If a Bid is not substantially responsive to the requirements of the bidding document, it shall be rejected by the Authority and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
- 32. Qualification of the Bidder**
- 32.1 The Authority shall determine to its satisfaction whether the eligible Bidders that have submitted substantially responsive Bid – Technical Parts meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
 - 32.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parententities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm different from the Bidder.
 - 32.3 If a Bidder does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Bid shall be rejected by the Authority and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
 - 32.4 Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall have the Financial Parts of their Bids opened at the second public opening.
- 33. Subcontractors**
- 33.1 Unless otherwise stated **in the BDS**, the Authority does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Employer.
 - 33.2 The subcontractor's qualifications shall not be used by the Bidder to qualify for the Works unless their specialized parts of the Works were previously designated by the Authority **in the BDS** as can be met by subcontractors referred to hereafter as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractors proposed by the Bidder may be added to the qualifications.
 - 33.3 Bidders may propose subcontracting up to the percentage of total value of contracts or the volumen of works as **specified in the BDS**. Subcontractors proposed by the Bidder shall be fully qualified for their parts of the Works.
 - 33.4 The Bidder shall be responsible for ensuring that any proposed subcontractor (both specialized subcontractors and others) complies with the requirements of ITB 4, and that any Works to be provided by the subcontractor comply with the requirements of

ITB 5 and ITB 11.2. The Bidder shall submit its Code of Conduct that metes the requirements set out in Section IV-Bidding Forms. The Bidder shall also submit an undertaking from each proposed subcontractor to confirm that they have read, understand and will comply with the Environmental and Social (ES) obligations and Code of Conduct for Contractor's Personnel.

H. Public Opening of Financial Parts of Bids

34. Public Opening of Financial Parts

- 34.1 Following the completion of the evaluation of the Technical Parts of the Bids, and the Bank has issued its no objection (if applicable), the Authority shall notify in writing those Bidders whose Bids were considered non-responsive to the bidding document or failed to meet the Qualification Criteria, advising them of the following information:
 - (a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document;
 - (b) their Financial Part of Bid shall not be opened; and
 - (c) notify them of the date, time, and location for public opening of Financial Parts of the Bids.
- 34.2 The Authority shall, simultaneously, notify in writing those Bidders whose Technical Part have been evaluated as substantially responsive to the bidding document and met all Qualifying Criteria, advising them of the following information:
 - (a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria;
 - (b) their Financial Part of Bid will be opened at the public opening of the Financial Parts; and
 - (c) notify them of the date, time and location for public opening of the Financial Parts of the Bids, **as specified in the BDS.**
- 34.3 The opening date should allow Bidders sufficient time to make arrangements for attending the opening. The Financial Part of the Bids shall be opened publicly in the presence of Bidders' designated representatives and anyone who chooses to attend, and this could also be viewed by the bidders online. The bidder's names, the Bid prices, per lot (contract) if applicable, including any discounts and Alternative Bid – Financial Part if any, and such other details as the Authority may consider appropriate, will be notified online by the Authority at the time of bid opening.

In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.

- 34.4 The electronic summary of the bid opening will be generated and uploaded online. The Authority will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Financial Parts of Bids, Financial Parts of Alternative Bids, and discounts that are opened at Bid opening shall be considered further for evaluation.

I. Evaluation of Financial Parts of Bids

35. Evaluation of Financial Parts

- 35.1 To evaluate the Financial Part, the Authority shall consider the following:
- (a) the Bid price, excluding Provisional Sums, if any;
 - (b) price adjustment for correction of arithmetic errors in accordance with ITB 36.1;
 - (c) price adjustment due to discounts offered in accordance with ITB 14.3;
 - (d) deleted;
 - (e) deleted; and
 - (f) the additional evaluation factors as specified in Section III, Evaluation and Qualification Criteria.

- 35.2 The estimated effect of the Price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.

- 35.3 Deleted.

36. Correction of Arithmetical Errors

- 36.1 In evaluating the Financial Part of each Bid, the Authority shall correct arithmetical errors on the following basis:
- 36.2 (a) if in the Letter of Bid – Financial Part, there are errors between the sub-totals and total of the amounts, the former shall prevail and the latter will be corrected accordingly; and
- 36.3 (b) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) above.

- 36.4 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 36.1, shall result in the rejection of the Bid and the Bid Security may be forfeited in accordance with ITB Sub-Clause 19.7.
- 37. Conversion to Single Currency** 37.1 Not used.
- 38. Margin of Preference** 38.1 Not applicable.
- 39. Comparison of Financial Parts** 39.1 The Authority shall compare the evaluated costs of all responsive and qualified Bids to determine the Bid that has the lowest evaluated cost.
- 40. Abnormally Low Bids**
- 40.1 An Abnormally Low Bid is one where the Bid price, in combination with other constituent elements of the Bid, appears unreasonably low to the extent that the Bid price raises material concerns as to the capability of the Bidder to perform the Contract for the offered Bid price.
 - 40.2 In the event of identification of a potentially Abnormally Low Bid, the Employer, unless otherwise **specified in the BDS**, shall seek written clarifications from the Bidder, including detailed price analyses of its Bid price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the bidding document.
 - 40.3 After evaluation of the price analyses, in the event that the Authority determines that the Bidder has failed to demonstrate its capability to perform the Contract for the offered Bid Price, the Authority shall reject the Bid.
- 41. Unbalanced or Front-Loaded Bids**
- 41.1 Deleted.
 - 41.2 Deleted.
- 42. Most Advantageous Bid**
- 42.1 Having compared the evaluated costs of Bids, the Authority shall determine the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the Bidder that metes the Qualification Criteria and whose Bid has been determined to be:
 - 42.2 substantially responsive to the bidding document; and
 - 42.3 the lowest evaluated cost.

- 43. Employer's Right to Accept Any Bid, and to Reject Any or All Bids** 43.1 The Authority reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids at any time prior to Contract Award, without thereby incurring any liability to Bidders. In case of annulment, all documents submitted and specifically, Bid securities, shall be promptly returned to the Bidders.
- 44. Standstill Period** 44.1 Standstill Period shall not apply.
- 44.2 [Note 1: where it is proposed to permit Standstill Period, incorporate all changes as indicated in **Attachment 1** at the end of this document.]
- 44.3 Note 2: Standstill period shall not apply where only one bid is submitted or where the bidding process is in response to an emergency situation recognized by the Bank].

- 45. Notice of Intention to Award** 45.1 Not used.

J. Award of Contract

- 46. Award Criteria** 46.1 Subject to ITB 43, the Authority shall award the Contract to the successful Bidder. This is the Bidder whose Bid has been determined to be the Most Advantageous Bid as specified in ITB 42.
- 47. Notification of Award** 47.1 Prior to the expiration of the Bid Validity Period, the Authority shall transmit the Letter of Acceptance to the successful Bidder. The Letter of Acceptance shall specify the sum that the Authority will pay the Contractor in consideration of the execution of the contract (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price").
- 47.2 Within ten (10) Business Days after the date of transmission of the Letter of Acceptance, the Authority shall publish the Contract Award Notice which shall contain, at a minimum, the following information:
- (a) name and address of the Employer;
 - (b) name and reference number of the contract being awarded, and the selection method used;
 - (c) names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated;
 - (d) names of all Bidders whose Bids were rejected either as nonresponsive or as not meeting qualification criteria, or

- were not evaluated, with the reasons therefor; and
- (e) the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope.
- 47.3 The Contract Award Notice shall be published on a National website (GoI website <http://tenders.gov.in> or GoI Central Public Procurement Portal <https://eprocure.gov.in/cppp/>) or on the Employer's website, and on the e-procurement system.
- 47.4 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.
- 48. Debriefing by the Employer**
- 48.1 Not used.
- 49. Signing of Contract**
- 49.1 The Authority shall send to the successful Bidder the Letter of Acceptance including the Contract Agreement. The Contract Agreement shall incorporate all agreements between the Authority and the successful Bidder.
- 49.2 Within twenty-eight (28) days of receipt of the Letter of Acceptance, the successful Bidder shall (a) furnish the performance security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB Clause 50; (b) if the successful bidder is a JV, it shall also furnish the JV agreement duly signed by all the members, if it had submitted only a letter of intent to execute the JV agreement alongwith the bid; and (c) shall sign, date and return the Agreement to the Authority alongwith the documents stated at (a) and (b) above.
- 50. Performance Security**
- 50.1 Within twenty-eighth (28) days of the receipt of the Letter of Acceptance from the Employer, the successful Bidder shall furnish the Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with the General Conditions of Contract, subject to ITB 41.2 (b), using for that purpose the Performance Security and ES Performance Security Forms included in Schedule-G. The performance security and if required in the BDS, the Environmental and Social (ES) Performance Security of a Joint Venture shall be in the name of the Joint Venture specifying the names of all members.
- 50.2 Failure of the successful Bidder to submit the above-mentioned Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security or to sign the Contract Agreement shall constitute sufficient grounds for the

annulment of the award and forfeiture of the Bid Security. In that event the Authority may award the Contract to the Bidder offering the next Most Advantageous Bid.

- 50.3 Upon the successful Bidder's signing the Agreement and furnishing of the Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security pursuant to ITB Clause 50.1, the Authority shall promptly notify the name of the winning bidder to each unsuccessful bidder and shall discharge the Bid Securities of the bidders pursuant to ITB Clause 19.5 and 19.6.

Section II - Bid Data Sheet (BDS)

The following specific data for the Works to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Reference	A. General
ITB 1.1	<p>The number of the Request for Bids is: 02A/BR/RFB-EPC/UPREPARE/2024</p> <p><u>The Authority/Employer/Purchaser is:</u> Program Manager, Project Implementation Unit (PIU-PWD), Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE), 5th floor, USDMA building, 36 IT Park, Shastradhara road Dehradun-248001, Uttarakhand.</p> <p><u>The name of the RFB is:</u> Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh.</p>
ITB 1.2	The Authority shall use the e-procurement system specified in BDS 7.1.
ITB 2.1	<p>The Borrower is: Government of India. The sub-Borrower is State of Uttarakhand (GoUK) through Program Manager, PIU-PWD, U-PREPARE</p> <p>The name of the Project is: Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE)</p>
ITB 4.1	Bids from Joint ventures are not acceptable.
ITB 4.5	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr .
B. Contents of Bidding Document	
ITB 7.1	<p>Electronic – Procurement System</p> <p>The Authority shall use the following electronic-procurement system to manage this Bidding process:</p> <p><u>www.uktenders.gov.in</u></p> <p>The electronic-procurement system shall be used to manage the following aspects of the Bidding process:</p> <p><i>issuing bidding document, submissions of Bids, opening of Bids</i></p> <p>Requests for clarification should be received by the Authority no later than: 20th January 2025; 11:00 A.M.</p>

ITB 7.4	<p>A Pre-Bid meeting <i>shall</i> take place at the following date, time and place:</p> <p>Date- 20th January 2025</p> <p>Time- 11:30 A.M.</p> <p>Place- Office of the Program Manager, PIU-PWD, U-PREPARE, 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road, Dehradun-248013, Uttarakhand</p> <p>A site visit conducted by the Bidder <i>shall not be</i> organized by the Authority.</p>
C. Preparation of Bids	
ITB 11.2 (j)	<p>The Bidder shall submit the following additional documents in its Bid:</p> <p>(i) Contractor Registration certificate on e-procurement system as per RFB, if applicable</p> <p>(ii) Code of Conduct for Contractor's Personnel (ES)</p> <p>The Bidder shall submit its Code of Conduct that will apply to its employees and sub contractors, to ensure compliance with its Environmental and Social (ES) obligations under the contract. The Bidder shall use for this purpose the Code of Conduct form provided in Section IV. No substantial modifications shall be made to this form, except that the Bidder may introduce additional requirements, including as necessary to take into account specific Contract issues/risks.</p> <p>Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks</p> <p>The Bidder shall submit Management Strategies and Implementation Plans (MSIP) to manage the following key Environmental and Social (ES) risks.</p> <ul style="list-style-type: none"> • Sexual Exploitation, and Assault (SEA) <i>prevention and response action plan</i> • <i>Traffic Management Plan to ensure safety of local communities from construction traffic and road users;</i> • <i>Environmental Management including Water Resource Protection Plan to prevent contamination of drinking water</i> • Occupational Health and Safety Strategy • <i>Boundary Marking and Protection Strategy for mobilization and construction to prevent offsite adverse impacts;</i> • <i>Strategy for obtaining Consents/Permits prior to the start of relevant works such as opening a quarry or borrow pit.</i> • Self Declaration of Non-Debarment of the Bidder from the World Bank and also from any Government entity anywhere in India.
ITB 11.3 (c)	<p>The Bidder shall submit the following additional documents in its Bid: -</p> <p>NIL</p>

ITB 13.1	Alternative Bids <i>shall not be</i> permitted.
ITB 13.2	Alternative times for completion <i>shall not be</i> permitted.
ITB 13.3	Not Applicable
ITB 13.4	Alternative technical solutions shall be permitted for any parts of the Work in conformity with the section VII, Works Requirements as a minimum.
ITB 14.5	The prices quoted by the Bidder <i>shall not be</i> subject to adjustment during the performance of the Contract. Since the goal of the project is to construct resilient bridges, the bidder should take into account the additional costs associated with choosing resilient materials when submitting their bids.
ITB 18.1	The Bid validity period shall be 120 days
ITB 18.3 (a)	The Bid price shall not be adjusted.
ITB 19.1	The Bidder shall furnish a Bid Security in the amount of INR 28,70000.00 only (Rupees Twenty Eight Lakh Seventy Thousand only) (Original bid security in the form of bank guarantee/FDR in favor of Program Manager, PIU-PWD, U-PREPARE, Dehradun payable at Dehradun) A Bid- Securing decleration shall not be required and shall not be accepted.
ITB 19.3 (d)	Other types of acceptable securities are: Fixed Deposit/Time Deposit certificate issued by a Nationalized or Scheduled Bank located in India for equivalent or higher values are acceptable provided it is pledged in favour of Program Manager, PIU-PWD, U-PREPARE, Dehradun payable at Dehradun (implementing agency) and such pledging has been noted and suitably endorsed by the bank issuing the certificate.
ITB 20.3	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: <i>(a) Legally valid Power of Attorney is required to demonstrate the authority of the signatory to sign the Bid; and</i>
D. Online Submission of Bids	

ITB 21.1	<p>The bidding under this contract is electronic bid submission through website http://uktenders.gov.in Detailed guidelines for viewing bids and submission of online bids are given on the website. The Invitation for Bids under Project Management Unit, UGRIDP/U-PREPARE is published on this website. Any citizen or prospective bidder can login to this website and view the Invitation for Bids and can view the details of package for which bids are invited. The perspective bidder can submit bids on line; however, the bidder is required to have enrolment/registration in the website and should have valid Digital Signature Certificate (DSC), for signing and encryption issued by the same Certifying Authority, in the form of smart card/e-token. The DSC can be obtained from any authorized certifying agencies. The bidder should register in the web site http://uktenders.gov.in using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging into the site. After this, the bidder can login the site through the secured login by entering the password of the e-token & the user id/ password chosen during registration.</p>
	<p>After getting the bid schedules, the Bidder should go through them carefully and then submit the documents as asked, otherwise, the bid will be rejected.</p> <p>The completed bid comprising of documents should be uploaded on the website given above through e-tendering along with scanned copies (clearly readable) of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of bid security in case it is provided in the form of BG/FDR/Others.</p>
ITB 21.2	<p>The e-Procurement system restricts bidders from uploading large file attachments as per the e-portal www.uktenders.gov.in requirements.</p>
ITB 21.3	<p>For submission of original documents, the Employer's address is:</p> <p>Project Implementation Unit-Public Works Department (PIU-PWD), Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE) 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road, Dehradun-248013, Uttarakhand</p> <p>The following documents shall be submitted through post/courier/person to the Purchaser for verification and scrutiny by 11.02.2025 till 11:30 A.M.</p> <p>(a) Original Bid security in the form of Bank Guarantee (<i>unconditional, irrevocable & non-transferrable</i>)/ FDR in favour of Program Manager, PIU-PWD, U-PREPARE, Dehradun payable at Dehradun. The value of bid security is INR 28,70000 only (Rupees Twenty Eight Lakh Seventy Thousand only)</p> <p>The bank details of the client for the propose of the bank guarantee</p>

	<p>preparation are as under:</p> <p>Name of Account holder- PIU PWD U-PREPARE PROJECT ACCOUNT</p> <p>Name of Beneficiary's Bank- HDFC Bank</p> <p>Address of Beneficiary's Bank with Pin code- 56, RAJPUR ROAD, DEHRADUN- 248001, UTTARAKHAND</p> <p>IFSC Code of Beneficiary's Bank- HDFC0000225</p> <p>(b) Original affidavit vouching for the correctness of the information furnished and documents uploaded (On Rs.100/- Stamp Paper);</p> <p>(c) Nonrefundable Tender Fee in the name of Program Manager, PIU-PWD, U-PREPARE, Dehradun payable at Dehradun, in the form of DD only INR 5000/-. Tender Fee in any other form part from DD shall not be accepted.</p>
ITB 22.1	<p>The deadline for uploading the Bids is:</p> <p>Date: 10th Feruary 2025</p> <p>Time: 05:00 P.M.</p>
ITB 24.1	<p>Re-submission of the bid is NOT allowed, if withdrawn.</p> <p>However, a bid may be modified for any number of times before the deadline for submission of bid.</p>
E. Public Opening of Technical Parts of Bids	
ITB 25.1	<p>The online Bid opening of Technical Parts of Bids shall take place at:</p> <p>Date: 11th February 2025</p> <p>Time: 3:30 P.M.</p> <p>Place: PIU-PWD, U-PREPARE 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road, Dehradun-248013, Uttarakhand</p> <p>The purchaser inviting bids or its authorized representatives shall open the bids online which could be viewed by the bidders also online. In the event of the specified date for the opening of bids being declared a holiday, the bids shall be opened at the appointed time on the next working day.</p>
F. Evaluation of Bids – General Provisions	
ITB 27.2	<p>ITB 27.2 is modified as under:</p> <p>'If a Bidder does not provide clarifications of its bid by the date and time set in the Employer's request for clarification, its bid will be evaluated based on the available information and interpretation of the Employer.'</p>

G. Evaluation of Bids - Technical Parts	
ITB 33.1	At this time the Authority <i>does not intend</i> to execute certain specific parts of the Works by subcontractors selected in advance.
ITB 33.2	N/A
ITB 33.3	<p>(a) Contractor's proposed subcontracting: Maximum percentage of subcontracting permitted is: <i>25% of the total contract amount</i>.</p> <p>(b) Bidders planning to subcontract more than 10% of total volume of work shall specify, in the Letter of Bid, the activity (ies) or parts of the Works to be subcontracted along with complete details of the subcontractors and their qualification and experience. The qualification and experience of the subcontractors must meet the minimum criteria for the relevant work to be subcontracted failing which such sub-contractors will not be permitted to participate.</p> <p>(c) Subcontractors' qualification and experience will not be considered for evaluation of the Bidder. The Bidder on its own (without taking into account the qualification and experience of the sub-contractor) should meet the qualification criteria.</p> <p>(d) All obligations and liabilities under this Agreement for the entire Work shall at all times remain with the Contractor, irrespective of the subcontracting done through specialized and other subcontractors.</p> <p><i>[Note-Work should not be split into small parts and sub-contracted].</i></p>
H. Public Opening of Financial Parts	
ITB 34.2 (c)	<p>Following the completion of the evaluation of the Technical Parts of the Bids, the Authority will notify all Bidders of the date, time, and location of the public opening of Financial Parts.</p> <p>The online bid opening of Financial Parts of Bids shall take place at: PIU-PWD, U-PREPARE 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road, Dehradun-248013, Uttarakhand</p> <p>In addition to the above the Authority shall publish a notice of the public opening of the Financial Parts of the Bid on its website www.uktenders.gov.in</p>
I. Evaluation of Bids - Financial Parts	
ITB 40.2	Provisions related to Abnormally Low Bids do not apply
ITB 43.1	In case of annulment of Bids, the original Bid Security and Power of

	Attorney(s) only shall be returned to the Bidders.
J. Award of Contract	
ITB 49.1	<p>Add the following at the end of this sub-clause:</p> <p>“Bidder shall give its consent to enter into this Agreement and the enforceability of the provisions thereof, within 10 (ten) business days of the date of issue of Letter of Acceptance.”</p>
ITB 50.1 and 50.2	<p>The successful Bidder shall also be required to submit an Environmental and Social (ES) Performance Security.</p> <p>Throughout this bidding document the term ‘performance security’, unless the context clearly indicates otherwise, means and includes both ‘the performance security and the ES performance security’ to be submitted by the successful bidder in the amounts specified in Section VII Conditions of Contract Article 7, Clause 7.1.</p>

Section III - Evaluation and Qualification Criteria

This section contains all the criteria that the Authority shall use to evaluate Bids and qualify Bidders through post-qualification. No other factors, methods or criteria shall be used other than specified in this bidding document. The Bidder shall provide all the information requested in the forms included in Section IV, Bidding Forms.

Table of Criteria

- (i) Technical Part**
- (ii) Financial Part**

1. Technical Part

1.1 Adequacy of Technical Proposal

Evaluation of the Bidder's Technical Proposal will include

- (i) an assessment of the essential technical and functional/performance characteristics of the proposed Works demonstrating substantial responsiveness of the Works to the Employer's Requirements without any material deviation, reservation, or omission.
- (ii) an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, material sourcing, and quality control/ assurance in sufficient detail and fully in accordance with the requirements stipulated in Section VII, Works' Requirements.

For this purpose, the Bidder should also submit:

A detailed note outlining its proposed methodology and program of construction including Environmental and Social Management Strategies and Implementation Plans (ES-MSIP), backed with equipment, materials and manpower planning and deployment, duly supported with broad calculations and quality control system/assurance procedures proposed to be adopted, justifying their capability of execution and completion of the work requirements within the stipulated period of completion as per milestones.

- (iii) an assessment of the details of subcontracting elements of works amounting to more than 10% of the bid price; for each element proposed to be sub-contracted furnish details whether the identified Sub-contractor possesses the required qualifications and experiences to execute that element satisfactorily. [Work should not be split into small parts and sub-contracted].
- (iv) Bidders shall submit an undertaking from each proposed subcontractor to confirm that they have read, understand and will comply with the ES obligations and Code of Conduct for Contractor's Personnel.

1.2 Alternative Technical Solutions for specified parts of Works (ITB 13.4)

- Alternative technical solutions shall be permitted for any parts of the Work in conformity with the section VII, Works Requirements as a minimum.

1.3 Specialized Subcontractors

Not Applicable.

2.1 Qualification Criteria

Pursuant to ITB 32.1, the Authority shall assess each Bid against the following Qualification Criteria. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

Eligibility and Qualification Criteria				Compliance Requirements			Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
1. Eligibility							
1.1	Nationality	Nationality in accordance with ITB 4.4	Must meet requirement	N/A	N/A	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.2	Conflict of Interest	No conflicts of interest in accordance with ITB 4.2	Must meet requirement	N/A	N/A	N/A	Letter of Bid
1.3	Bank Eligibility	Not having been declared ineligible by the Bank, as described in ITB 4.5.	Must meet requirement	N/A	N/A	N/A	Letter of Bid
1.4	State-owned enterprise or institution of the Borrower country	Meets conditions of ITB 4.6	Must meet requirement	N/A	N/A	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.5	United Nations resolution or Borrower's country law	Not having been excluded as a result of prohibition in the Borrower's country laws or official regulations against commercial relations with the Bidder's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITB 4.8 and Section V.	Must meet requirement	N/A	N/A	N/A	Forms ELI – 1.1 and 1.2, with attachments

Eligibility and Qualification Criteria				Compliance Requirements			Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
2. Historical Contract Non-Performance							
2.1	History of Non-Performing Contracts	Non-performance of a contract ² did not occur as a result of contractor default since 1 st January 2020.	Must meet requirement ^{7 & 8}	N/A	N/A	N/A	Form CON-2
2.2	Suspension Based on Execution of Bid/ Proposal Securing Declaration by the Authority or withdrawal of the Bid within Bid validity period	Not under suspension based on execution of a Bid/ Proposal Securing Declaration pursuant to ITB 4.7 or withdrawal of the Bid pursuant ITB 19.7	Must meet requirement	N/A	N/A	N/A	Letter of Bid
2.3	Pending Litigation	Bidder's financial position and prospective long-term profitability sound according to criteria established in 3.1 below and assuming that all pending litigation will be resolved against the Bidder.	Must meet requirement	N/A	N/A	N/A	Form CON – 2
2.4	Litigation History	No consistent history of court/arbitral	Must meet	N/A	N/A	N/A	Form CON – 2

² Non-performance, as decided by the Employer, shall include all contracts where (a) non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e.dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

Eligibility and Qualification Criteria				Compliance Requirements			Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
		award decisions against the Bidder ³ since 1 st January 2020.	requirement				
2.5	Declaration: Environmental and Social (ES) past performance	Declare any civil work contracts that have been suspended or terminated and/or performance security called by an Authority for reasons of breach of environmental, or social (including sexual exploitation and assault) contractual obligations in the past five years.	Must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also make the declaration.	N/A	N/A	N/A	Form CON-3 ES Performance Declaration
3. Financial Situation and Performance							
3.1	Financial Capabilities	(i) The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as INR 1.20 Crore (Rupees One Crore Twenty lakhs) (about 1.5 months cash flow at peak construction period) for the subject contract(s) net of the Bidder's other commitments	Must meet requirement	N/A 0+	N/A	N/A	Form FIN – 3.1, with attachments Form Fin 3.3

³The Bidder shall provide accurate information on the Letter of Bid about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of court/arbitral awards against the Bidder or any member of a joint venture may result in disqualifying the Bidder.

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
		(ii) The Bidders shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.	Must meet requirement	N/A	N/A	N/A	
		(iii) The audited balance sheets or, if not required by the laws of the Bidder's country, other financial statements acceptable to the Employer, for the last five years shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.	Must meet requirement	N/A	N/A	N/A	
3.2	Average Annual Construction Turnover	Minimum average annual construction turnover of INR 7.15 Crore (Rupees Seven Crore Fifteen Lakh Only) , calculated as total certified payments received for contracts in progress and/or completed within the last five financial years, average of any three years in last five years. (Indexed to the price level of the financial year 2023-2024 at the rate of 5% per year).	Must meet requirement	N/A	N/A	N/A	Form FIN – 3.2

Eligibility and Qualification Criteria				Compliance Requirements			Documentation				
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements				
				All members Combined	Each Member	At least one Member					
<i>Sub-project</i>											
4. Experience											
4.1 (a)	General Construction Experience	Experience under construction contracts for Construction of Motor Bridges, Suspension Bridges and Motor Roads in the role of prime contractor, JV member, subcontractor, or management contractor for at least the last five years, starting 1 st January, 2020 and with construction activity for at least nine (9) months in each year.	Must meet requirement	N/A	N/A	N/A	Form EXP – 4.1				
4.2 (a)	Specific Construction & Contract Management Experience	(i) A minimum number of 01 similar contract specified below that has been satisfactorily and substantially ⁴ completed as a prime contractor, joint venture member ⁵ , management contractor or sub-contractor ⁶ between 1 st January 2020 and bid submission deadline: (i) 01 contract, of minimum value INR 11.48 Crore (Rupees Eleven Crore Forty Eight Lakh Only) ; or	Must meet requirement	N/A	N/A	N/A	Form EXP 4.2(a)				

⁴ Substantial completion shall be based on 80% or more works completed under the contract.

⁵ For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement

⁶ For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
		<p>two contracts of minimum INR 5.74 Crore (Rupees Five Crore Seventy Four Lakh Only) each.</p> <p>The similarity of the contracts shall be based on the following: Construction of Motor Bridges, Suspension Bridges with major work in Construction including Foundation, Sub- Structure, Super Structure and Approach Road Works, RCC and/or PSC, Supply and Fabrication of Structural Steel and Erection of the Super Structure.</p>					
4.2 (b)	Specific Construction Experience	N/A	N/A	N/A	N/A	N/A	
4.2(c)	Specific DesignExperience	N/A	N/A	N/A	N/A	N/A	
4.2 (d)	Specific Experience in managing ES aspects	N/A	N/A	N/A	N/A	N/A	
4.2 (e)	Bid Capacity	Available Bid Capacity should not be less than INR 14.35 Crore.	Must meet requirement	N/A	N/A	N/A	Form FIN 3.2 & 3.4

Eligibility and Qualification Criteria				Compliance Requirements			Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended) where permitted			Submission Requirements
				All members Combined	Each Member	At least one Member	
Bid Capacity: The available bid capacity will be calculated as under: Assessed Available bid capacity = $(A \times N \times 1.15 - B)$ Where, A = Maximum value of civil engineering works executed in any one year during the last five years (updated to the price level of the financial year 2023-24, at the rate of 5% per year), taking into account the completed as well as works in progress). N = Number of years prescribed for construction (excluding any maintenance/ operations period) of the works for which bids are invited (period up to 6 months to be taken as half-year and more than 6 months as one year). B = Value, at the current price level, of existing commitments and on-going works to be completed during the period of completion of the works for which bids are invited. Note: the statements in Section IV showing the value of existing commitments of on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent							

Note: In case bids are being invited simultaneously for multiple packages (under separate IFB and Bid Documents), the Authority reserves the right to assess cumulative qualification of the bidders participating in multiple packages.

3. Key Personnel

The Bidder must demonstrate that it will have suitably qualified (and in adequate numbers) minimum Key Personnel, as described in the Table below, that are required to perform the Contract.

The Bidder shall provide details of the Key Personnel and such other Key Personnel that the Bidder considers appropriate, together with their academic qualifications and work experience. The Bidder shall complete the relevant Forms in Section IV, Bidding Forms.

The Contractor shall require the Employer's consent to substitute or replace the Key Personnel (reference the Particular Conditions of Contract 9.1).

Key Personnel

Item No.	Position/ specialization	Numbers	Qualification and Minimum years of relevant work experience
1.	Design Director /Bridge Engineer/Bridge Expert	1	As per Article 10.
2.	Hydrologist	1	As per Article 10 and Post Graduate in Hydrology/ Hydraulic Engineering + 8 Years Exp.
3.	Geotechnical Engineer	1	As per Article 10 and Post Graduate in Geotechnical Eng. + 8 Years Exp.
4.	Site Manager	1	B.E Civil +10Years Exp.
5.	Site Engineer	1	B.E Civil +3Years Exp
6.	Plant Engineer	1	B.E Mech. + 3 Years Exp. OrDip. Mech.+ 7 Years Exp.
7.	Quantity Surveyor	1	B.E Civil. + 3Years Exp. OrDip. Civil. + 7 Years Exp.
8.	Soil & Material Engineer	1	B.E Civil. + 3 Years Exp. OrDip. Civil. + 7 Years Exp.

9.	Survey Engineer	1	B.E Civil+3 years Exp. Or Dip. Civil + 7 years Exp.
10.	Safety Expert	1	B.E Civil+'Degree or Diploma in Health, Safety with 3 years Exp. OrDip. Civil +Degree/Diploma in Health and Safety in Construction + 5 years Exp.
11.	Environmental Expert	1	Post Graduate in environmental sciences, Environmental Planning or Environmental Engineering having 5 Years of experience in similar work
12.	Occupational Health and Safety Officer	1	Degree/Diploma in Occupational Health and Safety/ Construction Safety having 3 years of experience in similar work
13.	Social Expert	1	MA Sociology having 8 Years of experience in similar work environment
14.	Community Engagement Specialist	1	MA in Social Work with 6 years of experience in similar work environment

The Bidder shall provide details of the proposed personnel and their experience records using Form PER-1 and PER-2 included in Section IV, Bidding Forms.

The Bidder must not have in his employment:

- [i] the near relations (defined as first blood relations, and their spouses, of the bidder or the bidder's spouse) of persons of the following Central/ State Government Departments.

Uttrakhand Disaster Prepredness and Resilience Project (U-PREPARE)

- [ii] without permission of Central/ State Government, any person who retired as gazetted officer in India within the last two years.

4. Equipment

The Bidder must demonstrate that it will have access to the key Contractor's equipment listed hereafter but not limited to the following:

Sl. No.	Type of Equipment	Capacity	Number required
1.	Excavators	0.9 CUM	2
2.	T-20 Poclain Machine	1 CUM	1
3.	JCB	0.45 CUM	1
4.	Mechanical winch with jib complete assembly	10 T	2
5.	Welding Unit	11 KVA	2
6.	Dumpers/trucks/tippers	10 TON	2
7.	Submersibles pumps	As Per Requirement	2
8.	Generator 63 KVAmeeeting CPCB standards	63 KVA	2
9.	Hydraulic Launching machine/ Pre-stressing assembly	As Per Requirement	2
10.	Shuttering Scaffolding (Telescoping)- 500 sqmtr.	500 SQM	500 sq.m
11.	Computerised Concrete batching plant	30 CUM/HR	1
12.	Portable quality control lab	As per Anexxure -1 of Schedule- D	1
13.	Transit mixer	6 CUM	3
14.	Concrete pump	30 CUM	1
15.	Smooth Wheeled Roller	80 KN	2
16.	Vibratory Roller	100 KN	2
17.	Water Tanker	5000 L	2
18.	Tower Cranes	6T-45 BOOM	1
19.	Vibrators of different capacities	40, 60 MM	10
20	Mobile Mist Spray Equipment for Dust Control	1 KL	2
21	Utility Detector		1

Notes:

- Bidders are requested to verify latest position in respect of “Duties on Contractor’s Equipment” from Department of Revenue, Ministry of Finance, Government of India.
- The equipment listed above should not be older than 05 years of age.
- Based on their own studies of the equipment required, the Bidders shall furnish details of the above equipment and such other equipment that the Bidder considers appropriate, using Form EQU included in Section IV.

5. Multiple Contracts – Not Applicable

2. Financial Part

2.1 Margin of Preference - Not Applicable

2.2 Multiple Contracts (ITB 35)- Not Applicable

2.3 Sustainable procurement (Section VII –Works' Requirements) – Not Applicable

2.4 Alternative Completion Times (ITB 13.2) - Not Applicable

2.5 Alternative Technical Solutions for specified parts of the Works (ITB 13.4)- Applicable

2.6 Other criteria (if permitted under ITB 35.1(f)): Not Applicable

2.7 Special Additional Criteria - the relevant evaluation method, shall be as follows:

Note: When offering their bid for more than one EPC packages (RFB for which are being released separately but simultaneously), the bidder must provide evidence that it meets or exceeds the sum of all the individual requirements for the packages being applied for in regard to its qualification and bid capacity. In case the bidder fails to fully meet any of these criteria on cumulative basis, it will be qualified only for those packages for which the bidder meets the above requirements and combination of the packages to be awarded to such bidders will be decided based on the lowest cost of the combination to the Employer. The decision of the Authority shall be final and binding on the bidder.

Section IV - Bidding Forms

Letter of Bid – Technical Part

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

The Bidder must prepare this Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and business address.

Note: All italicized text is to help Bidders in preparing these forms.

Date of this Bid submission: [insert date (as day, month and year) of Bid submission]

RFB No.: 02A/BR/RFB-EPC/UPREPARE/2024

To: **Program Manager, PIU-PWD**
 Project Implementation Unit-PWD
 Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE)

We, the undersigned, hereby submit our Bid, in two parts, namely:

- (a) the Technical Part, and
- (b) the Financial Part

In submitting our Bid, we make the following declarations:

- (a) **No reservations:** We have examined and have no reservations to the bidding document, including Addenda issued in accordance with ITB 8;
- (b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) **Bid-Securing Declaration:** We have not been suspended nor declared ineligible by the Authority based on execution of a Bid Securing Declaration in the Employer's country in accordance with ITB 4.7;

Conformity: We offer to execute in conformity with the bidding document the following Works: **Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh.**

- (d) **Bid Validity Period:** Our Bid shall be valid for a period specified in BDS ITB 18.1 (or as amended if applicable) from the date fixed for the Bid submission deadline specified in BDS 22.1 (or as amended if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
 - (e) **Performance Security:** If our Bid is accepted, we commit to obtain a performance security [*and an Environmental and Social (ES) Performance Security*, in accordance with the bidding document;
 - (f) **One Bid Per Bidder:** We are not submitting any other Bid(s) as an individual Bidder or as a subcontractor, and we are not participating in any other Bid(s) as a Joint Venture member, and meet the requirements of ITB 4.3, other than alternative Bids submitted in accordance with ITB 13;
 - (g) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Employer's Country laws or official regulations or pursuant to a decision of the United Nations Security Council;
 - (h) **State-owned enterprise or institution:** We are not a state-owned enterprise or institution/ We are a state-owned enterprise or institution but meet the requirements of ITB 4.6⁷;
 - (i) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
 - (j) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Bid, the Most Advantageous Bid or any other Bid that you may receive; and
-

- (k) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption; and
- (l) We also undertake that, in competing for (and, if the award is made to us, in executing) the above Bid, we will strictly observe the laws against fraud and corruption in force in India on date namely “Prevention of Corruption Act 1988”; and

Name of the Bidder: *[*insert complete name of person signing the Bid*]

Name of the person duly authorized to sign the Bid on behalf of the Bidder: **[*insert complete name of person duly authorized to sign the Bid*]

Title of the person signing the Bid: [*insert complete title of the person signing the Bid*]

Signature of the person named above: [*insert signature of person whose name and capacity are shown above*]

Date signed [*insert date of signing*] **day of** [*insert month*], [*insert year*]

*: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid

Technical Proposal

Technical Proposal Forms

- **Key Personnel Schedule**
- **Equipment**
- **Site Organization**
- **Method Statement**
- **Mobilization Schedule**
- **Construction Schedule**
- **Environmental and Social (ES) Management Strategies and Implementation Plans**
- **Code of Conduct for Contractor's Personnel (ES)**
- **Sub-contracting elements or works which in aggregate adds to more than 10% of Bid price (*for each the qualifications and experiences on the identified subcontractor in the relevant field should be given*)**

Note: Work should not be split into small parts and sub-contracted; but sub-contracting specialized elements of works is acceptable.

- **Others**
- **Bidder's Qualification**
- **Form of Bid Security - Bank Guarantee**

Appendix to Technical Part: Personnel

Forms for Personnel

Form PER – 1: Key Personnel Schedule

Bidders should provide the names and details of the suitably qualified Key Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

Key Personnel⁸

1.	Title of position:	
	Name of candidate:	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
2.	Title of position: [Environmental Expert]	
	Name of candidate:	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]

⁸As listed in Section III (Evaluation and Qualification criteria).

	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
3.	Title of position: [Occupational Health and Safety officer]	
	Name of candidate:	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
4.	Title of position: [Social Expert]	
	Name of candidate:	
	Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
	Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
	Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
5.	Title of position: [Gender-Based ViolenceExpert] [Where Sub-project SEA risks are assessed to be high, Key Personnel shall include a gender-based violence expert with relevant experience in addressing sexual exploitation, and assault cases]	
	Name of candidate	

Duration of appointment:	[insert the whole period (start and end dates) for which this position will be engaged]
Time commitment: for this position:	[insert the number of days/week/months/ that has been scheduled for this position]
Expected time schedule for this position:	[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]
6.	<p>Title of position: [insert title]</p> <p>Name of candidate</p> <p>Duration of appointment: [insert the whole period (start and end dates) for which this position will be engaged]</p> <p>Time commitment: for this position: [insert the number of days/week/months/ that has been scheduled for this position]</p> <p>Expected time schedule for this position: [insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</p>

Appendix to Technical Part

Form PER-2:

Resume and Declaration

Key Personnel

Name of Bidder

Position [#1]: *[title of position from Form PER-1]*

Personnel information	Name:	Date of birth:
	Address:	E-mail:
Professional qualifications:		
Academic qualifications:		
Language proficiency: <i>[language and levels of speaking, reading and writing skills]</i>		

Details	Name of employer:	
	Address of employer:	
	Telephone:	Contact (manager / personnel officer):
	Fax:	
	Job title:	Years with present employer:

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the Sub-project.

Sub-project	Role	Duration of involvement [From - To]	Relevant experience
[main Sub-project details]	[role and responsibilities on the Sub-project]	[time in role]	[describe the experience relevant to this position]

Declaration

I, the undersigned Key Personnel, certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Bid:

Commitment	Details
Commitment to duration of contract:	<i>[insert period (start and end dates) for which this Key Personnel is available to work on this contract]</i>
Time commitment:	<i>[insert the number of days/week/months/ that this Key Personnel will be engaged]</i>

I understand that any misrepresentation or omission in this Form may:

- (a) be taken into consideration during Bid evaluation;
- (b) result in my disqualification from participating in the Bid;
- (c) result in my dismissal from the contract.

Name of Key Personnel: *[insert name]*

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Bidder:

Signature: _____

Date: (day month year): _____

Appendix to Technical Part: Equipment

Form EQU: Forms for Equipment

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III (Evaluation and Qualification Criteria). A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Type of Equipment*		
Equipment Information	Name of manufacturer,	Model and power rating
	Capacity*	Year of manufacture*
	Registration number or any other unique identification number	
Current Status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment	
	<input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

The following information shall be provided only for equipment not owned by the Bidder.

Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the Sub-project	

Appendix to Technical Part

Site Organization

[insert Site Organization information]

Appendix to Technical Part

Method Statement

[insert method Statement – A detailed note should be submitted outlining bidders proposed methodology and program of construction including Contractor's Environmental and Social (ES) Management Strategies and Implementation Plans (ESMP), backed with equipment, materials and manpower planning and deployment, duly supported with broad calculations and quality control system/assurance procedures proposed to be adopted, justifying their capability of execution and completion of the work requirements within the stipulated period of completion as per milestones]

Appendix to Technical Part

Mobilization Schedule

[insert Mobilization Schedule]

In accordance with the Particular Conditions, Sub-Clause 10.3, the Contractor shall not carry out mobilization to Site unless the Authority's Engineer gives consent that appropriate measures are in place to address environmental and social risks and impacts, which as a minimum shall include applying the Management Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor's Personnel, submitted as part of the Bid and agreed as part of the Contract.

Appendix to Technical Part

Construction Schedule

[insert Construction Schedule]

The construction schedule shall include the following key milestone - No-objection to the Contractor's MSIPs, which collectively form the ESMP, in accordance with Article 10.

Appendix to Technical Part

ES Management Strategies and Implementation Plans

(ES-MSIP)

The Bidder shall submit comprehensive and concise Environmental and Social Management Strategies and Implementation Plans (ES-MSIP) as required by ITB 11.2 (j) of the Bid Data Sheet. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors.

In developing these strategies and plans, the Bidder shall have regard to the ES provisions of the contract including those as may be more fully described in the Works Requirements in Section VII.

Appendix to Technical Part

Code of Conduct for Contractor's Personnel (ES) Form

Note to the Employer:

The following minimum requirements shall not be modified. The Authority may add additional requirements to address identified issues, informed by relevant environmental and social assessment.

The types of issues identified could include risks associated with: labour influx, spread of communicable diseases, and Sexual Exploitation and Assault (SEA) etc.

Delete this Box prior to issuance of the bidding documents

Note to the Bidder:

The minimum content of the Code of Conduct form as set out by the Authority shall not be substantially modified. However, the Bidder may add requirements as appropriate, including to take into account Contract-specific issues/risks.

The Bidder shall initial and submit the Code of Conduct form as part of its bid.

We are the Contractor, [enter name of Contractor]. We have signed a contract with [enter name of Employer] for [enter description of the Works]. These Works will be carried out at [enter the Site and other locations where the Works will be carried out]. Our contract requires us to implement measures to address environmental and social risks related to the Works, including the risks of sexual exploitation and assault and gender-based violence.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Works. It applies to all our staff, labourers and other employees at the Works Site or other places where the Works are being carried out. It also applies to the personnel of each subcontractor and any other personnel assisting us in the execution of the Works. All such persons are referred to as "**Contractor's Personnel**" and are subject to this Code of Conduct.

This Code of Conduct identifies the behavior that we require from all Contractor's Personnel.

Our workplace is an environment where unsafe, offensive, abusive or violent behavior will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT

Contractor's Personnel shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
3. maintain a safe working environment including by:
 - a. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
 - b. wearing required personal protective equipment;
 - c. using appropriate measures relating to chemical, physical and biological substances and agents; and
 - d. following applicable emergency operating procedures.
4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. not engage in any form of sexual harassment including unwelcome sexual advances, requests for sexual favors, and other unwanted verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. In Bank financed Sub-projects, sexual exploitation occurs when access to or benefit from Bank Financed Goods, Works, Consulting or Non-consulting services is used to extract sexual gain;

8. not engage in Sexual Assault, which means sexual activity with another person who does not consent. It is a violation of bodily integrity and sexual autonomy and is broader than narrower conceptions of “rape”, especially because (a) it may be committed by other means than force or violence, and (b) it does not necessarily entail penetration.
9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation, and Assault (SEA);
11. report violations of this Code of Conduct; and
12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the [Sub-project Grievance [Redress] Mechanism].

RAISING CONCERNS

If any person observes behavior that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

1. Contact [*enter name of the Contractor’s Social Expert with relevant experience in handling gender-based violence, or if such person is not required under the Contract, another individual designated by the Contractor to handle these matters*] in writing at this address [] or by telephone at [] or in person at []; or
2. Call [] to reach the Contractor’s hotline (*if any*) and leave a message.

The person’s identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

There will be no retaliation against any person who raises a concern in good faith about any behavior prohibited by this Code of Conduct. Such retaliation would be a violation of this Code of Conduct.

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

Any violation of this Code of Conduct by Contractor’s Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR CONTRACTOR'S PERSONNEL:

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [enter name of Contractor's contact person with relevant experience in handling gender-based violence] requesting an explanation.

Name of Contractor's Personnel: [insert name]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Contractor:

Signature: _____

Date: (day month year): _____

ATTACHMENT 1: Behaviors constituting Sexual Exploitation and Abuse (SEA) and behaviors constituting Sexual Harassment (SH)

ATTACHMENT 1 TO THE CODE OF CONDUCT FORM

BEHAVIORS CONSTITUTING SEXUAL EXPLOITATION AND ABUSE (SEA) AND BEHAVIORS CONSTITUTING SEXUAL HARASSMENT (SH)

The following non-exhaustive list is intended to illustrate types of prohibited behaviors:

(1) Examples of sexual exploitation and abuse include, but are not limited to:

- A Contractor's Personnel tells a member of the community that he/she can get them jobs related to the work site (e.g. cooking and cleaning) in exchange for sex.
- A Contractor's Personnel that is connecting electricity input to households says that he can connect women headed households to the grid in exchange for sex.
- A Contractor's Personnel rapes, or otherwise sexually assaults a member of the community.
- A Contractor's Personnel denies a person access to the Site unless he/she performs a sexual favor.
- A Contractor's Personnel tells a person applying for employment under the Contract that he/she will only hire him/her if he/she has sex with him/her.

(2) Examples of sexual harassment in a work context

- Contractor's Personnel comment on the appearance of another Contractor's Personnel (either positive or negative) and sexual desirability.
- When a Contractor's Personnel complains about comments made by another Contractor's Personnel on his/her appearance, the other Contractor's Personnel comment that he/she is "asking for it" because of how he/she dresses.
- Unwelcome touching of a Contractor's or Employer's Personnel by another Contractor's Personnel.
- A Contractor's Personnel tells another Contractor's Personnel that he/she will get him/her a salary raise, or promotion if he/she sends him/her naked photographs of himself/herself.

Appendix to Technical Part**Form SC-Sub-Contracting****SCHEDULE OF SUBCONTRACTORS**

Item	Element of work	% of bid price	Name and address of sub-contractor	Qualification and experience of sub-contractor on similar works of the elements executed

--	--	--	--	--

The Bidder shall enter in this schedule a list of the major sections and appropriate value of the work for which he proposed to use subcontractors [*for those costing more than 10% of the bid price for each element*], together with the names, addresses and experiences of the proposed subcontractors.

The capability of the sub-contractor will also be assessed (on the same lines as for the main Contractor) before according approval to him.

(Work should not be split into small parts and sub-contracted; but sub-contracting specialized elements of works is acceptable).

Appendix to Technical Part

Others

Appendix to Technical Part

Bidder's Qualification

To establish its qualifications to perform the contract in accordance with Section III (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder

Appendix to Technical Part

Form ELI -1.1⁹: Bidder Information Form

Date: _____
RFB No. and title: _____
Page _____ of _____ pages

Bidder's legal name
In case of Joint Venture (JV), legal name of each member:
Bidder's actual or intended country of registration: <i>[indicate country of Constitution]</i>
Bidder's actual or intended year of incorporation:
Bidder's legal address [in country of registration]:
Bidder's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____

⁹Form ELI-1.3 (Appendix Technical Part) is also to be furnished by bidder as well as each member of JV.

E-mail address: _____
<p>1. Attached are copies of original documents of</p> <p><input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4.</p> <p><input type="checkbox"/> Authorization to represent the firm or JV named in above, in accordance with ITB 20.</p> <p><input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1.</p> <p><input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITB 4.6 documents establishing:</p> <ul style="list-style-type: none">• Legal and financial autonomy• Operation under commercial law• Establishing that the Bidder is not under the supervision of the Employer <p>2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.</p>

Appendix to Technical Part
Form ELI -1.2: Information Form for JV Bidders
Not Applicable

Appendix to Technical Part

Form ELI -1.2 A

Specialized Subcontractor's Information Form
(to be completed for each Specialized Subcontractor)

Date: _____

RFB No. and title: _____

Page _____ of _____ pages

Bidder's legal name:

Specialized Subcontractor's legal name:
Specialized Subcontractor's country of registration:
Specialized Subcontractor's year of constitution:
Specialized Subcontractor's legal address in country of constitution:
Specialized Subcontractor's authorized representative information Name: _____ Address: _____

Telephone/Fax numbers: _____
E-mail address: _____
Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4. <input type="checkbox"/> Authorization to represent the Specialized Subcontractor.

Appendix to Technical Part

DETAILS OF PARTICIPATION IN THE JOINT VENTURE

Not Applicable

Appendix to Technical Part

Form ELI-1.3

Structure and Organization

1. The Bidder is
 - [a] an individual
 - [b] a proprietary firm
 - [c] a firm in partnership
 - [d] a Limited Company or Corporation
 - [e] a group of firms/joint venture
(If yes, give completion information in respect of each member)
2. Attach the organization Chart showing the structure of the Organization, including the names of the directors and position of officers.
3. Number of years of experience
 - [a] as a Prime Contractor (Contractor shouldering major responsibility)
 - [i] in own country
 - [ii] in other countries (specify countries)

 - [b] as a Management Contractor
 - [i] in own country
 - [ii] in other countries (specify countries)

[c] in a Joint Venture _____
[i] in own country _____
[ii] in other countries (specify countries) _____

[d] as sub-contractor (specify main contractor) _____
[i] in own country _____
[ii] in other countries (specify countries) _____

4. Name and address of any associates the bidder has in India (in case the bidder happens to be from foreign country) who are knowledgeable in the procedure of customs, immigration, taxes and other information necessary to do the work.

5. For how many years has your organization been in business of similar work under its present name? What were your fields when your organization was established? Whether any new fields were added in your organization? And if so, when?

6. Were you ever required to suspend construction for a period of more than six months continuously after your started? If so, give the name of Sub-project and give reasons therefor.

7. Have you ever left the work awarded to you incomplete? (If so, give name of Sub-project and reasons for not completing work.)

8. In which fields of civil engineering construction do your claim specialization and interest?

9. Give details of your experience in mechanized cement concrete lining and in modern concrete technology for manufacture and quality control.[@]

-
10. Give details of your experience in using heavy earthmoving equipment and quality control in compaction of soils. @
-
11. Give details of your soil and material testing laboratory, if any. @
-
12. Give details of your experience in mechanized granular pavement construction. @
-
13. Give details of your experience in Laying of Prime coat along with spreading of dry stone chipping. @
-
14. Give details of your experience in construction of asphaltic Overlays @
-
15. Give details of your experience in construction of Bridge Works in Reinforced Cement Concrete @
-
16. Give details of your experience in construction of Bridge Works in plain Cement Concrete @
-
17. Give details of your experience in construction of bridge works in well foundations of a depth not less than 12 meters @
-
18. Give details of your experience in construction of cement concrete pavement. @
-

- @ *Authority to modify these as appropriate for the works for which qualification of the Bidders are to be checked. This should be furnished by bidder as well as each member of JV.*

Appendix to Technical Part

Form CON – 2: Historical Contract Non-Performance, Pending Litigation and Litigation History

[to be completed for the Bidder and for each member of a Joint Venture]

Bidder's Name: _____

Date: _____

Joint Venture Member's Name _____

RFB No. and title: _____

Page _____ of _____ pages

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (Rs.)
[insert year]	[insert amount and percentage]	Contract Identification: [indicate complete contract name/number, and any other identification] Name of Employer: [insert full name] Address of Employer: [insert street/city/country] Reason(s) for non-performance: [indicate main]	[insert amount]

	<i>reason(s)]</i>	
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria		
<input type="checkbox"/>	No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3.	
<input type="checkbox"/>	Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.	

Year of dispute	Amount in dispute (Rs.)	Contract Identification	Total Contract Amount (Rs.)
[insert year]	[insert amount]	<p>Contract Identification: [indicate complete contract name, number, and any other identification]</p> <p>Name of Employer: [insert full name]</p> <p>Address of Employer: [insert street/city/country]</p> <p>Matter in dispute: [indicate main issues in dispute]</p> <p>Party who initiated the dispute: [indicate "Employer" or "Contractor"]</p> <p>Status of dispute: [Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]</p>	[insert amount]

<i>[insert year]</i>	<i>[insert amount]</i>	<p>Contract Identification: [indicate complete contract name, number, and any other identification]</p> <p>Name of Employer: <i>[insert full name]</i></p> <p>Address of Employer: <i>[insert street/city/country]</i></p> <p>Matter in dispute: <i>[indicate main issues in dispute]</i></p> <p>Party who initiated the dispute: <i>[indicate "Employer" or "Contractor"]</i></p> <p>Status of dispute: <i>[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]</i></p>	<i>[insert amount]</i>
----------------------	------------------------	--	------------------------

Litigation History in accordance with Section III, Evaluation and Qualification Criteria

- No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4.
- Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.

Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (Rs.)
---------------	------------------------------------	-------------------------	-----------------------------

[insert year]	[insert percentage]	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: [insert full name] Address of Employer: [insert street/city/country] Matter in dispute: [indicate main issues in dispute] Party who initiated the dispute: [indicate "Employer" or "Contractor"] Reason(s) for Litigation and award decision [indicate main reason(s)]	[insert amount]
---------------	---------------------	---	-----------------

Appendix to Technical Part

Form CON – 3: Environmental and Social Performance Declaration

[The following table shall be filled in for the Bidder, each member of a Joint Venture and each Specialized Subcontractor]

Bidder's Name: _____ [insert full name]

Date: _____ [insert day, month, year]

Joint Venture Member's or Specialized Subcontractor's Name: _____ [insert full name]

RFB No. and title: _____ [insert RFB number and title]

Page _____ [insert page number] of _____ [insert page number] pages

Environmental and Social Performance Declaration in accordance with Section III, Qualification Criteria, and Requirements			
<input type="checkbox"/> No suspension or termination of contract: An Authority has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental or Social (ES) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5.			
<input type="checkbox"/> Declaration of suspension or termination of contract: The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental or Social (ES) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5. Details are described below:			
Year	Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (Rs.)

[insert year]	[insert amount and percentage]	Contract Identification: [indicate complete contract name/ number, and any other identification] Name of Employer: [insert full name] Address of Employer: [insert street/city/country] Reason(s) for suspension or termination: [indicate main reason(s) e.g. gender-based violence; sexual exploitation or assault breaches]	[insert amount]
[insert year]	[insert amount and percentage]	Contract Identification: [indicate complete contract name/ number, and any other identification] Name of Employer: [insert full name] Address of Employer: [insert street/city/country] Reason(s) for suspension or termination: [indicate main reason(s)]	[insert amount]
...	...	[list all applicable contracts]	...

Performance Security called by an employer(s) for reasons related to ES performance

Year	Contract Identification	Total Contract Amount (Rs.)
[insert year]	Contract Identification: [indicate complete contract name/ number, and any other identification] Name of Employer: [insert full name] Address of Employer: [insert street/city/country] Reason(s) for calling of performance security: [indicate main reason(s) e.g. for gender-based violence; sexual exploitation or assault]	[insert amount]

	<i>breaches]</i>	

Appendix to Technical Part

Form FIN – 3.1: Financial Situation and Performance

[To be completed by the Bidder and by each member of a Joint Venture]

Bidder's Legal Name: _____

Date: _____

Joint Venture Member's Legal Name _____

RFB No. and title: _____

Page _____ of _____ pages

1. Financial data

Type of Financial information in (Rs.)	Historic information for previous _____ years, (Amount in Rs.)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					

Current Assets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Shareholder's Funds (Net Worth)=(Paid up equity +Reserves)-(revaluation reserves + Miscellaneous expenditure not written off)					
Depreciation					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					
Net cash accruals= Profit after Tax + depreciation					

This information should be extracted from the Annual Financial Statements/ Balance sheets, which should be enclosed. Year 1 will be the latest year for which audited financial statements are available. Year 2 shall be the year immediately preceding year 1 and year 3 shall be the year immediately preceding Year 2.

2. Sources of Finance

Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	Source of finance	Amount (Rs.)
1		
2		
3		

3. Financial documents

The Bidder and its parties shall provide copies of financial statements for _____ years pursuant Section III, Evaluation and Qualifications Criteria, Sub-factor 3.1. The financial statements shall:

- (a) reflect the financial situation of the Bidder or in case of JV member, and not an affiliated entity (such as parent company or group member).
- (b) be independently audited or certified in accordance with local legislation. In case of Indian bidders, the financial statements shall be audited by a certified chartered accountant.
- (c) be complete, including all notes to the financial statements.

(d) correspond to accounting periods already completed and audited.

- Attached are copies of financial statements¹⁰ (balance sheets, including all related notes, and income statements) for the _____ years required above; and complying with the requirements. (If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified)
 - Attached is a copy of certificate given from the commercial bank assuring cash flow (working capital for the subject contract) in the format attached.
-

Appendix to Technical Part

Form FIN - 3.2: Average Annual Construction Turnover

[To be completed by the Bidder]

Bidder's Legal Name: _____
 Date: _____

RFB No. and title: _____
 Page _____ of _____ pages

Annual turnover data (construction only)	
Year	Amount in Rs.
<i>[indicate year]</i>	<i>[insert amount]</i>
Average Annual	

Construction Turnover *	
-------------------------	--

* See Section III, Evaluation and Qualification Criteria, Sub-Factor 3.2. Annual construction turnover calculated as total certified payments received for work in progress or completed, for 5 years. This should be certified by a Chartered Accountant.

Appendix to Technical Part

JOINT VENTURE
Not Applicable

Appendix to Technical Part
Form FIN - 3.3: Financial Resources

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract or contracts as specified in Section III, Evaluation and Qualification Criteria.

Source of financing	Amount (Rs.)
1.	
2.	
3.	
4.	

FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CASH FLOW
[To be given from a Nationalized or Scheduled Bank in India]

Clause 3.1(ii) of Section III – Qualification Criteria

(1) AVAILABILITY OF CASH FLOW (WORKING CAPITAL)

This is to certify that M/s. _____ is a reputed company with a good financial standing.

If the contract for the works, namely _____ [funded by the World Bank] is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. equivalent _____ to meet their capital requirements for executing the above contract.

-- Sd. --

Name of Bank Manager

Senior Bank Manager

Address of the Bank

Note- This certificate must be as per the above format only and any conditional certificate shall not be accepted.

Appendix to Technical Part

Form FIN – 3.4: Current Contract Commitments / Works in Progress

Bidders and each member of a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

(A) Existing commitments and on-going works:

Description of Work (1)	Place & State (2)	Contract No. & Date (3)	Name and Address of Employer (4)	Value of Contract (Rs.) (5)	Stipulated period of completion (6)	Value of works ¹¹ remaining to be completed (Rs.) (7)	Anticipated date of completion (8)	Average Monthly Invoicing Over Last Six Months (Rs./month) (9)

(B) Works for which bids already submitted and likely to be awarded – expected additional commitment.

Description of Work (1)	Place & State (2)	Name and Address of Employer (3)	Estimated value of Works (Rs.) (4)	Stipulated period of completion (5)	Date when decision is expected (6)	Remarks, if any (7)

Appendix to Technical Part

Form EXP - 4.1: General Construction Experience

[The following table shall be filled in for the Bidder]

Bidder's Legal Name: _____
Date: _____

RFB No. and title: _____
Page _____ of _____ pages

[Identify contracts that demonstrate continuous construction work over the past [5] years pursuant to Section III, Qualification Criteria and Requirements, Sub-Factor 4.1. List contracts chronologically, according to their commencement (starting) dates.]

Starting Month/ Year	Ending Month/ Year	Contract Identification	Role of Bidder <i>[“Contractor” or “JV Member” or “Subcontractor” or “Contract Manager”]</i>
		Contract name: _____ Brief Description of the Works performed by the Bidder: _____ Amount of contract: _____ Name of Employer: _____ Address: _____	
0		Contract name: _____ Brief Description of the Works performed by the Bidder: _____ Amount of contract: _____ Name of Employer: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Bidder: _____ Amount of contract: _____ Name of Employer: _____ Address: _____	

Appendix to Technical Part

Form EXP - 4.2(a): Specific Construction and Contract Management Experience

[The following table shall be filled in for contracts performed by the Bidder, each member of a Joint Venture, and specialist sub-contractors]

Bidder's Legal Name: _____

Date: _____

Joint Venture Member's Legal Name _____

RFB No. and title: _____

Page _____ of _____ pages

(A) Work performed as prime Contractor or JV Member or Sub-Contractor or Management Contractor (in the same name and style) on construction works of a similar nature and volume over the last five years¹². [Attach certificate from the Engineer-in-charge.]

Similar Contract No.	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Sub- contractor <input type="checkbox"/>
Total Contract Amount	Rs. *			
If member in a JV or subcontractor, specify participation in total Contract amount (% of Total)			*	
Employer's Name:				
Address:				
Telephone/fax number				
E-mail:				

¹²Immediately preceding the financial year in which bids are received.

Appendix to Technical Part

Form EXP - 4.2(a) (cont.)

Specific Construction and Contract Management Experience (cont.)

Similar Contract No.	Information
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:	
1. Amount	
2. Physical size of required works items	
3. Complexity	
4. Methods/Technology	
5. Construction rate for key activities	
6. Other Characteristics	

Appendix to Technical Part

Form EXP - 4.2(b): Construction Experience in Key Activities

[The following table shall be filled in for contracts performed by the Bidder, each member of a Joint Venture, and specialist sub-contractors]

Bidder's Legal Name: _____
 Date: _____
 Joint Venture Member's Legal Name _____
 Subcontractor's Legal Name¹³ (as per ITB 33.2 and 33.3): _____
 RFB No. and title: _____
 Page _____ of _____ pages

Subcontractor's Name (as per ITB 33.2 and 33.3): _____

All subcontractors for key activities must complete the information in this form as per ITB 33.2 and 33.3 and Section III, Qualification Criteria and Requirements, Sub-Factor 4.2.

(B) Quantities of work executed as prime contractor or Sub-Contractor (in the same name and style) in the last five years.¹⁴ [Attach certificate from the Engineer-in-charge.]

1. Key Activity No One: _____

Information				
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount	Rs.			
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year in the last five years	Total quantity in the contract (i)	Percentage participation (ii)	Actual Quantity Performed (i) x (ii)	
Year 1				
Year 2				

¹³ If applicable.

¹⁴ Immediately preceding the financial year in which bids are received.

Year 3			
Year 4			
Year 5			
Employer's Name:			
Address:			
Telephone/fax numberE-mail:			

2. Activity No. Two

3.

	Information
Description of the key activities in accordance with Sub-Factor 4.2(b) of Section III:	

Appendix to Bid Technical Part
Form EXP – 4.2(c): Specific Design Experience

Not Applicable

Appendix to Technical Part**Form EXP - 4.2(d)****Specific Experience in Managing ES aspects**

Not Applicable

Appendix to Technical Part

Form.....

(Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE)

(Declaration regarding tax/duty exemption for materials/construction equipment bought for the work)

(Bidder's Name and Address)

To:

(Name of the Employer& address)

Dear Sir:

Reg: Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh.

Certificate for Import/Procurement of Goods/Construction Equipment
Government Order/Circular Number under which tax/duty Exemption is being sought: ...

1. We confirm that we are solely responsible for obtaining tax/duty waivers which we have considered in our bid and in case of failure to receive such waivers for reasons whatsoever, the Authority will not compensate us.
2. We are furnishing below the information required by the Authority for issue of the necessary certificates in terms of the Government of India's relevant Notifications.
3. The goods/construction equipment for which certificates are required are as under:

Items <i>(modify the list suitably for each specific work) *</i>	Make/ Brand Name	Capacity <i>[where applicable]</i>	Quantity	Value	State whether it will be procured locally or imported <i>[if so from which country]</i>	Remarks regarding justification for the quantity and their usage in works.
Goods						
[a] Bitumen						
[b] Cement						
[c] Steel						
Construction Equipment						

4. We agree that no modification to the above list is permitted after bids are opened.

5. We agree that the certificate will be issued only to the extent considered reasonable by the Authority for the work, based on the approved design, work requirements and the construction program and methodology as furnished by us along with the bid.
6. We confirm that the above goods and construction equipment will be exclusively used for the construction of the above work and the construction equipment will not be sold or otherwise disposed of in any manner for a period of five years from the date of acquisition.

Date: _____
Place: _____

(Signature) _____
(Printed Name) _____
(Designation) _____
(Common Seal) _____

[This certificate will be issued within 60 days of signing of contract and no subsequent changes will be permitted.]

** Modify the above to suit the requirements given in Government of India's Notifications as current of date of bidding.*

Appendix to Technical Part: Bid Security

Form of Bid Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

Bank Guarantee No.....[insert guarantee reference number]
 Date.....[insert date of issue of the guarantee]

WHEREAS, _____ [name of Bidder]¹⁵ (hereinafter called "the Applicant") has submitted his Bid dated _____ [date] or will submit his Bid for the construction of _____ [name of Contract] (hereinafter called "the Bid") under Request for Bids No.....[insert number] (hereinafter called "the RFB")

KNOW ALL PEOPLE by these presents that We _____ [name of bank] of _____ [name of country] having our registered office at _____ (hereinafter called "the Bank") are bound unto _____ [name of Employer] (hereinafter called "the Employer") in the sum of _____¹⁶for which payment well and truly to be made to the said Authoritythe Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 20____.

THE CONDITIONS of this obligation are:

- (1) If after Bid opening the Applicant (a) withdraws his bid during the period of Bid validity specified in the Letter of Bid, ("the Bid Validity Period"); or (b) does not accept the correction of the Bid Price pursuant to ITB 36;

Or

- (2) If the Applicant having been notified of the acceptance of his bid by the Authorityduring the period of Bid validity:
 - (a) fails or refuses to execute the Contract Agreement in accordance with the Instructions to Bidders, if required; or
 - (b) fails or refuses to furnish the Performance Security and if required, the Environmental and Social (ES) Performance Security, in accordance with the Instruction to Bidders.

we undertake to pay to the Authority up to the above amount upon receipt of his first written demand, without the Authority having to substantiate his demand, provided that in his demand the Authoritywill note that the amount claimed by him is due to him owing to the occurrence of one or any of the four conditions, specifying the occurred condition or conditions.

¹⁵Insert name of the Bidder..

¹⁶The Applicant should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 19.1 of the Instructions to Bidders.

This Guarantee will remain in force up to and including the date _____¹⁷ days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE _____ SIGNATURE OF THE BANK _____

WITNESS _____ SEAL _____

[signature, name, and address]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

Letter of Bid - Financial Part

INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

The Bidder must prepare this Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and business address.

- Note:**
1. All italicized text is to help Bidders in preparing this form.
 2. This Financial Bid Submission Form shall be uploaded on e-portal www.uktenders.gov.in in pdf format, in envelope prescribed on e-portal.
 3. In addition to Financial Bid Submission Form (in pdf), bidders must submit the Financial Bid in excel format which can be downloaded from the e-portal www.uktenders.gov.in and will be uploaded on e-portal.

Date of this Bid submission: [insert date (as day, month and year) of Bid submission]

Request for Bid No.: 17A/BR/RFB-EPC/UPREPARE/2024

To: **Program Manager, PIU-PWD**
 Project Implementation Unit-PWD
 Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE)

We, the undersigned, hereby submit the second part of our Bid, the Bid Price. This accompanies the Letter of Bid - Technical Part.

In submitting our Bid, we make the following additional declarations:

- (a) **Bid Validity Period:** Our Bid shall be valid for a period specified in BDS 18.1 (or as amended if applicable) from the date fixed for the Bid submission deadline specified in BDS 22.1 (or as amended if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (b) **Bid Price:** The total price of our Bid, including any discounts offered is:

Price Schedule for	Amount (in INR)
(Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh.)	
Bid Price (Excluding GST)	
Amount of GST	
Total Amount (including GST)	

Total price is: [insert the total price of the Bid in Rs. in words and figures] Including GST

- (c) **Commissions, gratuities and fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Bidding process or execution of the Contract: [insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity].

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

Name of the Bidder: *[insert complete name of person signing the Bid]*

Name of the person duly authorized to sign the Bid on behalf of the Bidder: ** *[insert complete name of person duly authorized to sign the Bid]*

Title of the person signing the Bid: *[insert complete title of the person signing the Bid]*

Signature of the person named above: *[insert signature of person whose name and capacity are shown above]*

Date signed *[insert date of signing]* **day of** *[insert month]*, *[insert year]*

**: Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules

Important: *To be completed and submitted /uploaded on the e-portal (www.uktenders.gov.in) in PDF form in the Financial Envelope along with the BOQ. This Form shall be the part of Commercial Bid and if the bidder fails to submit this Form, the bid shall be deemed non-responsive.*

Appendix to Financial Part: Schedules Form SC-Sub-contracting

SCHEDULE OF SUBCONTRACTORS

[Note: Entries in this Schedule shall be the same as included in the same Schedule in the technical part of the bid, except for the column on 'Approximate value of subcontract' added in the table below]

Item	Element of work	Approximate value of subcontract	% of bid price	Name and address of subcontractor	Qualification and experience of subcontractor on similar works of the elements executed

The Bidder shall enter in this schedule a list of the major sections and appropriate value of the work for which he proposed to use subcontractors *[for those costing more than 10% of the bid price for each element], together with the names, addresses and experiences of the proposed subcontractors.*

The capability of the subcontractor will also be assessed (on the same lines as for the main Contractor) before according approval to him.

(Work should not be split into small parts and subcontracted; but subcontracting specialized elements of works is acceptable).

Section V - Eligible Countries

Eligibility for the Provision of Goods, Works and Non-Consulting Services in Bank-Financed Procurement

In reference to ITB 4.8, and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this Bidding process:

Under ITB 4.8 (a) and 5.1 : *None*

Under ITB 4.8 (b) and 5.1 : *None*

Section VI - Fraud and Corruption

(Section VI shall not be modified)

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Sub-Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:
 - i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - v. "obstructive practice" is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.

- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹⁸ (ii) to be a nominated¹⁹ sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed Sub-project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect²⁰ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

Section VII - Works Requirements: Conditions of Contract together with schedules

This Section together with Schedules— Drawings, contains the Scope, site information, the Specifications, the Drawings, the ES requirements, and other Information that describe the Works to be executed by the Bidders.

Environmental and Social (ES) Requirements

In preparing detailed specifications for ES requirements the Contractor should refer to and consider the applicable project's Environment and Social Management Framework, Labour Management Procedures and Stakeholder Engagement Plan to prepare site specific ESIA and ESMP including EHSGs and other GIIP as well as SEA and SH prevention and management obligations.

The ES requirements should be prepared in manner that does not conflict with the relevant General Conditions of Contract (and the corresponding Particular Conditions of Contract if any), and other parts of the Specifications.

The Contractor, in connection with the provision of the Facilities/ Works under this Contract, shall at a minimum be compliant with:

- i. *provisions of Environmental Impact Assessment Notification 2006 and Biodiversity Act 2002 and take all reasonable steps to protect the environment on and off the site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation, and shall preserve and protect all existing vegetation such as trees on or adjacent to the site which do not unreasonably interfere with the execution of the Works; and the Contractor shall be held responsible for all unauthorized cutting of and damage to trees, by careless operation of his plant, equipment and machinery and stockpiling of materials etc. and the Employer shall have no responsibility on this account;*
- ii. *all applicable laws including labour laws (Refer Annex 1); and*
- iii. *the Contract Terms and Conditions.*
- b. *The Contractor shall be fully responsible for compliance and monitoring and reporting with all relevant environmental protection and social safeguards regulations and standards and health and safety of host population and prepare mitigation plan (Refer Annex 2 for site specific plans) with respect to provision of the Works and with respect to the Contractor's personnel, subcontractors and sub-suppliers pursuant to the Contract.*
- c. *The Contractor shall Prepare ESIA and ESMPs and site specific labour influx management Plan to address risks associated with health and safety of host population and SEA-SH mitigation plan and implement and monitor and report.*

Preparation:

Environmental and social assessment and land transfer procedure is an integral part of the feasibility and design process. The consultant shall ensure that the requirements of the ESMF and RPF are addressed during preparation of the sub-project design and supervise and monitor the implementation of the site-specific mitigation plans and compliance with labour welfare laws. The ESIA shall be developed during the preliminary design stage and finalized during detailed design. The detailed tasks shall include but not necessarily be limited to the following:

- i. Conduct, a comprehensive Environment and Social Screening of the project activities to determine key risks, potential impacts/issues and scoping for Environment and Social studies/instruments as per the ESMF-RPF-IPPF at feasibility stage
- ii. Carry out the categorization of the subproject based on ESMF-RPF-IPPF and conduct Environmental and Social Assessment at feasibility stage.
- iii. Prepare a sub-project specific environmental and social screening report.
- iv. Conduct Environmental and Social Assessment to assess the environmental and social risks

- and impacts and prepare ESIA report for the detailed design.
- v. Prepare construction package wise Environment and Social Management Plan (ESMP) and include site specific requirements and budget for implementation and monitoring indicators and formats for reporting
 - vi. Preparation of Debris Management Plan and Traffic Management Plan.
 - vii. Prepare construction package wise Labor influx management plan to address community health and safety measures including preventive action on Gender Based Violence in accordance with the project level LMP and prepare a budget and include monitoring indicators and formats for periodic reporting.
 - viii. Ensure compliance of labour welfare laws and reporting by contractors and effectively use the ICT legal compliance tool.
 - ix. Carry out stakeholder's engagement in accordance with the SEP and prepare a budget and include monitoring indicator for periodic reporting.
 - x. The consultant shall predict damages to the Environment and attempt to mitigate or minimize the damages by choosing appropriate site, cross-section, type of structures etc. and suggest appropriate measures in the design for protection of Environment as well its surrounding.
 - xi. Identify the environmental risks and impacts listed in the Environmental Health & Safety guidelines of the World Bank Group.
 - xii. Identify any risk to material threat to the protection, conservation, maintenance and restoration of natural habitats and biodiversity.
 - xiii. The consultant will prepare the proposal and obtain any regulatory clearance such as environment/ Forest if required.
 - xiv. The consultant will prepare the proposals of land transfer and will follow up for the all-necessary process to obtain any regulatory clearance as per the land Transfer Act applicable in India.
 - xv. Preparation of Forest, civil land and/or private Land Transfer Cases files and also to coordinate with the local authorities/PWD Civil Divisions, etc., Within the State of Uttarakhand, for ensuring fast transfer/acquisition of land, as per the timeline of the Project.
 - xvi. The consultant will obtain all the required clearances as per applicable Environment acts and their amendments time to time.
 - xvii. The consultant will do a detailed assessment of alternatives to minimize the impacts.
 - xviii. Wherever feasible, landscape approach should be followed while providing solutions.
 - xix. Bio-engineering approach should also be considered while providing solutions for dump sites and covering both cut slopes should be implemented during the execution of the work for the protection and management of environment. For this the Contractor needs to submit the proper plan of the Bioengineering work and need to approve from the Client before the execution of the work. The Following bioengineering techniques in the project region will consider for the effectiveness in slope stabilization. Accordingly, the proposed plan needs to be submitted by the contractor for adopting and integrating all these techniques. These techniques will include:

- A. Brush Layering
- B. Hedge layering,
- C. Live cutting installations
- D. Slope fascine,
- E. Erosion control planting
- F. Jute netting
- G. Bamboo crib wall
- H. Plantation of trees, shrubs, and bamboos
- I. Vegetated gabion

Implementation:

i. *Ensure implementation of appropriate social safeguards standards in accordance with the national and state laws and policies and international standards and practices for all personnel involved in provision of the Works, including use of digital systems (ICT Tools for tracking compliance of labor laws for monitoring and reporting*

ii. *comply with all applicable national, provincial, and local environmental and social laws and regulations and all reasonable requests of the national and local authorities responsible for enforcing environmental and social controls;*

iii. *within 28 days of the Effective Date, shall submit a detailed site specific Environmental and Social Management Plan, based on the Community Health and Safety Management Plan (refer Annex 2) submitted in the technical proposal, for the Project Manager's no objection showing how the Contractor intends to comply with environmental and social laws and regulations and other specific requirements prescribed in the Contract, addressing all the monitoring and mitigation measures including those, if any, mentioned in Sections on Employer's Requirements;*

Note: Before providing No-objection, SPMU, and DPMUs shall also check and ensure if required safeguards documents, including on preventive plans on Sexual Exploitation and Abuse -Sexual Harassment, Labour influx management plans and ICT system for tracking compliance of labour welfare laws/ / obligations have been complied with for all categories of contracts.

iv. *shall (a) establish an operational system for managing environmental impacts, (b) comply with the approved site specific Environmental and social Management Plan (ESMP), Labour influx management plan, SEA-SH preventive action plan and any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor the implementation of the ESMP, (c) allocate the budget required to ensure that such measures, requirements and actions are carried out, (d) submit semi-annual reports on the compliance of such measures to the Employer; an*

v. *shall, where unanticipated environmental and social risks or impacts become apparent during the Contract, be required to update the site specific ESMP to outline the potential impacts to site works and associated mitigation measures for the Project Manager's approval.*

d. Respectful Work Environment

The Contractor shall ensure that its employees and Subcontractors observe the highest ethical standards and refrain from any form of bullying, discrimination, misconduct, and harassment, including sexual harassment and shall, at all times, behave in a manner that creates an environment free of unethical behavior, bullying, misconduct, and harassment, including sexual harassment as per The Sexual Harassment of Women at Workplace (prohibition, Prevention, Redressal) Act 2013. The Contractor shall take appropriate action against any employees or Subcontractors, including suspension or termination of employment or subcontract, if any form of unethical or inappropriate behavior is identified.

The Contractor shall conduct training programs for its employees and Subcontractors to raise awareness on and prevent any form of bullying, discrimination, misconduct, and harassment including sexual harassment, and to promote a respectful work environment and establish Grievance Redress Mechanism. The Contractor shall keep an up-to-date record of its employees and subcontractors who have attended and completed such training programs and provide such records to the Employer or the Engineer at their first written request.

(a) *The Contractor shall build storages for storing his Plant and materials including Contractor's Equipment etc. and also build site offices, labor sheds, staff accommodation etc. for self. The Contract Price is deemed to include for providing these and other required facilities as per the instructions of the Project Manager.*

(b) *In case of floods resulting in flooding of the work Site/ areas, the Contractor shall make his own arrangements, at his own cost, to shift Plant and material, equipment and machinery, Contractor's Equipment, including Employer Supplied Material, if any, and labour to safe place. The work shall be resumed after receding of floods and dewatering the area. Except otherwise provided in the Contract, the Employer shall not be liable for any loss of or damage or injury in this regard or on this account, and no compensation, whatsoever, in this regard shall be paid to the Contractor by the Employer.*

(c) *During the course of execution of the Works, the Contractor shall submit, 6 (six) weeks in advance of the start of activity, to the Project Manager, in duplicate, for his information the updated method statements for execution of all-important items of work, during excavation phase, concreting phase, grouting phase, as well as erection/ installation phase. These method statements shall on one hand be consistent with the construction drawings and Technical Specifications and on the other hand take into account all the applicable Site conditions. These method statements shall include the need of specialized inputs required for successful execution of the particular structure.*

The following is a non-exhaustive list of Sub-Clauses of the Conditions of Contract that make reference to ES matters stated in the Specifications.]

References	Remarks
<i>Other Contractors</i>	<i>Indicate specific aspects (if any) that require contractor's cooperation such as to conduct environmental and social assessment.</i>
<i>Labor</i>	<i>State applicable legal requirements (refer annex 1) and in accordance with the labor management procedure.</i>
<i>Facilities for Staff and Labor</i>	<i>-Indicate if access to or provision of services that accommodate physical, social and cultural needs of Contractor's Personnel is required.</i>
<i>Training of Contractor's Personnel</i>	<i>As set out in the ESCP, specify, details of any training to relevant Contractor's Personnel to be provided by the Employer's Personnel on environmental and social aspects. (whom, what, when, where, how long etc.)</i>
<i>Contractor to Construct the Works</i>	<p><i>If the Contract specifies that the Contractor shall design any part of the Permanent Works, state anyapplicable technical standards and requirements including to address:</i></p> <ul style="list-style-type: none"> • climate change considerations, • universal access, • risks of the public's potential exposure to operational accidents or natural hazards, including extreme weather events, applicable certification or approval requiriements • risk of community health and safety due to labour influx <p><i>[Refer to ESS4 on requirements for design]</i></p>
<i>Health and Safety Obligations</i>	<i>Indicate any additional requirements for the health and safety manual</i>
<i>Protection of the Environment</i>	<i>Specify any values for emissions, surface discharges, effluent</i>

References	Remarks
	<i>and any other pollutants from the Contractor's activities that shall not be exceeded.</i>
Archeological and Geological Findings	<i>Specify other requirements if any in accordance with the ESF – ESS8</i>
Security of the Site	<i>State any additional requirements for the security arrangements (ESS4 of the ESF states the principles of proportionality, GIIP and applicable laws. Include any other requirement set out in the ESCP.</i>

In addition to provisions in the above table, the Employer shall specify the following as applicable.

Management and Safety of Hazardous Materials

As applicable, specify requirements for the management and safety of hazardous materials (see ESF - ESS4 para. 17 and 18 and relevant guidance notes).

Resource Efficiency and Pollution Prevention and Management

As applicable specify Resource Efficiency and Pollution Prevention and Management measures (see ESF -ESS3 and relevant guidance notes).

- **Resource efficiency**

The Employer shall specify, as applicable, measures for improving efficient consumption of energy, water and raw materials, as well as other resources.

- **Energy:** When the Works have been assessed to involve a potentially significant use of energy, specify any applicable measures to optimize energy usage.
- **Water:** When the Works have been assessed to involve a potentially significant use of water or will have potentially significant impacts on water quality, specify any applicable measures that avoid or minimize water usage so that the Works' water use does not have significant adverse impacts on communities, other users and the environment.
- **Raw material:** When the Works have been assessed to involve a potentially significant use of raw materials, specify any applicable measures to support efficient use of raw materials.
- **Pollution prevention and management**
 - **Management of air pollution:** specify any measure to avoid or minimize Works related air pollution.
 - **Management of hazardous and nonhazardous wastes:** specify any applicable measures to minimize the generation of waste, and reuse, recycle and recover waste in a manner that is safe for human health and the environment including storage, transportation and disposal of hazardous wastes.
 - **Management of chemicals and hazardous materials:** specify any applicable measures to minimize and control the release and use of hazardous materials for Works activities including the production, transportation, handling, and storage of the materials.
- **Biodiversity Conservation and Sustainable Management of Living Natural Resources**

The Employer shall specify, as applicable, Biodiversity Conservation and Sustainable Management of Living Natural Resources (see ESF - ESS6 and relevant guidance notes). This includes, as applicable:

- *invasive alien species: managing the risk of invasive alien species during the execution of the Works;*
 - *sustainable management of living natural resources; and*
 - *certification and verification requirements for the supply of natural resource materials where there is a risk of significant conversion or significant degradation of natural or critical habitats.*
- **Road Safety**
 - *State any specific traffic and road safety requirement, as applicable.*
 - **PAYMENT FOR ES REQUIREMENTS**
 - *The Employer's ES and procurement specialists should consider how the Contractor will cost the delivery of the ES requirements. In the majority of cases, the payment for the delivery of ES requirements shall be a subsidiary obligation of the Contractor covered under the prices quoted for other Bill of Quantity items or activities. For example, normally the cost of implementing workplace safe systems of work, including the measures necessary for ensuring traffic and road safety, shall be covered by the Bidder's rates for the relevant works. Alternatively, provisional sums could be set aside for discrete activities for example for HIV counselling service, and, GBV/SEA awareness and sensitization or to encourage the contractor to deliver additional ES outcomes beyond the requirement of the Contract.*

Annex 1.

Annex 1: Labour Laws applicable to Establishments engaged in Building and other Construction Work	
1.	Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
2.	Workmen Compensation Act, 1923
3.	ESI Act, 1948 (Employees State Insurance Act, 1948)
4.	Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979 Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Assam, Rules, 1981
5.	Child Labour (Prohibition & Regulation) Amendment Act, 2016

6.	Building and Other Construction Workers Welfare Cess Act, 1996	An Act to provide for the levy and collection of a Cess on the cost of construction incurred by employers.
7.	Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013 (POSH Act)	It mandates every organization having more than ten employees to constitute an Internal Committee (IC) in the prescribed manner to receive and address the complaints of any sort of sexual harassment from women in a time-bound and extremely confidential manner
8.	Contract Labour (Regulation & Abolition) Act 1970 Assam Contract Labour Regulation and Abolition Rules, 1971	To provide proper and habitable working conditions. To regulate the functioning of the advisory boards. To lay down the rules and regulations regarding the registration procedure of the establishments employing contract labour
9.	Payment of Wages Act, 1936 Assam Minimum Wages Rules 1952	Lays down as to by what date, wages are to be paid, when it will be paid and what deductions be made from the wages of the workers, if any.
10.	Equal Remuneration Act, 1976	Provide equal remuneration to men & women workers and prevents discrimination against women in matters of employment.
11.	Payment of Gratuity Act, 1972 Assam Payment of Gratuity Rules 1972	Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation, if an employee has completed 5 years of service with employer
12.	Employees Provident Fund and Miscellaneous Provision Act, 1952	Provides for monthly contributions by the employer and as well as by workers with a provision as return of pension of a lump sum (principal and interest accrued) at the end of his/her service term).
13.	Maternity Benefit Act, 1951 Assam Maternity Benefit Rules 1965	Provides for maternity leave for women, during pregnancy and after giving birth and some other benefits to women employees, in case of medical recommendation of bed rest or miscarriage etc.
14.	Payment of Bonus Act, 1965 Assam Payment of Bonus Rules 1975	Provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages.
15.	Bonded Labour (Abolition) Act 1976 Bonded Labour System (Abolition) Rules 1976	An Act to provide for the abolition of bonded labour system, with a view to prevent economic and physical exploitation of the weaker sections of the people and for all matters connected therewith or incidental thereto

Annex 2.

Tools for Avoidance, Minimizing and Mitigation

Where the mapping indicates that there is a likelihood of a negative impact of labor influx in any project, a mitigation plan has to be put in place involving the key stakeholders. The contractor has contractual accountability to the client/borrower as well as a contractual and legal relationship with the sub-contractor. The contractor also stands in a position of “Principal Employer” to the workers and is therefore ultimately responsible for the labor welfare measures which would influence the impact of labor on the local community. In order to mitigate the negative effects of influx of migrant labors on the host community, the contractor needs to:

1. Assess the conditions of the host community prior to starting the work and hire labor accordingly
2. Manage influx and hire sub-contractors who have the capacity to manage effects of impacts
3. Conduct orientation meetings with the workers and where workers are engaged through a sub-contractor, with the sub-contractor, to apprise them of the social, political, cultural environment and instruct them to conduct themselves accordingly
4. Lay down a “Code of Conduct” for the workers to avoid adverse impacts on the community
5. Conduct periodic meetings with representatives of the community to track issues likely to impact it negatively
6. Ensure a monitoring system to track possible negative impacts and ensure timebound mitigation measures

Depending on the results of studying the nature and extent of impact, all or any of the following mitigating measures may be taken:

Workers Camps and Management of Worker - Community Interface

Camp Location Respond with Yes or No

1. Where the conditions are conducive, i.e. some indications of positive impacts are found, camps can be located in a place which helps workers to interact with the host community. This could facilitate easier acceptance, and co-existence. All cautionary measures are to be adopted at such camps as well
2. In the best interest of the workers, the camp should be located at a place where there is mobile phone connectivity so that the workers can be in touch with their family
3. Where the connectivity of the camp with the project site is a crucial factor, keeping in mind the time and costs of the project, and the camp necessarily has to be located close to the community, adopt all cautionary measures
4. Where the cost or time is not an issue and negative impacts are indicated, locate the camp at a location which is far away from the local residential area

Managing Worker - Community interface

Camp Location Respond with Yes or No

1. The camp should be kept self-sufficient so that workers do not need to visit the local community market for day to day purchases
2. The camp should have means of entertainment and amusement for workers including indoor games, televisions etc. so that workers do not feel the need to move out in search of entertainment
3. Locals should be employed for guarding the camp so that movement of workers and locals can be monitored and restricted
4. The scope for workers to meet locals more often than necessary should be reduced by fixing accountability on local elders/influentials to keep a watch on workers’ movement inside the host community, especially after dark
5. Workers should be kept under constant monitoring of respective troop leaders/ sardars/labor supplier and fix accountability on troop leaders for their actions
6. Watch should be kept on interactions of young and unmarried migrants with locals

7. Where favorable conditions allow, help the locals in accepting the migrant workers by allowing both to meet, interact and spend time

Engagement with the Host Community

1. Hire a local sub-contractor/labor-supplier to exercise influence on and engage with the host community
2. Engage local workers to satisfy “son-of-the-soil” demand
3. Extend some reasonable favors to keep the locals happy
4. Involve some local influential person or persons in some capacity and give him/them some decision-making power
5. Form joint committee/s with local influential persons which would monitor the effect of influx of outsiders and liaison between them and the host community
6. Ensure that project staff behave responsibly to environment in particular, not dumping waste, creating water-logging, etc.
7. Provide certain amenities or services, such as use of water supply to some extent, small repairs to public/community buildings, occasional recreation and entertainment such as sports events or film screening, etc.
8. Engage with and manage groups who are in majority or capable of creating problems

Engagement with the Host Community

9. Engage the local unemployed educated youth in responsible jobs like site supervisor, junior engineer, etc.
10. Understand and manage the caste or ethnicity politics
11. Balance the requirement of outside workers with the tendency of the host community to be hostile to certain cultural, ethnic or religious groups
12. Alternately, ensure reduction of conflict by keeping the workers away from the community, ensure short duration stay or phased engagement to ensure the barriers are removed
13. Ensure that welfare measures are implemented in full so that labor is satisfied and confined to camp and worksites and therefore minimise the incidents of drawing on local resources or mingling with the host community

The following broad labor welfare measures will cumulatively affect the frequency and quality of interface with the host community and must be regularly monitored:

Camp Location Respond with Yes No

1. Access to the labor camp/site by road, avoiding passages through local habitations
2. Access to basic facilities including doctor/physician/para medical professionals, chemist, shops, and market for workers staying at the camp
3. Provision of basic health and safety measures³¹ such as equipment like fire extinguishers at the camp and ensuring that at least a few workers staying in the camp permanently have the required knowledge of using the safety devices
4. Provision of safety exits for evacuation during emergency
5. Adequate ventilation in rooms or containers with bunk-beds
6. Provision of personal safe/locker/storage space for the labors for storing valuables if not clothes & and household goods
7. Labor camps set at a place with no issue related to connectivity for mobile service operators
8. Provision of basic facilities in camp including drinking water filter, sanitation facility, adequate number of toilets and covered space for bathing and washing
9. Provision of kitchen, canteen/space for workers to eat their meals under hygienic conditions
10. Camp is self-sufficient and equipped where workers need not go out to buy commodities including vegetables, etc. for sustenance, at least for a week
11. Provision of bed with mattress and pillow alongside materials like blankets in sufficient numbers, keeping climatic conditions in mind

12. Each worker should have his private space even if they share rooms, not only for sleeping, alone but also for spending time during off season/hours
13. Feedback or grievance redressal mechanism where workers without fear of getting laid off, can report their complaints related to quality of services and facilities at their camp
14. Camp is secured 24x7 by guards hired by contractors
15. Provision for entertainment and recreation like games, TV, etc. for workers in the camp during off season/hours
16. Camp should have a first aid box that is regularly maintained by professionals

NOTIFICATION OF AWARD

Letter of Acceptance *[on letterhead paper of the Employer]*

..... [date]

To: *[name and address of the Contractor]*

Subject: *[Notification of Award Contract No.]*

This is to notify you that your Bid dated *[insert date]* for execution of the *[insert name of the contract and identification number]* for the Accepted Contract Amount of *[insert amount in numbers and words]*, as corrected and modified²¹ in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security and an Environmental and Social (ES) Performance Security *[Delete ES Performance Security if it is not required under the contract]* in the form detailed in ITB Clause 50 for amounts²² of Rs., and Rs. specified therein and sign the contract within 28 days of the receipt of this letter of acceptance, failing which action as stated in ITB Clause 50.2 will be taken, in accordance with the Conditions of Contract. The securities in the name of Program Manager, PIU-PWD, U-PREPARE, Dehradun should be valid until 60 days after the Defects Liabilities Period i.e. up to and shall be as per the Performance Security Form and the ES Performance Security Form *[Delete reference to the ES Performance Security Form if it is not required under the contract]*, included in Schedule-G: Form of Bank Guarantee of the bidding document.

We note that as per your bid, you do not intend to subcontract any component of work.

[OR]

We note that as per your bid, you propose to employ M/s. as sub-contractor for executing

[Delete whatever is inapplicable]

Authorized Signature:

Name and Title of Signatory:

Name of Agency:

Attachment: Contract Agreement

ENGINEERING, PROCUREMENT AND CONSTRUCTION AGREEMENT

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

BETWEEN

Program Manager, Project Implementation Unit-Public Works Department, Uttarakhand Disaster Preparedness and Resilience Project (U-PREPARE), 5th Floor, USDMA Building, 36, IT Park, Sahastradhara Road, Dehradun-248013, Uttarakhand for and on behalf of State of Uttarakhand, 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 under the RFB No. 17A/BR/RFB-EPC/UPREPARE/2024 having its registered office atand at, (here in after 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) Government of Uttarakhand has intended to take up the subproject namely "Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh..
- (B) The Authority had resolved to take up the work **on** Engineering, Procurement, 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 prescribed the technical and commercial terms and conditions, and invited bids RFB No. 17A/BR/RFB-EPC/UPREPARE/2024 from all bidders having required eligibility and qualification criteria for undertaking the Sub-project.
- (D) 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 the work at the contract price specified hereinafter, requiring the selected bidder to inter alia:
 - (i) To give his consent to enter into this Agreement and the enforceability of the provisions thereof, within 10 (ten) business days of the date of issue of LOA;
 - (ii) Submit Performance Security and ES Performance Security (if any) as per RFB requirements, and-
 - (iii) execute this Agreement within days of the date of issue of LOA.
- (E) The Contractor has fulfilled the requirements specified in Recital (D) 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:

Part II: Definitions and Interpretation

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 Sub-project, 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 Dehradun, Uttarakhand 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 Sub-project Milestone shall mean and include such date, period or Sub-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
- (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.**

(y) References to “World Bank” shall mean the International Bank for Reconstruction and Development (The Bank). The Bank is the financing institution which has provided funds toward a part of the cost of the Sub-project. Payments by the World Bank will be made only at the request of the Borrower (Government of India) of the funds and upon approval by the World Bank in accordance with the terms and conditions of the financing agreement (Loan Agreement) and will be subject in all respects to the terms and conditions of that Loan Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of goods, equipment, plant, or materials, if such payment or import, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan Agreement or have any claim to the proceeds of the Loan (or other financing).”

- 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) Corrigendum to Conditions of Contract together with Schedules (issued if any)
 - (b) this Agreement including Conditions of Contract together with Schedules; and
 - (c) all other agreements and documents forming part hereof or referred to herein; i.e. this Agreement at (b) above shall prevail over the agreements and documents at (c).
- 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 a Clause of this Agreement and Corrigendum, the provisions of Corrigendum
 - (b) 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;

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

1.5 Joint and several liability: N/A

1.5.1 If the Contractor has formed a Joint Venture (JV) of xxx for implementing the Sub-project:

- (a) *these xxxx [insert JV members] 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 Joint Venture (JV) is effected without the prior consent of the Authority. Hiding any information regarding changes in roles and responsibilities of JV members, which is not authorized by the Authority, shall be treated as violation of Appendix to Conditions of Contract (Fraud and Corruption).*
- 1.5.2 Without prejudice to the joint and several liabilities of all the members of the Joint Venture (JV), the Lead Member shall represent all the members of the Joint Venture (JV) 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 Joint Venture (JV) 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 release the payment only to the Joint Venture (JV)*

Part III: Scope of Sub-Project

ARTICLE 2
SCOPE OF THE SUB-PROJECT

2.1 Scope of the Sub-Project

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

- (a) construction of the Sub-project on the Site set forth in Schedule-A and as specified in Schedule-B together with provision of Sub-Project Facilities as specified in Schedule-C, and in conformity with the Specifications and Standards set forth in Schedule-D;
- (b) maintenance of the Sub-project 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 Sub-Project and observe, fulfill, 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. The Contractor shall comply with (a) all environmental clearances required during construction and maintenance including implementation of Contractor's Environmental and Social Management Plan (ESMP); (b) ES Management Strategies and Implementation Plans; and (c) Code of Conduct for Contractor's Personnel.
- 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 Sub-project 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 Sub-project 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 Sub-project 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 Sub-project ;
 - (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 Sub-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 Sub-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. The Contractor shall provide all necessary superintendence of the Works for the proper fulfilling of the Contractor's obligations under the Agreement. Such superintendence shall be given by competent person having adequate knowledge of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents) for the satisfactory and safe execution of the Works.

3.1.9 Inspections and Audit by the World Bank

The Contractor shall permit, and shall cause its Subcontractors and sub-consultants to permit, the World Bank and/or persons appointed by the World Bank to inspect the Site and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the World Bank if requested by the World Bank. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Clause 3.9 [Corrupt or Fraudulent Practices] which provides, *inter alia*, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under Clause 11.6.1 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the World Bank's prevailing sanctions procedures).

- 3.1.10 The Contractor shall maintain required staff and necessary Contractor's equipment and materials within the reach of the Site during the Defects Liability Period so that any defects arising are promptly attended.

3.1.11 The Contractor shall provide the documents of the Contractor specified in the Agreement, and all Contractors' personnel; Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for the execution, completion of Works and remedying defects.

3.1.12 The Contractor shall carry out such work incidental and contingent to the original Scope of the Project to comply with Good Industry Practices.

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 25% (twenty-five per cent) of the contract price and shall carry out Works directly under its own supervision and through its own personnel in at least 75% (seventy-five per cent) of the contract price. 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. The Parties further agree that all obligations and liabilities under this Agreement for the entire Sub-project 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 75% (seventy-five per cent) of the contract price}.
- 3.2.2 In the event any sub-contract for Works, or the aggregate of such sub-contracts with any Sub-contractor, exceeds 10 (five percent) of the Contract Price, the Contractor shall 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 30 (thirty) 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 80% (eighty 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 80% (eighty per cent), the Authority may, no later than 30 (thirty) 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 without delay or demur.
- 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. However, in case of non-compliance of the Contractor towards his obligations for payments to the approved Sub-contractor(s), which is likely to affect the progress of works, the authority reserves the right to intervene and direct the Contractor to release such outstanding payments to approved Sub-contractor(s) out of the payments due for the completed Works in the interest of work without diluting the responsibility and liability of the Contractor.
- 3.2.5 Hiding information about any sub-contracting not authorized by the Authority shall be treated as violation of Appendix to Conditions of Contract (Fraud and Corruption).

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. The Contractor shall give preference to the local villagers for unskilled labour requirement and provide a quarterly report to the Authority Engineer on the details of persondays of employment provided to the local villagers (for both men and women separately).
- 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. The reasons to remove a person also include amongst others, behavior which breaches the Code of Conduct for Contractor's Personnel (e.g. spreading communicable diseases, sexual harassment, gender-based violence, sexual exploitation and assault (SEA), illicit activity or crime).
- 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 Sub-Project

The Sub-project 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 utilities as may be required, including without limitation, sdequatepower, water and other services.

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.

3.9 Corrupt or Fraudulent Practices

The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Appendix to the Conditions of Contract.

3.10 Co-ordination of the Works

The Contractor shall, as specified in the Works' Requirements or as instructed by the Authority or Authority's Engineer, co-operate with and allow appropriate opportunities for carrying out work by:

- (a) the Authority's Personnel;
- (b) any other contractors employed by the Authority;
- (c) the personnel of any Governmental Instrumentality; and
- (d) such other persons as is required in the opinion of the Authority for successful completion of the Sub-project.

who may be employed in the carrying out, on or near the Site, of any work not included in the Contract. Such appropriate opportunities may include the use of Contractor's Equipment, Temporary Works, access arrangements which are the responsibility of the Contractor, and/or other Contractor's facilities or services on the Site.

The Contractor shall be responsible for the Contractor's construction activities on the Site, and shall use all reasonable endeavors to co-ordinate these activities with those of other contractors to the extent (if any) specified in the Works' Requirements or as instructed by the Authority or Authority's Engineer.

If the Contractor suffers delay and/or incurs Cost as a result of an instruction under this Sub-Clause, to the extent (if any) that co-operation, allowance of opportunities and coordination was

Unforeseeable having regard to that specified in the Works' Requirements, the Contractor shall be entitled to Claims for Payment and/or EOT.

In the event the actions of the Contractor result in the breach by the Authority of any or all of the other Sub-project contracts and such breach imposes any liability on the Authority, the Contractor shall:

- (a) undertake all steps as may be possible to mitigate or neutralize the liability that has arisen, and
- (b) Indemnify the Authority against any such liability

3.11 Environmental Measures

The Contractor agrees to conduct its activities in connection with the Agreement in such a manner so as to comply with the environmental requirements which includes, *inter alia*, all the conditions required to be satisfied under the environmental clearances and applicable laws, and assumes full responsibility for measures which are required to be taken to ensure such compliance

3.12 Clearance of the Site

During the provision of the Works, and as a pre-condition to the issue of the Taking- Over Certificate, the Contractor shall clear away and remove from the Site, all Contractor's equipment, surplus material, wreckage, rubbish and temporary Works, and shall keep the Site free from all unnecessary obstructions, and shall not store or dispose of any Contractor's equipment or surplus materials on the Site. The Contractor shall promptly clear away and remove from the Site any wreckage, rubbish or temporary Works no longer required and leave the Site and the Works in a clean and safe condition to the sole satisfaction of the Authority.

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 Sub-project, Sub-project Facilities, Specifications & 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 and the Environmental and Social (ES) Performance Security under Clause 7.1.1, the Right of Way in accordance with the provisions of Clauses 8.2 and 8.3, as specified in Schedule A;
 - (b) Deleted.
 - (c) **Environmental clearances are, as applicable] required but proposed Contractor's Environment and Social Management Plan (ESMP) is to be implemented.**
- 4.1.4 Deleted
- 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 Sub-project.

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 Sub-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 Sub-project 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 Sub-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 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 *are, as applicable]* required for construction of the Sub-project **but the proposed ESMP is to be implemented by the Contractor.**

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 JV} in response to the RFB No. 17A/BR/RFB-EPC/UPREPARE/2024 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 the Sub-Project as per Schedule A.

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 Qualification, Request for Proposal, Scope of the Sub-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, except the centerline of the bridge and the GPS Coordinates provided 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 stated in the Contract Agreement.
- 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 Sub-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 IV

Design and Construction of Sub project

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, before signing the contract (within 10 days of LOA) Performance Security and an Environmental and Social (ES) Performance Security. The standard forms of Performance Security and ES Performance Security shall be non transferrable, irrevocable and unconditional guarantees from Scheduled/ Nationalized Banks in the forms set forth in Schedule-G (the “Performance Security” and “ES Performance Security”). The Performance Security amount is equal to 5% (five percent) of the Contract Price (Exclusive of GST), and Environmental and Social (ES) Performance Security amount is 2% (Two percent) percent of Contract Price (Exclusive Of GST)²³. The Performance Security and ES Performance Security shall be valid until 60 (sixty) days after the Defects Liability Period. The Bid Security shall remain in force and effect till the signing of contract and upon receipt of a valid Performance Security and ES 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 and ES 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, 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.

7.2 Extension of Performance Security

The Contractor may initially provide the Performance Security for the period required as per 7.1.1. however, any amendment to contract resulting in extension of time shall be supplemented by performance and ES security. 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 after 60 (sixty) days of the later of the expiry of 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 percent) 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 percent) of the Contract Price.
- 7.5.2 Upon the 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 5% (Five percent) 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 due to Contractor's default, the Retention Money 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 Sub-project (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 Sub-project.

8.2 Procurement of the Site

- 8.2.1 The Authority Representative and the Contractor shall, within 30 (thirty) 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 6 (six) months 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 Sub-project the total of which exceeds 10% (ten per cent) of the Sub-project.

8.3 Damages for delay in handing over the Site

Deleted

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 Sub-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 Sub-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 Sub-project 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, shift any utility (including electric lines, water pipes, telephone cables etc.) to an appropriate location or alignment, if such utility or obstruction adversely affects the execution of Works or Maintenance of the Sub-project in accordance with this Agreement duly approved from the competent authority.

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 Sub-project 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 Sub-project, 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 Sub-project, 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 and disposal of trees to be identified by the Contractor for this purpose if and only if such trees cause a Material Adverse Effect on the construction or maintenance of the Sub-project. The cost of such felling and disposal shall be included in the Contract price. The Parties hereto agree that the felled trees shall be deemed to be owned by the Contractor after depositing the required amount to the concerned Department at the rates estimated by the Forest Department, Government of Uttarakhand/India and shall be disposed in such manner and subject to such conditions of the concerned Department. However, the Authority will assist in obtaining applicable permits for felling of trees.

ARTICLE 10
DESIGN AND CONSTRUCTION OF THE SUB-PROJECT

10.1 Obligations prior to commencement of Works

- 10.1.1 (a) The contractor shall carry out the Climate risk assessment (Hazard and Vulnerability analysis) prior to the preparation of the designs/drawings under the contract and will submit it to the Authority Engineer for approval of the same.
- (b) The contractor shall take climate change into account and raise the HFL levels in accordance with future forecasts while designing resilient bridges.

10.1.2 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;

The Qualification and experience of the Design Director to be engaged by the contractor for designing the bridge shall be as below-

Design Director /Bridge Engineer/Bridge Expert

Details		Minimum requirements
i)	Educational Qualification	Post Graduate in Structural Engineering
ii)	Essential Experience.	
a)	Total Professional Experience	10 years
b)	Experience in bridge design and engineering	Minimum 8 years in design of bridges of similar types as envisaged in this project (As Bridge Design Engineer).
c)	Experience in similar capacity	Independently handled the design work of at least 5 bridges minimum span of 50mtr.

- (c) The contractor should engage a hydrologist & a Geotechnical Engineer intermittently to support the design director with following qualification:

Geotechnical Engineer

Details		Minimum requirements
i)	Educational Qualification	Post Graduate in Geotechnical Engineering
ii)	Essential Experience	
a)	Total Professional Experience	8 years
b)	Experience in construction of Bridges	Minimum 5 years in experience in relevant field
c)	Experience in similar capacity	At least experience of 3 similar project in GeoTech analysis of similar topographic conditions

Hydrologist

Details		Minimum requirements
i)	Educational Qualification	Post Graduate in Hydrology/ Hydraulic Engineering
ii)	Essential Experience	
a)	Total Professional Experience	8 years
b)	Experience in construction of Bridges	Minimum 5 years in experience in relevant field
c)	Experience in similar capacity	At least experience of 3 similar project in Hydrological analysis of similar topographic conditions.

- (d) 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
- (e) make its own arrangements for quarrying of materials needed for the Sub-project under and in accordance with the Applicable Laws and Applicable Permits.
- (f) Prepare construction zone and Camp Site safety checklist.
- (g) Prepare updated Contractor's Environmental and Social Management Plan (ESMP) including the action plan and checklist.

10.1.3 The Authority shall, within 10 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.

10.1.4 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 (like Ms-Project / Primavera) giving the following details:

Part I Contractor's organisation for the Sub-project, the general methods and arrangements for design and construction, Management Strategies and Implementation Plans (MSIP) to manage the environmental and social (ES) risks, Quality Assurance Plan including design quality plan, traffic management and safety plan covering safety of users and workers during construction (including use of 'ROBOTS' for diversion and control of Traffic), Contractor's key personnel and equipment.

Contractor's team would design site specific ESIA (Environment social Impact Assessment) to ensure all the necessary Social and Environment compliances at the time of design and implementation. The Environment Social Management Plan (ESMP) will also be prepared during design on based on the ESIA.

Part II Programme for completion of all stages of construction given in Schedule-H and Sub-project Milestones of the Works as specified in Sub-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. The revised Program shall include ESMP, the health and safety risk assessments and any additional MSIPs as are necessary to manage the ES risks and impacts of ongoing Works.

Part III Monthly cash flow forecast.

The 'Programme' and any revision in the 'Programme' shall only be agreed in writing.

- 10.1.5 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 Sub-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.
- 10.1.6 Within 30 (thirty) days of the appointment date, the Contractor shall appoint a Safety Expert at the design stage of the Sub-project in accordance with the Applicable Laws and Good Industry Practice. The Safety Expert shall be appointed after proposing to the Authority three names of qualified and experienced personnel from whom the Authority may choose one to be the Safety Expert. Provided, however, that if the expert 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 name for obtaining the consent of the Authority. The Authority shall, within 15 (fifteen days) days of receiving a CVs 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 one of the Safety expert.
- 10.1.7 The Safety Expert shall include all safety provisions 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 Expert shall be incorporated in the design of the Sub-project and the Contractor shall forward to the Authority's Engineer a certificate to this effect together with the recommendations of the Safety Expert. In the event that any works required by the Safety Expert 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 the avoidance of doubt, the Safety Expert 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 & 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 Within 60 (sixty) days of appointment date, the Contractor shall appoint a proof check consultant of repute (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 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.

The Qualification and experience of the Proof Checking Consultant to be engaged by the contractor shall be as below-

Proof Checking Consultant
Educational Qualification

Proof Checking Consultant		
Educational Qualification		
i)	Essential	Post Graduate in Structural/bridge Engineering
ii)	Essential Experience	
	a) Total Professional Experience	15 years
	b) Experience in bridge design and engineering	Minimum 12 years in design and proof checking of bridges especially in steel bridges (As Bridge Design Engineer)
	c) Experience in similar capacity	Independently handled the design work of at least 5 Bridges minimum span of 30mtr .in similar topographic conditions.
iii)	Membership of Professional Associations	Should be a member of at least 1 professional association (such as IE(I), IAStuctE, IABSE, IRC, CEA ...etc)

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.

However, the Employer reserves the right to get the additional proof checking done through any institute of repute like IITs or equivalent or through proof checking consultant engaged by the PMU/PIU. The financial burdon of such act of the Employer shall be fully borne by the contractor. If any change in the design is suggested by the proof consultant, the contractor has to incorporate all such suggestions in the design.

10.2.4 In respect of the Contractor's obligations with respect to the design and Drawings of the Sub-project 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 Sub-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 Sub-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 Sub-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;
- (d) if the aforesaid observations of the Authority's Engineer indicate that the Drawings are not in conformity with the Scope of the Sub-project or the Specifications & 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 15 (fifteen) 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 60 (Sixty) days of the Sub-project Completion Date, the Contractor shall furnish to the Authority and the Authority's Engineer a complete set of as-built Drawings at scales **1:2500** horizontal and **1:200** vertical for road alignment and other appropriate scale for other items of work as approved by the Authority's Engineer in 2 (two) hardcopies in A 2 size sheet on polyester film of quality to be approved by the Authority's Engineer and soft copy in electronic format(CD/DVD-ROM) or in such other medium as may be acceptable to the Authority, reflecting the Sub-project as actually designed, engineered and constructed, including an as-built survey illustrating the layout of the Sub-project and setback lines, if any, of the buildings and structures forming part of Sub-project Facilities. As-built drawings shall indicate position of the kilometre stones.

10.3 Construction of the Sub-project

- 10.3.1 The Contractor shall construct the Sub-project 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 18 Months (Eighteen Months) 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.

The Contractor shall not carry out any Works, including mobilization and/or pre-construction activities (e.g. limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits), unless the Authority's Engineer is satisfied that appropriate measures are in place to address environmental and social (ES) risks, health and safety risks and impacts. At a minimum, the Contractor shall apply the Management Strategies and Implementation Plans and Code of Conduct, submitted as part of the Bid and agreed as part of the Contract. The Contractor shall submit, on a continuing basis, for the Authority Engineer's prior approval, such supplementary Management Strategies and Implementation Plans as are necessary to manage the ES risks and impacts of ongoing works. These Management Strategies and Implementation Plans collectively comprise the Contractor's Environmental and Social Management Plan (ESMP). The ESMP shall be approved prior to the commencement of construction activities (e.g. excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). The approved ESMP shall be reviewed, periodically (but not less than every six (6) months), and updated in a timely manner, as required, by the Contractor to ensure that it contains measures appropriate to the Works activities to be undertaken. The updated ESMP shall be subject to prior approval by the Authority's Engineer.

- 10.3.2 The Contractor shall construct the Sub-project in accordance with the Sub-Project Completion Schedule set forth in Schedule-J. In the event that the Contractor fails to achieve any Sub-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 (exclusive of GST) for delay of each day reckoned from the date specified in Schedule -J and until such Sub-project Milestone is achieved or the Works are completed; provided that if the period for

any or all Sub-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 15 (fifteen) 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. If the damages exceed 10% (ten percent) of the Contract Price, the Contractor shall be deemed to be in default of this agreement having no cure and the Authority shall be entitled to terminate this Agreement by issuing a Termination Notice in accordance with the provisions of Clause 23.1 (ii).

10.4 Maintenance during Construction Period

During the Construction Period, the Contractor shall maintain, at its cost, the existing lane(s) of the Sub-project 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 Sub-project. It is further agreed that in the event the Sub-project includes construction of a bypass or tunnel 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 Sub-project Completion Schedule (the "**Time Extension**") to the extent that completion of any Sub-project Milestone is or will be delayed by any of the following, namely:

- (a) delay in providing the Right of Way, environmental clearances, 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 Sub-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 Sub-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 30 (Thirty) days prior to the Sub-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 Sub-project 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.

- 10.8 The Contractor shall prepare, and keep up-to-date, a complete set of as built records of the execution of the Works, showing the exact as built locations, sizes and details on the Works as executed with cross references to all relevant specifications and data sheets. These records shall be kept on the Site and shall be used exclusively for the purpose of this Sub-Clause 10.8. The Contractor shall provide 2 (two) copies of as built records to the Authority prior to the commencement of the Tests on Completion.
- 10.9 Intellectual property in the Authority's requirements and Specifications and Standards and all other documents and materials issued by the Authority or the Authority's Representative to the Contractor shall (as between the parties) remain the property of the Authority. The Contractor may, at its cost, copy, use and communicate any such documents for the purposes of the Contract. They shall not, without the consent of the Authority, be used, copied or communicated to a third party by the Contractor, except as necessary for the purposes of the Works under the Agreement.

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 28 (twenty-eight) 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 Sub-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 14 (fourteen) 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 12 (twelve) 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 Sub-project 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.

11.6.1 Inspection and Audit by the World Bank

The World Bank and/or persons appointed by the World Bank shall have the right to inspect the Site and all accounts and records of the Contractor, its sub-contractors and sub-consultants relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the World Bank if requested by the World Bank. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Clause 3.9 [Corrupt or Fraudulent Practices] which provides, inter alia, that acts intended to materially impede the exercise of the World Bank's inspection and audit rights provided under this Clause 11.6.1 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the World Bank's prevailing sanctions procedures).

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. The Contractor agrees that reporting under this Clause 11.7 shall continue until the date of the completion of the Works. Each report shall include:

- (a) an executive summary that shall also include a statement of utilization of advance payment;
- (b) charts showing the status of Contractor's documents, construction and manufacturing and environmental works;
- (c) details of work subcontracted and the performance of Sub-contractors. A certificate from the Contractor, that no sub-contractors, other than those authorized by the Authority, are implementing the Contract;
- (d) for the construction of each main part of the Works, the extent of progress (both quantity and percentage of the whole), the actual or expected dates of commencement, anticipated completion date of the activity, Contractor's inspections and tests;

- (e) records of manpower and Contractor's equipment on the Site;
- (f) copies for that month of quality assurance documents, test results and certificates;
- (g) safety statistics, accident data collection including details of any hazardous incidents and activities relating to environmental aspects and public relations;
- (h) comparisons of actual and planned progress, with details of any aspects which may jeopardise the completion in accordance with the Agreement, and the measures being (or to be) adopted to overcome such aspects;
- (i) details of any unresolved disputes or claims, in relation to the Sub-project;
- (j) details of any revision to the cash flow estimate, together with a copy of the revised cash flow estimate;
- (k) status of various Applicable Permits and compliance of conditions therein;
- (l) details of various royalty payment and insurances required to be taken by the Contractor; and
- (m) such other reports as may be required by the Authority for enabling the Authority to comply with its obligations under the other Sub-project contracts.
- (n) details of defects by the Authority;
- (o) change in emission of any sewage or effluent of any nature whatsoever, whether qualitatively or quantitatively;
- (p) any Material Adverse Effect;
- (q) declaration towards compliance with Applicable Laws including but not limited to environmental and labour legislations;
- (r) declaration specifying compliance with all Manuals provided to the Contractor; and
- (s) any change in the flow of traffic in the existing Sub-project.

This report will also include progress on the ES Management Strategies and Implementation Plans (ES-MSIP) to manage the (ES) risks, and compliance to the applicable Laws/ Rules/ Regulations for protection of environment, public health and safety, and the applicable parts of the Contractor's Environment and Social Management Plan of the Sub-project.

In addition to the progress report the Contractor shall also provide a report on the Environmental and Social (ES) metrics set out in Appendix B. In addition to Appendix B reports, the Contractor shall also provide immediate notification to the Authority's Engineer of incidents in the following categories. Full details of such incidents shall be provided to the Authority's Engineer within the timeframe agreed with the Authority's Engineer.

- (a) confirmed or likely violation of any law or international agreement;
- (b) any fatality or serious (lost time) injury;

- (c) significant adverse effects or damage to private property (e.g. vehicle accident, damage from fly rock, working beyond the boundary)
- (d) major pollution of drinking water aquifer or damage or destruction of rare or endangered habitat (including protected areas) or species; or
- (e) any allegation of gender-based violence, sexual exploitation or assault (SEA), sexual harassment or sexual misbehaviour, rape, child abuse, or defilement, or other violations involving children.

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 checks by the Authority's Engineer shall comprise of 50% (fifty percent) of all 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 Sub-project, 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 Sub-project Milestones or the Authority's Engineer shall have reasonably determined that the rate of progress of Works is such that Completion of the Sub-project 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 Sub-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. The Contractor shall submit Road Signage Plans to the Authority Engineer for approval at least 6 (six) months prior to expected completion of Sub-project.

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.

11.18 Protection of Environment

The Contractor shall ensure that during continuance of the contract, the Contractor and his Subcontractor(s) shall abide at all times by all existing enactments on environmental protection and rules made thereunder, regulations, latest notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority. Salient features of some of the major laws that are applicable are given below:

1. The Environment (Protection) Act, 1986 and as amended: This provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.
2. The Forest Conservation Act, 1980, as amended, and Forest (Conservation) Rules, 1981 as amended: These provides for protection of forests by restricting conversion of forested areas into non-forested areas and prevention of deforestation, and stipulates the procedures for cutting any trees that might be required by the applicable rules. Permissions under the Act also stipulates the norms and compliance requirements of the Authority and any contractor on behalf of the employer.
3. State Tree Preservation Acts as may be in force: These provide for protection of trees of important species. Contractors will be required to obtain prior permission for full or partial cutting, uprooting, or pruning of any such trees.
4. The Wildlife (Protection) Act, 1972, and as amended: This provides for protection of wildlife through notifying National Parks and Sanctuaries and buffer areas around these zones; and to protect individuals of nationally important species listed in the Annex of the Act.
5. The Biological Diversity Act, 2002: This provides for conservation of biological diversity, sustainable use of components of biological diversity, and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.
6. The Public Liability Insurance Act, 1991 as amended and The Public Liability Insurance Rules, 1991 as amended: These provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.
7. The Ancient Monuments and Archaeological Sites and Remains Act, 1958 and the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010, the

Ancient Monuments and Archaeological Sites and Remains Rules, 1959 amended 2011, the National Monuments Authority Rules, 2011 and the similar State Acts: These provide for conservation of cultural and historical remains found in India. Accordingly, area within the radii of 100m and 300m from the “protected property” are designated as “protected area” and “controlled area” respectively. No development activity (including building, mining, excavating, blasting) is permitted in the “protected area” and development activities likely to damage the protected property is not permitted in the “controlled area” without prior permission of the Archaeological Survey of India (ASI) or the State Departments of Art and Culture or Archaeology as applicable.

8. The Environmental Impact Assessment Notification, 2006 and as amended: This provides for prior environmental clearance for new, modernization and expansion Sub-projects listed in Schedule 1 of the Notification. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any environmental management plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the Authority and compliance report stipulated in the permission under the Notification.
9. The Water (Prevention and Control of Pollution) Act, 1974 as amended, and the Water (Prevention and Control of Pollution) Rules, 1975 as amended: These provide for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. ‘Pollution’ means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates waste water, and observe the required standards of establishment and operation of these items of work or installations; as well as install and operate all required waste water treatment facilities.
10. The Water (Prevention and Control of Pollution) Cess Act, 1977 and The Water (Prevention and Control of Pollution) Cess Rules, 1978: These provide for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution under the Water (Prevention and Control of Pollution) Act, 1974.
11. The Air (Prevention and Control of Pollution) Act, 1981 as amended, and the Air (Prevention and Control of Pollution) Rules, 1982: These provides for prevention, control and abatement of air pollution. ‘Air Pollution’ means the presence in the atmosphere of any ‘air pollutant’, which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates air pollution such as batching plants, hot mix plants, power generators, backup power generation, material handling processes, and observe the required standards of establishment and operation of these items of work or installations.
12. Noise Pollution (Control and Regulation) Rules, 2000, and as amended: This provides for standards for noise for day and night for various land uses and specifies special standards in and

around sensitive receptors of noise such as schools and hospitals. Contractors will need to ensure compliance to the applicable standards, and install and operate all required noise control devices as may be required for all plants and work processes.

13. Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996: This provides for Requirement of preparation of on-site and off-site Disaster Management Plans for accident-prone areas.
14. The Explosives Act 1884 and the Explosives Rules, 2008: These provide for safe manufacture, possession, sale, use, transportation and import of explosive materials such as diesel, Oil and lubricants etc.; and also, for regulating the use of any explosives used in blasting and/or demolition. All applicable provisions will need compliance by the contractors.
15. The Petroleum Rules, 2002: This provides for safe use and storage of petroleum products, and will need to be complied by the contractors.
16. The Gas Cylinder Rules 2004 and amendments: This provides for regulations related to storage of gas, and possession of gas cylinder more than the exempted quantity. Contractors should comply with all the requirements of this Rule.
17. Manufacture, Storage and Import of Hazardous Chemical Rules of 1989 and as amended: These provide for use and storage of hazardous material such as highly inflammable liquids like HSD/LPG. Contractors will need to ensure compliance to the Rules; and in the event where the storage quantity exceeds the regulated threshold limit, the contractors will be responsible for regular safety requirements and other reporting requirements as prescribed in the Rules.
18. Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016: These provide for protection of general public from improper handling storage and disposal of hazardous waste. The rules prescribe the management requirement of hazardous wastes from its generation to final disposal. Contractors will need to obtain permission from the State Pollution Control Boards and other designated authorities for storage and handling of any hazardous material; and will to ensure full compliance to these rules and any conditions imposed in the permit.
19. The Bio Medical Waste Management Rules, 2016: This provides for control, storage, transportation and disposal of bio-medical wastes. As and where the contractor has any first aid facility and dispensaries, established in either temporary or permanent manner, compliance to these Rules are mandatory.
20. Construction and Demolition Waste Management Rules, 2016: This provides for management of construction and demolition waste (such as building materials possible to be reused, rubble and debris or the like); and applies to all those waste resulting from construction, re-modelling, repair or demolition of any civil structure. Contractor will need to prepare a waste disposal plan and obtain required approval from local authorities, if waste generation is more than 20 tons in any day or 300 tons in any month during the contract period; and ensure full compliance to these rules and any conditions imposed in the regulatory approval.
21. The E-Waste (Management) Rules, 2016: This provides for management of E-wastes (but not covering lead acid batteries and radio-active wastes) aiming to enable the recovery and/or reuse of useful material from e-waste, thereby reducing the hazardous wastes destined for disposal and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment. This Rule applies to every manufacturer, producer, consumer, bulk consumer,

- collection centres, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational.
22. Plastic waste Management Rules, 2016: This provides for control and management of the plastic waste generated from any activity. Contractors will ensure compliance to this Rule.
 23. The Batteries (Management and Handling) Rules 2001: This provides for ensuring safe disposal and recycling of discarded lead acid batteries likely to be used in any equipment during construction and operation stage. Rules require proper control and record keeping on the sale or import of lead acid batteries and recollection of the used batteries by registered recyclers to ensure environmentally sound recycling of used batteries. Contractors will ensure compliance to this Rule.
 24. The Ozone Depleting Substances (Regulation and Control) Rules, 2000 and as amended: This provides for regulation of production and consumption of ozone depleting substances in the country, and specifically prohibits export to or import from countries not specified in the Rules, and prohibits unless specifically permitted, any use of ozone depleting substance.
 25. The Coastal Regulation Zone Notifications, 1991 and as amended: This provides for regulation of development activities within the 500m of high tide line in coastal zone and 100m of stretches of rivers and estuaries influenced by tides. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the Authority and compliance report stipulated in the permission under the Notification.
 26. The Motor Vehicle Act 1988 as amended (and State Motor Vehicle Acts as may be in force) and the Motor Vehicle Rules, 1989, and as amended (and State Motor Vehicle Rules as may be in force): To minimize the road accidents, penalizing the guilty, provision of compensation to victim and family and check vehicular air and noise pollution. Contractors will be required to ensure full compliance to these rules.
 27. Easement Act, 1882: This provides for the rights of landowners on groundwater. Contractors will need to ensure that other landowners' rights under the Act is not affected by any groundwater abstraction by the contractors.
 28. State Groundwater Acts and Rules as may be in force and the Guidelines for Groundwater Abstraction for drinking and domestic purposes in Notified Areas and Industry/Infrastructure Sub-project proposals in Non-Notified areas, 2012: These provide for regulating extraction of ground water for construction/industrial and drinking and domestic purposes. Contractors will need to obtain permission from Central/State Groundwater Boards prior to groundwater abstraction through digging any bore well or through any other means; and will to ensure full compliance to these rules and any conditions imposed in the permit.
 29. The Mines Act, 1952 as amended; the Minor Mineral and concession Rules as amended; and the State Mineral (Rights and Taxation) Acts as may be in force: These provide for safe and sound mining activity. The contractors will procure aggregates and other building materials from quarries and borrow areas approved under such Acts. In the event the contractors open any new quarry and/or borrow areas, appropriate prior permission from the State Departments of Minerals

and Geology will need to be obtained. Contractors will also need to ensure full compliance to these rules and any conditions imposed in the permit.

30. The Insecticides Act, 1968 and Insecticides Rules, 1971 and as amended: These provide for regulates the manufacture, sale, transport, distribution, export, import and use of pesticides to prevent risk to human beings or animals, and for matters connected therewith. No one should import or manufacture; sell, stock or exhibit for sale; distribute, transport, use: (i) any misbranded insecticides, (ii) any insecticide the sale, distribution or use of which is for the time being prohibited under the Act; and (iii) any insecticide except in accordance with the condition on which it was registered under the Act.
31. National Building Codes of India, 2005 and as amended: This provides guidelines for regulating the building construction activities in India. The code mainly contains administrative regulations, development control rules and general building requirements; stipulations regarding materials, structural design and construction; and building and plumbing services. Contractors will be required to comply with all Bureau of Indian Standards Codes dealing with: (i) use and disposal of asbestos containing materials in construction; (ii) paints containing lead; (iii) permanent and temporary ventilations in workplace; (iv) safety, and hygiene at the workplace; (v) prevention of fire; (vi) prevention of accidents from faulty electrical gadgets, equipment and accessories; and all other such codes incidental to the Contract.

The reference to above mentioned Acts is only illustrative and not exhaustive. Bidders and Contractors are responsible for checking the correctness and completeness of the list. The law as current on the date of bid opening will apply.

The Contractor shall follow and implement the Environmental and Social Management Plan given at Specification and also the updates if any.

The contractor shall develop Environmental and Social Management Systems that covers all its operations and shall be certified to ISO 14001 within one year from the award of the contract.

The contractor shall develop Occupational Health & Safety Management Systems that cover all its activities / operations and shall be certified to OHSAS 18001 within one year from the award for contract.

The Contractor shall implement all mitigation measures for which responsibility is assigned to him as stipulated in the Environmental and Social Management [Plan/Framework (*strike out whichever is not applicable*)], and the conditions stipulated in Section VII-Work Requirements: Conditions of Contract together with Schedules, of this Bidding Document, even if not explicitly covered under the ESMP submitted by the bidder and made part of the Contract Document.

11.19 Labour Laws

The Contractor and its Subcontractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of Government and Government Instrumentality and any other labour law (including rules), regulations, byelaws that may be passed or notification that may be issued under any labour law in future either by the Government and Government Instrumentality.

The contractor shall require all personnel engaged in the works to obey all applicable laws and regulations. The contractor shall permit Authority to witness labour payments for the

contractorsdirect labour, or the subcontractors labour. The contractor shall ensure that all its subcontractors strictly comply with all labour laws.

The employer shall not be liable for any delay/default of the contractor in compliance of the labour laws.

The contractor shall provide and maintain all necessary accommodation and welfare facilities for personnel engaged for the works. The contractor shall not permit any personnel engaged for the works any temporary or permanent living quarters within the structures forming part of the works.

The Contractor shall keep the Authority indemnified in case any action is taken against the Authority by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Authority is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications / bye-laws / acts / rules / regulations including amendments, if any, on the part of the Contractor, the Authority shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Authority.

All necessary precautions shall be taken by the Contractor to ensure the health and safety of staff and labour engaged for the Works. The Contractor shall, in collaboration with and to the requirements of the local health authorities, ensure that para-medical staff, first aid facilities, ambulance service are available on the Site at all times, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics. The Contractor shall appoint a Occupational Health and Safety Officer to be responsible for the safety of personnel on the Site. This safety officer shall be qualified for his work and shall have the authority to issue instructions concerning safety and take protective measures to prevent accidents. The Contractor shall maintain records and make reports concerning health, safety and welfare of personnel, and damage to property, in such manner as the Authority may reasonably require.

The Contractor is expected to be acquainted with all the latest applicable Laws, including those concerning safety at work. Salient features of some of the major laws that are applicable are given below. The list is illustrative and not exhaustive. Bidders and Contractors are responsible for checking the correctness and completeness of the list. The law as current on the date of bid opening will apply refer to Section VII - Annex 1.

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst its personnel, and to preserve peace and protection of people and property in the neighbourhood of the Works.

ARTICLE 12
COMPLETION CERTIFICATE

12.1 Tests on completion

- 12.1.1 At least 30 (thirty) days prior to the likely completion of the Sub-project, or a Section thereof, the Contractor shall notify the Authority's Engineer of its intent to subject the Sub-project 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 Sub-project 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 Sub-project 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 Sub-project 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 Sub-project, 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 Sub-project 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 cannot 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 Sub-project 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 Sub-project 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 Deleted

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 Sub-project 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.

Provided that any such Change of Scope, be it positive or negative, (a) that does not include major structures (e.g. Major Bridge/ ROB/ RUB/ Flyover/ elevated road of more than 50 m length), if agreed to be executed, before expiry of 50% of the original Scheduled Construction Period of the Sub-project, shall not entail Extension of Time/ Prolongation; and (b) any such Change of Scope, that includes major structures (e.g. Major Bridge/ ROB/ RUB/ Flyover/ elevated road of more than 50 m length) may entail Extension of Time/ Prolongation related claims, against the Authority.

13.1.2 Change of Scope shall mean:

- (a) change in specifications of any item of Works (after the approval of design, drawings, submitted by the contractor, from the competent authority);
- (b) omission of any work from the Scope of the Sub-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 Sub-project, including any associated Tests on completion of such additional 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 Sub-project, (iii) improve the efficiency or value to the Authority of the completed Sub-project, 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 through the Authority’s Engineer to consider such Change of Scope. The Authority shall, within 30 (thirty) days of receipt of such proposal, either accept such Change of Scope with modifications, if any, and initiate proceedings therefore 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**”). The

Contractor shall submit a detailed proposal as per Clause 13.2.2 within 15 days from the receipt of 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 Sub-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 Sub-project Completion Schedule of the Sub-project.

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:

The parties agree that costs and time for implementation of the proposed Change of Scope shall be determined as per the following:

- (a) For works where Schedule of Rates (SOR) of Uttarakhand Public Works Department applicable at the Base Date are available, the same shall be applicable for determination of costs. In case of non-availability of Schedule of Rates at the Base Date, the available Schedule of Rates shall be applied by updating the same based on WPI.
- (b) For item of Works not included in Schedule of Rates as mentioned in sub-para (a) of Clause 13.2.3 above, the cost of same shall be derived on the basis of MORTH Standard Data Book and the Authority's Engineer shall determine the prevailing market rates and discount the same considering WPI to achieve the prevailing rate at the Base Date, 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. For the avoidance of doubt, in case the cost as determined by the Contractor and the Authority reveals a difference of more than 10% (ten per cent), the cost as determined by the Authority shall be considered as final and binding on the Contractor.
- (c) The design charges shall be considered only for new works or items (i.e. the Works or items not similar to the works or items in the original scope) @ 1% (one per cent) of cost of such new works or items.
- (d) The costs of existing works or items, which are being changed/ omitted shall also be valued as per above procedure and only net cost shall be considered.

(e) The reasonable time for completion of works to be taken under Change of Scope shall be determined by the Authority's Engineer on the basis of Good Industry Practice and if such time exceeds the Scheduled Completion Date, the issue of Completion Certificate shall not be affected or delayed on account of construction of Change of Scope items/ works remaining incomplete on the date of Tests.

13.2.4 Upon consideration of the detailed proposal submitted by the Contractor under the Clause 13.2.3, the Authority, within 15 (fifteen) days of receipt of such proposal, may in its sole discretion either accept such Change of Scope with modifications, if any, and initiate proceedings in accordance with this Article 13 or reject the proposal and inform the Contractor of its decision thereof.

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.

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, that too with verbal approval of Authority which shall be confirmed in writing in next 3 (three) days.

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 Sub-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, get these executed through agencies selected by the Authority in accordance with its own relevant rules and regulations. The Contractor shall provide assistance and cooperation to the Agency that undertakes the works or services hereunder. The Contractor shall not be responsible for rectification of any Defects, but the Contractor shall carry out maintenance of such works after completion of Defect Liability Period of work by other person or agency during the remaining period of this agreement, without extra payment for maintenance.

- 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 Sub-project. 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.

ARTICLE 14
MAINTENANCE
Not applicable

ARTICLE 15

SUPERVISION AND MONITORING DURING MAINTENANCE

Not applicable

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 of the Sub-project 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 Sub-project 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 and defects not attributable to the Contractor, in the Sub-Project or any Section thereof, till the Defects Liability Period which shall be 24 (twenty-four) months from the date of Completion of the Sub-project for and in respect of works for which Time Extension was granted.

17.1.2 Deleted

17.2 Remedyng 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 Sub-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 Sub-project 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 Sub-project 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.

17.7 Performance Certificate

Deleted

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 within 10 (Ten) [Referring Article-10, clause- 10.1.3] days from the date of this Agreement. The Authority shall notify the appointment or replacement of the Authority’s Engineer to the Contractor. In the event of any replacement or termination of Authority’s Engineer, the Authority shall appoint its representative to act as Authority’s Engineer till such replacement.
- 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;
 - (d) issuance of completion certificate; or
 - (e) 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 0.2% of Contract price.
- 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 20 (twenty) 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 Expert.

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 7 (seven) 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

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.

18.8 Resolution of issues between Authority's Engineer and Contractor

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. 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. If the issue is not resolved at this stage, then the Authority shall take up this matter to the top management of the Authority's Engineer and the Contractor for resolution. If still remains unresolved, then the decision of the Authority in this regard is final and binding.

Part V

Financial Covenants

ARTICLE 19 PAYMENTS

19.1 Contract Price

19.2 Advance Payment²⁴

- 19.2.1 Advance Payments shall be made in Indian Rupees only. The amount of the Advance Payments are:

<u>Nature of Advance</u>	<u>Amount (INR)</u>	<u>Conditions to be fulfilled</u>
1. Mobilization	10% of the initial Contract price excluding GST	On submission of un-conditional Bank Guarantee and after verification from issuing bank. (to be drawn before end of 20% of Contract period)

(The advance payment will be paid to the Contractor no later than 15 days after fulfillment of the above conditions).

Repayment of advance payment for mobilization and equipment:

The advance shall be repaid with percentage deductions from the Interim payments certified by the Sub-Project Manager under the Contract. Deductions shall commence In the next Interim Payment Certificate following that In which the total of all such payments to the contractor has reached not less than 15 percent of the Contract Price or three months from the date of payment of first Installment of advance, whichever period concludes earlier, and shall be made at the rate of 10 percent of the amounts of all Interim Payment Certificates until such time as the advance has been repaid, always provided that the advance shall be completely repaid prior to the expiry of 80 %the original time for completion.

- 19.2.2 The Contractor may apply to the Authority for the first installment of the Advance Payment at any time after the Appointed Date, along with an irrevocable, non transferrable and unconditional guarantee from a Bank for an amount equal to the advance payment installment, in the form provided at Annex-III of Schedule-G, to remain effective till the complete and full repayment thereof.
- 19.2.3 At any time after 60 (sixty) days from the Appointed Date, the Contractor may apply for the second installment of the Advance Payment along with an irrevocable, non transferrable and unconditional guarantee from a Bank for an amount equal to the value of the advance payment installment, in the form provided at Annex-III of Schedule-G, to remain effective till the complete and full repayment thereof. The application shall also include the details of utilization of earlier advances.
- 19.2.4 At any time, after 90(ninety) days from the Appointed Date, the Contractor may apply to the Authority for the third installment of the Advance Payment along with an irrevocable, non transferrable and unconditional guarantee from a Bank for an amount equal to the value of the advance payment installment, in the form provided at Annex-III of Schedule-G, to remain effective till the complete and full repayment thereof. The application shall also include the details of utilization of earlier advances.
- 19.2.5 The first, second and the third installments 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 Each installment of Advance Payment shall be repaid by the Contractor to the Authority no later than80 % the original time for completion.
- 19.2.7 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, work zone safety equipment, temporary road safety equipmentetc.; and mobilization expenses required specifically for the execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Authority's Engineer.
- 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 percent) per annum above the Base Rate 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 installment of the Advance Payment, regardless of whether the installment 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 Works²⁵

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 15 (fifteen) 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 75 (seventy-five) 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 90 (ninety) percent 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 30 (thirty) 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 if the Contractor was, or is, failing to perform any ES obligations or work under the Contract, the value of this work or obligation, as determined by the Authority's Engineer, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Authority's Engineer, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following:

- i. failure to comply with any ES obligations or work described in the Works' Requirements which may include: working outside site boundaries, excessive dust, failure to keep public roads in a safe usable condition, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g. from oils, human waste, damage to archaeology or cultural heritage features, air pollution as a result of unauthorized and/or inefficient combustion;
- ii. failure to regularly review ESMP and/or update it in a timely manner to address emerging ES issues, or anticipated risks or impacts;
- iii. failure to implement the ESMP e.g. failure to provide required training or sensitization;
- iv. failing to have appropriate consents/permits prior to undertaking Works or related activities;
- v. failure to submit ES report/s (as described in Appendix B), or failure to submit such reports in a timely manner;

failure to implement remediation as instructed by the Engineer within the specified timeframe (e.g. remediation addressing non-compliance/s).

19.5.6 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 Sub-project- Not Applicable.

- 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 Sub-project 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 Sub-project

Not applicable

19.8 Payment of Damages

Not applicable

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 90 (ninety) 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 90 (ninety) 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 90 (ninety) 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 State Bank of India 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

Not applicable

19.11 Restrictions on price adjustment

Deleted

19.12. Price adjustment for Maintenance of Sub-project

Not applicable

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 90 (Ninety) 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

Not applicable

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 Sub-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% of the Contract Price for each day by which the Sub-project Completion Date precedes the Scheduled Completion Date, but subject to a maximum of 5% (five per cent) of the Contract Price²⁶. 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 works shall always be deemed to be as specified in this Contract Agreement but excluding the works deemed to be deleted from the scope of work under clause 8.3 of this Contract Agreement and the Contract Price shall always be deemed to be the amount specified in Clause 19.1.1, after excluding the Contract Price of the Works deemed to be deleted from the Scope of Work under clause 8.3 of this Contract Agreement 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.

19.21 Escrow Account

The Contractor may open an Escrow Account with his bank for the purpose of receiving all the payments as well as incurring expenditure under this Contract. The Account shall be open to verification and audit at any time by the Authority or designee of the Employer. This account will be controlled solely by the Contractor's Sub-project Officers (Sub-project Manager and/or Finance Manager or equivalent designate). No other Contractor employees or associates will have access to the Sub-project Account or the funds therein. The Contractor shall report monthly on the status of this account including actual bank account statements. The Contractor shall provide all Account statements as requested by the Employer. At any time during the contract execution, the employer may notify the contractor to open the Escrow Account in the interest of the work. The contractor will be bound to accept the decision of the employer.

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 Sub-project 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 Sub-project 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.

20.12 The Contractor must:

- (a) immediately deposit copies of the policies or certificates of any insurance which it is required to effect under the Contract, together with receipts for the premiums;
- (b) effect all insurances for which the Contractor is responsible with an insurer approved by the Authority;
- (c) make no material changes to the terms of any insurance without the Authority's approval;
- (d) in all respects comply with any conditions stipulated in the insurance policies which the Contractor is required to effect under the Agreement or which the Authority has effected in relation to the Facility and notified to the Contractor; and shall provide all assistance to the Authority in the application for, and finalization of, such comprehensive insurance package;
- (e) regardless of the extent of settlement of claims by the underwriters or the time taken for settlement of claims, the Contractor shall make good any loss, or damage at its own cost promptly;
- (f) provide all assistance to the Authority in the application for, and finalization of, such comprehensive insurance package;
- (g) pay the Contractor's share of the insurance premiums for insurance premiums allocated under such comprehensive insurance package policy to the insurances directly to the insurance provider promptly on demand. Incase the Contractor fails to make such payment in time, the Authority may elect to pay the Contractor's share and adjust it against amounts payable to the Contractor under this Agreement;
- (h) in the case of occurrence of any event leading to an insurance claim, promptly follow the procedures specified by the insurance provider, and provide full cooperation and access to the insurance provider or its representative, to settle the claim expeditiously;
- (i) require all the Sub-Contractors providing equipment and materials or services to the Contractor or the Authority to obtain, maintain and keep in force during the time in which they are involved in the performance of the Works hereunder insurance coverage consistent with the Contractor's insurance obligations hereunder and the Contractor shall also be responsible for fulfillment of this requirement; and
- (j) the required insurance coverage and the Contractor's obligations-referred to shall in no way affect or limit the Contractor's liability with respect to its performance of the Works. Nothing in this Section shall limit or relieve the Contractor of its liabilities and obligations under this Agreement.

Part VI

Force Majeure and Termination

ARTICLE21
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 Sub-project 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 Sub-project 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 Sub-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 Sub-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 Sub-project 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 and the Environmental and Social (ES) 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 Sub-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 Sub-project 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 fails to adhere to agreed ESMP 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 Sub-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, or the Contractor fails to rectify any Defect, the non-rectification of which shall have a Material Adverse Effect on the Sub-project, within the time specified in this Agreement or as directed by the Authority’s Engineer;
- (h) the Contractor fails to rectify any Defect, the non-rectification of which shall have a Material Adverse Effect on the Sub-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 Sub-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 fulfill 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 Sub-project or on the Authority.
- (s) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:
 - (i) for doing or forbearing to do any action in relation to the Contract, or
 - (ii) for showing or forbearing to show favour or disfavour to any person in relation to the Contract, or
 if any of the Contractor's personnel, agents or subcontractors gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in

this sub-paragraph (s). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination

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 informing 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 Sub-project;
- (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.
- (f) the whole work is suspended by Authority beyond 120 (one hundred twenty) days for any reason which is not attributed to the Contractor.

23.2.2 If the Authority determines, based on reasonable evidence, that the Contractor has engaged in corrupt, fraudulent, collusive or coercive practices, in competing for or in executing the Contract, then the Authority may, after giving 14 days' notice to the Contractor, terminate the Contract and expel him from the Site, and the provisions of Article 23 shall apply as if such termination had been made under Clause 23.1 should any employee of the Contractor be determined, based on reasonable evidence, to have engaged in corrupt, fraudulent or coercive practice during the execution of the work then that employee shall be removed from the site or

works. If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

23.2.3 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 Sub-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 State Bank of India 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 Sub-project 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 Sub-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 VII

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 Sub-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 Sub-project, 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

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.

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 but before this, the first 28 days shall be reserved for amicable settlement between the both parties; for which any of the parties can apply for the amicable settlement before the Secretary, Disaster Management, Government of Uttarakhand; the other party shall be bound to participate in the proceedings. If the settlement is not done within next 28 days, then only either party may refer the dispute to arbitration (after the above 56 days), otherwise the Conciliator’s decision shall be final and binding.

26.3 Arbitration

26.3.1 Any Dispute which is not resolved amicably by conciliation, as provided in Clause 26.1.2, shall be finally decided by reference to arbitration by a Board of Arbitrators appointed in accordance with Clause 26.3.2. Such arbitration shall be held in accordance with the Arbitration & Conciliation Act, 1996 of India.

26.3.2. Disputes shall be settled by arbitration in accordance with the following provisions:

1. **Selection of Arbitrators.** Each dispute submitted by a Party to arbitration shall be heard by an arbitration tribunal composed of three (3) arbitrators, in accordance with the following provisions:

(a) the Authority and the Contractor shall each appoint one (1) arbitrator, and these two arbitrators shall jointly appoint a third arbitrator, who shall chair the arbitration tribunal. If the arbitrators named by the Parties do not succeed in appointing a third arbitrator within thirty (30) days after the latter of the two (2) arbitrators named by the Parties has been appointed, the third arbitrator

shall, at the request of either Party, be appointed by Secretary, the Indian Council of Arbitration²⁷, New Delhi

- (b) If, in a dispute subject to paragraph (a) above, one Party fails to appoint its arbitrator within thirty (30) days after the other Party has appointed its arbitrator, the Party which has named an arbitrator may apply to the Secretary, the Indian Council of Arbitration, New Delhi to appoint an arbitrator for the matter in dispute, and the arbitrator appointed pursuant to such application shall be the arbitrator of the other party for that dispute.
2. Rules of Procedure. Arbitration proceedings shall be conducted in accordance with procedure of the Arbitration & Conciliation Act 1996, of India.
3. Substitute Arbitrators. If for any reason an arbitrator is unable to perform his/her function, a substitute shall be appointed in the same manner as the original arbitrator.
4. Nationality and Qualifications of Arbitrators. The arbitrators appointed pursuant to paragraphs 1(a) through 1(b) above shall be an expert with extensive experience in relation to the matter in dispute.
5. Miscellaneous. In any arbitration proceeding hereunder:
- (a) proceedings shall be held in Dehradun, Uttarakhand.
 - (b) the English language shall be the official language for all purposes; and
 - (c) the decision of the majority of the arbitrators shall be final and binding and shall be enforceable in any court of competent jurisdiction, and the Parties hereby waive any objections to or claims of immunity in respect of such enforcement.
 - (d) The expenses incurred by each party in connection with the dispute preparation, presentation etc. of its proceedings as also the fees and expenses paid to the Arbitrator appointed by such party or on its behalf shall be borne by each party itself. Fees and expenses for the Presiding Arbitrator including the cost of proceedings shall be shared equally by both the parties.
 - (e) Court Jurisdiction:
The expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings shall be borne by each party itself. If the contractor invokes the arbitration, then the contractor himself has to bear all the expenses of his own as well as of the employer towards the payments of the Fees of the arbitrators as decided by the arbitral tribunal.

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 Uttarakhand 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 90(Ninety) 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 State Bank of India saving banks account prevailing interest 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 Sub-project 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 RFB as the case may be, 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 Dehradun 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;

(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 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 Dehradun 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 Sub-project 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 and the Environmental and Social (ES) Performance Security, in accordance with the provisions of Article 7 and the date on which the Authority has provided in stretches the Right of Way on first Section as per Schedule A;

“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 fulfill 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/joint venture] in response to the Request for Bids 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 Bids, and which is to remain in force until substituted by the Performance Securityandthe Environmental and Social (ES) 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.

“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;

“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;

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

“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 Sub-project, including Users thereof, or which poses an immediate threat of material damage to any of the Sub-project Assets;

“Encumbrances” means, in relation to the Sub-project, 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 Sub-project, where applicable herein but excluding utilities referred to in Clause 9.1;

“EPC” means engineering, procurement and construction;

“ES” means environmental, social (including sexual exploitation and assault (SEA) and gender-based violence);

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

“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/GOUK” or “Government” means the Government of India / Government of Uttarakhand as the case may be;

“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 Sub-project 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, trademarks, 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, semi-conductor, 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;

“Joint Venture” means the group of entities which, for implementation of the Sub-project, have come together in the form of a joint venture (JV), wherein all JV members are jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms;

{“**Lead Member**” shall, in the case of a Joint Venture (JV), mean the member of such JV who shall have the authority to bind the contractor and each member of the JV; and shall be deemed to be the Contractor for the purposes of this Agreement;}{^s}

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

“Maintenance” means the maintenance of the Sub-project 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:73-2007) and Specifications for Four Laning of Highways (IRC: SP:84-2009) as the case may be for the construction of the Bridge work as per Schedule A;

“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 Sub-project;

“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;

“Sub-project” means Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh, **Uttarakhand**, 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 Sub-project;

“Sub-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, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices; and (b) Sub-project Facilities situated on the Site;

“Sub-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;

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

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

“Sub-projectSite” means the Site is located over Dholi River, at Sela Village in District Pithoragarh, Uttarakhand and all Sub-Project Assets, and its subsequent development and augmentation in accordance with this Agreement;

“Sub-project Milestone” means the Sub-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” or “INR” means the lawful currency of the Republic of India;

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

“Request for Qualification” or “RFQ” shall have the meaning set forth in Recital ‘C’;

“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 Sub-project in accordance with this Agreement;

“Safety Expert” 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 Sub-project” shall have the meaning set forth in Clause 2.1;

“Section” means a part of the Sub-project;

“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 Sub-project, as set forth in Schedule-D, and any modifications thereof, or additions thereto, as included in the design and engineering for the Sub-project 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 Sub-project 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 Sub-project 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 Sub-project 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

SIGNED, SEALED AND

DELIVERED

DELIVERED

For and on behalf of the Employer by:

For and on behalf of the Contractor by:

Vineet Kumar, IAS
in the capacity of: **Program Manager,**
PIU (PWD), U-PREPARE

_____,
In the capacity of: _____

In the presence of

In the presence of

(1)

(1)

(2)

(2)

APPENDIX TO CONDITIONS OF CONTRACT

(text in this Appendix shall not be modified)

Fraud and Corruption

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Sub-Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:
 - i. “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii. “fraudulent practice” is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii. “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - iv. “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - v. “obstructive practice” is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - (b) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under paragraph 2.2 e. below.

- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;²⁸ (ii) to be a nominated²⁹ sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed Sub-project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect³⁰ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

APPENDIX A
(to Conditions of Contract)
A General Conditions of Dispute Board Agreement
Not applicable as per Article No. 26

APPENDIX B

Environmental and Social (ES)

Metrics for Progress Reports

[Note to Employer: the following metrics may be amended to reflect the specifics of the Contract. The metrics that are required should be determined by the ES risks and impacts of the Works and not necessarily by the size of the Contract]

Metrics for regular reporting:

- a. environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;
- b. health and safety incidents, accidents, injuries that require treatment and all fatalities;
- c. interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);
- d. status of all permits and agreements:
 - i. work permits: number required, number received, actions taken for those not received;
 - ii. status of permits and consents:
 - *list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);*
 - *list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);*
 - *identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);*
 - *for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).*
- e. health and safety supervision:

safety expert: number days worked, number of full inspections & partial inspections, reports to construction/Sub-project management;

number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);
- f. worker accommodations:
 - i. number of expats housed in accommodations, number of locals;
 - ii. date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;

- actions taken to recommend/require improved conditions, or to improve conditions.
- g. Health Services: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);
 - h. gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);
 - i. training:
 - i. number of new workers, number receiving induction training, dates of induction training;
 - ii. number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
 - iii. number and dates of communicable diseases (including STDs) sensitization and/or training, no. workers receiving training (in the reporting period and in the past); same questions for gender sensitization, flag person training.
 - iv. number and date of SEA prevention sensitization and/or training events, including number of workers receiving training on Code of Conduct for Contractor's Personnel (in the reporting period and in the past), etc.
 - j. environmental and social supervision:
 - i. environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;
 - ii. sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and
 - iii. community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.
 - k. *Grievances:* list new grievances (e.g. number of allegations of SEA) received in the reporting period and number of unresolved past grievances by date received, complainant's age and sex, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):
 - i. Worker grievances;
 - ii. Community grievances
 - l. Traffic, road safety and vehicles/equipment:
 - i. traffic and road safety incidents and accidents involving Sub-project vehicles & equipment: provide date, location, damage, cause, follow-up;

- ii. traffic and road safety incidents and accidents involving non-Sub-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
 - iii. overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).
- m. Environmental mitigations and issues (what has been done):
- dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/spoil lorries with covers, actions taken for uncovered vehicles;
 - erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;
 - quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;
 - blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);
 - spill clean-ups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination);
 - waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;
 - details of tree plantings and other mitigations required undertaken in the reporting period;
 - details of water and swamp protection mitigations required undertaken in the reporting period.
- n. compliance:
- compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;
 - compliance status of ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
 - compliance status of SEA prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
 - compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
 - other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle

covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

Schedules

SCHEDULE - A

(See Clauses 2.1 and 8.1)

SITE OF THE SUB-PROJECT

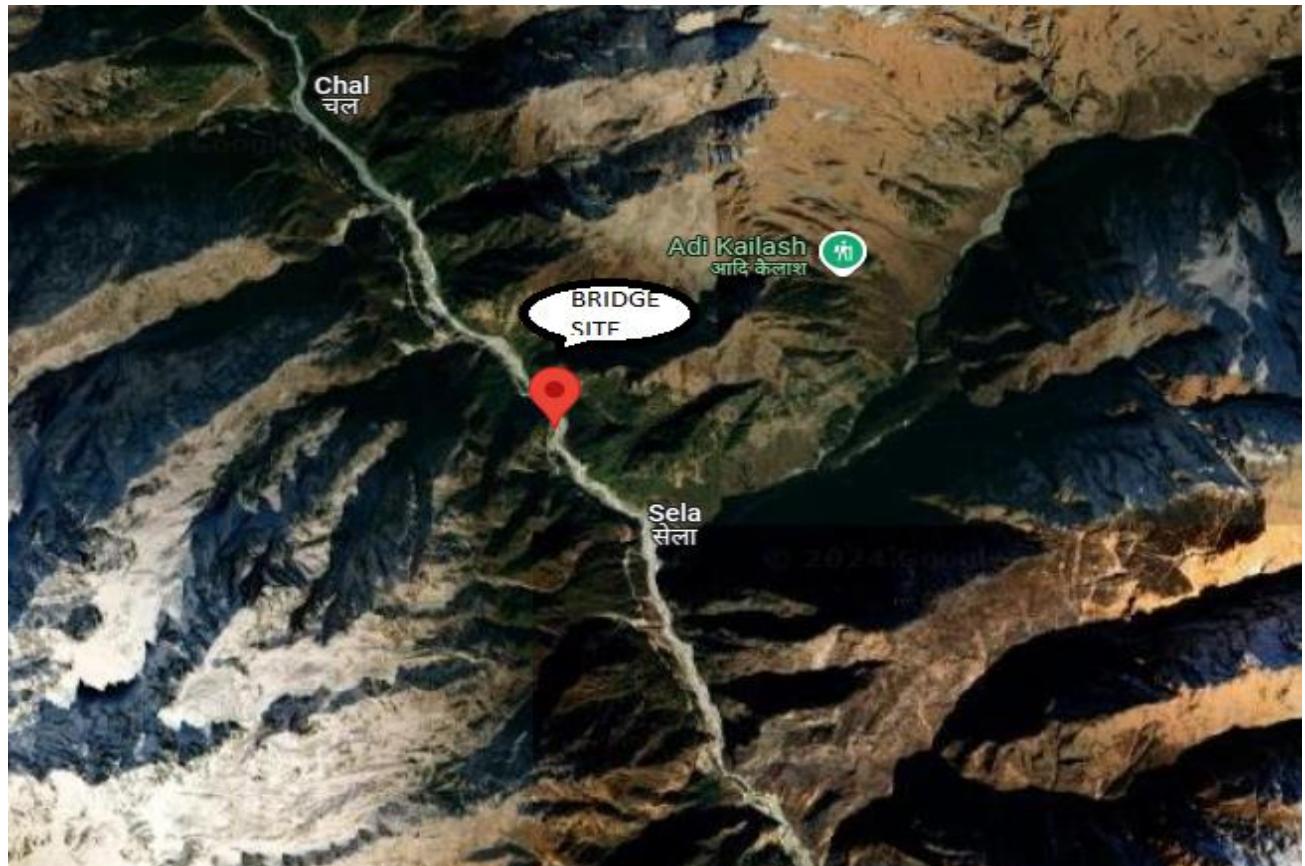
- 1 The Site
 - 1.1 Site of the Sub-project shall include the land, buildings, structures and road works as described in **Annex-I** of this **Schedule-A**.
 - 1.2 The dates of handing over the Site of work to the Contractor are specified in **Annex-II** of this **Schedule-A**.
 - 1.3 An inventory of 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 Contractor, and such inventory shall form part of the memorandum referred to in Clause 8.2.1 of this Agreement.
 - 1.4 The alignment plans of the Sub-project are specified in Annex-III. The proposed profile of the Sub-project shall be followed by the contractor with minimum FRL as indicated in the alignment plan. The Contractor, however, may improve/upgrade the Road Profile as indicated in Annexure – III based on site/design requirements.
 - 1.5 The status of the environment clearances obtained or awaited is given in **Annex IV**.

Annex - I (Schedule-A)

1. Site

The Site of the Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh, Uttarakhand State. The land, carriageway and structures comprising the Site are described below.

Key Map of Sub-Project Site – Enclosed (Index Map).



2. Land

- 2.1 The Site of the Sub-project comprises the land as described below:
- 2.2 Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh.
- 2.3 The details of ROW are being mentioned in the below table:

Sl. No.	Location	Length (m)	ROW (m)
1	Proposed Bridge	100 Mtr. Span	-
2	LHS Side Approach Road	80 Mtr.	12 Mtr.
3	RHS Side Approach Road	60 Mtr.	12 Mtr.

2.4 Major Bridges

Specifications of bridge shall be as under: -

S. No.	Particulars	Carriageway Width (m)	Width of Crash Barrier (m)	Foot path (m)	Railing (m)	Total Width (m)	Loading	FRL	Approach Road	Protection and River Training Works
1.	Construction of 100M Intermediate Lane Steel Tie over /Dholi River at Sela village in District Pithoragarh.	5.5 m	2x0.5	NA	NA	5.5m + 1 m = 6.5m	As per IRC 6	Minimum FRL- 2513.57m	On LHS: 80m and on RHS: 60m. As per the standard sections defined in Section VII - Works Requirements , for the applicable width. (Minimum length of the approach road on either side to be connecting to the existing road meeting the FRL.	As per IRC & MORTH specifications, requirements and as approved by the Competent Authority.

Special Mandatory requirement:

1. Minimum FRL as above, is to be maintained as per the specifications.
2. Maximum number of span allowed = 2 Nos.
3. In case of hard rock observed, foundation to be laid with suitable anchorages along with protection work for Pier and Open Foundation. Intermediate Pier shall be designed with Deep Foundation only.
4. The cost includes provision & removal of access path to site of work as and when required.

Annex - II
(Schedule-A)

Handing over of the Site

The Authority shall provide site of work to the Contractor before commencement of the work.

The Authority will most likely to provide site of work to the contractor as per following:

Sl. No.	Location	Length (m)	ROW(m)	Date of providing Right of Way
1	Proposed Bridge	100 Mtr. Span	-	Appointed date
2	LHS(A1) Side Approach Road	80 Mtr.	12 Mtr.	Appointed date
3	RHS(A2) Side Approach Road	60 Mtr.	12 Mtr.	Appointed date

The coordinates of the bridge are as follows:

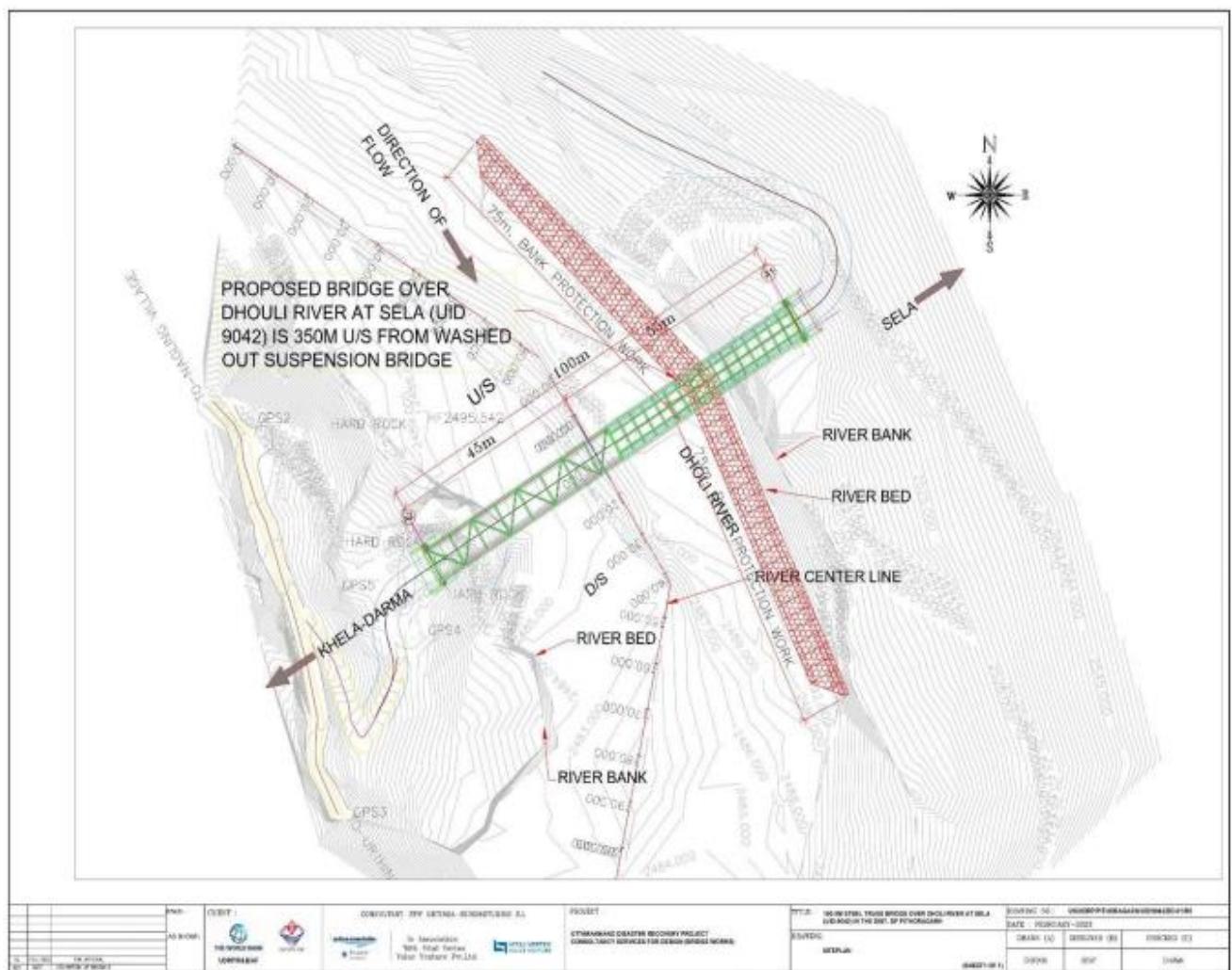
LHS Abutment = $30^{\circ} 09'16.80''N$
 $80^{\circ}35'53.43''E$

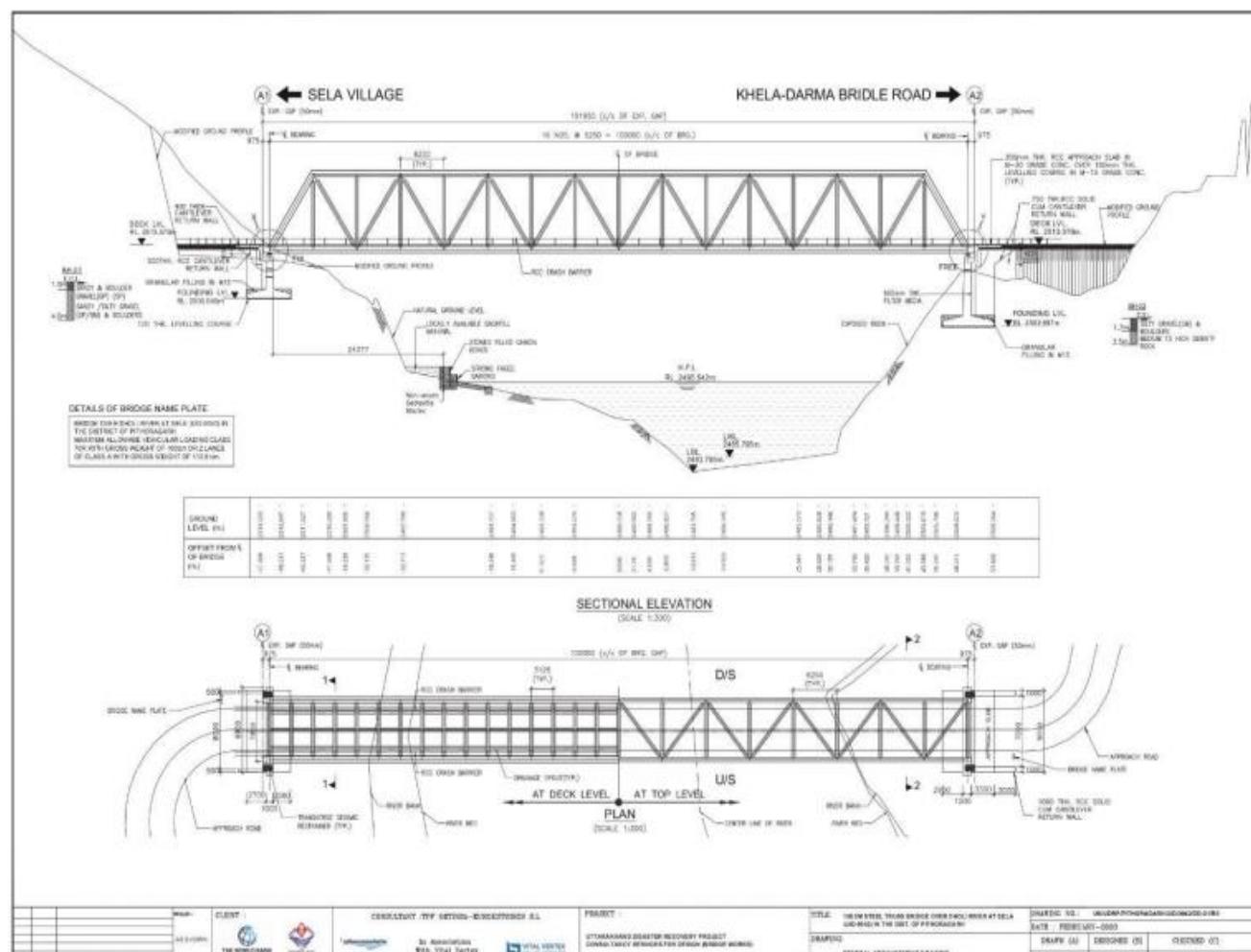
RHS Abutment = $30^{\circ} 09'15.10''N$
 $80^{\circ}35'50.26''E$

Annex - III (Schedule-A) Alignment Plans

The alignment plans (GAD, Plan & Profile) of the Sub-Project are Indicative only for guidance/benchmark. The proposed Bridge design shall be followed by the contractor with minimum FRL as indicated in the alignment plan. As per site feasibility the Contractor, however, may improve/upgrade the Road Profile based on site/design requirements without any additional cost.

The alignment plans (GAD, Plan & Profile) of the Sub-Project are given in **Part III:Drawings** of the bidding document.





Annexure-IV
(Schedule-A)

Environment Clearances

The Sub-project does not attract EIA Notification, 2006, therefore, no environmental clearance is required. However, requisite clearances/ statutory permission shall be obtained by the contractor from the concerned departments during execution, if required. Further the ESMP will be implemented by the Contractor.

SCHEDULE - B*(See Clause 2.1)***DEVELOPMENT OF THE SUB-PROJECT**

1 Development of the Sub-project

Development of the Sub-project shall include design and construction of the Sub-project as described in this Schedule-B and in Schedule-C. The alignment plans of the Sub-project are specified in Annex-III of Schedule-A, which has to be followed by the Contractor.

2 Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh.

3 Specifications & Standards

The Sub-project shall be designed and constructed in conformity with the Specifications & Standards specified in Annex-I of Schedule-A.

Annex - I
(*Schedule-B*)

Construction of 100M Intermediate Lane Steel Truss Motor Bridge over Dholi River at Sela village in District Pithoragarh.

1 WIDTH OF THE CARRIAGEWAY

As per Annex -1, Schedule -A

2 GEOMETRIC DESIGN AND GENERAL FEATURES

2.1 General

Geometric design and general features of the Sub-project shall be in accordance with the Manual subject to limitations and express provisions in this Schedule B and Schedule C.

2.2. Design Speed

Min Design speed: 30 KMPH & Ruling Design Speed: 40 KMPH.

The relevant IRC codal provisions and specifications shall be followed for the design.

2.3 Improvement of the Existing Road Geometrics

As per Annex -1, Schedule-A

2.4 Right of Way

The details are shown in Plan & profile drawings in Schedule A.

2.5 Provision of Footpaths

Not applicable

2.6 Provision of Shoulders

The shoulders shall be provided as per Typical Cross-sections given in Annex-1 of schedule B

2.7 Access Road for Canal Crossing Structure

Not applicable

2.8 Lateral and Vertical Clearances

Not applicable

2.9 Grade Separated Structures

Not applicable

2.10 Cattle and Pedestrian Underpass /Overpass

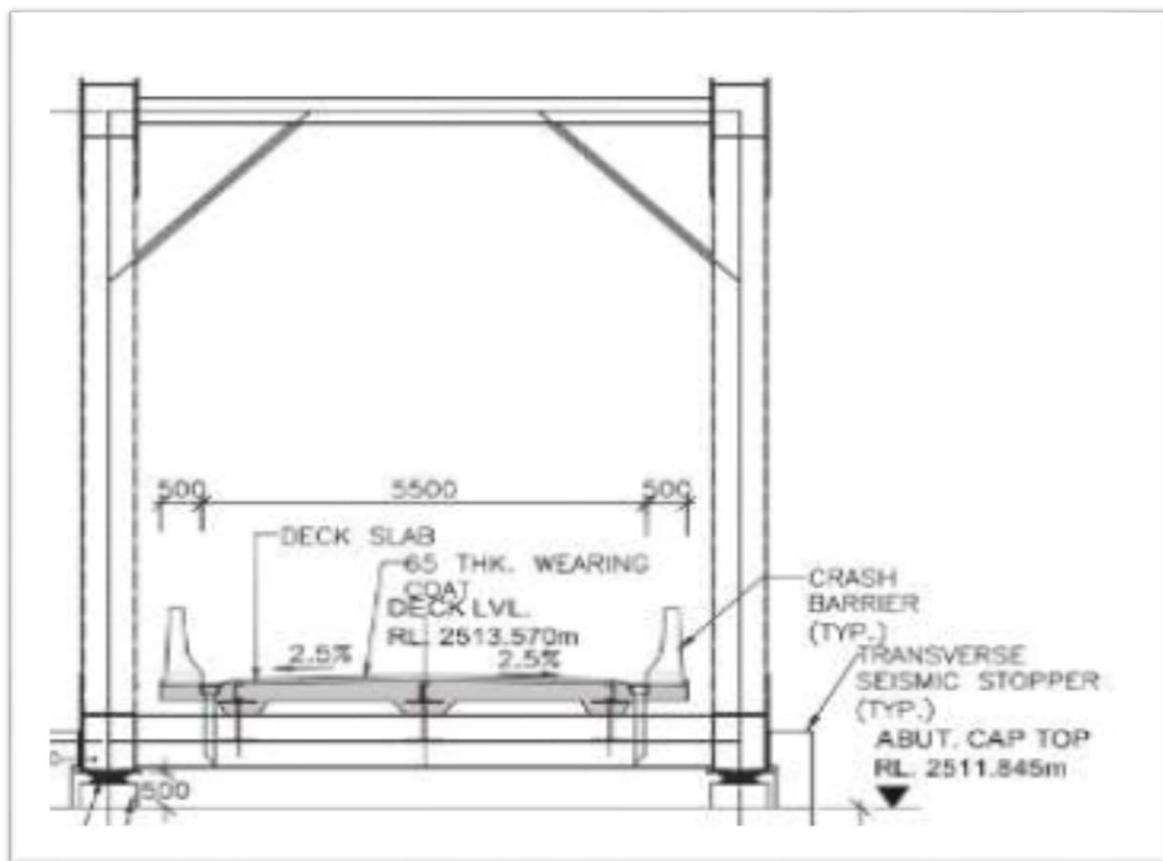
Not applicable

2.11 Typical Cross-sections of the Sub-project

The Cross-section of the Sub-Project will be as per the following Figures;

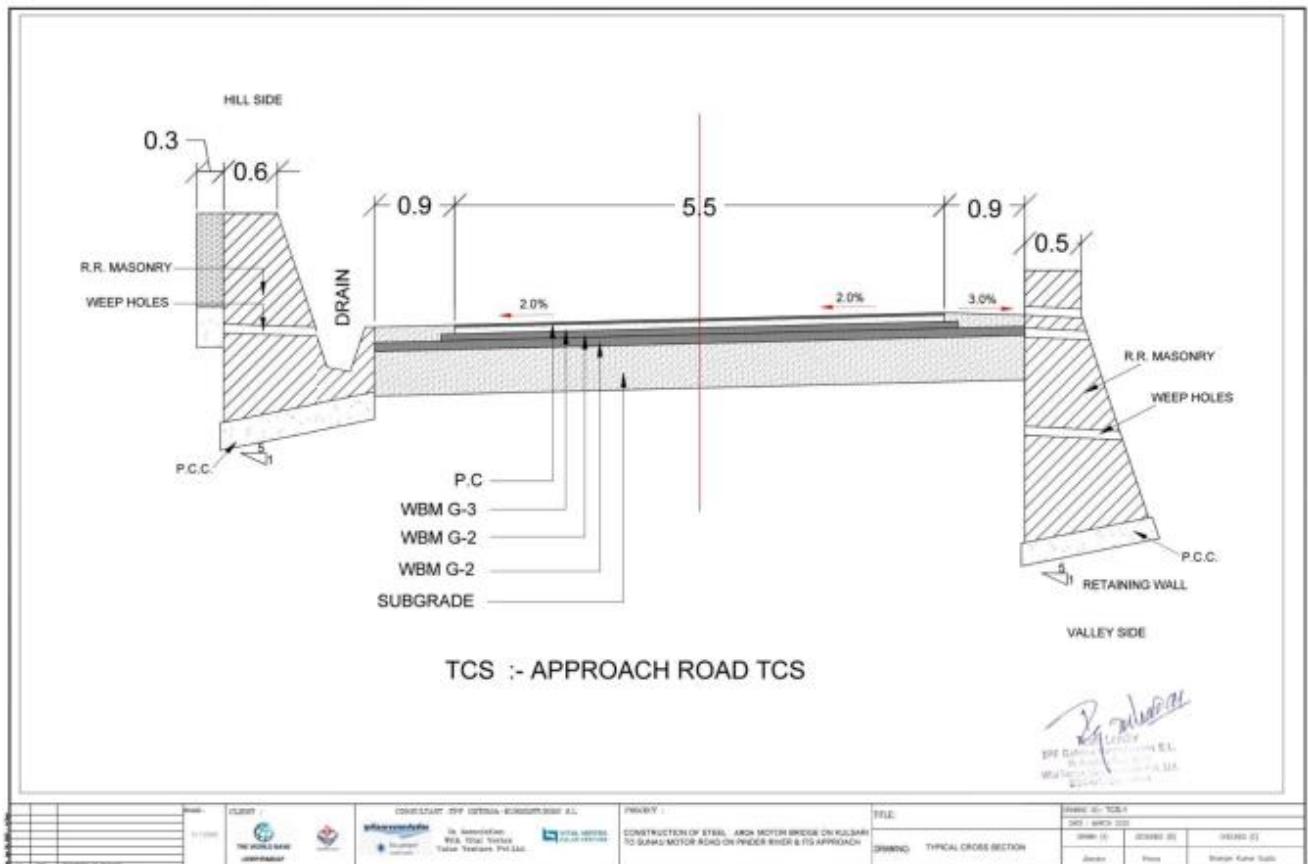
enclosure: 02 Figure

The TCS mentioned in above figure is minimum/ indicative only which may be as per site feasibility/requirement& the IRC codal provisions and specifications shall be followed for designing. Final TCS will be as per schedule-I duly approved by the competent authority.

Bridge Cross Section

Approach Road Cross Section

cc



3 INTERSECTIONS

Not applicable

3.1 Junctions

As per schedule -A

4 ROAD EMBANKMENT AND CUT SECTION

- 4.1 The proposed FRL given in the profile shall be followed as a minimum. Construction of new road embankment / cuttings shall conform to the standards and specifications.
- 4.2 Raising of the existing road shall be pursuant to FRL given in the profile at schedule A.

5 PAVEMENT DESIGN

5.1 Geneal

Pavement design shall be carried out in accordance with Section 5 of the Manual. In the existing carriage way portion, pavement shall be designed as per IRC:37-2012 considering partial reconstruction, scarification/milling of existing bituminous surfacing and other granular layers as required.

5.2 Type of Pavement

Proposed pavement shall be designed as per IRC specifications only.

5.3 Design Requirements

5.3.1 Design Period and strategy

Pavement shall be designed for a minimum design period 15 years. Stage construction shall not be permitted.

5.3.2 Design Traffic

A minimum design traffic of 5 MSA will be considered & the relevant IRC codal provisions and specifications shall be followed for the design.

5.4 Design of Pavement Layers

As per IRC specification

5.5 Traffic Management during Construction

5.5.1 Traffic management during reconstruction:

- The stretches where the existing road is proposed to be re-graded upto 1m depth by cutting the existing road, the existing road shall be used partly for traffic during construction with required improvement and safety measures as per the Manual.

- All other stretches, where the re-grading of existing profile involves more than 1m cutting, diversion shall be provided as per the Manual.

6 ROADSIDE DRAINAGE

Drainage system including surface and subsurface drains for the Sub-project shall be provided as per Section 6 of the Manual. However, drains shall be provided in the stretches based on typical cross sections as a minimum having the minimum sizes specified therein.

7 DESIGN OF STRUCTURES

7.1 General

- 7.1.1 Bridge 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 Mandatory Requirement is as per the table in schedule-A: -
- 7.1.3 Thebridge shall be high-level bridges.
- 7.1.4 The following structures shall be designed to carry utility services specified in table below:
Nil
- 7.1.5 Cross sections of the bridge Sub-project shall conform to MORTH circular No, RW/NH/33044/2/88-S&R (B) dated 24th March 2009. Cross-section of the new culverts Sub-project 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. Culverts on the curves shall have additional width matching with widening on the curves.

7.3 Bridges

- 7.3.1 Reconstruction of Existing bridges:

Not applicable

- 7.3.2 Widening of Existing bridges:

Not applicable

- 7.3.3 Drainage system for bridge decks

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

- 7.3.4 Structures in marine environment – Nil

7.4 Rail-road bridges

Deleted

- 7.5 Grade separated structures- Nil**
- 7.6 Repairs and strengthening of Structures-Nil**
- 7.7 Change of scope**

The length of Structures and bridges specified hereinabove shall be treated as an approximate assessment. The actual lengths as required on the basis of detailed investigations shall be determined by the Contractor in accordance with the Specifications and Standards. Any variations in the lengths specified in this Schedule-B shall not constitute a Change of Scope.

8 TRAFFIC CONTROL DEVICES AND ROAD SAFETY WORKS

8.1 General

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

8.2 Traffic Sign Material

High Intensity Micro-Prismatic Grade Sheeting (HIP) (Type IV) shall be provided

8.3 Crash Barrier

Crash barrier shall be provided along the Sub-project at the locations as approved by the Authority as a minimum.

8.4 Pedestrian Guard Rail

Not applicable

8.5 Transverse Rumble strips

Transverse Rumble strips shall be provided as per design at the locations approved by the Authority as a minimum.

9 ROADSIDE FURNITURE

9.1 Roadside furniture

The roadside furniture shall include

i. Traffic Signs

Traffic signs include roadside signs, overhead signs and kerb mounted signs along the entire Sub-project as per manual recommended in Schedule-D.

ii. PavementMarkings

Pavement marking shall cover road marking for the entire Sub-project as per manual recommended in Schedule-D.

iii. Crash Barrier

Provide W-beam crash barrier along the Sub-project at the location as per manual recommended in schedule D

- iv. **Studs**
Studs for the entire Sub-project at the locations as per manual recommended in Schedule-D.
- v. **Boundary Stones**
For Entire Sub-project as per manual recommended in Schedule-D
- vi. **Hectometer / Kilometerstones**
For the entire Sub-project Road as per manual recommended in Schedule-D.
- vii. **UtilityCrossings:**
Utilities crossings & crossing of drains at junction locations shall be provided as per manual recommended in Schedule-D.

9.2 Pedestrian Crossings

Not applicable

9.3 Overhead Traffic Signs

Not applicable

10 COMPULSORY AFFORESTATION

saplings will be planted in consultation with the Authority.

11 HAZARDOUS LOCATIONS

11.1 Retaining Wall

Retaining wall shall be provided as per design.

11.2 Safety Barriers

Safety barriers shall also be provided at the hazardous locations.

12 UTILITY DUCTS

Utility ducts across the road shall be provided as a minimum in consultation with the Authority. The exact location of the duct shall be finalized in consultation with the Authority Engineer.

SCHEDULE - C
 (See Clause 2.1)

SUB-PROJECT FACILITIES

1 Sub-project Facilities

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

- (a) roadside furniture;
- (b) pedestrian facilities;
- (c) tree plantation;

2 Description of Sub-Project Facilities

2.1 General

Details of Roadside Furniture, pedestrian facilities, and tree plantation shall be done in consultation with Authority's Engineer.

2.2 Installation of CCTV Camera

Minimum four CCTV (NVR) Cameras shall be installed and the locations of Sub-project site. shall be provided in consultation with Authority's Engineer.

GENERAL ITEMS

1. The following general Items are to be provided as a minimum: Provision and installation and maintenance with supply and installation of all furniture and equipment complete for the site office of the Engineers and the Engineer representative – minimum carpet area of 150 sqm. The plan of the structure is to be finalized in consultation and with approval of the Authority.
2. Provision installation and maintenance of Quality Control Laboratory with all necessary supplies, laboratory tools and equipment – minimum carpet area of 100 sqm. The plan of the structure is to be finalized in consultation and with approval of the 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 Sub-project.

2 Design Standards

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

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 Highways (IRC: SP: 73-2018) for portion, as the case may be referred to as the Manual, and 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

- 2.1 Notwithstanding anything to the contrary contained in Paragraph 1 above, the following Specifications and Standards shall apply to the Sub-project, and for purposes of this Agreement, the aforesaid Specifications and Standards shall be deemed to be amended to the extent set forth below:]

The Cross-section for the Sub-project would be as per clause 2.11 of Schedule-B.

Appendix D-1 (Particular Technical Specifications)

2.1 Introduction

- 2.1.1 This Particular Technical Specifications of the Specifications revises certain Causes of MORTH Specifications for Road and Bridge Works 5th Revision2013.
- 2.1.2 The amendments, if any, issued to the MORTH Specifications for Road and Bridge Works Fifth Revision 2013, shall apply to the relevant Clauses, otherwise as specified in this Section.
- 2.1.3 These revisions comprise substitutions, modifications or additions to clauses of the MORTH Specifications referred to in Part 1 - General Technical Specifications and accordingly the said Specifications so amended shall form part of the Contract.
- 2.1.4 The following list shows the Clauses of the MORTH Specifications, which are modified or added by this Particular Technical Specifications:

Section 100:	105, 106, 111, 112, 114 and 120
Section 200:	201 and 202
Section 300:	301, 304, 305, 306 and 309
Section 400:	401, 406, 409 and 410
Section 500:	501, 502, 503, 504, 505, 507, 508, 510 and 516
Section 800:	801, 802, 803, 805, 807, 809, 8.11 and 813
Section 1000:	1002, 1006, 1007, 1008 and 1014
Section 1500:	1501, 1502, 1506 and 1513
Section 1600:	1602, 1603 and 1605
Section 1700:	1705, 1706, 1707 and 1715
Section 1800:	1803
Section 2000:	2005, 2009 and 2011
Section 2100:	2104
Section 2200:	2204 and 2210
Section 2500:	2504 and 2507
Section 2700:	2703, 2706 and 2708
Section 2900:	2906, 2910 and 2911
Section 3000:	3001

BIS or others international standard Further a list of few important Indian Standards is given below: Wherever reference to the Indian Standards mentioned below or otherwise appears in this specification, it shall be taken as a reference to the latest version of the standard.

Number Designation	Title
IRC:5-2015	Standard Specifications and Code of Practice for Road Bridges, Section I – General Features of Design (Eighth Revision)
IRC:6-2017	Standard Specifications and Code of Practice for Road Bridges, Section-II Loads and Load Combinations (Seventh Revision)
IRC:15-2017	Code of Practice for Construction of Jointed Plain Concrete Pavements (Fifth)
IRC:16-2008	Standard Specifications and Code of Practice for Prime and Tack Coat (Second)
IRC:19-2005	Standard Specification and Code of Practice for Water Bound Macadam (Third)
IRC:22-2015	Standard Specifications and Code of Practice for Road Bridges, Section VI – Composite Construction (Limit States Design) (Third Revision)
IRC:24-2010	Standard Specifications and Code of Practice for Road Bridges, Steel Road Bridges (Limit State Method) Third Revision)
IRC:25-1967	Type Designs for Boundary Stones
IRC:27-2009	Specifications for Bituminous Macadam (First Revision)
IRC:35-2015	Code of Practice for Road Markings (Second Revision)
IRC:38-1988	Guidelines for Design of Horizontal Curves for Highways and Design Tables (First)
IRC:40-2002	Standard Specifications and Code of Practice for Road Bridges, Section IV – Brick, Stone and Block Masonry (Second Revision)
IRC:44-2017	Guidelines for Cement Concrete Mix Design for Pavements (Third Revision)
IRC:45-1972	Recommendations for Estimating the Resistance of Soil Below the Maximum Scour Level in the Design of Well Foundations of Bridges
IRC:57-2006	Recommended Practice for Sealing of Joints in Concrete Pavements (First Revision)
IRC:67-2012	Code of Practice for Road Signs (Third Revision)
IRC:75-2015	Guidelines for the Design of High Embankments (First Revision)
IRC:76-1979	Tentative Guidelines for Structural Strength Evaluation of Rigid Airfield Pavements
IRC:78-2014	Standard Specifications and Code of Practice for Road Bridges, Section VII- Foundations and Substructures (Revised Edition)
IRC:79-1981	Recommended practice for Road Delineators
IRC:81-1997	Guidelines for Strengthening of Flexible Road Pavements Using Benkelman Beam Deflection Technique (First Revision)
IRC:82-2015	Code of Practice for Maintenance of Bituminous Surface of Roads" (First Revision)
IRC:83-20015 (Part-I)	Standard Specifications and Code of Practice for Road Bridges, Section IX Bearings, Part I : Roller & Rocker Bearings (Second Revision)
IRC:83-2018 (Part II)	Standard Specifications and Code of Practice for Road Bridges, Section IX – Bearings (Elastomeric Bearings), Part II (Second Revision)
IRC:83-2018 (Part III)	Standard Specifications and Code of Practice for Road Bridges, Section IX – Bearings, Part III: POT, PIN, Metallic Guide and Plane Sliding Bearings (First Revision)
IRC:83-2014	Standard Specifications and Code of Practice for Road Bridges, Section IX –

(Part IV)	Bearings (Spherical and Cylindrical)
IRC:87-2011	Guidelines for Formwork, False work and Temporary Structures (First Revision)
IRC:89-1997	Guidelines for Design and Construction of River Training & Control Works for Road Bridges (First Revision)
IRC:93-1985	Guidelines on Design and Installation of Road Traffic Signals
IRC:103-2012	Guidelines for Pedestrian Facilities (First Revision)
IRC:109-2015	Guidelines for Wet Mix Macadam (First Revision)
IRC:112-2011	Code of Practice for Concrete Road Bridges
IRC:SP:16-2004	Guidelines for Surface Evenness of Highway Pavements (First Revision)
IRC:SP:20-2002	Rural Roads Manual
IRC:SP:34-1989	General Guidelines About the Equipment for Bituminous Surface Dressing
IRC:SP:35-1990	Guidelines for Inspection and Maintenance of Bridges
IRC:SP:48-1998	Hill Road Manual
IRC:SP:49-2014	Guidelines for the Use of Dry Lean Concrete as Sub-base for Rigid Pavement
IRC:SP:50-2013	Guidelines on Urban Drainage
IRC:SP:51-2015	Guidelines for Load Testing of Bridges (First Revision)
IRC:SP:52-1999	Bridge Inspector's Reference Manual
IRC:SP:53-2010	Guidelines on Use of Modified Bitumen in Road Construction (Second Revision)
IRC:SP:55-2014	Guidelines on Traffic Management in Work Zones" (First Revision)
IRC:SP:56-2011	Guidelines for Steel Pedestrian Bridges (First Revision)
IRC:SP:74-2007	Guidelines for Repair and Rehabilitation of Steel Bridges
IRC:SP:76-2015	Guidelines for Conventional and Thin White topping" (First Revision)
IRC:SP:79-2008	Tentative Specifications for Stone Matrix Asphalt
IRC:SP:80-2008	Guidelines for Corrosion Prevention, Monitoring and Remedial Measures for Concrete
IRC:SP:81-2008	Tentative Specification for Slurry Seal and Micro surfacing
IRC:SP:83-2008	Guidelines for Maintenance, Repairs & Rehabilitation of Cement Concrete Pavements
IRC:SP-104-2015	Guidelines for Fabrication and Erection of Steel Bridges
IRC:SP-105-2015	Explanatory Handbook to IRC:112-2011: Code Practice for Concrete Roads Bridges
IRC:SP:112-2017	Manual for Quality Control in Road and Bridge works
IRC:SP:114-2018	Guidelines for Seismic Design of Road Bridges
IRC:SP:115-2018	Guidelines for Design of Integral Bridges
IRC:SP:116-2018	Guidelines for Design and Installation of Gabion Structures

SPECIFICATION FOR ROADS AND BRIDGES WORKS, MORT&H (latest edition)

**LIST OF IRC PUBLICATIONS REFERRED TO IN THE SPECIFICATIONS
INDIAN ROADS CONGRESS**

Number Designation	Title
IRC:5-2015	Standard Specifications and Code of Practice for Road Bridges, Section I – General Features of Design (Eighth Revision)
IRC:6-2017	Standard Specifications and Code of Practice for Road Bridges, Section-II Loads and Load Combinations (Seventh Revision)
IRC:15-2017	Code of Practice for Construction of Jointed Plain Concrete Pavements (Fifth Revision)
IRC:16-2008	Standard Specifications and Code of Practice for Prime and Tack Coat (Second Revision)
IRC:19-2005	Standard Specification and Code of Practice for Water Bound Macadam (Third Revision)
IRC:22-2015	Standard Specifications and Code of Practice for Road Bridges, Section VI –Composite Construction (Limit States Design) (Third Revision)
IRC:24-2010	Standard Specifications and Code of Practice for Road Bridges, Steel Road Bridges (Limit State Method) Third Revision)
IRC:25-1967	Type Designs for Boundary Stones
IRC:27-2009	Specifications for Bituminous Macadam (First Revision)
IRC:35-2015	Code of Practice for Road Markings (Second Revision)
IRC:38-1988	Guidelines for Design of Horizontal Curves for Highways and Design Tables (First Revision)
IRC:40-2002	Standard Specifications and Code of Practice for Road Bridges, Section IV – Brick, Stone and Block Masonry (Second Revision)
IRC:44-2017	Guidelines for Cement Concrete Mix Design for Pavements (Third Revision)
IRC:45-1972	Recommendations for Estimating the Resistance of Soil Below the Maximum ScourLevel in the Design of Well Foundations of Bridges
IRC:57-2006	Recommended Practice for Sealing of Joints in Concrete Pavements (First Revision)
IRC:67-2012	Code of Practice for Road Signs (Third Revision)
IRC:75-2015	Guidelines for the Design of High Embankments (First Revision)
IRC:76-1979	Tentative Guidelines for Structural Strength Evaluation of Rigid Airfield Pavements
IRC:78-2014	Standard Specifications and Code of Practice for Road Bridges, Section VII-Foundations and Substructures (Revised Edition)
IRC:79-1981	Recommended practice for Road Delineators
IRC:81-1997	Guidelines for Strengthening of Flexible Road Pavements Using Benkelman BeamDeflection Technique (First Revision)
IRC:82-2015	Code of Practice for Maintenance of Bituminous Surface of Roads” (First Revision)
IRC:83-2015 (Part-I) (Part-I)	Standard Specifications and Code of Practice for Road Bridges, Section IX Bearings, Part I : Roller & Rocker Bearings (Second Revision)
IRC:83-2018 (Part-II) (Part II)	Standard Specifications and Code of Practice for Road Bridges, Section IX – Bearings (Elastomeric Bearings), Part II (Second Revision)

IRC:83-2018 (Part-II) (Part III)	Standard Specifications and Code of Practice for Road Bridges, Section IX – Bearings, Part III: POT, PIN, Metallic Guide and Plane Sliding Bearings (First Revision)
IRC:83-2014 (Part IV)	Standard Specifications and Code of Practice for Road Bridges, Section IX –Bearings (Spherical and Cylindrical)
IRC:87-2011	Guidelines for Formwork, False work and Temporary Structures (First Revision)
IRC:89-1997	Guidelines for Design and Construction of River Training & Control Works for RoadBridges (First Revision)
IRC:93-1985	Guidelines on Design and Installation of Road Traffic Signals
IRC:103-2012	Guidelines for Pedestrian Facilities (First Revision)
IRC:109-2015	Guidelines for Wet Mix Macadam (First Revision)
IRC:112-2011	Code of Practice for Concrete Road Bridges
IRC:SP:16-2004	Guidelines for Surface Evenness of Highway Pavements (First Revision)
IRC:SP:20-2002	Rural Roads Manual
IRC:SP:34-1989	General Guidelines About the Equipment for Bituminous Surface Dressing
IRC:SP:35-1990	Guidelines for Inspection and Maintenance of Bridges
IRC:SP:48-1998	Hill Road Manual
IRC:SP:49-2014	Guidelines for the Use of Dry Lean Concrete as Sub-base for Rigid Pavement
IRC:SP:50-2013	Guidelines on Urban Drainage
IRC:SP:51-2015	Guidelines for Load Testing of Bridges (First Revision)
IRC:SP:52-1999	Bridge Inspector's Reference Manual
IRC:SP:53-2010	Guidelines on Use of Modified Bitumen in Road Construction (Second Revision)
IRC:SP:55-2014	Guidelines on Traffic Management in Work Zones" (First Revision)
IRC:SP:56-2011	Guidelines for Steel Pedestrian Bridges (First Revision)
IRC:SP:74-2007	Guidelines for Repair and Rehabilitation of Steel Bridges
IRC:SP:76-2015	Guidelines for Conventional and Thin Whitetopping" (First Revision)
IRC:SP:79-2008	Tentative Specifications for Stone Matrix Asphalt
IRC:SP:80-2008	Guidelines for Corrosion Prevention, Monitoring and Remedial Measures for Concrete
IRC:SP:81-2008	Tentative Specification for Slurry Seal and Micro surfacing
IRC:SP:83-2008	Guidelines for Maintenance, Repairs & Rehabilitation of Cement Concrete Pavements
IRC:SP-104-2015	Guidelines for Fabrication and Erection of Steel Bridges
IRC:SP-105-2015	Explanatory Handbook to IRC:112-2011: Code Practice for Concrete Roads Bridges
IRC:SP:112-2017	Manual for Quality Control in Road and Bridge works
IRC:SP:114-2018	Guidelines for Seismic Design of Road Bridges
IRC:SP:115-2018	Guidelines for Design of Integral Bridges
IRC:SP:116-2018	Guidelines for Design and Installation of Gabion Structures

**LIST OF INDIAN STANDARDS REFERRED TO IN THE SPECIFICATIONS
INDIAN STANDARDS**

Number Designation	Title
IS:73-1992	Paving bitumen specification (second revision)
IS:77-1976	Specification for linseed oil;, Boiled, for paints(second revision)
IS:102-1962	Ready Mixed Paint, Brushing, Red Lead , Non Setting, priming
IS:104-1979	Ready Mixed Paint, Brushing, Zinc Chrome, Priming (second Revision)
IS:123-1962	Specification for Ready Mixed Paint, Brushing, Finishing Semi-Gloss. For General Purposes, to Indian Standard Colours (Revised Revision)
IS:164-1981	Specification For Ready Mixed Paints for road making (First revision)
IS:217-1988	Specification for cutback bitumen (second revision)
IS:226-1975	Structural steel (standard quality)(fifth revision)
IS:269-1989	Specification for 33 grade Ordinary Portland Cement (fourth revision)
IS:278-2009	Galvanized Steel Barbed Wire for fencing –specification
IS:280-2006	Mild steel wire for general Engineering purposes (fourth revision)
IS:345-1952	Wood Filter Transparent Liquid
IS:356-1991	Easter gum (second revision)
IS:383-1970	Specification for test Sieves : Part III Methods of examination of Apertures of Test Sieves (Third revision)
IS:503-1963	Alloy Austenitic Manganese steel castings
IS:516-1959	Methods of test for strength of concrete
IS:712-1984	Specifications for building limes (third revision)
IS:736-1986	Wrought Aluminum and Aluminum Alloys, Plates for general Engineering purposes (Fourth revision)
IS:783-1985	Code of practice for laying of concrete pipes (first revision)
IS:784-2001	Pre-stressed concrete pipes (including Fittings)-Specifications (second revision)
IS:814-2004	Covered Electrodes for Manual Metal Arc welding of carbon and carbon manganese steel (fifth revision)
IS:816-1969	Code of practice for use of Metal Arc welding for general construction in mild steel (first revision)
IS:817-1966	Code of practice for Training and Testing of Metal Arc welders(revised revision)
IS:822-1970	Code of procedure for Inspection of welds
IS:877-1989	Method of Sampling and Test for Activated Carbons, Powered and Granular (second revision)
IS:919-1993(part-1)	ISO System of limits and fits part 1 Bases of Tolerance, Deviation and fits (second revision)
IS:919-1993(part-2)	ISO System of limits and fits part 2 Tables of standard Tolerance Grades and limit Deviations for Holes and shafts (first revision)
IS:961-1975	Structural steel (High tensile) (second revision)
IS:1077-1992	Common Burnt clay building Bricks (fifth revision)
IS: 1079-1994	Hot Rolled Carbon Steel sheets and strips –specifications (sixth revision)
IS: 1124-1974	Method of test for water Absorption, Apparent Specific Gravity and Porosity of Natural Building Stones(first revision)
IS:1129-1972	Recommendations for Dressing of natural building stones (first revision)
IS:1148-1982	Hot Rolled Rivet Bars (upto 40mm dia) for structural purposes (third revision)
IS:1149-1982	Hot Tensile steel Rivet Bars for structural Purposes (third revision)
IS:1182-1983	Recommended practice for Radiographic Examination of fusion welded Butt

	Joints in steel plates (second revision)
IS:1199-1959	Method of sampling and analysis of concrete
IS:1203-1978	Determination of penetration
IS:1205-1978	Determination of Softening Point
IS:1212-1978	Determination of Loss of Heating
IS: 1216-1978	Determination of Solubility in carbon DisulphideTrichlorothylene
IS:1217-1978	Determination of Mineral Matter
IS:1239:(part 1)-1990	Steel Tubes Tabular and other Wrought steel fittings specification: part 1 steel tubes
IS:1363-2002 (part 1,2&3)	Hexagonal Head Bolts , Screw and nuts of product Grade 'c'
IS:1364-2002 (part 1,2&3)	Hexagonal Head Bolts , Screw and nuts of product Grade 'A'&'B'
IS:1365-2005	Slotted Countersunk, Flat Head Screw (common Head Style)-Product Grade A(fourth revision)
IS:1367-1997	Technical supply condition for threaded steel fasteners
IS:1393-1961	Code of practice for Training and Testing of Oxy Acetylene Welders
IS:1477-1971 (part 1&2)	Code of practice for Painting of ferrous Metals in Buildings
IS:1489-1991 (Part 1) (Part 2)	Specification for Portland pozzolana Cement (third revision) Flyash Based (third revision) Calcined Clay Based (third revision)
IS:1498-1970	Classification and identification of soils for General Engineering purposes(First revision)
IS:1514-1990	Methods of sampling and test for quick lime and hydrated lime (first revision)
IS:1597-1992 (Part 1)	Construction of stone masonry -code of practice -part 1-Rubble stone masonry (first revision)
IS:1732-1989	Dimensions for round and square steel bars for structural and general engineering purposes (second revision)
IS:1745-1978	Specification for petroleum Hydrocarbon Solvent (second revision)
IS:1785-1983(part 1)	Specification for plain, Hard Drawn steel wire for prestressed concrete :part 1 cold Drawn Stress Relieved Wire (second revision)
IS:1785-1983(part-II)	Specification for Plain, hard drawn steel wire for Prestressed concrete:part2 As Drawn Wire (first revision)
IS:1786-1985	High Strength Deformed Steel Bars and Wires For Concrete Reinforcement (Third Revision)
IS:1834-1984	Specification for Hot applied sealing compounds for Joints in Concrete pavement and structures (Non-Extruding and Resilient Type):part1 Bitumen Impregnated Fibre (first revision)
IS:1838-1983(part1)	Specification for performed filler for expansion Joint in concrete pavement and structures (Non-Extruding and Resilient type):Part 1 Bitumen impregnated fibre (First Revision)
IS:1838-1984(part2)	Specification for performed filler for expansion Joint in concrete pavement and structures (Non-Extruding and Resilient type):Part 2 CNSL Aldehyde resin and coconut pith
IS:1852-1985	Rolling and cutting Tolerance for hot Rolled steel products (fourth revision)
IS:1875-1992	Carbon steel Billets , blooms , slabs and bars for forgings (fifth revision)
IS:1888-1992	Method of Load Test on soils (second Revision)
IS:1892-1979	Code of practice for sub surface investigation for foundations(first revision)
IS:1966-2003	Laboratory Glassware –straight bore glass stopcocks for general purposes

IS:1977-1996	Low Tensile Structural steels-Specifications(third revision)
IS:1995-1984	Overall internal height for lathe tools posts (first revision)
IS:2004-1991	Carbon steel forgings for general engineering purposes (third revision)
IS:2016-1967	Specification for plain Washers (first revision)
IS:2062-2006	Hot rolled low, Medium and high tensile structural steel (sixth revision)
IS:2090-1983	Specification For High tensile steel bar used in prestressed concrete (first revision)
IS:2116-1980	Specification for sand for Masonary mortars (first revision)
IS: 2131-1981	Method for standard penetration test for soils (first revision)
IS:2132-1986	Code of practice for thin walled Tube sampling of soils (second revision)
IS:2185-2005(part1)	Concrete masonry units –specification: part 1 Hallow and Solid Concrete Blocks
IS:2250-1981	Code of practice for preparation and use of masonry motors (first revision)
IS:2269-2006	Hexagon socket head cap screws (fifth revision)
IS:2339-1963	Aluminum paint for General Purposes in Dual Container
IS:2386-1963 (Part 1) (Part 2) (Part 3) (Part 4) (Part 5) (Part 6) (Part 7) (Part 8)	Methods of test for Aggregates for Concrete Particle size and shape Estimation of deleterious materials and organic impurities Specific gravity, Density, voids, Absorption and Bulking Mechanical properties Soundness Measuring mortar making properties of fine Aggregates Alkali Aggregate Reactivity Test Petrographic examination
IS:2502-1963	Code of practice for Bending and fixing of bars for concrete Reinforcement
IS:2506-1985	General requirement for screed board concrete vibrator (first revision)
IS:2514-1963	Specification for concrete vibrating tables
IS:2720 (Part 1)-1983 (Part 2)-1973 (Part 4)-1985 (Part 5)-1985 (Part 8)-1983 (Part 16)-1987 (Part 27)-1977 (Part 28)-1974 (Part 37)-1976 (Part 40)-1977	Methods of test for soils Preparation of Dry soil samples for various tests (Second Revision) Determination of Water Content (Second Revision) Grain Size Analysis (Second Revision) Determination of Liquid and Plastic limits (Second Revision) Determination of Water Content Dry Density Relation using heavy compaction (Second Revision) Laboratory Determination of CBR Determination of total Soluble Sulphates (First Revision) Determination of Dry Density of Soils in-place by the sand Replacement Method (First Revision) Determination of sand Equivalent Values of Soils and Fine Aggregates Determination of Free Swell Index of Soils
IS:2751-1979	Code of Practice for Welding of Mild Steel Plain and Deformed Bars for Reinforced Concrete Construction (First Revision)
IS:2911 (Part-1) (Sec-3)-1979	Code of Practice for Design and Construction of Pile and Deformed Bars for Reinforced Concrete Construction (First Revision) Concrete Piles, Section 3 Driven Precast Concrete
IS: 2925-1984	Specification for Industrial Safety Helmets (Second Revision)
IS:3025: (Part 17)-1984	Methods of Sampling and Test (Physical and Chemical) for water and Waste water: part 17 Non-Filterable Residue (Total Suspected Solids) (First Revision)
IS:3025 (Part 18)-1984	Methods of Sampling and Test (Physical and Chemical) for water and waste Water-Part 18 Volatile and Fixed Residue (Total Filterable and Non-Filterable) (First Revision)

IS: IS:3025 (Part 22)-1986	Methods of Sampling and Test (Physical and Chemical) for water and Waste Water-Part 22: Acidity (First Revision)
IS: IS:3025 (Part 23)-1986	Methods of Sampling and Test (Physical and Chemical) for water and Waste Water-Part 23: Alkalinity (First Revision)
IS: IS:3025 (Part 28)-1984	Methods of Sampling and Test (Physical and Chemical) for water and Waste Water-Part 28: Sulphite (First Revision)
IS: IS:3025 (Part 32)-1988	Methods of Sampling and Test (Physical and Chemical) for water and Waste Water-Part 32: Chloride (First Revision)
IS:3073-1967	Assessment of Surface Roughness
IS: 3138-1966	Specifications for Hexagonal Bolts and Nuts
IS: 3400 (Part 3)-2004	Methods of Test for Vulcanized Rubbers: Part 3 Abrasion Resistance using a Rotating Cylindrical Drum Device (First Revision)
IS: 3400 (Part 2)-2004	Methods of Test for Vulcanized Rubbers: Part 2 Rubber Vulcanized or Thermoplastic Determination of Hardness (Hardness between 10 IRHD and 100 IRHD) (Third Revision)
IS: 3400 (Part 4)-2004	Methods of Test for Vulcanized Rubbers: Part 4 Accelerated Ageing (Second Revision)
IS: 3400 (Part 10)-2004	Methods of Test for Vulcanized Rubbers: Part 10 Compression Set at Constant Strain (First Revision)
IS: 3400 (Part 14)-1984	Methods of Test for Vulcanized Rubbers: Part 14 adhesion of Rubber to Metal (First Revision)
IS: 3400 (Part 20)-2004	Methods of Test for Vulcanized Rubbers: Part 20 Resistance to Ozone Cracking-Static Strain (First Revision)
IS:3589-2001	Steel Pipes for Water and Sewage (168.3 to 2540 mm Outside Diameter)-Specification (Third Revision)
IS: 3613-1974	Acceptance Tests for Wire Flux Combination for Submerged Arc Welding (First Revision)
IS: 3658-1999	Code of Practice for Liquid Penetrant Flaw Detection (Second Revision)
IS: 3764-1992	Code of Safety for Excavation Work (First Revision)
IS: 3784-1994	Textiles- Cloth, Cotton Khadi Bleached for General Purposes-Specification (First Revision)
IS: 3812:1981	Specification for Fly Ash for Use as Pozzolana and Admixture (First Revision)
IS:4031: (Part 5)-1988	Methods of Physical Tests for Hydraulic Cement: Part 5 Determination of Initial and Final Setting Times (First Revision)
IS: 4078-1980	Code of Practice for Indexing and Storage of Drill Cores (First Revision)
IS: 4081-1986	Safety Code for Blasting and Related Drilling Operations (First Revision)
IS: 4138-1977	Safety code for Working in Compressed Air (First Revision)
IS: 4260-1986	Recommended Practice for Ultrasonic Testing of Butt Welds in Ferritic Steel (Second Revision)
IS: 4434-1978	Code of Practice for In-Situ Vane Shear Test for Soils (First Revision)
IS: 4453-2009	Subsurface Exploration by Pits, Trenches, Drifts and Shafts-Code of Practice (Second Revision)
IS: 4656-1968	Specification for Form Vibrators for Concrete
IS: 4826-1979	Hot Dipped Galvanised Coating on Round Steel Wires (First Revision)
IS: 4853-1982	Recommended Practice for Radiographic Inspection of Fusion Welded Butt Joints in Steel Pipes (First Revision)
IS: 4923-1997	Hollow Steel Sections for Structural Use (Second Revision)
IS: 4925-2004	Concrete Batching and Mixing Plant-Specification (First Revision)
IS: 4926-2003	Ready Mixed Concrete- Code of Practice (Second Revision)
IS: 4968-1976	Method for Subsurface Sounding for Soils

(Part- 1, 2 & 3)	
IS: 4984-1995	Specification for High Density Polyethylene Pipes for Potable Water Supplies (Fourth Revision)
IS: 5334-2003	Magnetic Particle Flaw Detection of Welds-Code of Practice (Second Revision)
IS: 5435-1987	General Requirements For Cold Bituminous Macadam Mixing Plants Specification (First Revision)
IS: 5640-1970	Method for Determining the Aggregate Impact Value of Soft Coarse Aggregate
IS: 6003-1983	Specification for indented wire for Prestressed Concrete (First Revision)
IS: 6006-1983	Specification for Uncoated Stress Relieved Strand for Prestressed Concrete (First Revision)
IS:6241-1971	Method of test for determination of stripping value of road aggregates
IS:6603-2001	Stainless steel bars and flats – Specification (first revision)
IS:6610-1972	Specification for heavy washers for steel structures
IS:6639-1972	Specification for hexagonal bolts for steel structures
IS:6761-1994	Fasteners-Countersunk head screw with Hexagonal socket Specification (first revision)
IS:6909-1990	Specification for super sulphated cement
IS:6911-1992	Stainless steel plate, sheet and strip(first revision)
IS:6925-1973	Methods of test for determination of water in concrete admixtures
IS:7205-1974	Safety codes for Erection of structural steel work
IS:7269-1974	Numbering of Aircraft engines, Engine cylinder, combustion chambers and direction of rotation of engines and propellers
IS:7273-1974	Method of testing fusion welded Joints in Aluminium and Aluminium Alloys
IS:7292-1974	Codes of practice for In-Situ Determination of rock properties by flat jack
IS:7293-1974	Safety code for working with Construction Machinery
IS: 7307(part1)-1974	Approval test for welding with procedures part-1 fusion welding of steel
IS:7308-1999	Non-Coniferous logos-Specification (first revision)
IS:7310(part1)-1974	Approval test for welding working to approved welding procedures part1:fusion welding of steel
IS:7317-1993	Codes of practice for Uniaxial jacking test for deformation modulus of frock (first revision)
IS:7573-1975	Hockey shoes
IS:7746-1991	Code of practice for In-Situ Shear test on rock (first revision)
IS:7966-1976	Specification for dental modelling wax
IS:8500-1991	Structural steel-Microalloyed specification
IS:8812-1978(part1)	Method for chemical Analysis of hard solders for Jointing Aluminium and Aluminium Alloys Part 1 Determination of silver, copper, zinc, Antimony, iron and Bismuth
IS:8812-1978(part1)	Method for chemical Analysis of hard solders for Jointing Aluminium and Aluminium Alloys Part 2 Determination of Aluminium
IS:9000-2005	Quality Management systems-Fundamentals vocabulary(third revision)
IS:9012-1978	Recommended practice for shotcreting
IS:9437-2008	Specification for fixed precision resistors
IS:9565-1995	Acceptance standards for ultrasonic inspection of steel casting
IS:9595-1996	Metal Arc welding of carbon and carbon manganese steels recommendations (first revision)
IS:9862-1981	Ready mixed paint, brushing, Bituminous, black, Lead free, Acid, Alkali, Water and Chlorine resisting
IS:10433(part1)-	Specification for male stud tee body (stud run)for oil-Hydraulic coupling –part-

1983	1:Made from Forging
IS:11587-1986	Structural weather resistant steels
IS:12063-1987	Classification of Degrees of protection provided by Enclosers of Electrical Equipment
IS:12089-1987	Specification for Granulated slag for manufacture of Portland slag cement
IS:12119-1987	General Requirements for pan Mixers for concrete
IS:12269-1987	Specification for 53 grade ordinary Portland cement
IS:12330-1988	Specification for sulphate resisting Portland cement
IS:12594-1988	Hot Dip Zinc coating on structural steel bars for concrete reinforcement-specification
IS:13162(part4)-1992	Geotextiles – method of test-part 4:determination of puncture resistance by falling cone method
IS:13162(part5)-1992	Geotextiles – method of test-part 5: determination of tensile properties using a wide width strip
IS:13360-1992	Plastics methods of testing
IS:13620-1993	Fusion boned epoxy coated reinforced bars – specification
IS:13757-1993	Burnt clay Ash building bricks specification
IS:13759-1993	Polyurethane primer zinc phosphate
IS:14293-1995	Geotextiles –method of test Trapezoid tearing strength
IS:14294-1995	Geotextiles –method for determination of apparent opening size by dry sieving technique
IS:14324-1995	Geotextiles –method of test for determination of water permeability – permimittivity
IS:14589-1999	Zinc Priming paint, Epoxy Based Two Pack –Specification
IS:14700(part6 sec 3)	Electromagnetic compatibility (EMC)- Part 6 Generic Standard –Sec3: Emission standard for Residential, Commercial and Light Industrial Environments
IS:14925-2001	Epoxy Resin for paints-Specification
IS:15284 (part1)-2003	Design and Construction for Ground Improvement –Guidelines Part 1 stone columns
(part2)-2004	Design and Construction for Ground Improvement–Guidelines :Part 2 Reconsolidation using Vertical Drains
IS:15388-2003	Silica Fume –Specification
IS:15462-2004	Polymer and Rubber Modified Bitumen –Specification
IS:15809-2008	High Visibility Warning Clothes- Specification
IS:SP:23-1982	Handbook on Concrete Mixes (Based on Indian Standards)

2.1.5 Additional Specifications

The Clauses A-1 to A-8 have been added to the “SPECIFICATIONS FOR ROAD AND BRIDGE WORKS” (Fifth Revision, April 2013).

Clause A-1 DIVERSION AND FILLING OF EXISTING WATER COURSES ALONG THE ROAD ALIGNMENT

Clause A-2 CHUTE DRAIN FOR HIGH EMBANKMENT SECTIONS

Clause A-3 SPECIFICATIONS FOR PAINTING OF STRUCTURES WITH SYNTHETIC ENAMEL PAINT/ WATER PROOFING CEMENT PAINT

Clause A-4 CONTROLLED BLASTING

Clause A-5 INTER LOCKING CONCRETE BLOCKS**Clause A-5A INTER LOCKING PAVER BLOCKS FOR RAISED PEDESTRIAN CROSSING****Clause A-6 UTILITY DUCTS****Clause A-7 POST CONSTRUCTION SERVICES****Clause A-8 ENVIRONMENT AND SOCIAL MANAGEMENT PLAN**

In the absence of any definite provisions on any particular issue in the aforesaid Specifications, reference may be made to the latest codes and specifications of IRC, BIS, BS, ASTM, AASHTO and CAN/CSA in that order. Where even these are silent, the construction and completion of the works shall conform to sound engineering practice as approved by the Engineer.

SECTION 100 GENERAL.

CLAUSE 105 SCOPE OF WORK

Sub Clause105.3

Add the following to the Sub Clause 105.3

The QA programme shall also conform to the requirements of EN ISO 9001.

CLAUSE 106 CONSTRUCTION EQUIPMENT

Add the following sub Para (l) after sub Para (k):

- l) All measuring devices and gauges shall be in good working condition. Measuring devices that can affect product quality shall be calibrated prior to use and at prescribed intervals against certified equipment. Calibration procedures shall be established, maintained and documented and corrective actions taken when results are unsatisfactory. Calibration of all measuring devices and gauges etc., which the Contractor intends to use in the contract, shall be calibrated from a competent/reputed authority/agency accredited to NABL and the frequency of the calibration shall be as directed by the Engineer. Accuracy and fitness of measuring devices shall be ensured by proper maintenance.

CLAUSE 111 PRECAUTIONS FOR SAFEGUARDING THE ENVIRONMENT

Replace entire Clause 111 with the following:

Sub Clause111.1 General

The Contractor shall take all precautions for safeguarding the environment during the course of the construction of works. He shall abide by all rules, regulations and laws in force governing pollution and environmental protection that are applicable to the area where the works are situated.

NOISE:

The Contractor shall mitigate against any sustained increase in base line ambient Noise levels at sensitive receptors during construction of work.

All construction operations shall be performed in a manner to minimize noise and vibration. The noise levels to be maintained during construction period at construction camps and at construction sites are detailed below.

- 75 dB (A) for day;
- 70 dB (A) for night;
- 50 dB (A) for day and 40 dB (A) for night for sensitive receptors

If the noise levels are found to be above these standards and it is determined by the Engineer that these levels are due to the equipment or plant being deployed by the Contractor, he shall undertake, at his own cost measures as approved by the Engineer, to bring these levels down to the specified levels. Blasting should be done as per Indian Explosive Act. People living near such blasting sites shall have prior information of operational hazards. Blasting will not be undertaken at night. Workers at blasting sites will be provided with earplugs. Material haulage roads will be properly regulated.

Labour shall be warned against the hunting of wild life, if any. No archaeological site shall be disturbed.

Sub Clause 111.2 Borrow pits for Embankment Construction

Borrow pits shall not be dug within the Right-of-Way of the road. Arable lands will not be used for earth borrowing. The Contractor will ensure that proper excavation techniques are used to improve stability and safety of the borrow area. The excavation shall be carried out in such a way that the area does not inundate during monsoons or generate cesspools of water to become mosquito-breeding sites. The stipulations in Clause – 305.2.2 shall govern. The borrow pits shall not be left in a condition likely to cause damage to human and animal life.

Sub Clause 111.3 Quarry Operations

The Contractor shall obtain material from licensed quarries only after the consent of the concerned department or other concerned authorities. The quarry operation shall be undertaken within the purview of the rules and regulations in force. The Contractor shall ensure scheduling the movement of transport carrying material to and from the site during non-peak hours. The trucks carrying all the dusty material, red earth, moorum and fly ash/ pond, ash shall be covered with a tarpaulin and provided with adequate free board to prevent spillage. End boards shall be provided in loaders to prevent spillage.

Stockpiling of material shall be properly planned so as to ensure that no traffic jam takes place on the highway.

Sub-Clause 111.4 Control of Soil Erosion, Sedimentation and Water Pollution

The Contractor shall carry out the works in such a manner that soil erosion is fully controlled, and sedimentation and pollution of natural water courses, ponds, tanks and reservoirs is avoided. The stipulations of Clause 306 shall govern.

Sub Clause 111.5 Precautions against Dust

The Contractor shall take all reasonable steps to minimize dust nuisance during the construction of the works. All existing highways and roads used by vehicles of the Contractor or any of his sub-Contractors or suppliers of materials or plant, and similarly any new roads which are part of the works and which are being used by traffic shall be kept clean and clear of all dust / mud or other extraneous material dropped by the said vehicles or their tyres. Similarly, all dust / or mud or other extraneous material from the works spreading on these highways shall be immediately

cleared by the Contractor. Clearance shall be effected immediately by manual sweeping and removal of debris, or, if so directed by the Engineer, by mechanical sweeping and clearing equipment, and all dust, mud and other debris shall be removed entirely from the road surface. Additionally, the road surface including haul road from Quarries and Plants shall be hosed or watered using suitable equipment to avoid dust pollution. Special care shall be taken to combat dust problem originating from use of fly ash/pond ash.

Sub Clause 111.6 Pollution from Hot Mix Plant, WMM Plant, Batching Plant & Crusher and Other Construction Machinery

The Contractor shall ensure the use of a relatively new, well maintained hot mix plant (batch type) so that any emission conforms to the CPCB and TNPCB norms and be fitted with a dust extraction unit to avoid prolonged engine powered equipment illness. Hot Mix Plant, WMM plant, Batching Plant & Crusher etc., shall be located more than 500 m from any community or residence and 1 km away from the sensitive receptors (schools, hospitals), unless otherwise required by the statutory requirements. The Contractor has to obtain necessary consent/clearance from State Pollution Control Board to operate Hot Mix Plant, WMM plant, Batching Plant, DG Set & Crusher before commencement of works.

All vehicles, equipment and machinery needed for construction will be regularly maintained to ensure that pollution emission levels conform to CPCB and TNPCB norms. All vehicles should be fitted with silencers.

Construction vehicles, machinery & equipment will move or be stationed in designated areas to avoid compaction of soil to ensure the preservation of the top soil for agriculture. The Contractor shall be fully responsible for any claims or damages caused to the owners of the property, field and residences in the vicinity and violation of pollution control norms if any.

Sub Clause 111.7 Road Safety

The Contractor shall provide adequate circuit for traffic flow around construction areas, control speed of construction vehicles through road safety and training of drivers, provide adequate signage, barriers and flag persons for traffic control. If there are traffic jams during construction, measures shall be taken to relieve the congestion with the assistance of local traffic police. Safety of workers undertaking various operations during construction will be ensured by providing helmets, masks, safety goggles, etc. One Qualified Safety Officer and one Safety Supervisor must be available in the Contractor's working team for the entire construction period.

The Contractor shall submit the **construction safety check** list in the format given below filled up to fourth column to the Engineer by 5th of every month. The Engineer shall fill up the remaining column of the check list and forward to the Authority within a week period.

Sl. No.	Safety Issues	Yes	No	Non compliance	Corrective Action	Penalty	Remarks
--------------------	----------------------	------------	-----------	---------------------------	------------------------------	----------------	----------------

Safety during Construction Stage

- 1 Appointment of qualified Construction safety expert
- 2 Approval for Construction Safety Management Plan by the Engineer.
- 3 Approval for Traffic Management/control Plan in accordance with IRC: SP: 55-2001
- 4 Maintenance of the existing road stretches handed over to the Contractor.
- 5 Provision of Temporary Traffic
- 6 Barriers/Barricades/caution tapes in construction zones
- 7 Provision of traffic sign boards
- 8 Provision for flags and warning lights
- 9 Provision of metal drum/empty bitumen drum delineator, painted in circumferential strips of alternate black and white 100mm wide 2 coats fitted with reflectors 3 Nos of 7.5cm diameter
- 10 Providing plastic crash barrier
- 11 Provision of adequate staging, form work and access (ladders with handrail) for works at a height of more than 3.0 m
- 12 Provision of adequate shoring / bracing / barricading / lighting for all deep excavations of more than 3.0 m depth.
- 13 Demarcations (fencing, guarding and watching) at construction sites
- 14 Provision for sufficient lighting especially for night time work
- 15 Arrangements for controlled

Sl. No.	Safety Issues	Yes	No	Non compliance	Corrective Action	Penalty	Remarks
15	access and entry to Construction zones						
16	Safety arrangements for Road users / Pedestrians						
	Arrangements for detouring traffic to alternate facilities						
17	Regular Inspection of Work Zone Traffic Control Devices by authorized contractor personnel						
18	Construction Workers safety - Provision of personnel protective equipments						
19	A. Helmets B. Safety Shoe C. Dust masks D. Hand Gloves E. Safety Belts F. Reflective Jackets G. Earplugs for labour						
20	Workers employed on bituminous works, stone crushers, concrete batching plants etc. provided with protective goggles, gloves, gumboots etc.						
21	Workers engaged in welding work shall be provided with welder protective shields						
22	All vehicles are provided with reverse horns.						
23	All scaffolds, ladders and other safety devices shall be maintained in as safe and sound condition						
24	Regular health checkup for Labour/ Contractor's personnel						
25	Ensuring the sanitary conditions and all waste disposal procedures & methods in the camps.						
26	The Contractor shall provide adequate circuit for traffic flow around construction areas, control speed of construction vehicles through road safety and training of						

Sl. No.	Safety Issues	Yes	No	Non compliance	Corrective Action	Penalty	Remarks
27	drivers, provide adequate signage, barriers and flag persons for traffic control Provision for insurance coverage to the contractor's personnel						

Sub Clause 111.8 Sanitation & Waste Disposal in Construction Camp

The Contractor shall ensure that construction camps are located at a distance of minimum 200m from water sources. Special attention shall be paid to the sanitary conditions of the camps. The Contractor shall ensure that sufficient measures are taken i.e. provision of garbage tanks and sanitation facilities. Waste in septic tanks shall be cleaned periodically. Garbage shall be collected in four empty drums at each construction site and disposed off daily. The Contractor shall provide adequate measures for the health care of workers and arrange their regular medical check-up to ensure that they do not suffer from any communicable disease. At every workplace, good & sufficient water supply will be maintained to avoid waterborne/ water related diseases. If any pits are dug at construction / camp sites which are not filled and then may turn into mosquito breeding sites during monsoons shall be filled up properly so that no water accumulates. The construction camps shall conform to the state and national building regulations as applicable.

Sub Clause 111.9 Substance Hazardous to Health

The Contractor shall not use or generate any material in the works, which is hazardous to the health of persons, animals or vegetation. Where it is necessary to use some such substance which can cause injury to the health of the workers, the Contractor shall provide suitable protective clothing or appliances to his workers, viz. earplugs, helmets or dust masks. Sealed containers of hazardous materials shall be stored in a well-ventilated room, well-guarded and secured.

Sub Clause 111.10 Damage to Existing Road/ CD Structures

Any structural damage caused to the existing roads/structures by the Contractor's construction equipment shall be made good without any extra cost.

Sub Clause 111.11 Use of Nuclear Gauges

Nuclear gauges shall be used only where permitted by the Engineer. The Contractor shall provide the Engineer with a copy of the regulations governing the safe use of nuclear gauges he intends to employ and shall abide by such regulations. Without written approval, no such equipment shall be used at any level of the work.

Sub Clause 111.12 Environmental Monitoring

In order to carry out periodic checks, environmental monitoring will be carried out by the Authority's Engineer as per schedule and if any parameter is found above the acceptable standards, mitigation measures / control measures as decided by the Authority's Engineer shall be complied with by the Contractor.

Sub Clause 111.13 Protection of Existing Trees

Some of the existing trees within the right of way are likely to be cut down during the execution of the Work. The Contractor shall take all necessary measures to ensure safety and protection of the remaining trees from any action whatsoever relating to his construction operations in the adjoining areas.

Giant neighbourhood trees recognized locally as important shall be preserved and engineering designs modified to accommodate these wherever possible depending on Authority's Engineer's directions.

Sub Clause 111.14 Disposal of Materials outside Work Site

Notwithstanding other relevant provisions in the contract, the excess material generated by dismantling, excavation, waste material and lubricants, used oil, gasoline and other such substance etc., shall be removed from site outside the right of way at regular intervals and site shall kept clean from all such disposable materials. Grease, cotton and other waste construction materials shall be disposed off in shallow pits and periodically burnt in an incinerator constructed at each construction site. Such intervals shall not exceed one month under any circumstances. The selection of the disposal site shall be the responsibility of the Contractor and he shall ensure that the selected site does not result in any claim for damages to the Authority or violation of any existing laws.

This section of Technical Specifications sets out instructions, recommended standards and technical specifications for the design and implementation of ESMP mitigation works associated with construction of roads.

Environmental and Social Management Plan has been prepared for the Sub-project road, which needs to be followed during the implementation of the civil works. The key responsibility of the contractor/sub-contractor will be the successful implementation of the EMP. In addition, he will update the Authority and Authority's Engineer on the progress of environmental protection and / or enhancement works as envisaged in the EMP. Execution of environmental mitigation measures meeting the requirement of Technical Specifications in conformity with applicable legislation will be the responsibility of the contractor. It shall also be accompanied with relevant documents (statements of compliance, certificates of compliance, test reports, etc.), evidencing their conformity with the statutory regulations.

111.14.1 DISPOSAL OF UNSERVICEABLE MATERIALS:

The locations of Disposal sites have to be selected such that:

- Locating the disposal sites is the sole responsibility of the contractor with the approval of Engineer.
- Joint inspection of all disposal sites shall be done by Engineer and Contractor prior to approval.
- No residential areas are located downwind side of these locations,
- Disposal sites are located at least 1000 m away from sensitive locations like Settlements, Water body, notified forest areas, Sanctuaries or any other sensitive locations.
- Disposal sites do not contaminate any water sources, rivers etc for this site should be located away from water body and disposal site should be lined properly to prevent infiltration of water.
- Public perception about the location of debris disposal site has to be obtained before finalizing the location.
- Permission from the Village/local community is to be obtained for the Disposal site selected.
- Contractor will resolve all claims arising out of waste disposal at his own cost.
- Contractor shall utilize the suitable borrow areas, abandoned quarries and other waste land for the debris disposal.
- Contractor needs to plan the disposal in the following way:
 - Identify the disposal area.
 - Prepare a contractors debris disposal plan with design drawings for each identified area and get it approved by the Engineer.
 - Need to photograph the present land use and condition of the area.
 - Construct all required structures (e.g. retaining wall).
 - The dumpsites filled only up to the ground level with compaction of the debris materials in layers after disposal.
 - The 30 cm top layer of disposal pit shall be provided with good earth suitable for development of vegetation/plantation.
 - After levelling, the site could be suitably rehabilitated by planting local species of grass (turfing), shrubs and other plants as decided by the Engineer.

111.14.2 CONSTRUCTION OF WATER RECHARGE PITS: Deleted

111.14.3 CONSTRUCTION OF SILT TRAPS: Deleted

111.14.4 SCARIFIED BITUMEN DISPOSAL PITS: Deleted

111.14.5 PROVISION FOR OIL INTERCEPTORS:

Location of Oil Interceptors shall be considered such that each construction camp having refuelling stations, oil and lubricants storage places will have one oil

interceptor to stop & separate the floating oils. However, the number of interceptors shall be increased as the situation demands or during the accidental spillages with the consent of the Engineer.

111.14.6 ENVIRONMENTAL MONITORING:

Environmental Monitoring of Air, Noise, Water and Soil parameters shall be carried by the contractor as per the consents and latest environmental norms, guidelines and policies of national and state level environmental authorities. The Contractor shall comply by all obligations and make sure that there are no deviations from them or from the Contract.

Environmental standards for Air, Noise and water are outlined below.

1. Ambient Air Quality Standards (National)

S. No.	Pollutants	Time weighted average	Concentration in ambient air		Method of measurement
			Industrial, Residential, Rural & other Areas	Ecologically Sensitive Area (Notified by Central Government)	
1.	Sulphur Dioxide (SO ₂) µg/m ³	Annual*	50	20	<ul style="list-style-type: none"> - Improved West and Geake - Ultraviolet Fluorescence
		24 hours**	80	80	
2.	Nitrogen Dioxide (NO ₂) µg/m ³	Annual*	40	30	<ul style="list-style-type: none"> - Modified Jacob & Hochheiser (Na-Arsenite) - Chemiluminescence
		24 hours**	80	80	
3.	Particulate Matter (size less than 10 µm or PM10 µg/m ³)	Annual*	60	60	<ul style="list-style-type: none"> - Gravimetric - TOEM - Beta attenuation
		24 hours**	100	100	
4.	Particulate Matter (size less than 2.5 µm or PM2.5 µg/m ³)	Annual*	40	40	<ul style="list-style-type: none"> - Gravimetric - TOEM - Beta attenuation
		24 hours**	60	60	
5.	Ozone (O ₃) µg/m ³	8 hours**	100	100	<ul style="list-style-type: none"> - UV Photometric - Chemiluminescence - Chemical method
		1 hour **	180	180	
6.	Lead (Pb) µg/m ³	Annual*	0.5	0.5	<ul style="list-style-type: none"> - ASS/ICP method after sampling on EPM 2000 or - equivalent filter paper - ED-XRF using Teflon filter
		24 hours**	1.0	1.0	
7.	Carbon Monoxide (CO) mg/m ³	8 hours	02	02	<ul style="list-style-type: none"> - Non Dispersive Infra Red (NDIR)
		1 hours**	04	04	
8.	Ammonia (Nh ₃) µg/m ³	Annual*	100	100	<ul style="list-style-type: none"> - Chemiluminescence - 24 - Indophenol blue method
		24 hours**	400	400	

S. No.	Pollutants	Time weighted average	Concentration in ambient air		Method of measurement
			Industrial, Residential, Rural & other Areas	Ecologically Sensitive Area (Notified by Central Government)	
9.	Benzene (C ₆ H ₆) µg/m ³	Annual*	05	05	<ul style="list-style-type: none"> - Gas chromatography based - on continuous analyser - Adsorption and desorption - followed by GC analysis
10.	Bensol (O) Pyrene (BaP) – Particulate phase only ng/m ³	Annual*	01	01	<ul style="list-style-type: none"> - Solvent extraction followed - by HPLC/GC analysis
11.	Arsenic (As) ng/m ³	Annual*	06	06	<ul style="list-style-type: none"> - AAS/ICP method after sampling on EPM 2000 or - equivalent filter paper
12.	Nickel (Ni) ng/m ³	Annual*	20	20	<ul style="list-style-type: none"> - AAS/ICP method after sampling on EPM 2000 or - equivalent filter paper
*	Annual Arithmetic mean of minimum 104 measurements in a year taken twice a week 24 hourly at uniform interval.				
**	24 hourly/8 hourly values should be met 98% of the time in a year. However, 2% of the time, it may exceed but not on two consecutive days.				

2. Water quality Standards (IS 10500: 1991)

S. No.	Parameter	Requirement desirable Limit	Remarks
1.	Colour	5	May be extended up to 50 if toxic substances are suspected
2.	Turbidity	10	May be relaxed up to 25 in the absence of alternate
3.	pH	to 8.5	May be relaxed up to 9.2 in the absence of alternate
4.	Total Hardness	300	May be extended up to 600
5.	Calcium as Ca	75	May be extended up to 200
6.	Magnesium as Mg	30	May be extended up to 100
7.	Copper as Cu	0.05	May be relaxed up to 1.5
8.	Iron	0.3	May be extended up to 1
9.	Manganese	0.1	May be extended up to 0.5
10.	Chlorides	250	May be extended up to 1000
11.	Sulphates	150	May be extended up to 400
12.	Nitrates	45	No relaxation
13.	Fluoride	to 1.2	If the limit is below 0.6 water should be rejected, Max. Limit is extended to 1.5
14.	Phenols	0.001	May be relaxed up to 0.002
15.	Mercury	0.001	No relaxation
16.	Cadmium	0.01	No relaxation
17.	Selenium	0.01	No relaxation
18.	Arsenic	0.05	No relaxation
19.	Cyanide	0.05	No relaxation
20.	Lead	0.1	No relaxation
21.	Zinc	5.0	May be extended up to 10.0
22.	Anionic detergents (MBAS)	0.2	May be relaxed up to 1
23.	Chromium as Cr+6	0.05	No relaxation
24.	Poly nuclear aromatic Hydrocarbons	--	--
25.	Mineral Oil	0.01	May be relaxed up to 0.03
26.	Residual free Chlorine	0.2	Applicable only when water is chlorinated
27.	Pesticides	Absent	--
28.	Radio active	--	--

3. Ambient Noise Quality Standards in respect of Noise

Area Code	Category of Area / Zone	Limits in dB(A) Leq*	
		Day Time	Night Time
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Note: -

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
3. Silence zone is an area comprising not less than 100 metres around hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

* dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A "decibel" is a unit in which noise is measured.

"A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is an energy mean of the noise level over a specified period.

Note: The Principal Rules were published in the Gazette of India, vide S.O. 123(E), dated 14.2.2000 and subsequently amended by the Noise Pollution (Regulation and Control) (Amendment) Rules, 2000 vide S.O. 1046(E), dated 22.11.2000 and by the Noise Pollution (Regulation and Control) (Amendment) Rules, 2002 vide S.O. 1088(E), dated 11.10.2002, under the Environment (Protection) Act, 1986.

Sub Clause111.15

Compliance with the foregoing will not relieve the Contractor of any responsibility for complying with the requirements of any highway authority in respect of the roads used by him.

Sub Clause111.16 Measurement

For Compliance of all provisions made in this Clause 111, it shall be deemed to be incidental to the work and no separate measurement or payment shall be made. The Contractor shall be deemed to have made allowance for all such compliance with these provisions in the preparations of his Bid and full compensation for such compliance shall be deemed to be covered by the Bid price.

CLAUSE 112 ARRANGEMENT FOR TRAFFIC DURING CONSTRUCTION

Sub Clause 112.1 Add the following at the end of this Sub-Clause:

“The Contractor shall ensure that all the traffic management devices as per Traffic Management Plan approved by the Engineer are in position before opening of sites of work.”

Sub-Clause 112.2 Passage of Traffic along a part of the Existing Carriageway under improvement

Replace 2nd sentence of 1st paragraph of the Sub Clause 112.2 with the following:

The treatment of the shoulder shall consist of providing at least 150mm thick granular (Wet Mix Macadam) base course covered with 20 mm thick Close-Graded Premix Surfacing/Mixed Seal Surfacing (Type B) as per Clause 508 in a width of at least 1.5m such that the total paved width available for traffic including part of the existing road and treated shoulder is not less than 3.75m and the treated shoulder shall be maintained throughout the period during which traffic uses the same to the satisfaction of the Engineer.

Replace the Sub Clause 112.3 of MoRT&H with the following

Sub Clause 112.3 Passage of Traffic along a Temporary Diversion

In stretches where it is not possible to pass the traffic on part width of the carriageway, a temporary diversion shall be constructed with 5.5 m carriageway and 2.5 m earthen shoulders on each side (total width of roadway 10.5 m) with the following provision for road crust in the 5.5 m width:

- (i) Earthwork
- (ii) 200 mm (compacted) granular sub-base;
- (iii) 225 mm (compacted) granular base course (Wet Mix Macadam);
- (iv) Priming and Tack Coat and
- (v) 20 mm thick Close-Graded Premix Surfacing / Mixed Seal Surfacing (Type B).

The use of fly ash in temporary diversions shall not be permitted.

The location of such stretch, alignment and longitudinal section of diversion including junctions and temporary cross drainage provision shall be as approved by the Engineer.

The Contractor shall be responsible for the design of temporary diversions and submit the designs to the Engineer for his approval. If the Contractor finds it necessary to construct part of any diversion outside the Right of Way, the temporary use of additional land shall be arranged for by the Contractor at his own risk and cost. Further as per Conditions of Contract, the Contractor shall indemnify the Authority and the Engineer against any claims or proceedings resulting from the occupancy and use of such areas of additional land. Any roadside trees that have to be removed for the construction of temporary diversions shall be at the responsibility and cost of the Contractor.

Sub Clause 112.4 Traffic safety and Control

Add the following paragraph at the end of the Sub Clause 112.4

The Provisions made in Bill of Quantities shall be the ceiling for the Contract during the Contract Period. The Additional claims due to damage and theft of the same shall be deemed incidental to works. No extra payment shall be made towards additional quantities for these bill items.

Replace the Sub Clause 112.6 with the following

Sub Clause 112.6 Measurements for Payment and Rate

- (i) All arrangements for traffic during construction including provision of temporary cross drainage structures, if required and treated shoulder as described in Clause 112.2 including their maintenance, dismantling and clearing debris, where necessary, shall be considered as incidental to the works and shall be the Contractor's responsibility, **unless provided as a separate payable item in the BOQ.**
- (ii) The construction of temporary diversion including temporary cross drainage structures at the site of bridge reconstruction locations as described in Clause 112.3, shall be **payable** and measured in linear metre and the unit contract rate shall be inclusive of full compensation for construction (including supply of material, labour, tools, etc.), maintenance, final dismantling, and disposal.

CLAUSE 114 SCOPE OF RATES FOR DIFFERENT ITEMS OF WORK

Sub Clause 114.2 Add the following at the end of Item (ii) of Clause 114.2:

“The Contractor shall submit data via electronic media and hard copy to the Engineer in a form readily compatible with the Engineer’s planning system.”

Sub Clause 114.2 Add the following as item (xix) to sub-clause 114.2:

“Monthly progress and Quarterly progress report in a format acceptable to the Engineer” The report shall state the progress which has been achieved compared with the planned progress, illustrate delays in proportion to the progress planned, analyze the consequences and state planned corrective measures. Intermediate progress reports may also be required. This report will also include progress on the ES Management Strategies and Implementation Plans (ES-MSIP) to manage the (ES) risks, and compliance to the applicable Laws/ Rules/ Regulations for protection of environment, public health and safety, and the applicable parts of the Contractor’s Environment and Social Management Plan (ESMP)of the Sub-project.

The first issue of the detailed program including the detailed description of the system and the procedures shall be submitted to the Authority Engineer for acceptance not later than 30 days after the appointed date of the contractor. (Referring Article-10 clause-10.1.4)

Sub Clause 114.2 Add the following as item (xx) to Sub-Clause 114.2

Cost of carrying out Topographic Surveys and Auto Level Surveys.

CLAUSE 120 FIELD LABORATORY

Sub Clause 120.2

Replace Sub-Clause 120.2 with the following.

120.2**Description**

The Contractor shall arrange to provide fully furnished and adequately equipped field laboratory (also referred to as Quality Control Laboratory). The field laboratory shall be located in close proximity to the Works site. It shall be provided with continuous electricity supply, electrical wiring and points, all necessary electrical fittings and fixtures; potable water supply including pipes, pumps, storage tanks, plumbing, all necessary fittings and fixtures; septic tank, sewer lines, drains; surfaced access road; fencing and security lighting; security services etc.

The floor space requirement for the field laboratory shall be as indicated in the drawings. It shall include office space for the Materials Engineers, one from the Contractor's side and another from the Engineer's side, space for the installation of equipment, and space for other facilities. The field laboratory shall be fitted complete with laboratory equipment, laboratory tables and cupboards, wash basins, toilet facilities, curing tank around 4m x 2m x 1m in size for the curing of samples, a fume chamber, working platform area of about 1m x 10m against the walls, cupboards above and below the working platform, space for storage of accessories such as sample moulds, space for storage of samples etc. At least 4 racks of slotted angles and M.S. sheets shall also be provided. The furnishing in each of two offices of the Materials Engineers shall include working tables and chairs.

Table 100-2: List of Laboratory Equipments

S. No	Item, Specifications	Nos. required
A: General		
1)	Weigh Balances	
	(a) 5 kg to 20 kg capacity Electronic Type –Accuracy 1 gm	
	(b) 500 gm capacity Electronic Type – Accuracy 0.01 gm	
	(c) Chemical balance 100gm capacity - Accuracy 0.0001gm	
	(d) Pan balance 5 kg capacity Electronic Type - Accuracy 0.5 gm	
	(e) Platform Balance Scale – 300 kg capacity	
	(f) Triple Beam balance-25kg capacity Accuracy 1gm	

S. No	Item, Specifications		Nos. required
2)		Oven – electrically operated, thermostatically controlled (including thermometer), stainless steel interior	
	(a)	From 0°C to 220°C – Sensitivity 1°C	
3)		Sieves: as per IS: 460-1962	
	(a)	IS Sieves 450 mm internal dia. of sieve sets as per BIS of required sieve sizes complete with lid and pan	
	(b)	IS sieve 200 mm internal dia. (brass frame and steel/ or brass wire cloth mesh) consisting of sieve sets of required sieve sizes complete with lid and pan	
4)		Sieve shaker capable of taking 200 mm and 450 mm dia. Sieves electrically operated with time switch assembly (As per BIS)	
5)		200 tonnes compression testing machine	
6)		Stop watches 1/5 sec. Accuracy	
7)		Glassware comprising of Beakers, Pipettes, dishes, measuring cylinders (100 to 1000 cc capacity) glass rods and funnels, glass thermometers range 0°C to 100°C and metallic thermometers range 300°C	
8)		Hot plates 200 mm dia (1500 watt)	
9)		Enamel trays	
	(a)	600 mm x 450 mm x 50 mm	
	(b)	450 mm x 300 mm x 40 mm	
	(c)	300 mm x 250 mm x 40 mm	
	(d)	Circular plates of 250 mm dia.	
10)		Water Testing Kit	
11)		First Aid Box	
12)		Stretchers	

S. No	Item, Specifications		Nos. required
13)	Fire safety equipments such as fire extinguishers		
14)	Miscellaneous tools (sledge hammer, lump hammer, wooden pegs etc.)		
15)	Maximum and Minimum Thermometer		
16)	Rain Gauge		
17)	Timer 0-60 minutes with alarm & 1/5 sec accuracy.		
B: For Soils and Aggregates			
1)	Water still, 3 liter/hr with fittings and accessories		
2)	Liquid limit device with Casagrande and ASTM grooving tools as per IS: 2720		
3)			
4)			
5)	Modified AASHTO compaction apparatus as per IS. 2720 (Part 8) 1983 or Heavy Compaction Apparatus as per IS complete with collar, base plate, hammer and all other accessories		
6)	Sand pouring cylinder with conical funnel and tap and complete as per IS 2720 (Part 28) 1974 including modified equipment Ennore Standard Sand Sampling tins with lids 100 mm dia x 75 mm ht ½ kg capacity and miscellaneous items like moisture tins with lid (50 grams) etc.		
7)			
8)			
9)			
	(a)	CBR moulds 150-mm dia – 175-mm ht. complete with collar, base plate etc.	
	(b)	Tripod stands for holding dial gauge holder	

S. No	Item, Specifications		Nos. required
	(c)	CBR plunger with settlement dial gauge holder	
	(d)	Surcharge weight 147-mm dia 2.5 kg wt.	
	(e)	Spacer disc 148-mm dia, 47.7-mm ht. With handle	
	(f)	Perforated plate (Brass)	
	(g)	Soaking tank for accommodating 24 CBR moulds	
	(h)	Proving rings of 1000 kg, 2500 kg and 5000 kg capacity	
	(i)	Dial gauges, 25 mm travel- 0.01 mm/division	
	(j)	Aluminium Tins	
		50x30mm	
		55x35mm	
		70x45mm	
		70x50mm	
		80x50mm	
10)		Standard Penetration test equipment	
11)		Nuclear moisture Density meter or equivalent	
12)		Speedy moisture meter complete with chemicals	
13)		Unconfined compression test apparatus	
14)		Aggregate Impact Test Apparatus	
15)		Aggregate Impact Test Apparatus as per IS 2386 (Part 4) 1963	
16)		Los Angeles abrasion Test Apparatus as per IS 2386 (Part 4) 1963	
17)		Riffle Box of Slot size of 50mm as per ASTM C-136	

S. No	Item, Specifications		Nos. required
18)		Dynamic Cone Penetrometer	
19)		Hydrometer with high speed stirrer and jars	
20)		Post-hole augur (to BS-812)	

C: For Bitumen and Bituminous Mixes

1)		Constant temperature bath for accommodating bitumen test specimen, electrically operated and thermostatically controlled (to accommodate minimum six Specimens)	
2)		Penetrometer automatic type, adjustable weight arrangement and needles as per IS. 1203 – 1978	
3)		Soxhlet extraction or centrifuge type apparatus complete with extraction thimbles with stocks of solvent and filter paper	
4)		Bitumen laboratory mixer including required accessories (20 ltrs.)	
5)		Marshall compaction apparatus automatically operated as per ASTM 1559-62 T complete accessories (with 180 N Marshall Moulds	
6)		Distant Reading Digital Thermometer for Measuring Temperatures in Asphaltic Mixes	
7)		Riffle Box	
8)		Automatic Asphalt Content Gauge [Nuclear or equivalent]	
9)		Thin film Oven test apparatus for modified binder either with PMB or CRMB	
10)		Ring Ball Apparatus as per IS 1205- 1978	
11)		Asphalt Institute Vacuum Viscometer as per IS 1206 (part II) – 1978	
12)		BS U- Tube Modified Reverse Flow Viscometer IS 1206 (Part III) – 1978	
13)		Apparatus for Determination of Ductility Test as per IS 1208 – 1978	
14)		Pen Sky – Martin closed Tester for testing flash and fire point as per IS 1209 – 1978.	
15)		Apparatus for Float Test – IS – 1210 – 1978	
16)		Apparatus for Determination of water content (Dean and Shark Method) IS – 1211 – 1978	

S. No	Item, Specifications	Nos. required
17)	Apparatus for Determination of Loss on Heating IS – 1212-1978.	
18)	Apparatus of Determination of specified Gravity IS-1202-1978	
19)	Core cutting machine suitable for upto 150mm dia. Core	
20)	Apparatus for Elastic Recovery test for Modified Bitumen	
21)	Apparatus for Storage Stability test for Modified Bitumen	
22)	Apparatus for Separation test for Modified Bitumen	
23)	Sand Equivalent test apparatus	
24)	Mastic Asphalt Hardness testing equipment	
25)	Automatic Asphalt content Meter	

D: For Cement, Cement Concrete and Materials

1)		Water still	
2)		Vicat needle apparatus for setting time with plungers, as per IS. 269-1967	
3)		Moulds	
	(a)	150 mm x 300 mm ht cylinder with capping component along with the capping set and compound as per IS	
	(b)	Cube 150mm, and 100mm (each size)	
	(c)	150mmx100 mm x600mm beam for flexural strength	
4)		Concrete permeability apparatus	
5)		High frequency mortar cube vibrator for cement testing	
6)		Concrete mixer power driven, 1 cu ft capacity	
7)		Variable frequency and amplitude vibrating table size 1 metre x 1 metre as per the relevant British Standard	
8)		Flakiness & Elongation test apparatus	

S. No	Item, Specifications		Nos. required
9)		Aggregate impact test apparatus as per IS 2386 (Part 4) 1963	
10)		Los Angeles abrasion apparatus as per IS. 2386 (Part 4) 1963	
11)		Flow table as per IS 712-1973	
12)	(a)	Equipment for slump test	
	(b)	Compaction factor test equipment	
13)		Equipment for determination of specific gravity for fine and coarse aggregate as per IS 2386 (Part 3) 1963	
14)		Compression and Flexural strength testing machine of 200T capacity with additional dial for flexural testing	
15)		Core cutting machine with 100 mm dia. Diamond cutting edge	
16)		Needle vibrator	
17)		Vibrating hammer as per BS specification	
18)		Air entrainment meter ASTM C - 231	
19)		0.5 Cu. ft, 1 Cu. ft cylinder for checking bulk density of aggregate with tamping rod	
20)		Soundness testing apparatus for cement	
21)		Flexural Beam testing machine with accessories	
22)		Chemicals solutions and consumable	
23)		Chloride Testing kit for chemical analysis of chloride content.	
24)		ION Exchange kit for rapid determination of sulphate content.	
E: For Control of Profile and Surface Evenness			
1)		Precision automatic level with micrometer attachment	
2)		Distomat or equivalent	

S. No	Item, Specifications		Nos. required
3)	Theodolite – Electronically operated with computerised output attachment		
4)	Total Station with all accessories		
5	Roughometer (Towed Fifth Wheel Bump Indicator)		
6)	3 metre straight edge and measuring wedge		
7)	Camber templates 2 lane		
	(a) Crown type cross-section		
	(b) Straight run cross-section		
8)	String line Arrangement with sensor paver		
9)	Steel tape		
	(a) 5 m long		
	(b) 10 m long		
	(c) 20 m long		
	(d) 30 m long		
	(e) 50 m long		
9)	Precision Staff		

Note:

- 1) The laboratory set-up must be complete including a set of reference standards, adequately staffed and operational to the satisfaction of the Authority Engineer before the construction work physically starts on the field. The Contractor shall be responsible for the provision of adequately experienced and qualified laboratory staff, in sufficient numbers to be able to meet all testing requirements to the approval of the Engineer, and for the supply of all transportation of staff, testing equipment and samples necessary to allow the testing to be performed in a time scale compatible with the needs of the Site. The Authority and the Engineer shall have free access to the laboratory.

2) The laboratory setup may be reduced after issue of Taking Over Certificate with the approval of Engineer.

Sub Clause 120.4 Maintenance

This Clause shall read as under:

The Contractor shall arrange to maintain the laboratory in satisfactory manner and will carry stocks of spare equipment and laboratory consumables until the issue of Performance Certificate. Maintenance include the day to day upkeep of the laboratory building and the surroundings, attending to repairs to various parts of the building, furniture, fittings, office/laboratory equipments and the concerned services as and when necessary, including the periodic white/colour washing of building as per National Building Code and painting of wood, steel work, replacing the broken window/door/ventilator, glasses, furniture and other hardware and maintaining necessary watch and ward during the day and night.

The Contractor shall arrange to provide uninterrupted supply of electricity and water for the laboratory building. In case of failure of main power/water supply, alternate source shall be available for providing uninterrupted supply.”

SECTION 200 SITE CLEARANCE

CLAUSE 201 CLEARING AND GRUBBING

Sub Clause 201.1 Scope

Add the following Paragraph at the end of this Sub-Clause.

“Diversion and filling of existing Water courses along the road alignment shall be as per Additional Technical Specification A-1.”

Sub Clause 201.5 Delete 1st sentence in the 1st Paragraph in Sub-Clause201.5 and add the following sentence.

Clearing and grubbing for road embankment, drains and cross drainage structures shall be measured on area in plan basis in terms of hectares.

SECTION 300 EARTHWORK, EROSION CONTROL AND DRAINAGE

CLAUSE 301 EXCAVATION FOR ROADWAY AND DRAINS

Sub-clause 301.3.5 Rock Excavation

The first sentence of first paragraph shall read “Rock, when encountered in road excavation shall be removed up to a level of 150mm below the base of WMM”.

Sub-clause 301.3.7 Excavation of road shoulders/verge/medians for widening of pavement or providing treated shoulders:

The 2nd sentence of this Clause shall read as under:

The Subgrade material within 500mm from the bottom of the pavement for the widened portion and paved shoulder shall be loosened and recompacted as per Clause 305 if it does not meet the compaction requirement of Table 300-2.”

Sub Clause 301.6 Preparation of Cut Formation

Third paragraph shall be read as under:

“In rock formation, the rock shall be cut 150mm below the specified elevation of base of WMM and the surface irregularities shall be corrected. The gap between rock cut and base of WMM shall be filled with 150mm thick granular sub-base as per Grading-V of Table 400-1 of Clause 401. The unsuitable material shall be disposed of in accordance with Clause 301.3.11”.

Sub Clause 301.8 Measurements for Payment

In first line of first paragraph add “and drains” after the word “roadway”

CLAUSE 304 EXCAVATION FOR STRUCTURES

Sub Clause 304.3.2 Excavation

At the end of 1st paragraph of Clause 304.3.2 insert the following additional sentences:

“The Contractor shall ensure the stability and structural integrity of adjacent existing foundations and structures and if necessary shall, at his own expense, install temporary or permanent sheet piles, coffer dams, shoring or similar support or protection to the satisfaction of the Engineer.”

CLAUSE 305 EMBANKMENT CONSTRUCTION

Clause 305.2.1.6 The 1st sentence of this Clause shall read as under:

“The material to be used in subgrade shall conform to the design CBR value of not less than 9% at the specified density and moisture content of the test specimen.”

Clause 305.2.2.4 Compaction Requirements

In Clause 305.2.2.4 after the 1st paragraph delete Table 300-2 and substitute the following:

Table 300-2: Compaction Requirements for Embankment and Sub-grade

S. No.	Type of Work/Material	Relative Compaction as %age of maximum laboratory dry density as per IS 2720 (Part 8)

1	Subgrade and earthen shoulders	Not less than 97%
2	Embankment	Not less than 95%
3	High Embankment (Height >6m)	Not less than 97%
4	Expansive clays	Not allowed
5	Design CBR of Subgrade & Shoulder	shall be as per Drawing, but not less than 9%

Sub Clause 305.3.4 Compacting Ground Supporting Embankment/Sub-grade

Add the following paragraph at the end of last Paragraph in Sub Clause 305.3.4

Backfilling layers in pits, trenches and below the original ground are to be compacted to the relative natural ground density. The natural ground density shall be determined by conducting field density tests at three widely spaced locations along the central line of the proposed carriageway at a depth in between 0.5m to 1.0m. Samples of natural ground are collected at each location, and are tested in accordance with IS: 2720 (Part 8). The relative density (i.e. the percentage of the field dry density to the laboratory maximum dry density) is assessed for each sample, and the greatest relative density obtained is selected as the “natural ground density”. If the natural ground density is less than 85% then these are to be compacted after necessary watering so as to achieve not less than 85% of relative compaction”.

Sub-Clause 305.9.1

Add new sub section as (xv) “slush removal”

Sub Clause 306.4 Replace Sub-clause 306.4 with the following:

“The soil erosion, sedimentation and pollution control works shall be deemed as incidental to the earthwork and other items of work and, as such, no separate payment shall be made for the same

Sub-Clause 309.4 Measurements for PaymentAll payment (and deductions) shall be paid or charged in Indian Rupees. Payment will be made as setout in the Schedule H only. All other allied works,necessary for completion of the Bridge, shall be deemed incidental to the sub project and no separate payments shall be done for them.

SECTION 400 SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS

General

Sub clause (i) of clause 401.7 stands deleted and remaining sub paras (ii) to (v) are renumbered as (i) to (iv).

Sub clause (i) of clause 405.7 stands deleted and remaining sub paras (ii) to (v) are renumbered as (i) to (iv).

The provision of clause 401.7 (i) to (v) be read as “Clause 401.7 (i) to (iv)” in the sub clauses 402.8, 403.8, 404.7, 407.8 and 408.7.”

CLAUSE 401 GRANULAR SUB-BASE

Sub Clause 401.2 Materials

Sub Clause 401.2.1 The Clause shall read as follows:

“The material to be used for the work shall be crushed stone conforming to the physical requirements stipulated in Sub-Clause 401.2.2. The material shall be free from organic or other deleterious constituents and conform to Grading-V of Table 400-1.”

Sub Clause 401.3 Construction Operations

Sub-Clause 401.3.1: Preparation of Sub grade

Add the following paragraphs at the end of the 1st paragraph of Sub-Clause 401.3.1: Preparation of Sub grade

When granular subbase is to be placed on existing subbase or base for partial reconstruction the existing bituminous layers, if any, shall be scarified/ milled in accordance with Sub Clause 501.8.3.2. Scarification / milling shall be continued to the design foundation elevation within existing base/subbase layer on which the new subbase is to be placed. The Contractor will verify that all bituminous layers have been removed using appropriate methods approved by the Engineer. The bituminous surfacing and base material removed from the existing pavement may be used in other parts of the works as directed by Engineer provided it complies with the relevant specification clauses.

After scarification/ milling and removal to the satisfaction of the Engineer of the existing bituminous surfacing (full) and if required base/subbase (full or part), the surface shall be lightly sprinkled with water if necessary and rolled with three passes of vibratory rollers. The existing pavement shall then be proof rolled with an 8 tonne single drum vibrating roller in the presence of the Engineer who shall determine of the surface for placing the subbase layer.

Deleted

CLAUSE 409 CEMENT CONCRETE KERB AND KERB WITH CHANNEL

Sub Clause 409.5 Construction Operations

Sub Clause 409.5.1 Add at the end of the first sentence “as shown in the drawings”

CLAUSE 410 FOOTPATHS AND SEPARATORS

Replace the entire Clause 410 with the following:

410.1 Scope

The work shall consist of constructing footpaths and/or separators at locations as specified in the drawings or as directed by the Engineer. The lines, levels and dimensions shall be as per the drawings. The scope of the work shall include provision of all drainage arrangements as shown in the drawings or as directed.

410.2. Materials

The footpaths and separators shall be constructed with the following type:

Precast cement concrete block/tiles of Grade M20 as per Sections 1700 of the Specifications. The minimum thickness of the cement concrete block/tile shall be 25 mm and minimum size shall be 300 mm x 300mm.

410.3. Construction Operations

410.3.1 Drainage pipes below the footpath originating from the kerbs shall be first laid in the required slope and connected to the drains/sumps/storm water drain/drainage chutes as per provisions of the drawings, or as specified.

410.3.2 Portion on back side of kerbs shall be filled and compacted with granular sub-base material as per Clause 401 of the Specifications in specified thickness.

410.3.3 The base shall be prepared and finished to the required line, levels and dimensions as indicated in the drawings with the following:-

(a) Minimum 150 mm thick, compacted granular sub-base material as per Clause 401 of the Specifications.

(b) Minimum 25 mm thick cement concrete of Grade M15.

Over the prepared base, precast concrete tiles shall be set/laid as described in Clauses 410.3.4.

SECTION 500 BASES AND SURFACE COURSES (BITUMINOUS)

General

Sub para (i) of Clauses 501.8.8.2 stands deleted and remaining sub paras (ii) to (x) are renumbered as (i) to (ix).

The provision “Clause 501.8.8.2 (i) to (x) to be read as Clause 501.8.8.2 (i) to (ix)” in the Sub-Clauses 506.9 and 513.9”

CLAUSE 501 GENERAL REQUIREMENTS FOR BITUMINOUS PAVEMENT LAYERS

Sub Clause 501.2 Materials

Sub Clause 501.2.1 Binder

Replace “Tables 500-5 and 500-6” with “Tables 500-1” in the last paragraph of Sub-Clause 501.2.1

Sub-Clause 501.2.2 Coarse Aggregates

Delete “, crushed gravel or other hard material” from 1st Line of Para 1.”

Para 2 is deleted.

Sub Clause 501.6 Compaction

Replace the sentence “The intermediate rolling0.56 MPa.” **with** “The intermediate rolling shall be done with a smooth wheeled tandem vibratory roller of 8-10 tonne weight followed by a pneumatic tyre roller of 12-15 tonnes weight having nine wheels, with a tyre pressure of at least 0.56 MPa.” **in 2nd paragraph.**

CLAUSE 502 PRIME COAT OVER GRANULAR BASE

Sub-Clause 502.2 Materials

Sub-Clause 502.2.1 This Clause shall be read as under:

"502.2.1 The primer shall be cationic bitumen emulsion SS1 grade conforming to IS: 8887 and shall be refinery produced.”

The contract unit rate for prime coat shall be payment in full for carrying out the required operations including full compensation for all components listed in Clause 401.7 and as applicable to the work specified in these Specifications.”

CLAUSE 503 TACK COAT

Sub-Clause 503.2 Materials

This Clause shall be read as under:

"503.2 Materials

The binder used for tack coat shall be cationic bitumen emulsion (RS 1) complying with IS: 8887 and shall be refinery produced.”

CLAUSE 504 BITUMINOUS MACADAM

Sub-Clause 504.2.1 Bitumen

This Clause shall be read as under:

“The bitumen shall be paving bitumen of viscosity grade VG-30 complying with Indian Standard Specifications for “Paving Bitumen”, IS: 73.”

Sub-Clause 504.2.2 Coarse Aggregates

Delete the words “, crushed gravel or other hard material” from the first sentence of Clause 504.2.2.

Delete 4th sentence of Clause 504.2.2.

Sub-Clause 504.2.4 Aggregate Grading and Binder Content

Replace the word “The type and quantity” with “The quantity” in the last sentence of Clause 504.2.4.

CLAUSE 505 DENSE BITUMINOUS MACADAM

Sub-Clause 505.2.1 Bitumen

This Clause shall be read as under:

“The bitumen shall be paving bitumen of viscosity grade VG-30 complying with Indian Standard Specifications for “Paving Bitumen”, IS: 73.”

Sub-Clause 505.2.2 Coarse Aggregates

Delete the words, ‘crushed gravel or other hard material’ from the first sentence of Clause 505.2.2.

Delete 2nd paragraph of Clause 505.2.2.

Sub-Clause 505.2.3 Fine Aggregates

Replace the words “or natural occurring mineral material, or a combination of the two” with “material” in the 1st sentence of the Clause 505.2.3.

Delete the 4th sentence of the Clause 505.2.3.

Sub Clause 505.2.4 Filler

“The first sentence of this clause shall read as “Filler shall consist of finely divided hydrated lime or cement as approved by the Engineer”

Sub Clause 505.2.5 aggregate Grading and Binder Content

Add the following at the bottom of **Table 500-10**:

The grading of the aggregate mix as used in work shall be a smooth curve within and approximately parallel to the envelope in Table 500-10.

CLAUSE 507 BITUMINOUS CONCRETE

Sub-Clause 507.2.1 Bitumen

This Clause shall be read as under:

“

“The bitumen shall be paving bitumen of viscosity grade VG-30 complying with Indian Standard Specifications for “Paving Bitumen”, IS: 73.”

.”

Sub-Clause 507.2.2 Coarse Aggregates

Delete the words “and where crushed gravel is proposed two fractured faces” from the first sentence of Clause 507.2.2.

Sub Clause 507.2.5 aggregate Grading and Binder Content

Add the following at the bottom of **Table 500-17**:

The grading of the aggregate mix as used in work shall be a smooth curve within and approximately parallel to the envelope in Table 500-17”.

CLAUSE 508 CLOSE GRADED PREMIX SURFACING/MIXED SEAL SURFACING

Sub Clause 508.1 Scope

Sub Clause 508.1.2

This Clause shall read as under

508.1.2 Close graded Premix surfacing shall be “Type B”

Sub Clause 508.2 Materials

Sub-Clause508.2.1 Binder

This Clause shall be read as under:

“The binder shall be paving bitumen of viscosity grade VG-30 complying with Indian Standard Specifications for “Paving Bitumen”, IS: 73.”

Sub-Clause508.2.2 Coarse Aggregates

Replace “511.1.2.2” with “510.1.2.2” in the **Sub-Clause 508.2.2**.

Sub-Clause 508.2.3 Fine Aggregates

Delete the words “, or natural sand or a mixture of both” with “material” in the 1st sentence of the Clause 508.2.3.

Sub-Clause 508.3 Constructions Operations

Replace “510.1.3.1 through Clause 510.1.3.5” with “510.1.3.1 to Clause 510.1.3.5” in the Sub-Clause 508.3.

CLAUSE 510 OPEN GRADED PREMIX SURFACING

Sub Clause 510.1 Open-Graded Premix Surfacing using Viscosity Grade Paving Bitumen

Sub Clause 510.1.2 Materials

Sub Clause 510.1.2.1 Binder

This Clause shall read as under

“The binder shall be paving bitumen of viscosity grade VG-30 complying with Indian Standard Specifications for “Paving Bitumen”, IS: 73.”

Sub-Clause 510.1.3 Constructions Operations

Sub-Clause 510.1.3.5 Spreading and Rolling

Replace “to Clause 501” with “as per Clause 501” in the 1st line of 1st paragraph of **Sub-Clause 510.1.3.5**.

CLAUSE 516 MASTIC ASPHALT

Sub-Clause 516.2 Materials

Sub-Clause 516.2.2 Coarse Aggregates

Delete the words “, crushed gravel/shingle or other stones” from the first sentence of Clause 516.2.2.

Fine Aggregates

Delete the words “, natural sand or a mixture of both” in the 1st sentence of the Clause 516.2.2.

Sub-Clause 516.4.5 Spreading

Replace “Table 500-6” with “500-5” in sub-paragraph 2) of 4th paragraph of Sub-Clause 516.4.5.

Sub-Clause 516.4.7 Surface Finish

Replace “retained on the 6.7 mm sieve” with “retained on the 9.5 mm sieve” in 4th line of Sub-Clause 516.4.7.

SECTION 800 TRAFFIC SIGNS, MARKINGS AND OTHER ROAD APPURTEANCES

Clause 801 Traffic Signs

Sub-Clause 801.2.6 This clause shall read as under:

“The signs shall be 2mm thick with Aluminium sheet.”

Sub-clause 801.4 Installation

Sub-clause 801.4.1 The 1st sentence of Clause shall read as follows:

Traffic Signs shall be mounted on support posts, which shall be of MS pipe 80mm dia. (NB-MW) or as shown in the drawing.

Sub-clause 801.4.2 Add following at the end of this clause:

“The sign back shall be painted with two coats of grey colour epoxy paint. The sign post shall be painted in black & white alternate bands with two coats of epoxy paint.”

Clause 802 OVERHEAD SIGNS

Sub-Clause 802.4.2 Replace the words “they shall IS Specifications.” **with** “they shall be thoroughly descaled, cleaned, primed along with all other components of signs, except reflective portion. They shall be painted with two coats of epoxy paint. The sign back side shall be painted with grey colour and post shall be painted in black & white alternate bands. The post below ground shall be painted with three coats of red lead paint.

Sub-Clause 802.4.3 The last sentence of this Clause shall read as under:

“The thickness of aluminium sheet shall be 2 mm.”

CLAUSE 803 ROAD MARKINGS

Sub Clause 803.2 Materials

This clause shall read as under:

“Road markings shall be of hot applied thermoplastic compound and the materials shall meet the requirements as specified in Clause 803.4.

CLAUSE 805 DISTANCE INDICATOR POST

Sub Clause 805.3 The first sentence of this Clause shall read as under:

“The hectometre/kilometre/5thkilometre distance indicator posts shall be made of concrete of grade as shown in the drawing.”

CLAUSE 807 BOUNDARY STONES

Sub Clause 807.1 Scope

Add at the end of Paragraph 1, “The boundary stones shall be of concrete as shown in drawing.” The words ‘SH-70’ should be engraved on each stone appropriately.

CLAUSE 809 TUBULAR STEEL RAILING

Sub Clause 809.3 Add the following to the end of this Sub-Clause:

“The railing shall be embedded in the concrete foundation of size and the grade of concrete along with the depth of the embedment of post as indicated in the drawing.”

CLAUSE 811 CRASH BARRIER

Sub Clause 811.2 Concrete Crash Barrier

Sub Clause 811.2.1 Materials

Sub Clause 811.2.1.2 This Clause shall read as under:

“The grade of concrete shall be M-40.”

Sub Clause 811.2.2 Construction Operations

Sub Clause 811.2.2.2 Replace “Clause 810.2.2.3” with “Clause 811.2.2.3” in the 4th line of 1st paragraph of Clause 811.2.2.2.

CLAUSE 811.3 Metal Beam Crash Barrier

Sub Clause 811.3.1.2 Replace 1st paragraph of Sub-Clause 811.3.1.2 with the following:

Metal beam is a “W” profiled corrugated beam as specified in drawings made from cold rolled steel strip of 3.0 mm thick using high strength steel of IS:5986 Fe 510 grade and have properties as under:

Ultimate Tensile Strength (Min.): 483 Mpa.

Yield stress (Min.): 345 Mpa.

Elongation (Min.) in 50mm: 12%

The beam after forming shall have formed width of 312 mm and depth of 83 mm and shall have punched holes for fixing as specified in drawings.

The steel post and the blocking out spacer shall both be channel section of 75 mm x 150 mm & size 5 mm thick conforming to IS: 5986 grade Fe.360 as specified in drawings. The rail shall be 71 cm above the ground level and posts shall be spaced 2.0 m centre-to centre. Double “W” beam barrier shall be as indicated in the drawing.

The Guardrail reflector shall be made of material and placed in position as shown in drawings. It shall be hot dip galvanized 0.55 kg per square meter.

Test specimens for mechanical properties and coating shall be prepared and tested as specified in relevant IS codes.

Sub Clause 811.3.1.3 This Clause shall read as under:

“Concrete for bedding and anchor assembly shall conform to Section 1700 of these Specifications. The size of the concrete foundation block for embedding the posts and grade of concrete shall be as shown in the drawing.”

Sub-Clause 811.3.3 Installation of Posts

The sub-clause 811.3.3.1, 811.3.3.2, 811.3.3.3 and 811.3.3.4 are replaced as below:

“The steel posts shall be embedded in the concrete foundation of size and the grade of concrete along with the depth of the embedment of post as indicated in the drawing.”

Sub Clause 811.3.3.5 This Clause shall read as under:

“Posts and end section for metal beam guardrails on bridges shall be bolted to the structure as detailed in the drawings. The anchor bolts shall be set to proper location and elevation with templates and carefully checked.”

Clause 811.3.4.3 Add at the end of this Clause:

“The guard rail reflector shall be bolted replacing splice washer at every 10th posts interval.”

Sub-Clause 811.3.7.2 This Clause shall read us under:

“No separate measurement for payment shall be made for Terminals/anchors of various types required for the work. The cost of these elements shall be deemed to be included in the rate quoted by the Contractor. Furnishing and placing anchor bolts and/or devices for guard rail posts on bridges shall be considered incidental to the construction and the costs thereof shall be included in the price for other items of construction.”

Sub-Clause 811.3.7.3 The words “or backfilling” shall be **substituted** as “and concreting”.

Clause 813 TRAFFIC CONTROL AND SAFETY DEVICES IN CONSTRUCTION ZONE

Sub Clause 813.11: Measurement

This Clause shall read as under:

The Provisions made in Bill of Quantities shall be the ceiling for the Contract during the Contract Period. The Additional claims due to damage and theft of the same shall be deemed

incidental to works. No extra payment shall be made towards additional quantities for these bill items.

All arrangements for traffic control and safety device in construction zone during construction including their maintenance, dismantling and clearing debris, where necessary, shall be considered as incidental to the works and shall be the Contractor's responsibility, **unless provided as a separate payable item in the BOQ.”**

SECTION 1000 MATERIALS FOR STRUCTURES.

CLAUSE 1002 SOURCES OF MATERIALS

Add the words “at his own expense” at the end of 3rd paragraph of Clause 1002.

CLAUSE 1006 CEMENT

The 1st paragraph of this Clause shall read as follows:

“Cement to be used in bridge structures shall conform to the following standard:
IS:12269 – Specification for 53 Grade Ordinary Portland cement.

For other works Ordinary Portland cement 43 grade, conforming to IS 8112 shall be used with the prior approval of the Engineer.”

CLAUSE 1007 COARSE AGGREGATES

Delete the following from 3rd and 4th lines of 1st paragraph “Crushed gravelinert material”

CLAUSE 1008 SAND/FINE AGGREGATES

Delete from the 1st line the word “or crushed gravel sand” and from the 2nd line “or gravel” in Paragraph 2.

CLAUSE 1014 STORAGE OF MATERIALS

Sub Clause 1014.3: Add the following to the Sub-clause 1014.3:

“Aggregates shall be stored or stockpiled in their respective size in such a manner that the various sizes will not become intermixed before proportioning. They shall be stored, stockpiled and handled in such a manner that will prevent contamination by foreign materials.”

SECTION 1500 FORMWORK

CLAUSE 1501 DESCRIPTION

Add the following paragraphs at the end of this Clause:

“The Contractor shall prepare a formwork mobilization and utilization plan and submit the plan for Engineer’s approval at least 07 days before the commencement of construction of structures. The requirement of formwork shall be worked out considering the overall construction program of all the structures to be cast in one or more stages, as specified in the drawings. The plan shall take into account the time required for erection of formwork, retention in position, stripping, and removal and subsequent use in the next and subsequent structures.

Notwithstanding Engineer’s approval of mobilisation plan, if due to any reason, Contractor has to arrange additional formwork, to meet the requirements of the construction program, it shall be done by the Contractor without any extra cost to the Employer.”

CLAUSE 1502 MATERIALS

Delete the last sentence in 1st paragraph.

Delete the word “or timber” in 1st line of 2nd paragraph.

CLAUSE 1506 PRECAUTIONS

“Add the following as items (vii) and (viii) to this Clause:

Adequate support against sideway and lateral loads due to construction operations and wind shall be provided.

In case cantilevers are supported directly from the ground, the supports for cantilevers shall be removed simultaneously with main supports only after approval for the same from the Engineer.”

SECTION 1600 STEEL REINFORCEMENT

CLAUSE 1602 GENERAL

Paragraph 2 of Clause 1602 shall read as follows:

“Reinforcements shall be High Strength Deformed Steel Bars (HSD) of grade Fe 500 conforming to IS: 1786. Only uncoated steel shall be used as reinforcement unless specified.”

CLAUSE 1603 PROTECTION OF REINFORCEMENT

Replace “1010.3.2” with “1009.3.2” in 2nd line of 3rd paragraph of Clause 1603.

CLAUSE 1605 PLACING OF REINFORCEMENT

Add the following as sub Para (f) to this Clause:

Tolerances:

1. Tolerance of cover: Deviation shall not exceed + 10 mm No negative tolerance is allowed.
2. Tolerance in position: Tolerance for deviation from the positions shown in the drawings shall not exceed the following:

Structural depth d (mm)	Tolerance (mm)
$d < 1000$	<10
$1000 < d < 2000$	< 0.01d
$2000 < d$	< 20

SECTION 1700 STRUCTURAL CONCRETE CLAUSE 1705 ADMIXTURES

Sub Clause 1705.1: Chemical Admixtures

Replace “Clause 1007” with “Clause 1012” in the 3rd paragraph of Sub-Clause 1705.1.

CLAUSE 1706 SIZE OF COURSE AGGREGATE

Table 1700-7 shall be modified as given below:

Components	Maximum nominal size of Coarse aggregate (mm)
a. RCC Well Curb.	20
b. RCC / PCC well steining, PCC below foundations and approach slab, annular filling around foundations.	40
c. Well cap or pile cap; solid wall type abutments, piers, median walls, splayed wing walls and their foundations.	40
d. RCC works in T-beam and slab / solid slab / voided slab and box girder superstructure, wearing coat, kerb, crash barrier, approach slab, dirt walls, coping on masonry wing walls, hollow abutments and piers, pier / abutment caps, pedestals, dirt walls, piles, all components of counter fort type abutments, columns, cantilever return walls etc.	20
e. All PSC works	20
f. Any other item	As specified by the Engineer

Clause 1707 EQUIPMENT

“The Para “a (i) & (ii)” shall be replaced with the following:

For production of concrete, batching and mixing of the concrete shall be done in a concrete batching and mixing plant fully automatic of a minimum capacity of 15 cum/hour. The plant shall be approved by the Engineer.”

The third para of para “(a)” shall be replaced with the following:

“The accuracy of measuring devices shall fall within the following limits:

Measurement of Cement $\pm 1\%$ of the quantity of cement in each batch.

Measurement of Water + 1% of the quantity of water in each batch.

Measurement of Aggregate +2% of the quantity of Aggregate in each batch.

Measurement of Admixture $\pm 1\%$ of the quantity of Admixture in each batch.

CLAUSE 1715 HIGH PERFORMANCE CONCRETE

Sub Clause 1715.9: Additional Tests for Concrete

Replace “Clause 1714.3” with 1714.4 in 2nd line of Sub-Clause 1715.9.

CLAUSE 1800 PRESTRESSING

CLAUSE 1803 MATERIALS

Sub Clause 1803.2.2

Replace “1804.6” with “1805.6” in 3rd line of 3rd paragraph of Clause 1803.2.2.

SECTION 2000 BEARINGS

CLAUSE 2005 ELASTOMERIC BEARINGS

Sub Clause 2005.4: Acceptance Specifications

In Paragraph 5, substitute the words "Engineer or his authorised representative" for the word "Inspector".

Sub-Clause 2005.4.5 Inspection Certificate

Substitute the words "Engineer or his authorised representative" for the word "Inspector".

Sub-Clause 2005.4.6 Quality Control Certificate

Delete the words “/Inspector” in sub-paragraph b) of 1st paragraph.

CLAUSE 2009 MEASUREMENTS FOR PAYMENT

Add the following after Paragraph 2:

"Tar Paper bearings shall be measured in square meters."

CLAUSE 2011 TAR PAPER BEARING

Add the new Clause 2011 at the end of the Section 2000.

“2011 TAR PAPER BEARING

Tar Paper bearing shall be reinforced bitumen laminated Kraft paper conforming to the requirements of IS- 1398."

CLAUSE 2100 OPEN FOUNDATIONS

CLAUSE 2104 WORKMANSHIP

Sub Clause 2104.1 Preparation of Foundations

Replace “M10” with “M15” in 5th line of 1st paragraph of Clause 2104.1.

Sub Clause 2104.3 Construction

Replace “M10” with “M15” in 1st& 7th line of sub-paragraph ii) of Clause 2104.3.

SECTION 2200 SUB-STRUCTURE

CLAUSE 2204 PIERS AND ABUTMENTS

Add the following paragraph at the end of Clause 2204

“Wherever necessary, suitable cofferdams or other means shall be provided to exclude water from the construction area. The Contractor shall provide necessary pumping equipment for dewatering in working areas.”

SECTION 2500 RIVER TRAINING AND PROTECTION WORK

CLAUSE 2504 PITCHING/REVETMENT ON SLOPES

Sub Clause 2504.3 Construction Operations

Replace “Clause 1405.3” with “Clause 1405.1.3” in 3rd line of 3rd paragraph of Clause 2504.3.

CLAUSE 2507 CURTAIN WALL AND FLEXIBLE APRON

Sub Clause 2507.1 Curtain Wall

The last sentence of this Clause shall read as:

“The curtain wall shall be in cement concrete grade as shown in the drawing.”

SECTION 2700 WEARING COAT AND APPURTENANCES

Add the following additional clauses:

Sub-Clause 2703.5 Concrete crash barrier for bridges

Sub-Clause 2703.5.1 General

This work shall consist of construction, provision and installation of concrete crash barrier on the bridge deck / approach slab / approaches at locations and of dimensions as shown on the drawings or as directed by the Engineer.

Sub-Clause 2703.5.2 Materials

All materials shall conform to Section 1000-Materials for Structures as applicable, and relevant Clauses in Section 1600 shall govern the steel reinforcement. The concrete barriers shall be constructed either by the “cast-in-place with fixed forms” method or the “extrusion or slip form” method or a combination thereof at the Contractor’s option with the approval of the Engineer. Where “extrusion or slip form” method is adopted, full details of the method and literature shall be furnished.

Grade of concrete for Crash barriers on deck slab, approach slab etc. shall be M40.

An expansion joint with Polysulphide Joint sealants and bituminous fiberboard shall be provided in the crash barriers at the location of expansion joints/ gaps on the bridge, approaches etc.

Sub-Clause 2703.5.3 Construction Operations

The location of crash barrier shall be strictly adhered to as shown on the drawing and as directed by the Engineer. Concrete crash barriers shall present a smooth, uniform appearance in their final position, conforming to the horizontal and vertical lines shown on the plans or as ordered by the Engineer and shall be free of lumps, sags or other irregularities. The top and exposed faces of the barriers shall conform to the specified tolerances, as defined in Clause 2703.5.4, when tested with 3 m straight edge, laid on the surface.

The concrete crash barrier or precast shall be given two coats of cement paint or aqua based paint as directed by the Engineer of approved brand and shade.

Sub-Clause 2703.5.4 Tolerance

The overall horizontal alignment of crash barrier and rails shall not depart from the road alignment by more than + 30 mm, nor deviate in any two successive lengths from straight by more than 6 mm and the faces shall not vary more than 12 mm from the edge of a 3 m straight edge. Barriers shall be at the specified height as shown in the plans above the edge of the nearest adjacent carriageway or shoulder, within a tolerance of + 30 mm.

Sub-Clause 2703.5.5 Measurements for Payment

All barriers will be measured in linear metres of concrete in place, including approach and departure ends. The steel rails on the top of crash barrier shall be measured and paid separately. The sealing of opening in crash barrier at expansion joints with polysulphide rubber joint sealant and bituminous fibre board as per sub-clause 2703.6 shall be incidental to work. The painting shall be measured in square meter.

Sub-Clause 2703.6 POLYSULPHIDE RUBBER JOINT SEALANT

Polysulphide Joint sealants with bituminous fiberboard shall be provided in the Expansion Joints/ gaps in Crash Barriers.

Before application it shall be ensured that the top of the bituminous fiberboard and the concrete faces are dry, sound, and free from dirt, grease and other loose foreign matter. A thin coat of primer shall be applied on concrete faces with a brush to air dry before applying sealant. The components of the sealant i.e. base and hardener shall be mixed in a slow speed mixed sealant till uniform colour is obtained. Placement of the mechanical mixer shall be done with either cartridge or fully enclosed gun barrels within 30 minutes of mixing. Manufacturer's recommendation shall be followed.

The sealing compound shall be two packs, low modulus of elasticity Polysulphide elastomer having bituminous ingredients such as Cico T-680 or equivalent with following properties of the cured compound.

Tensile strength - 0.4 MPa \pm 10%

Modulus of elasticity - At 100% elongation: 0.15 MPa

Elongation - Elongation at break 550%

Hardness - Shore 'A' hardness 22 \pm 3 @ 25°C

Operating temperature - -20°C to + 80°C

Shrinkage - Less than 1%

Permanent dynamic - \pm 25%

Movement capability

Polysulphide material shall be approved by the Engineer prior to procurement.

Measurements for Payments:

Cost for providing Polysulphide Joint sealants and bituminous fiberboard in the Expansion Joints in Crash Barriers shall be deemed to be included in the unit rate of Crash Barrier and shall not be measured separately.

CLAUSE 2706 WEEP HOLES

This Clause shall read as under:

“Weep holes shall be provided in solid plain concrete / reinforced concrete/ brick or stone masonry abutments, wing walls, return walls as shown in the drawing or as directed by the Engineer to drive moisture from the back filling. Weep holes shall be provided with 100mm dia PVC (6 Kg/cm²) pipe and shall extend through the full width of concrete/masonry with slope of about 1 vertical: 20 horizontals towards the draining face.

The spacing of weep holes shall generally be 1 m in either direction or as shown in the drawing with the lowest at about 150 mm above the low water level or ground level whichever is higher or as directed by the Engineer.”

CLAUSE 2708 MEASUREMENT FOR PAYMENT

Sub-paragraph i) of this Clause shall read under:

“(i) Cement wearing coat shall be measured in cubic metres. Bituminous wearing coat be measured in square metres. Steel reinforcements in concrete wearing coat shall be measured in tonnes.”

Sub-paragraph iii) of this Clause shall read under:

“(iii) Concrete crash barriers shall be measured in linear metres of concrete in place, including approach and departure ends. The steel rails on the top of crash barrier shall be measured and paid separately. The sealing of opening in crash barrier at expansion joints with polysulphide rubber joint sealant and bituminous fibre board as per sub-clause 2703.6 shall be incidental to work. The painting shall be measured in square meter.”

SECTION 2900 PIPE CULVERTS

Clause 2906 JOINTING

The first and second sentences of Paragraph 1 shall read as under:

“The pipes shall be jointed by collar. The collars shall be of RCC 150 to 200 mm wide and having the same strength as the pipes to be jointed.”

CLAUSE 2910 MEASUREMENT FOR PAYMENT

This Clause shall read as under:

“RCC pipe culverts including selected granular material and cement concrete for pipe bedding shall be measured along their centre between the inlet and the outlet ends in linear metres.

Ancillary works like headwalls, Aprons etc., shall be measured as provided for under the respective Sections.”

SECTION 3000 MAINTENANCE OF ROAD

CLAUSE 3001: GENERAL

Add the following at the end of Clause 3001:

“The maintenance work carried out during the period from the Commencement Date to the issue of Taking Over Certificate shall be incidental to the works. The same shall not be measured and paid.”

ADDITIONAL TECHNICAL SPECIFICATIONS

CLAUSE A-1 DIVERSION AND FILLING OF EXISTING WATER COURSES ALONG THE ROAD ALIGNMENT

Where watercourses have to be diverted from the sites of embankments, the original channels shall be cleared of all vegetation and soft deposits as directed by the Engineer and carefully filled in with suitable materials and compacted as specified. The new channel/ side drain shall be formed as shown in the drawings or as directed by the Engineer.

1. Measurement for Payment

The work involved in filling existing watercourses shall be measured as follows:

- (i) The work involved in filling existing watercourses shall be measured under clearing and grubbing item on area basis.
- (ii) Excavation and removal of soft deposits shall be measured in cubic metre.
- (iii) Filling with suitable material shall be measured in cubic metre.
- (iv) The works involved in forming the new channel/side drain shall be measured under the relevant items of work.

CLAUSE A-2 CHUTE DRAIN FOR HIGH EMBANKMENT SECTIONS

Clause A-2.1 Scope

This work shall consist of construction of chute drain on the slope of the road embankment including erosion protection works at the locations and to dimensions shown on the Drawings or as directed by Engineer. Schedule of works shall be so arranged that the drains are completed in proper sequence with roadway to ensure that no damage is caused due to lack of drainage.

Clause A-2.2 Materials

The drains shall be rectangular 300mm wide and 200 mm depth in cement concrete M-20 grade with foundation in M-15 grade concrete as shown in the drawings. The RCC work shall conform to the relevant clauses of these specifications.

Energy dissipation structures in M-20 grade shall be provided at the foot of the chute as shown in the drawings.

Dumped riprap for erosion protection at ground level shall be hard, unweathered and durable rubble stone of size 150 to 250mm.

Clause A-2.3 Construction Operations

Excavation for fixing drain sections: At the locations where the chute drains are to be installed, a rectangular cut on the side slope of the embankment along the line of the

chute drain shall be made in such a way that the RCC drain sections could be fixed snugly with their edges flush with the adjoining embankment slope. The sloping bed of the drain shall be to a regular line and suitably compacted to provide a firm bed.

Fixing RCC Drains sections: The ends of the RCC drain sections shall be specially shaped to form a self-centering joint. Fixing of the drain sections shall start from top of toe wall at the lower end and proceed towards the upper. The jointing space shall be filled with cement mortar (1 cement to 2 sand) mixed sufficiently dry to remain in position when fixed with a trowel or wooden rammer. Care shall be taken to fill all voids, and excess mortar shall be removed. All joints shall be made with care with interior surface of RCC sections. After finishing, the joints shall be kept covered and damp for at least 4 days.

Dumped Rip Rap: Dumped rip rap for erosion protection shall be placed above ground level at the lower end of the chute drain in such a way that the rip rap stones are not easily moved by water flowing down the chute drain.

Clause A-2.4 Measurements for Payment

Chute drain shall be measured as length of drain sections placed in position in linear metre. Excavation and preparation of bed for the drain shall not be measured separately

Energy dissipation structures shall be measured in cum. Dumped riprap shall be measured as volume of the material placed in position in cu.m.

CLAUSE A-3 SPECIFICATIONS FOR PAINTING OF STRUCTURES WITH SYNTHETIC ENAMEL PAINT/ WATER PROOFING CEMENT PAINT

Clause A-3.1 Materials

Synthetic enamel paint confirming to IS: 2932 of approved brand and manufacture and of the required colour shall be used for the top coat and an undercoat of ordinary paint of shade to match the top coat as recommended by the same manufacturer as far as top coat shall be used.

Clause A-3.2 Painting on New Surface

Clause A-3.2.1 Preparation of surface

The surface shall be thoroughly cleaned and dusted off. All dirt, mortar droppings and grease shall be thoroughly removed before painting is started. The prepared surface shall have received the approval of the Engineer after inspection, before painting is commenced.

Clause A-3.2.2 Application

The number of coats including the undercoat shall be as stipulated in the item.

- (a) **Under coat:** One coat of the specified ordinary paint of shade suited to the shade of the top coat shall be applied and allowed to dry overnight. It shall be

rubbed next day with the finest grade of wet abrasive paper to ensure a smooth and even surface, free from brush marks and all loose particles dusted off.

- (b) **Top Coat:** Two top coats of synthetic enamel paint of desired shade shall be applied after the undercoat is thoroughly dry. Additional finishing coats shall be applied if found necessary to ensure properly uniform glossy surface.

Clause A-3.3 Lettering and Numbering on New Surface

The letters and numbers for bridges/culverts span and number shall be as per IRC-71971. The size of area for painting shall be varied depend upon the numbers and letters. The background area and letters/numbers shall be painted with one prime coat (under coat) and two coats (top coat) of synthetic enamel paint.

Clause A-3.4 Measurement for payment

The painting of culverts /Bridges numbering and span arrangement shall be measured in number of each side facing traffic.

The Painting of edge stones, breast walls, parapet walls and road side trees at curves shall be measured in Square metres.

CLAUSE A-4 CONTROLLED BLASTING

Clause A-4.1 GENERAL

The specifications for excavation in rock are covered by MoRT&H “Specifications for Road & Bridge Works” (5th revision April, 2013), vide Section300. The following specifications are additional and supplementary to the same.

Clause A-4.2 CONTROLLED BLASTING

Whenever required by the Engineer, the rock blasting shall be controlled so that vibration generated during the blasting does not cause damage to the building and installation around built up areas. Similarly, the rock pieces should not fly off the pits and thus damage the buildings and installation and life and limb of people around. Apart from the general precautions mentioned in the MoRT&H Specifications, following protective measures and limits for use of explosives are suggested as guidelines.

Clause A-4.3 PROTECTIVE MEASURES

- a) Short delay blasting with light charges shall be used.
- b) The blast hole shall be covered with 0.6 to 1.0 sq.m. Mild steel plate of minimum 6 mm thickness.
- c) Reinforcement rod mesh not less than 20 mm dia. at 150 mm centres in both directions shall be placed over the steel plates.
- d) Steel plate and reinforcements shall be inspected after every blasting operation and all twists shall be removed before reuse to the satisfaction of the Engineer.

- e) The thickness of the covering plate and the kind of dead weight is to be duly approved by the Engineer.

When blasting is necessary adjacent in partially or completely built structures the contractor shall take all precautions necessary to prevent flying rock from causing damage to the structures.

Clause A-4.4 BLASTING WITHIN CERTAIN LIMITS

No blasting shall be allowed for any of the excavation until freshly placed concrete of nearby structures has reached a minimum strength of 7 MPa.

Normally, blasting shall be resorted to only after 7 days of concreting work in case of OPC (10 days in case of PPC) in adjacent structures.

In no case shall blasting be allowed closer than 15m to any structure after concrete placing has started.

When minor blasting is necessary after concrete placing has started in any structure, the maximum size of charge for distance from 100m and above shall be limited to the following:

Distance in m	Safe particle velocity 10 mm/sec. Charge in kgs per delay	Safe particle velocity 3 mm/sec. Charge in kgs per delay.
100	10.7	2.6
150	24.2	5.8
200	43.0	10.3
250	67.3	16.7
300	96.9	23.2
350	131.9	31.6
400	172.3	41.2
450	218.2	52.2
500	269.3	64.5

Any deviation in the above-recommended limits will be adopted only after the specific approval of the Engineer. The contractor shall submit the scheme with charges and delays he proposed to use for blasting, for approval of the Engineer.

It is generally recommended that where the blasting is to be done, within 20 m of the nearest point of permanent building, the area shall be line drilled on periphery before blasting.

The Contractor shall be responsible for all damage caused by blasting whether to permanent or temporary structures and shall replace or repair the structures at his own cost.

Clause A-4.5 PRECAUTIONS AFTER BLASTING

After the blast, the supervisor must carefully inspect the work and satisfy himself that all the charges have exploded. After the blast takes place in underground works, the workmen shall not be allowed to go to the face till toxic gases have disappeared from the face.

If it is suspected that part of the blast has failed to fire or is delayed, sufficient time shall be allowed to elapse before entering the danger zone. When fuse and blasting caps are used, a safe time should be allowed and then the supervisor alone shall leave the shelter to inspect the blasting zone.

None of the drillers are to work near the misfired hole until one of the two following operations has been carried out by the Supervisor:

Either (i) the Supervisor should very carefully (when the tamping is of damp clay) extract the tamping with a wooden scraper or jet of water or compressed air (using a pipe of soft material) and withdraw the fuse with the primer and a fresh detonator with fuse should be placed in these holes and fired out, or (ii) the hole may be cleared of 30 cm of tamping and its direction then be ascertained by placing a stick in the hole. Another hole may then be drilled at least 60 centimetres away and parallel to it and about 30 cm less in depth, this hole shall then be charged and fired. The balance of the cartridges and detonators found in the muck shall be removed.

Before leaving his work, the Supervisor of the concluding shift shall inform the Supervisor of the relieving shift of any case of misfires and should point out the position with a red cross denoting the same and also stating what action, if any, he has taken in the matter.

The Supervisor should also at once report at the office of the Contractor and the Engineer all cases of misfire, the cause of the same and what steps were taken in connection with these.

The names of the day and night shift Supervisors must be noted daily in the Contractor's office.

If a misfire has been found to be due to a defective detonator of dynamite the whole quantity or box from which the defective article was taken, must be thoroughly inspected by the Contractor.

Drilling in holes not completely exploded by blasting shall not be permitted.

Clause A-4.6 PERSONNEL

Excavation by blasting will be permitted only under the personal supervision of competent and licensed blasters and trained workmen.

All supervisors and workmen in-charge of preparation, handling, storage and blasting work shall be adequately insured by the Contractor.

Storage shall be in charge of a very reliable person approved by the Engineer, who may, if necessary conduct police enquiries as to his reliability, antecedents etc. The

contractor shall have to produce a security for the person in-charge of the explosives, if and when required by the Engineer, of the civil authorities of the district.

The Contractor shall make sure that his supervisors and workmen are fully conversant with all the rules to be observed in storing, handling and use of the explosives. It shall be ensured that the supervisors in charge are thoroughly acquainted with the details of the handling of explosives and blasting operations.

CLAUSE A-5 INTER LOCKING CONCRETE BLOCKS

Clause A-5.1 Scope

The scope of work involves laying of Precast M-30 grade interlocking concrete blocks of 75mm thick laid on 25 mm thick prepared sand bed conforming to IRC: SP: 63 and as directed by Engineer. The shape of blocks, the source of supply, the methodology for laying of blocks shall be got approved from Engineer.

Clause A-5.2 Unit of measurement

The unit of measurement shall be the area of the finished item of work of interlocking blocks measured in plan in sq m.

CLAUSE A-5A INTER LOCKING CONCRETE BLOCKS FOR RAISED PEDESTRIAN CROSSING

Clause A-5A.1 Scope

The scope of work involves laying of interlocking Paver blocks of 75mm thick conforming to IRC: SP: 63 laid on 50 mm thick prepared sand bed. M-30 grade Precast Concrete blocks of size (400x100X150) mm for lateral support and Bituminous Concrete ramp as per drawing on either side and as directed by the Engineer. The shape of paver blocks, the source of supply, the methodology for laying of blocks shall be got approved from Engineer.

Clause A-5A.2 Unit of measurement

The unit of measurement shall be the area of the finished item of work of interlocking Paver blocks including M-30 grade Precast Concrete blocks and Bituminous Concrete ramp on either side measured in plan in sq m.

CLAUSE A-6 UTILITY DUCTS

Clause A-6.1 Scope

The work shall consist of laying and jointing of R.C.C. Utility Ducts in accordance with the requirements of these specifications.

Clause A-6.2 Materials

Reinforced concrete pipes shall be of NP 4 type conforming to IS: 458 as shown in the drawings.

Clause A-6.3 Laying of Pipes

Laying of Pipes shall be carried out in accordance with clause 2905; the Pipes shall be fitted and matched so that when laid in work they shall have a smooth uniform invert.

Clause A-6.4 Jointing

The Pipes shall be jointed either by collar joint or flush joint. Caulking shall be carried out as directed by the Engineer. The provisions of clause 2906 of the specifications shall be followed to the extent applicable. The Engineer's decision shall be final and binding.

Clause A-6.5 Back Filling

Where directed by the Engineer shall be carried out in accordance with clause 2907 of the specifications.

Clause A-6.6 Closing of Ends

The ends of Pipes shall be closed with plastic covers to prevent ingress of foreign materials

Clause A-6.7 Measurement of Payments

The utility ducts shall be measured from end to end in linear meter.

CLAUSE A-8 CONTRACTOR'S ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

The Contractor has to implement the ESMP given separately as a part of the bidding document.
[Note: include ESMP as an attachment to the bidding document]

SCHEDULE - E
(See Clauses 2.1 and 14.2)
MAINTENANCE REQUIREMENTS

1 Maintenance Requirements shall be applicable till the construction Period.

- 1.1 The Contractor shall, at all times maintain the Sub-project 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-fulfilment 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 Sub-project 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 Sub-project 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 May 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 May 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 Sub-project 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 till the defect liability period.

Nature of Defect or deficiency		Time limit for repair/rectification
ROADS		
(a)	Carriagewa y and paved y 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 bumpintegrator)	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 camber on the maincarriageway)	7 (seven) days

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 pavementmarking	
(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 roadsigns	24 hours
(ii)	Removal of Tree from fallen Carriageway	4 hours
(iii)	Deterioration in health of trees and Bushes	Timely and wateri ng Treatment

Nature of Defect or deficiency		Time limit for repair/rectificati on
(iv)	Trees bushe an d Replaceme nt	30 (thirty) days
(v)	Removal of vegetation affecting sight and roadstructures line	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 Plaza]	
(h)	Other Sub-project Facilities and Approachroads	
(i)	Damage in approach roads, pedestrian facilities, truck lay- byes, bus-bays, bus-shelters, cattle crossings, [Traffic Aid Posts, Medical Aid Posts] and serviceroads	15 (fifteen) days
(ii)	Damaged vehicles or debris on the Road	4 (four) hours
(iii)	Malfunctionin of the mobile g 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 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)	Deformatio damages, tilting or shifting of n, 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 crashbarriers	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 Wall	7 (seven) days
(ii)	Landslides requiring clearance	12 (twelve) hours
(iii)	Snow requiring clearance	24 (twenty four) hours

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; and batching plants, Hot Mix plants;
 - (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

Program Manager,
 Project Implementation Unit-Public Works Department (PIU-PWD),
 Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE).
 5th Floor, USDMA Building, 36, IT Park, Sahastradhara Road,
 Dehradun, Uttarakhand
 Phone No. (O) & (F) –
 E-MAIL: - piupwd@ukdisasterrecovery.in

WHEREAS:

[name and address of contractor] (hereinafter called the “Contractor”) and PIU-PWD, U-PREPARE having its principal office at 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road, Dehradun, Uttarakhand-248013 (hereinafter called the “Authority”) have entered into an agreement (hereinafter called the “Agreement”) for the Construction of 100 M span Intermediate lane Motor Bridge over Dholi river in Sela Village in district Pithoragarh., **Uttarakhand State** on Engineering, Procurement and Construction (the “EPC”) basis, subject to and in accordance with the provisions of the Agreement.

- (A) 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**”).
- (B) 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 specifiedtherein.

- 2 A letter from the Authority, under the hand of an officer not below the rank of Deputy Secretary in the Ministry of External Affairs 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 reasonwhatsoever.
- 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 thisGuarantee.
- 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 thisGuarantee.
- 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 i 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 authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
 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.
- Signed and sealed this day of, 20..... at
- SIGNED, SEALED AND DELIVERED For
and on behalf of the Bank by:

Annex – II

(Schedule - G) (See Clause 7.5.3)

Form for Guarantee for Withdrawal of Retention Money

Program Manager,
 Project Implementation Unit-Public Works Department (PIU-PWD),
 Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE).
 5th Floor, USDMA Building, 36, IT Park, Sahastradhara Road,
 Dehradun, Uttarakhand
 Phone No. (O) & (F) –
 E-MAIL: - piupwd@ukdisasterrecovery.in

WHEREAS:

[name and address of contractor] (hereinafter called the “Contractor”) and PIU-PWD, U-PREPARE having its principal office at 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road, Dehradun, Uttarakhand-248013 (hereinafter called the “Authority”) have entered into an agreement (hereinafter called the “Agreement”) for the Construction of 100 M span Intermediate lane Motor Bridge over Dholi river in Sela Village in district Pithoragarh., **Uttarakhand State** on Engineering, Procurement and Construction (the “EPC”) basis, subject to and in accordance with the provisions of the Agreement.

- (A) 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.
- (B) 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 “**GuaranteeAmount**”).

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 Deputy Secretary in the Ministry of External Affairs, 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 authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
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.

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

Program Manager,
 Project Implementation Unit-Public Works Department (PIU-PWD),
 Uttarakhand Disaster Preparedness & Resilience Project (U-PREPARE).
 5th Floor, USDMA Building, 36, IT Park, Sahastradhara Road,
 Dehradun, Uttarakhand
 Phone No. (O) & (F) –
 E-MAIL: - piupwd@ukdisasterrecovery.in

WHEREAS:

[name and address of contractor] (hereinafter called the “Contractor”) and PIU-PWD, U-PREPARE having its principal office at 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road, Dehradun, Uttarakhand-248013 (hereinafter called the “Authority”) have entered into an agreement (hereinafter called the “Agreement”) for the Construction of 100 M span Intermediate lane Motor Bridge over Dholi river in Sela Village in district Pithoragarh., **Uttarakhand State** on Engineering, Procurement and Construction (the “EPC”) basis, subject to and in accordance with the provisions of the Agreement.

- (A) 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 equal to the amount of each 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 “GuaranteeAmount”)\$.
- (B) 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 installment of the Advance Payment under and in accordance with the Agreement, and agrees and undertakes to pay to \$ The Guarantee Amount should be equivalent to 110% of the value of the applicable instalment. 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 Deputy Secretary in the Ministry of External affairs, that the Contractor has committed default in the due and faithful performance of all or any of its obligations for the repayment of the installment 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 no 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 authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
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.

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.

SCHEDULE -G (Contd...)

FORM OF BANK GUARANTEE

Annex-I (contd...)
(See Clause 7.1.1)

Environmental and Social (ES)Performance Security
[Guarantor letterhead or SWIFT identifier code]

ES Performance Guarantee No.....[insert guarantee reference number]
Date.....[insert date of issue of the guarantee]

To: _____ [name of Authority]
_____ [address of Authority]

WHEREAS _____ [name and address of Contractor³¹] (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ [name of Contract and brief description of Works] (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with Environmental and Social (ES)obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of _____ [amount of guarantee] _____ [in words], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of _____ [amount of guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

³¹In the case of a JV, insert the name of the Joint Venture

This guarantee shall be valid until³², and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____

Name of Bank _____

Address _____

Date _____

Notes:

- (i) All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.
 - (ii) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
 - (iii) 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.
-

SCHEDULE - H
(See Clauses 10.1.4 and 19.3)

CONTRACT PRICE WEIGHTAGES

- 1.1 The Contract Price for this Agreement is Rs.*****
- 1.2 Proportions of the Contract Price for different stages of Construction of the Sub-project shall be as specified below:

Sl. No	Item	Stage for Payment	Weightage in percentage to the Contract Price	Payment Procedure
1	2	3	4	5
1.	Bridge works	A- Bridge Structure		Payment shall be made on completion of each stage of bridge as per weightage given below:
		(1) Foundation	15.00%	i) Minimum completion of one foundation i.e. upto base of Pier/ Abutment on PRO RATA Basis ii) In case of deep foundation 60% in completion of Pile/well, Balance 40% in completion of Pile Cap/well Cap.
		(2) Sub-structure	15.00%	Sub-structure: On completion up to pier cap/Abutment cap level on pro rata basis.
		(3) Super-structure	40.00%	On completion of Fabrication, Ground Erection and Transportation to site including HSFG Bolts 60%. On Erection and completion of other item of deck slab 40%. OR In case of PSC Girder, on completion of Main girder and erection with requisite support 60% and on completion of balance work Deck Slab 40% OR In case of RCC on

				completion Of Deck Slab 100%.
		(4) Miscellaneous Item- M.S. Door, information board, Protection of Abutments, Painting, etc.	10.00%	On Completion of miscellaneous items
2.	Approach works	i) Crust as per IRC ii) Road side drains& Cross Drain iii) Road signs, markings, km stones, safety devices, etc. iv) Road side plantation v) Protection works vi) Safety and traffic management during construction vii) Paved Shoulders	8.00%	On Completion of approach work
3.	Protection Work	Protection of the whole work, safety works, etc.	8.00%	On Completion of protection work
4.	Miscellaneous Works	Other Miscellaneous works like access to site of works, crash barrier. Social and Environmental compliances etc. And/Or including any activity required for proper completion of the sub project and as directed by the authority engineer.	4.00%	On Completion of Miscellaneous Works

Miscellaneous works will be considered Completed only after removal of Temporary Structures & Clearance of site & Submission of As Built Drawing

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

Item of work	Percentage -weightage	Procedure of Measurement
A-Widening and strengthening		
(1) Earthwork up to top of the sub-grade		Unit of measurement is linear length. Payment of each stage shall be made on pro

(2) Granular work (sub-base, base, shoulders)		rata basis on completion of a stage in a length of not less than 10 (ten) percent of the total length. @
(3) Bituminous work		
(4) Widening and repair of culverts		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.
(5) Widening and repair of minor bridges		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.
B- New 2-lane realignment, bypass		
(1) Earthwork up to top of the sub-grade		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.
(2) Granular work (sub-base, base, shoulders)		
(3) Bituminous work		
C- New culverts, minor bridges, underpasses, overpasses on existing road, realignments, bypasses:		
(1) Culverts		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.
(2) Minor bridges		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

@. 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:

$$\text{Cost per km} = P \times \text{weightage for road work} \times \text{weightage for bituminous work} \times (1/L)$$

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.

2. Procedure for payment for Maintenance is Not Applicable

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

[Note: The Authority shall describe in this Annex-I, all the Drawings that the Contractor is required to furnish under Clause 10.2.]

A minimum list of drawings of the various components/elements of the Sub-project and Sub-project facilities required to be submitted by the Concessionaire is given below;

NAME OF SUB-PROJECT: : Construction of 100 M span Intermediate lane Motor Bridge over Dholi river in Sela Village in district Pithoragarh.	
SL.N O	DRAWING TITLE
1	TOPOGRAPHICAL SURVEY PLAN&SITE PLAN/INCLUDING ALIGNMENT PLAN & PROFILE
1.1	PROFILE
1.2	CROSS SECTION PLAN UPSTREAM X-SECTION & DOWN STREAM X-SECTION
1.3	L-SECTION PLAN-UPSTREAM & DOWN STREAM PROFILE
2	STRUCTURAL DRAWING
2.1	INDEX MAP
2.2	GENERAL ARRANGEMENT DRAWING
2.3	DETAILS ALONG WITH DRAWINGS OF ALL TYPE OF STRUCTURE
3	APPROACH ROAD DRAWING
3.1	TOPOGRAPHICAL SURVEY PLAN&SITE PLAN
3.2	TYPICAL CROSS SECTION OF APPROACH ROAD
4.	PROTECTION WORK DRAWINGS
4.1	DETAILS ALONG WITH DRAWINGS OF ALL TYPE OF PROTECTION WORK REQUIRED

SCHEDULE - J
(See Clause 10.3.2)
SUB-PROJECT COMPLETION SCHEDULE

1 Sub-project Completion Schedule

During Construction period, the Contractor shall comply with the requirements set forth in this Schedule-J for each of the Sub-project Milestones³³ and the **Scheduled Completion Date**. Within 15 (fifteen) days of the date of each Sub-project Milestone, the Contractor shall notify the Authority of such compliance along with necessary particulars thereof.

2 Physical Progress Time Period

Milestone 1	20%	1/3 rd of Completion Period
Milestone 2	50%	2/3 rd of Completion Period
Milestone 3	100%	Full Completion Period

3 Scheduled Completion Date

- 3.1 The Scheduled Completion Date shall occur on the 18th month (Eighteen Months) from the Appointed Date.
- 3.2 On or before the Scheduled Completion Date, the Contractor shall have completed construction in accordance with this Agreement.

4 Extension of time

Upon extension of any or all of the aforesaid Sub-project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Sub-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 Sub-project 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 Sub-project 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 measurement of crack, rutting area, area of potholes, depressions, shoving and settlement and upheaval, shoulder drop, erosion of soil from embankment,
- 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 Nondestructive 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 Sub-project with Specifications and Standards.
- 2.5 Environmental audit: The Authority's Engineer shall carry out a check to determine conformity of the Sub-project with the environmental requirements set forth in Applicable Laws and Applicable Permits.

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

Deleted

COMPLETION CERTIFICATE

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 100 M span Intermediate lane Motor Bridge over Dholi river in Sela Village in district Pithoragarh. Uttarakhand State Sub-project 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 Sub-project with the provisions of the Agreement, and I am satisfied that the Sub-project 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 Sub-project have been completed, and the Sub-project 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, raintcuts, 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%	
(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%	

S. No.	Item/Defect/Deficiency	Percentage
(f)	Miscellaneous Items	
(i)	Removal of dead animals, broken down/accidented 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 Sub-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:

$$R = P/100 \times M \times L1/L$$

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 kilometre, the non-conforming length shall be taken as one kilometre.

SCHEDULE - N

(See Clause 18.1.1)

SELECTION OF AUTHORITY'S ENGINEER

1 Selection of Authority's Engineer

- 1.1 The provisions of the World Bank ‘‘Procurement Regulations for IPF Borrowers, November 2020’’ shall apply for selection of an experienced firm to discharge the functions and duties of an Authority’s Engineer. Authority has already appointed Authority’s Engineer as detailed in Vol-I.
- 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. In such case, the provisions of the Model Request for Bid for Selection of Technical Consultants, issued by the Ministry of Finance in May 2009, or any substitute there of shall apply for selection of an experienced firm to discharge the functions and duties of an Authority’s Engineer.

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 Sub-project; 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 PIU-PWD, U-PREPARE having its principal office at 5th Floor, USDMA Building, 36 IT Park, Sahastradhara Road, Dehradun, Uttarakhand-248013 (the “Authority”) and (the “Contractor”) for Construction of 100 M span Intermediate-lane Motor Bridge over Dholi river in Sela Village in district Pithoragarh, Uttarakhand State Sub projecton 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 Sub-project.

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 0.2% of Contract price.

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 15 (fifteen) 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 Expert 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 25 (twenty-five) days of receipt of such Drawings; provided, however that in case of a Major Bridge or Structure, the aforesaid period of 25 (twentyfive) days may be extended upto 45 (forty five) days. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Sub-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 20 (twenty) 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 30 (thirty) 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 20 (twenty) 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 Sub-project 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 15 (fifteen) days of receipt of such report.

- 4.7 The Authority's Engineer shall inspect the Construction Works and the Sub-project 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 Expert.
- 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 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 Sub-project, 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 Sub-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 Sub-project 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 Sub-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 5 (five) 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-Not Applicable

- 5.1 The Authority's Engineer shall aid and advise the Contractor in the preparation of its monthly Maintenance Programme (if notified by Authority that maintenance is to be carried in accordance with this agreement not later than 3 months prior to stipulated completion period) 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 Sub-project 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 Sub-project 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 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 15 (fifteen) 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 30 (thirty) 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 30 (thirty) 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. Not Applicable.
- 7.4 The Authority's Engineer shall certify final payment within 45 (forty-five) days of the receipt of the final payment statement of Maintenance in accordance with the provisions of Clause 19.16. Not Applicable.

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 Sub-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 Sub-project as actually designed, engineered and constructed, including an as-built survey illustrating the layout of the Sub-project and setback lines, if any, of the buildings and structures forming part of Sub-

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
 - iv.

2. Monthly Maintenance Payment Statement: Not Applicable

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 5% of 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.

SCHEDULE-Q
(See Clause 14.10)

Tests on Completion of Maintenance Period

Not Applicable

SCHEDULE-R
(See Clause 14.10)

Taking Over Certificate

I, (Name and designation of the Authority's representative) under and in accordance with the Agreement dated (the "Agreement"), for Construction of 100 M span Intermediate-lane Motor Bridge over Dholi river in Sela Village in district Pithoragarh., Uttarakhand. Sub-project on Engineering, Procurement and Construction (EPC) basis through (Name of Contractor), hereby certify that the Tests on completion of Defects Liability Period in accordance with Article 14 of the Agreement have been successfully undertaken to determine compliance of the Sub-project with the provisions of the Agreement and I hereby certify that the Authority has taken over the Sub-project from the Contractor on this day.....

SIGNED, SEALED AND DELIVERED

(Signature)

(Name and designation of Authority's Representative)

(Address)

SCHEDULE-S
(See Clause 17.7.2)

Performance Certificate

I, (Name and designation of the Authority's representative) under and in accordance with the Agreement dated (the "**Agreement**"), for Construction of 100 M span Intermediate lane Motor Bridge over Dholi river in Sela Village in district Pithoragarh, Uttarakhand. **Sub-project** on Engineering, Procurement and Construction (EPC) basis through (Name of Contractor), hereby certify that the Contractor has discharged all its obligations under the Agreement and in accordance with Article 17 of the Agreement I hereby issue Performance Certificate to the Contractor on this day.....

SIGNED, SEALED AND DELIVERED

(Signature)

(Name and designation of Authority's Representative)

(Address)

SCHEDULE-T
(See Clause 19.1.6)

All payments under the Contract shall be made in Indian Rupees only.

Attachment 1**Amendments for Permitting Standstill Period****(Refer ITB Clause 44)****Deleted**

In works contracts where it is proposed to permit Standstill Period [*in the case of high risk or specialized/complex works only*], the following corrections shall be incorporated in this document

1. Instructions to Bidders & Bid Data Sheet**1.1 Insert ITB 44.1 as under:**

44.1 The Contract shall be awarded not earlier than the expiry of the Standstill Period. The duration of the Standstill Period is **specified in the BDS**. Where only one Bid is submitted, the Standstill Period shall not apply.

1.2 Insert ITB 45.1 as under:

45.1 When a Standstill Period applies, it shall commence when the Authority has transmitted to each Bidder (that has not already been notified that it has been unsuccessful) the Notification of Intention to Award the Contract to the successful Bidder. The Notification of Intention to Award shall contain, at a minimum, the following information:

- (a) the name and address of the Bidder submitting the successful Bid;
- (b) the Contract price of the successful Bid;
- (c) the names of all Bidders who submitted Bids, and their Bid prices as readout, and as evaluated;
- (d) a statement of the reason(s) the Bid (of the unsuccessful Bidder to whom the letter is addressed) was unsuccessful, unless the price information in (c) above already reveals the reason;
- (e) the expiry date of the Standstill Period;
- (f) instructions on how to request a debriefing and/or submit a complaint during the standstill period.

1.3 Substitute ITB 47.1 as under:

47.1 Prior to the expiration of the Bid Validity Period and upon expiry of the Standstill Period, specified in BDS ITB 44.1 or any extension thereof, or upon satisfactorily

addressing a complaint that has been filed within the Standstill Period, the Authority shall transmit the Letter of Acceptance to the successful Bidder. The Letter of Acceptance shall specify the sum that the Authority will pay the Contractor in consideration of the execution of the contract (hereinafter and in the Conditions of Contract and Contract Forms called “the Contract Price”).

1.4 Insert ITB 48 as under:

48. Debriefing by the Employer

48.1 On receipt of the Employer’s Notification of Intention to Award referred to in ITB 45.1, an unsuccessful Bidder has three (3) Business Days to make a written request to the Authority for a debriefing. The Authority shall provide a debriefing to all unsuccessful Bidders whose request is received within this deadline.

48.2 Where a request for debriefing is received within the deadline, the Authority shall provide a debriefing within five (5) Business Days, unless the Authority decides, for justifiable reasons, to provide the debriefing outside this timeframe. In that case, the standstill period shall automatically be extended until five (5) Business Days after such debriefing is provided. If more than one debriefing is so delayed, the standstill period shall not end earlier than five (5) Business Days after the last debriefing takes place. In any case, irrespective of the circumstances, all debriefings shall be completed within 10 business days. The Authority shall promptly inform, by the quickest means available, all Bidders of the extended standstill period.

48.3 Where a request for debriefing is received by the Authority later than the three (3)-Business Day deadline, the Authority should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Public Notice of Award of contract. Requests for debriefing received outside the three (3)-day deadline shall not lead to extension of the standstill period.

48.4 Debriefings of unsuccessful Bidders may be done in writing or verbally. The debriefing will cover only the bid of particular bidder requesting the debriefing, and not the bids of the competitors. The Bidder shall bear its own costs of attending such a debriefing meeting.

1.5 Insert ITB 51 as under:

51. Procurement Related Complaint

51.1 The procedures for making a Procurement-related Complaint are as specified in the BDS.

1.6 Insert BDS ITB 44 as under:

NA

1.7 Insert BDS ITB 51.1 as under:

ITB 51.1

The procedures for making a Procurement-related Complaint are detailed in the “Procurement Regulations for IPF Borrowers (Annex III).” If a Bidder wishes to make a Procurement-related

Complaint, the Bidder should submit its complaint following these procedures, in writing (by the quickest means available, that is either by email or fax), to:

For the attention: *[insert full name of person receiving complaints]*

Title/position: *[insert title/position]*

Employer: *[insert name of Employer]*

Email address: *[insert email address]*

Fax number: *[insert fax number]* *delete if not used*

In summary, a Procurement-related Complaint may challenge any of the following:

- 1. the terms of the Bidding Documents;**
 - 2. the Employer's decision to exclude a Bidder from the procurement process prior to the award of contract; and**
 - 3. the Employer's decision to award the contract.**
-

2. Contract Forms

2.1 Insert the Form ‘Notification of Intention to Award’ as under:

.....

Notification of Intention to Award

Not Used

Annexure A

Salient Features of Labour Laws³⁴

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK

This list is only illustrative and not exhaustive. Bidders and Contractors are responsible for checking the correctness and completeness of the list.
 The law as current on the date of bid opening will apply.

- (a) Employees Compensation Act 1923: The Act provides for compensation In case of Injury, disease or death arising out of and during the course of employment.
- (b) Payment of Gratuity Act 1972: gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death at the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- (c) Employees P.F. and Miscellaneous Provision Act 1952 (since amended): The Act provides for monthly contribution by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:
 - (i) Pension or family pension on retirement or death, as the case may be.
 - (ii) Deposit linked Insurance on the death In harness of the worker.
 - (iii) Payment of P.F. accumulation on retirement/death etc.
- (d) Maternity Benefit Act 1961: The Act provides for leave and some other benefits to women employees In case of confinement or miscarriage etc.

- (e) Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013: This Act defines sexual harassment In the workplace, provides for an enquiry procedure In case of complaints and mandates the setting up of an Internal Complaints Committee or a Local Complaints Committee
- (f) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and In case the ContraEEctor fails to provide, the same are required to be provided, by the Principal Employer by law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.
- (g) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.
- (h) Payment of Wages Act 1936: It lays down the mode, manner and by what date the wages are to be paid, what deductions can be made from the wages of the workers.
- (i) Equal Remuneration Act 1976: The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against Female employees In the matters of transfers, training and promotions etc.
- (j) Payment of Bonus Act 1965: The Act is applicable to all establishments employing 20 or more employees. Some of the State Governments have reduced this requirement from 20 to 10. The Act provides for payments of annual bonus subject to a minimum of 8.33% of the wages drawn In the relevant year. It applies to skilled or unskilled manual, supervisory, managerial, administrative, technical or clerical work for hire or reward to employees who draw a salary of INR 10,000/- per month or less. To be eligible for bonus, the employee should have worked in the establishment for not less than 30 working days In the relevant year. The Act does not apply to certain establishments.
- (k) Industrial Disputes Act 1947: the Act lays down the machinery and procedure for resolution of Industrial disputes, In what situations, a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching

the employees or closing down the establishment.

- (l) Trade Unions Act 1926: The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- (m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age In certain occupations and processes and provides for regulation of employment of children In all other occupations and processes. Employment of Child Labour is prohibited In the Building and Construction Industry.
- (n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more Inter-state migrant workmen through an Intermediary (who has recruited workmen In one state for employment In the establishment situated In another state). The Inter-State migrant workmen, In an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, traveling expenses from home upto the establishment and back,etc.
- (o) The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Building and Other Construction Workers Welfare Cess Act, 1996 (BOCWW Cess Act): All the establishments who carry on any building or other construction work and employ 10 or more workers are covered under these Acts. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be notified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as Canteens, First -Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- (p) Factories Act 1948: the Act lays down the procedure for approval of plans before setting up a factory engaged in manufacturing processes, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering Information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power.
- (q) Weekly Holidays Act -1942

- (r) Bonded Labour System (Abolition) Act, 1976: The Act provides for the abolition of bonded labour system with a view to preventing the economic and physical exploitation of weaker sections of society. Bonded labour covers all forms of forced labour, including that arising out of a loan, debt or advance.
- (s) Employer's Liability Act, 1938: This Act protects workmen who bring suits for damages against employers in case of injuries endured in the course of employment. Such injuries could be on account of negligence on the part of the employer or persons employed by them in maintenance of all machinery, equipment etc. in healthy and sound condition.
- (t) Employees State Insurance Act 1948: The Act provides for certain benefits to insured employees and their families in case of sickness, maternity and disablement arising out of an employment injury. The Act applies to all employees in factories (as defined) or establishments which may be so notified by the appropriate Government. The Act provides for the setting up of an Employees' State Insurance Fund, which is to be administered by the Employees State Insurance Corporation. Contributions to the Fund are paid by the employer and the employee at rates as prescribed by the Central Government. The Act also provides for benefits to dependents of insured persons in case of death as a result of an employment injury.
- (u) The Personal Injuries (Compensation Insurance) Act, 1963: This Act provides for the employer's liability and responsibility to pay compensation to employees where workmen sustain personal injuries in the course of employment.
- (v) Industrial Employment (Standing Order) Act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.

SMP for Construction of 100 M span Intermediate-lane Motor Bridge over Dholi river in Sela Village in district Pithoragarh.

Social Management Plan
to be Implemented at the Sub Project by the Contractor

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility		
					Implementation	Supervision	
PC- DESIGN AND PRE-CONSTRUCTION PHASE							
PC-1 Joint Inspection of Site and Awareness Creation among local public	-	<ul style="list-style-type: none"> • The contractor will carry out site inspection along with PIU Representative for construction site, establishment of camp and other allied sites and assessment of any public inconvenience due to anticipated hindrance due to project activities. • Contractor will conduct consultation with the local public to make them aware about the construction related risks and hazards, their schedule of work, blockage of access route, if any and alternative access arrangements. 	At project site	Pre-Construction Stage	Contractor	PIU, PWD	
PC-2 Utility Shifting	Utility	<ul style="list-style-type: none"> • Disruption of services 	<ul style="list-style-type: none"> • Identify and include locations and operators of these utilities in the detailed design documents during design validation and preconstruction phase, to prevent unnecessary disruption of services during construction phase; • Conduct detailed site surveys with 	At project site	Pre-Construction Stage	Contractor	PIU, PWD

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<p>the construction drawings and discuss with the respective agencies during the construction phase before ground clearance; and</p> <ul style="list-style-type: none"> • Contractors has to prepare a contingency plan to include actions to be done in case of unintentional interruption of services. 				
PC-3 Establishment of Construction / Workers Camp	<ul style="list-style-type: none"> • Conflicts with Local population • Increased Accident Risk 	<ul style="list-style-type: none"> • The location of construction camp to be identified by the Contractor. • No construction camp, labour camp, plant sites, stock yards will be established within the forest area. • The camp and other allied sites must be sited sufficiently away from features like settlement, forest area and surface water bodies to avoid conflicts and stress over such type of features and the infrastructure facilities with the local community. • Fencing of construction camp needs to be provided prior to commencement of work • The Contractor will submit the legal agreement/ written Consent letter from the owner of the land or houses for using for specific purpose along with its rehabilitation plan as agreed by the owner. • The Camp site will be provided 	At temporary camp site, temporary diversion and plant sites	Pre-Construction Stage and Post utilization of the land	Contractor	PIU, PWD

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		with all the necessary facilities as per norms.				
C-2 LABOUR AND WORKING CONDITIONS						
C-2.1 Engagement of Labours: Employment Conditions	Unclear Employment Conditions	<ul style="list-style-type: none"> • The Contractor will implement the Labour Management Procedures for the hiring of project workers including contractor's workers. • The Contractor will conform to national law in relation to hiring and employment; and will comply with the principle of equal opportunity, fair treatment, and non-discrimination with respect to the employment relationship, gender, cast, races, etc. • The Contractor has to obtain necessary Labour license and insurance prior to engaging labourers and commencement of work and comply all the conditions stipulated in the license. • The contractor has to obtain labour insurance/Workmen Insurance to ensure the safety of his workers and the copy of insurance will be submitted to the employer. • The copy of labour license will be submitted to the Engineer/Employer. 	At Project Site	Pre-Construction stage during team mobilisation	Contractor	PIU, PWD

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<ul style="list-style-type: none"> • The Primary Contractor will be responsible for compliance of all the labour regulations including those of sub-contractor's labours. • Use of child labour will be strictly prohibited. • The contractor has to ensure minimum wages, weekly off, quarterly fitness certificate and daily attendance of the labor and staff. • The contractor will organize quarterly training for the labor and staff to ensure their capacity building on their rights and labor laws, health and safety, SEA/SH and on gender sensitization. List of Labor Law is attached as Annexure-3 • The Contractor will adopt the ICT tool for monitoring compliance of labour laws and to maintain the proper database of labors to be engaged in the construction period. 				
C-2.2 Labour Camp Management	Labour Camp: <ul style="list-style-type: none"> • Influx of migrant labour • additional pressure on the local resources 	<ul style="list-style-type: none"> • For migrant labourers the contractor will establish labour camps with all basic facilities sufficiently away from local habitation preferably located on lands, which are not productive (barren/waste lands presently) • Contractor will follow all 	Construction Camp	Construction Phase	Contractor	PIU, PWD

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
	<p>and social infrastructures</p> <ul style="list-style-type: none"> • Risk of social conflict 	<p>relevant provisions of the Building and the other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 as well as the guidelines of IFC and EBRD35 for construction and maintenance of labour camp throughout the construction period.</p> <ul style="list-style-type: none"> • The Contractor will provide all the basic facilities at campsite including proper beds for workers, lighting, potable drinking water, toilet and bathing facilities separately for male and female workers, washing facilities, Sanitation and sewerage system, cooking facilities, security, waste collection and disposal facilities, medical facilities including first aid facilities etc. as per norms and always maintain these facilities functional and hygienic manner. • The Contractor will Ensure proper health-check-ups of all labours employed at the project 				

³⁵http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/learning+and+adapting/knowledge+products/publications/publications_gpn_workersaccommodation

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<ul style="list-style-type: none"> • site; • Adequate First-Aid box shall be provided at work sites Facilitating healthcare services and medical care in case of sickness. • Mobile toilet on wheels to be provided at worksite with minimum 2 units each of Toilet and Bathroom with proper water supply and drainage system, electric supply and safe access at work site locations • One permanent helper to be engaged at worksite to maintain hygienicity by daily cleaning of mobile toilet and the mobile toilet will be maintained properly by repairing and Paintingatleast every six month • No Child Labour below 18 years of age and forced labour will be engaged for any kind of construction works in the project. Contractor will maintain a labour register with name, age and sex with supporting document (preferably copy of Aadhaar card or voter's ID card). This will be monitored by Environmental and Social office of contractor and PIU, PWD. 				

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<ul style="list-style-type: none"> • No open discharge of waste water generated from kitchen, bathroom and washing areas will be allowed. The contractor will provide proper drainage network at camp site to regulate the waste water discharge from kitchen, bathroom and washing areas. The drain carrying the waste water from kitchen and bathroom will be connected with soak pits with sufficient capacity. The waste water from washing areas, kitchen and bathroom may be utilized for use in irrigation and watering for dust control measures after primary treatment. • The waste water generated from flushing will be managed through septic tank with soak pits and waste water generated from domestic demand (excluding flushing water) will disposed through soak pits without violating the environmental and social norms and design for the soak pits and septic tank will be approved by the Engineer. • Municipal solid waste generated shall be segregated as biodegradable and non- 				

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<p>biodegradable at source. Contractor is encouraged to utilize biodegradable waste into bio-compost. The Contractor will identify the disposal site for disposal of non-biodegradable waste generated at camp site and construction areas in consultation with local municipality and tie up with them for regular disposal of such wastes. In case the disposal facility is not available in the area, then the Contractor will make a provision of disposal pits at camp site away from dwelling units and carefully disposed off such waste in secured manner. For that the Contractor will develop its own waste management plan and along with disposal plan for approval from the Engineer.</p> <ul style="list-style-type: none"> • After completion of construction, the contractor will dismantle the camp and restore it to the original condition of the area before handing over the site to the land owner. 				
	Issues of SEA/SH and GBV	<ul style="list-style-type: none"> • Contractor will prepare and implement measures to address the risk of gender-based violence that include (i) mandatory and 	Construction Camp	Construction Phase	Contractor	PIU, PWD

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<p>repeated training and awareness raising for the workforce about refraining from unacceptable conduct toward local community members, specifically women; (ii) informing workers about national laws that make sexual harassment and gender-based violence a punishable offence which is prosecuted; (iii) introducing a Worker Code of Conduct as part of the employment contract, and including sanctions for non-compliance (e.g., termination), and (iv) contractors adopting a policy to cooperate with law enforcement agencies in investigating complaints about SEA/Sexual Harassment and gender-based violence.</p> <ul style="list-style-type: none"> • Code of Conduct will be signed by all the labourers working on the project. Do's and Don'ts related to SEA/Sexual Harassment is part of daily tool box talk so as to avoid any risk of SEA/Sexual Harassment. • The Contractor will ensure that all workers sign and abide by the workers' code of conduct. • The Contractor will establish and build awareness among workers on Internal Complaints 				

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		Committee (ICC) as mandated by the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 The Contractor will formulate GRM for receiving the Labour Grievances and regularly interact with the labourers to address their issues and maintain the record of the same.				
C-3 COMMUNITY HEALTH & SAFETY						
C-3.1 Community Health & Safety	C-3.1.1 Accident Risks due to construction induced impact.	<ul style="list-style-type: none"> • The project will comply with the requirements of the EHS Guidelines of the World Bank Group, 2007³⁶. • Good Industry Practice Guideline of IFC shall be followed and all the workers will be trained accordingly • Proper caution signage, barricading, delineators etc. will be installed at Construction zone and temporary diversions • An Emergency Response system in case of any incidence will be developed and implemented • A public grievance system shall be followed in order to record the public complaints regarding to 	Project Site	Construction Phase	Contractor	PIU, PWD

³⁶<https://www.ifc.org/wps/wcm/connect/29f5137d-6e17-4660-b1f9-02bf561935e5/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES&CVID=jOWim3p>

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		Health & Safety and Addressal of the same within agreed timeline.				
	C-3.1.2 Obstructing the access of residents and customers to nearby shops due to construction induced impact.	<ul style="list-style-type: none"> • The contractor at all time will provide safe access to the public for to and from movement till the project is ready for the use of public. • Leave spaces for access between mounds of soil; • Consult adjunct residents regarding operating hours and factoring this in work schedules; and • Provide sign boards for pedestrians to inform nature and duration of construction works and contact numbers for concerns/complaints. • No material should be stocked close to these areas; material shall be brought to the site as and when required; 	Working sites	Construction Phase	Contractor	PMC/PIU, PWD
C-3.2 STAKEHOLDER CONSULTATION	Impact on local stakeholders due to construction activities	<ul style="list-style-type: none"> • Contractor will conduct consultation with the local public to make them aware about the construction related risks and hazards, their schedule of work, blockage of access route, if any and alternative access arrangements. • The process of grievance redressal 	Along the Project alignment	Before commencement of project site activities.	Jointly by Contractor and PIU	PIU/PMU, PWD

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<p>mechanism due to any problem related to project along with contact details of concerned person will be provided during consultation.</p> <ul style="list-style-type: none"> • Informatory sign board, about the project and GRM will be displayed at start and end of project site. 				
C-4 CULTURAL HERITAGE						
C-4.2 Chance Find of Archaeological Assets and artefacts	Risk of archaeological Chance finding	<ul style="list-style-type: none"> • All the archaeological assets and artefacts such as ancient coins, ruins, archaeological deposits etc. are the property of government and immediately to be reported to the concerned authority in case of finding of such features to the competent authority. • Create awareness among the workers and supervisors about the chance finds during excavation work; • Stop work immediately if any finds are suspected to allow further investigation; • Inform archaeological agencies promptly if a find is suspected, and take any action they require to ensure its removal or protection in site; and • Adjacent to important religious sites, undertake excavation and construction work in such a way 	Along the excavation area	During Construction Stage	Contractor in consultation with PMC/PIU PWD and Archaeological Department	PMC/PIU

Social component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		that no structural damage is caused to the building.				

EMP for Construction of 100 M span Intermediate-lane Motor Bridge over Dholi river in Sela Village in district Pithoragarh.

Environmental Management Plan

to be implemented at the Sub Project by the contractor

Part-A: Environment Management Plan

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
PC- DESIGN AND PRE-CONSTRUCTION PHASE						
PC-1 Drainage Pattern and Water Bodies	Alteration of Water Courses	<ul style="list-style-type: none"> Provision of proper drainage through earthen channel along the project site. Stabilization and turfing of slopes along the water body 	Drainage along the proposed approaches	Design & Preconstruction Construction Stage	FPIU, PWD	FPIU/PIU, PWD
PC-2 Arrangements for temporary land for Establishing Camps/ Plants/ Temporary diversions, etc.	<ul style="list-style-type: none"> Local Conflicts, Land Restrictions Enhanced hazards and risks 	<ul style="list-style-type: none"> The Contractor as per prevalent rules will carry out negotiations with the landowners for obtaining their consent for temporary use of lands for worker's camp, construction sites/hot mix plants/traffic detours etc. The Contractor will submit the legal agreement/ written Consent letter from the owner of the land for using for specific purpose along with its rehabilitation plan as agreed by the owner. The Contractor will provide proper safety arrangements along such sites, such as proper barricading, installation of safety and caution signboards, proper lighting arrangements, deployment of safety personnel at site, maintenance of proper 	At temporary camp site, temporary diversion and plant sites	Pre-Construction Stage and Post utilization of the land	Contractor	FPIU/PIU, PWD

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<p>hygienic conditions, etc.</p> <ul style="list-style-type: none"> • The Contractor will ensure that the site is properly restored to the satisfaction of the landowner prior to handing over to the owner and shall submit satisfactory certificate from the Landowner. 				
PC-3 Contractor's Environmental Health and Safety (EHS) Officer	Non-compliance to the Environmental & OHS Management Plan in absence of Contractor's designated staff	<ul style="list-style-type: none"> • The Contractor has to appoint one Environment and Safety Officer having requisite qualification and sufficient experience in implementation of Environmental safeguards in road projects. • He will be overall responsible for implementation of ESMP and OH&S measures at different site. • He will be responsible for conducting environmental and safety awareness training for workers • He will be responsible for record keeping and reporting on various environmental and OHS issue of the project during construction and defect liability period 	Contractor Site Office	Before Start of Construction	Contractor	FPIU/PIU, PWD
PC-4 Contractor's C-ESMP	In absence, Non-compliance to the Environmental & Social Management Plan	<ul style="list-style-type: none"> • The Contractor will develop site specific Contractor's Environmental & Social Management Plan (C-ESMP) to cover all the environmental safeguard measures as per Contract's specifications, statutory requirements and environmental safeguard measures set-forth in the EMP 	-	Before Start of Construction	Contractor	FPIU/PIU, PWD

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<p>of EIA report. The C-ESMP should contain but not limited to the following aspects:</p> <ul style="list-style-type: none"> ✓ Statutory clearances and permits. ✓ Institutional arrangements for implementation of environmental and social mitigation measures and safety measures ✓ Pollution Control Measures (Air, water, noise and soil) at different activity areas ✓ Environmental Management at Borrow areas and Quarry sites, if any ✓ Environmental Management at Plant site (Stone Crusher, Batching Plant, Hot mix plant etc.) ✓ Environmental & Social Management at Camp Site ✓ Waste Management Plan (Solid Waste, Wastewater C&D waste including disposal plan) ✓ Construction water management ✓ Traffic Management Plan including diversion plan. ✓ Inspection checklists on various aspects of ESMPs ✓ Environmental Monitoring Schedule ✓ Training schedule on 				

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<p>ESHS, HIV/AIDS awareness and COVID-19, Labour Laws, SEA/SH and GBV sensitisation among contractor's workforces</p> <ul style="list-style-type: none"> • Any other aspects as directed by the Engineer 				
C - CONSTRUCTION PHASE						
C-1 RESOURCE EFFICIENCY AND POLLUTION PREVENTION						
C-1.1 Land Resource	Loss of vegetation and disturbance to natural drainage	<ul style="list-style-type: none"> • The earth material generated due to excavation will be used to as per suitability and requirement to reduce impact on land resources. • The Construction camps (if required) will be located preferably on barren land and sufficiently away from settlements and water bodies. 	Project Site, Construction Zone,	Construction stage	Contractor	FPIU/PIU, PWD
C-1.2 Soil Environment	C-1.2.1 Loss of Topsoil	<ul style="list-style-type: none"> • Topsoil, if any, shall be stripped and stored at corners of the area before the start of excavation for material collection. • No construction materials should be stacked in the agriculture field 	Entire Alignment	Construction Phase	Contractor	FPIU/PIU, PWD
	C-1.2.2 Soil Erosion	<ul style="list-style-type: none"> • Designated storage site for fill materials and adequate stockpiling to prevent erosion and runoff related problem. • The disturbed areas and soil stockpiles will be kept moist to avoid wind erosion of soil 	Along the approaches	Construction Phase	Contractor	FPIU/PIU, PWD
C-1.3 Water Environment	C-1.3.1 Impact on Supply of Water due to requirement for Construction	<ul style="list-style-type: none"> • The Contractor shall ensure that he makes separate arrangement with PIU, PWD for his water requirement for construction so 	Along the approaches	Construction Phase	Contractor	FPIU/PIU, PWD

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<p>that supply for the public is unaffected.</p> <ul style="list-style-type: none"> • Requisite permissions need to be obtained before using water from the Competent Authority 				
	C-1-3.2 Contamination of surface water and degradation of water quality	<ul style="list-style-type: none"> • Excavation will not be scheduled during rains, so that there is no impact on drainage and surface water quality. • Avoid stockpiling of earth fill especially during the monsoon season unless covered by tarpaulins or plastic sheets. • Provide temporary bunds for stockpiles and materials. • Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies. • All liquid wastes arising from construction activities will be properly disposed off and will not be discharged into any water body/ stream course without adequate treatment. • Littering or unauthorized discharge will not be permitted. • Permission of the engineer and the concerned regulatory authorities will be obtained for disposal of the waste as the designated disposal point. • The stream course and drain will be kept free from dumping of solid wastes and earth materials. • The construction materials and debris will be stored away from water bodies or water ways and only at the designated sites 	Water Body, Local Stream, Drain	Construction Phase	Contractor	FPIU/PIU, PWD

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<p>along the construction zones.</p> <ul style="list-style-type: none"> • Conduct surface quality inspection and monitoring 				

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
C-1.4 Air Environment	1.4.1 Deterioration of air quality due to generation of dust	<ul style="list-style-type: none"> • Dust suppression measures like water sprinkling, shall be applied in all dust prone locations such as earthworks, stockpiles, etc. • The transporting construction materials with tarpaulin coverage during the construction stage. • DG set will be provided a chimney with vertical opening having adequate height as per CPCB guidelines (Height of stack in meter = Height of the building + 0.2 √KVA). • Construction materials storage areas shall also be located downwind of the habitation area. • The Contractor shall ensure that all the vehicles used during the construction stage shall have valid PUC certificate. • Dust emission from stockpiles of excavated material will be controlled either by covering the stockpiled materials or water spraying over it. • As soon as construction is over all the surplus earth will be utilized properly all loose earth will be removed from the site. • The batch mix/concrete mix plants (if any) will be fitted with appropriate dust suppression system. • Wind breaking walls of GI Sheets will be provided along periphery construction area and the area within the construction 	Within the Alignment and campsites	Construction Phase	Contractor	FPIU/PIU, PWD

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
C-1.4.2 Gaseous pollution		zone shall be regular cleaned and wetted to control dust.				
	C-1.4.2 Gaseous pollution	<ul style="list-style-type: none"> • All the Construction vehicles and machineries will be regularly maintained to conform to the emission standards stipulated under Environment (Protection) Rules, 1986. • All the DG sets will conform to the emission standards as stipulated under Environment (Protection) Rules, 1986. • The workers working at Batch mix plants will be provided with masks for working near the emission source. • Engine of construction vehicles and equipment's will be switched-off when not in use to save fuel, prevent accidents and air pollution. • All the construction vehicles used during the construction stage including those of main contractor and subcontractors will have valid PUC certificate. • The Contractor will carry out air quality monitoring in terms of PM₁₀, PM_{2.5}, Sox & NOx as per monitoring plan 	Within the Alignment and campsites	Construction Phase	Contractor	FPIU/PIU, PWD
C-1.5 Noise Environment	Increase in noise level due to earth moving and excavation equipment, and the transportation of equipment, materials, and people	<ul style="list-style-type: none"> • All construction activities shall be restricted to daytime hours only. • The plants and equipment used in construction (including those of sub-Contractors) shall strictly conform to the MoEF&CC/ CPCB noise standards and shall have latest noise suppression mountings. 	Construction Area	Construction Phase	Contractor	FPIU/PIU, PWD

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<ul style="list-style-type: none"> • All vehicles and equipment used in construction work will be fitted with muffles or silencers. • Servicing of construction vehicles and machinery will be done regularly and during routine servicing operations, the effectiveness of exhaust silencers will be checked and if found defective, these shall be replaced, • Only low noise DG set fitted with acoustic enclosures will be allowed at the construction site and camp site. • Noise to be monitored as per monitoring plan and if the noise level at any time found to be higher than immediate measure to reduce noise in that area will be ensured. • All the workers working very close to the noise generating machinery shall be provided with earplugs to avoid any ill impacts on their health. • An awareness programme will be organized for drivers and equipment operators to make them aware of the consequences of noise and to act properly at site 				
C-1.6 Sources of Materials	Unregulated quarrying and instability may cause erosion and water pollution	<ul style="list-style-type: none"> • Use quarry sites and sources permitted by Mines and Geology Department only; • No new quarry sites shall be developed for the project; • All material to be obtained from authorized vendor and Verify 	Material sites	Construction	Contractor	FPIU/PIU, PWD

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
C-2 BIODIVERSITY CONSERVATION AND SUSTAINABLE MANAGEMENT OF LIVING NATURAL RESOURCES						
C-2.1 Biological Environment	C-2.1.1 Adverse impact on forest and other ecological resources due to construction in nearby area	<ul style="list-style-type: none"> • suitability of all material sources and obtain approval of implementing agency • Submit on a monthly basis documentation of sources of materials to PIU, U-PREPARE 	Construction Area	Construction Phase	Contractor	FPIU/PIU, PWD
	C-2.1.3 Disturbance to aesthetics and land contamination	<ul style="list-style-type: none"> • Construction materials as well as debris will not be stacked around trees and forest area. • No Campsite or any other allied site will be established within 1 Km of the forest area. • Contractor will take all precautions to avoid damage to the forest during transportation of material through forest area • The Contractor shall ensure that there is no disruption or damage to the wild animals due to his activities or by his persons. • It will be responsibility of the Contractor to ensure that there is no illegal poaching of wild animals around the area of activities by his staff, labours or sub-contractor's personnel. • Construction vehicles will run along specified access to avoid accidents to cattle or wild animal 	Project Site	Construction Phase	Contractor	FPIU/PIU, PWD

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<p>area will be covered with top soil</p> <ul style="list-style-type: none"> • Landscaping will be done at the disposal site 				
C-3 OTHER ENVIRONMENTAL CONCERNS						
C-3.1 Post Construction Compliance	Damage due to debris, spoils, excess construction materials	<ul style="list-style-type: none"> • Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; • All excavated roads shall be reinstated to original condition and restoration of disrupted utilities. • The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. • All hardened surfaces within the construction camp area shall be ripped, all imported materials removed, and the area shall be covered with top soil and re-grassed • The contractor must arrange the dismantling & removal of all temporary services; • All the sites must be restored prior to demobilisation of Contractor • Request PIU/PMU, PWD to report in writing that worksites and camps have been vacated and restored to pre-project conditions before acceptance of work. 	Along the excavation area and working sites	After Completion of Construction (Post Construction)	Contractor in consultation with FPIU	FPIU/PIU, PWD
C-3.2 Debris Disposal	Impact on Aesthetics of area and creation of unhygienic conditions	<ul style="list-style-type: none"> • The disposal site shall be selected preferably from barren, infertile lands. In case 	Identified Disposal Site	After Completion of Construction	Contractor in consultation with FPIU, PWD	FPIU/PIU, PWD

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<p>agricultural land needs to be selected, top-soil stripping, stacking and preservation should be undertaken prior to initiation of any activities;</p> <ul style="list-style-type: none"> • Debris disposal site shall be at least 200 m away from surface water bodies; • No residential areas shall be located within 100 m downwind side of the site; • The site is minimum 250 m away from sensitive locations like settlements, ponds/lakes or other water bodies; and • The local governing body and community shall be consulted while selecting the site. 		(Post Construction)		
O-2 Emergency Response Plan	Constraint on road system due to emergency situation/natural calamities in absence of appropriate Emergency Response system	<p>An Emergency Response Plan for emergencies such as Major disasters such as earthquakes, fires, flood, or explosion and Catastrophic incidents that leave extraordinary levels of mass casualties, damage, and disruption severely affecting the population, infrastructure, environment, economy, etc.</p> <ul style="list-style-type: none"> • Emergency Response Plan shall be prepared to address the eight core elements such as System Specific Information; • Property protection and Water sampling and Monitoring • Appropriate safety measures like fencing, notice boards to prevent entry of unauthorized persons shall be provided 	Project Site and Camp Site	Operation Phase	PIU, PWD	FPIU/PIU, PWD
O – OPERATION PHASE						
Local disturbance	• The FPIU, PWD shall	At damaged location	Operation	FPIU, PWD	PIU, PWD	

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
during maintenance works	inform the road users in the affected area well in advance prior repair works in advance through proper communication/media. If any major maintenance work is to be taken up, the FPIU shall ensure that the O&M contractor complies with health and safety plan to protect workers and public.		phase			
Constraint on road system due to emergency situation/ natural calamities in absence of appropriate Emergency Response system	An Emergency Response Plan for emergencies such as Major disasters such as earthquakes, fires, flood, or explosion and Catastrophic incidents that leave extraordinary levels of mass casualties, damage, and disruption severely affecting the population, infrastructure, environment, economy, etc. <ul style="list-style-type: none"> • Emergency Response Plan shall be prepared to address the eight core elements such as System Specific Information; • Property protection and Water sampling and Monitoring Appropriate safety measures like fencing, notice boards to prevent entry of unauthorized persons shall be provided	Project Site and Camp Site	Operation Phase	FPIU, PWD	PIU, PWD	

Part-B- Occupational Health & Safety (OHS) Management Plan

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
C-1 LABOUR AND WORKING CONDITIONS						
C-1.1 Contractor's OHS Plan and Emergency Response System		<ul style="list-style-type: none"> • The Contractor will Develop and implement site-specific and job-specific Occupational Health and Safety (H&S) Plan which will cover the following aspects but not limited to: <ul style="list-style-type: none"> ✓ Activity specific Hazard identification ✓ Identification of PPE requirements ✓ Work zone safety Plan including Safety during excavation, concreting, etc., operation of Heavy Plant & Machinery; safety during Material handling, safety plan for lifting devices, fire, electrical and mechanical safety, vehicular safety ✓ Medical facilities including first aid ✓ Institutional arrangement for implementation of safety measures including safety committee ✓ H&S safety training programme including training schedule ✓ Safety Checklists <p>Guideline as provided in Annexure-1 on Occupational Health and Safety will be followed by the contractor in developing the OHS Plan.</p> <ul style="list-style-type: none"> • In addition to OHS Plan the Contractor will conduct Awareness training on Emergency Response system for disaster including mock drills on Disaster Management Plan and Emergency Response System to deal with emergency situations, such as accidents, natural calamities, construction failure. 	Contractor's Document at Contractor's Camp	Pre-Construction	Contractor	FPIU/PIU, PWD
C-1.2	Occupational	<ul style="list-style-type: none"> • The Contractor will comply with the requirements of 	Camp Site	Construction	Contractor	FPIU/PIU,

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
Occupational Health and Safety	health hazards and accidents at working sites	<p>the Environmental, Health, and Safety (EHS), Guidelines of the World Bank Group, 2007³⁷ and all national, state and local core labor laws on working conditions and safety during construction.</p> <ul style="list-style-type: none"> • The Contractor will provide adequate good quality Personal Protective Equipment (PPE) to all the workers working at construction zones and Plant sites and will ensure that these PPEs are used by workers including those of sub-contractor's workforce at all time during works. The list of PPEs as under: <ul style="list-style-type: none"> - Full body protection clothing, protective footwear, hand gloves and goggles to workers employed handling cement concrete, - Construction workers will be provided high visibility vests, Ear plugs to workers exposed to high noise levels, Hard hat or helmets to workers, where there is danger of falling objects from height, - Hand gloves, helmets, protective footwear/safety shoes, protective goggles, nose masks, high visibility vests etc. (as required) will be provided to the workers employed in construction works, - Safety belts will be used by workers while working at height, • Safety net will be provided around the girders/ under construction superstructure for protection against falling of objects • The Contractor will provide and maintain safe access and safe working conditions to the work site throughout the working period • The medical insurance coverage for the workers should be provided by the Contractor. • The emergency contact details of concern officer and medical officers/officers require to be made available at working sites. 	and Working areas	Phase		PWD

37

Reference: <http://www.ifc.org/wps/wcm/connect/554e8d80488658e4b76af76a6515bb18/Final%2B-%2BGeneral%2BEHS%2BGuidelines.pdf?MOD=AJPERES> and <http://www.ifc.org/wps/wcm/connect/7e4c7f80488554d5b45cf66a6515bb18/Final%2B-%2BToll%2BRoads.pdf?MOD=AJPERES&id=1323162564158>]

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		<ul style="list-style-type: none"> • The Contractor will provide hard barricading around the Work Zone • The Contractor will secure all installations from unauthorized intrusion and accident risks; • Prohibition of entry of in the abandon bridge by providing barriers specially for construction worker. • The Contractor will arrange of potable drinking water at work site as well as at camps; • Provide clean eating areas where workers are not exposed to hazardous or noxious substances; • The Contractor will provide visitor orientation if visitors to the site can gain access to areas where hazardous conditions or substances may be present. Ensure also that visitor/s do not enter hazard areas unescorted; • Ensure moving equipment is outfitted with audible back-up alarms; • Mark and provide sign boards for hazardous areas such as energized electrical devices and lines, service rooms housing high voltage equipment, and areas for storage and disposal. Signage shall be in accordance with international standards and be well known to, and easily understood by workers, visitors, and the general public as appropriate; • Disallow worker exposure to noise level greater than 85 dBA for a duration of more than 8 hours per day without hearing protection. The use of hearing protection shall be enforced actively; • Bridge construction will be carried out only during lean period and no construction activity will be carried out during monsoon period. • During the alert from the Metrological Department/ USDMA, the river side construction work should be suspended till the situation normalize. • All the construction material and machineries stacked near the river must be cleared during alert period to avoid any mis happening. 				

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
C-1.3 Personal Protective Equipment (PPEs)	Physical accidents risk due to non-use of PPEs at site	<ul style="list-style-type: none"> • The Contractor will supply appropriate PPEs to all their workers working at site including those of sub-contractors, depending upon the type of construction activity and risk. • The Contractor will ensure that all the required PPEs are in use by the workers at site at all the time during works. • In general, following PPEs to be ensured by the Contractor: <ul style="list-style-type: none"> - Full body protection clothing, protective footwear, hand gloves and goggles to workers employed handling cement concrete, - Construction workers will be provided high visibility vests, Ear plugs to workers exposed to high noise levels, Hard hat or helmets to workers, where there is danger of falling objects from height, - Hand gloves, helmets, protective footwear/safety shoes, protective goggles, nose masks, high visibility vests etc. (as required) will be provided to the workers employed in construction works, • Safety belts will be used by workers while working at height 	At all Work site	Throughout the Construction Period	Contractor	FPIU/PIU, PWD
C-1.4 Medical Facilities	Occupational Health issues for workers without proper medical attention. health issues	<ul style="list-style-type: none"> • The medical insurance coverage for the workers should be provided by the Contractor. • Readily available First Aid kit bearing all necessary first aid items will be proved at all the work sites and should be regularly maintained throughout the construction period. • The contractor will tie up with local health centre/doctor and ambulance for dealing with first aid issue, health check-up of workers and epidemic conditions. • The Contractor will maintain first-aid register at site • The emergency contact details of concern officer and medical officers/officers require to be made available at working sites and camp site. • The Contractor will organize health check-up camp for workers on periodic basis (Quarterly). • Contractor to keep one stretcher with belt at working 	Camp and Work Site	Throughout the Construction Period	Contractor	FPIU/PIU, PWD

Environmental component / Issues	Potential Impact	Mitigation Measures	Location	Time Frame	Institutional Responsibility	
					Implementation	Supervision
		site in case of any medical emergency				
C-1.5 OHS Awareness Trainings	Occupational health hazards and accidents at working sites	<ul style="list-style-type: none"> • The Contractor will organize awareness program on occupational health and safety aspects on periodic basis as per the training schedule • The Contractors EHS Expert will provide regular pep talks and toll box talk to the labourers on the type of risk specific to the planned activities for the day and safety requirements before start of work. • Prohibition of entry of in the abandon bridge by providing barriers specially for construction worker. 	Work site and Camp site	During Construction period	Contractor	FPIU/PIU, PWD
O – OPERATION PHASE						
O-1 Occupational Health & Safety	Occupational hazards at Operational site	<ul style="list-style-type: none"> • Personnel protective equipment will be provided to workers. Regular training will also be conducted to ensure that workers are aware of construction hazards and risks of chemicals. 	Project Site and Camp Site	During Maintenance of new bridge	FPIU, PWD	PIU, PWD