

Tender Document for Works

(Two-Envelope Tendering Process Without Prequalification)

Procurement of:

Br-1: Fabrication, assembly & launching of 1X76.2 m span Open Web Girder (OWG) each over three lines on NH-352 W (Pataudi Road) between Manesar and Patli stations including supplying & fixing of H-beam sleepers in connection with laying of New BG Double Railway Line of HORC project at Km 54.498.

Tender No: HORC/HRIDC/Br-1/2022

Contract title: Civil Construction Contract (Br-1) on BOQ basis

Project: Haryana Orbital Rail Corridor Project

Loan No.: 000370

Employer: Haryana Rail Infrastructure Development Corporation Limited

Country: INDIA

Issued on: 08.03.2022

PART 1 – Tendering Procedures

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Section I - Instructions to Tenderers (ITT)

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Section I - Instructions to Tenderers

A. General

- 1. Scope of Tender**
- 1.1 In connection with the Specific Procurement Notice (SPN) indicated in the **Tender Data Sheet (TDS)**, the Employer, as specified in the **TDS**, issues this Tender Document for the provision of Works as specified in Section VII, Works' Requirements. The name, identification, and number of lots (contracts) of this tender are specified in the **TDS**.
- 1.2 Throughout this Tender Document:
- (a) the term “in writing” means communicated in written form (e.g., by mail, e-mail, fax, including, if specified in the **TDS**, distributed or received through 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 a “Business Day.” A Business Day is any day that is a working day of the Recipient. It excludes the Recipient’s official public holidays;
 - (d) “ESHS” means environmental, social, health and safety; and
 - (e) the word “tender” is synonymous with “bid” and “tenderer” with “bidder”, and the words “tender documents” with “bidding documents”.
- 2. Source of Funds**
- 2.1 The Recipient specified in the **TDS** has received or has applied for financing (hereinafter called “funds”) from the Asian Infrastructure Investment Bank (hereinafter called (“AIIB” or “the Bank”) in an amount specified in the **TDS**, toward the project named in the **TDS**. The Recipient intends to apply a portion of the funds to eligible payments under the contract(s) for which this Tender Document is issued.
- 2.2 Payment by the Bank will be made only at the request of the Recipient 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 Recipient 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. Prohibited Practices

- 3.1 The Bank requires compliance with the Bank’s Policy on Prohibited Practices as set forth in Section VI.
- 3.2 In further pursuance of this policy, Tenderers 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 prequalification process, tender submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

4. Eligible Tenderers

- 4.1 A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 4.6 or any combination of such entities 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. 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 Tendering process and, in the event the JV is awarded the Contract, during contract execution. Unless specified in the **TDS**, there is no limit on the number of members in a JV.
- 4.2 A Tenderer shall not have a conflict of interest. Any Tenderer found to have a conflict of interest shall be disqualified. A Tenderer may be considered to have a conflict of interest for the purpose of this Tendering process, if the Tenderer:
 - a) directly or indirectly controls, is controlled by or is under common control with another Tenderer; or
 - b) receives or has received any direct or indirect subsidy from another Tenderer; or
 - c) has the same legal representative as another Tenderer; or
 - d) has a relationship with another Tenderer, directly or through common third parties, that puts it in a position to influence the Tender of another Tenderer, or influence the decisions of the Employer regarding this Tendering process; or
 - e) or 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 Tender; or
 - f) or any of its affiliates has been hired (or is proposed to be hired) by the Employer or Recipient 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 TDS ITT 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 Recipient (or of the project implementing agency, or of any other beneficiary of the Bank's financing, or of any other party representing or acting on behalf of the Recipient) who: (i) are directly or indirectly involved in the preparation of the Tender Document or specification of the Contract, and/or the Tender 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 Tendering process and execution of the Contract; or
 - i) is an affiliate of the Recipient, or of a procurement agent engaged by the Recipient, unless the Recipient demonstrates to the satisfaction of the Bank that there is no significant degree of common ownership, influence or control between the Recipient on the one hand, and the Recipient's agent and the affiliate on the other.
- 4.3 A firm that is a Tenderer (either individually or as a JV member) shall not participate in more than one Tender, except for permitted alternative Tenders. Such participation shall result in the disqualification of all Tenders in which the firm is involved. However, this does not limit: (a) the inclusion of the same Subcontractor in more than one Tender for the same contract; or (b) the ability of one Tenderer to be a Subcontractor in another Tender for the same contract.
- 4.4 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT 4.8. A Tenderer shall be deemed to have the nationality of a country if the Tenderer 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 Tenderer that has been declared, and remains, as at the relevant date, ineligible pursuant to the Bank's Policy on Prohibited Practices as described in Section VI, shall be ineligible to be prequalified for,

tender 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 **TDS**.

- 4.6 Tenderers 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 carrying-out or are established for a business purpose, and are operating on a commercial basis; (ii) are financially and managerially autonomous; (iii) are not controlled by the government on day-to-day management; and (iv) are not under the supervision of the Employer or its procuring agency.
- 4.7 A Tenderer shall not be under suspension from Tendering by the Employer as the result of the operation of a Tender–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 Recipient's country prohibits commercial relations with the firm or individual's 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 Recipient's country prohibits any import of goods or contracting of works or services from the firm or individual's 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 Recipient, and is involved in the procurement), then exclusion of a firm or individual on the basis of ITT 4.8 (a) above by any country may be applied to that procurement across other countries involved, if the Bank and the Recipients involved in the procurement agree.
- 4.9 A Tenderer shall provide such documentary evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 4.10 A firm that is under a sanction of debarment by the Recipient from being awarded a contract is eligible to participate in this procurement, unless the Bank, at the Recipient's request, is satisfied that the debarment; (a) relates to fraud or corruption or other prohibited practices, and (b) followed a judicial or administrative proceeding that afforded the firm adequate due process.

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, Tenderers may be required to provide evidence of the origin of materials, equipment and services.

B. Contents of Tender Document**6. Sections of Tender Document**

6.1 The Tender Document consists of Parts 1, 2 and 3, includes all the sections specified below, and should be read in conjunction with any Addenda issued in accordance with ITT 8.

PART 1 Tendering Procedures

- Section I - Instructions to Tenderers (ITT)
- Section II - Tender Data Sheet (TDS)
- Section III - Evaluation and Qualification Criteria
- Section IV - Tender Forms
- Section V - Eligible Countries
- Section VI - Prohibited Practices

PART 2 Works Requirements

- Section VII - Works' Requirements

PART 3 Conditions of Contract and Contract Forms

- Section VIII - General Conditions of Contract (GCC)
- Section IX - Particular Conditions of Contract (PCC)
- Section X - Contract Forms

6.2 The Specific Procurement Notice issued by the Employer is not part of the Tender Document.

6.3 Unless obtained directly from the Employer, the Employer is not responsible for the completeness of the Tender Document, responses to requests for clarification, the minutes of the pre-Tender meeting (if any), or Addenda to the Tender Document in accordance with ITT 8. In case of any contradiction, documents obtained directly from the Employer shall prevail.

6.4 The Tenderer is expected to examine all instructions, forms, terms, and specifications in the Tender Document and to furnish with its

Tender all information and documentation as is required by the Tender Document.

7. Clarification of Tender Document, Site Visit, Pre-Tender Meeting

- 7.1 A Tenderer requiring any clarification of the Tender Document shall contact the Employer in writing at the Employer’s address specified in the **TDS** or raise its enquiries during the pre-Tender meeting if provided for in accordance with ITT 7.4. The Employer will respond in writing to any request for clarification, provided that such request is received no later than fourteen (14) days prior to the deadline for submission of Tenders. The Employer shall forward copies of its response to all Tenderers who have acquired the Tender Document in accordance with ITT 6.3, including a description of the inquiry but without identifying its source. If so, specified in the **TDS**, the Employer shall also promptly publish its response at the web page identified in the **TDS**. Should the clarification result in changes to the essential elements of the Tender Document, the Employer shall amend the Tender Document following the procedure under ITT 8 and ITT 22.2.
- 7.2 The Tenderer 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 Tender and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Tenderer’s own expense.
- 7.3 The Tenderer and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Tenderer, its personnel, and agents will release and indemnify the Employer 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 **TDS**, the Tenderer’s designated representative is invited to attend a pre-Tender 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 Tenderer is requested to submit any questions in writing, to reach the Employer not later than one week before the meeting.

7.6 Minutes of the pre-Tender meeting, if applicable, including the text of the questions asked by Tenderers, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Tenderers who have acquired the Tender Document in accordance with ITT 6.3. If so, specified in the **TDS**, the Employer shall also promptly publish the Minutes of the pre-Tender meeting at the web page identified in the **TDS**. Any modification to the Tender Document that may become necessary as a result of the pre-Tender meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to ITT 8 and not through the minutes of the pre-Tender meeting. Nonattendance at the pre-Tender meeting will not be a cause for disqualification of a Tenderer.

8. Amendment of Tender Document

8.1 At any time prior to the deadline for submission of Tenders, the Employer may amend the Tender Document by issuing addenda.

8.2 Any addendum issued shall be part of the Tender Document and shall be communicated in writing to all who have obtained the Tender Document from the Employer in accordance with ITT 6.3. The Employer shall also promptly publish the addendum on the Employer's web page in accordance with ITT 7.1.

8.3 To give Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Employer may, at its discretion, extend the deadline for the submission of Tenders, pursuant to ITT 22.2.

C. Preparation of Tenders

9. Cost of Tendering

9.1 The Tenderer shall bear all costs associated with the preparation and submission of its Tender, and the Employer shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Tendering process.

10. Language of Tender

10.1 The Tender, as well as all correspondence and documents relating to the Tender exchanged by the Tenderer and the Employer, shall be written in the language specified in the **TDS**. Supporting documents and printed literature that are part of the Tender may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the **TDS**, in which case, for purposes of interpretation of the Tender, such translation shall govern.

11. Documents Comprising the Tender

11.1 The Tender shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously in two separate sealed envelopes (two-envelope tendering process). One envelope shall contain only information relating to the

Technical Part and the other, only information relating to the Financial Part. These two envelopes shall be enclosed in a separate sealed outer envelope marked “ORIGINAL TENDER”.

11.2 The Technical Part shall contain the following:

- (a) Letter of Tender – Technical Part: prepared in accordance with ITT 12;
- (b) Tender Security or Tender-Securing Declaration: in accordance with ITT 19.1;
- (c) Alternative Tender – Technical Part: if permissible, in accordance with ITT 13;
- (d) Authorization: written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 20.3;
- (e) Eligibility: documentary evidence in accordance with ITT 17.1 establishing the Tenderer’s eligibility to tender;
- (f) Qualifications: documentary evidence in accordance with ITT 17.2 establishing the Tenderer’s qualifications to perform the Contract if its Tender is accepted;
- (g) Conformity: a technical proposal in accordance with ITT 16;
- (h) Any other document required in the **TDS**.

11.3 The Financial Part shall contain the following:

- (a) Letter of Tender – Financial Part: prepared in accordance with ITT 12 and ITT 14;
- (b) Bill of Quantities: completed in accordance with ITT 12 and ITT 14;
- (c) Alternative Tender - Financial Part: if permissible in accordance with ITT 13; and
- (d) Any other document required in the **TDS**.

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

11.5 In addition to the requirements under ITT 11.2, Tenders 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 Tender shall be

signed by all members and submitted with the Tender, together with a copy of the proposed Agreement.

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

12. Letter of Tender and Schedules

12.1 The Letter of Tender – Technical Part, the Letter of Tender – Financial Part, and Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Section IV, Tender Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITT 20.3. All blank spaces shall be filled in with the information requested.

13. Alternative Tenders

13.1 Unless otherwise specified in the **TDS**, alternative Tenders shall not be considered.

13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the **TDS**, and the method of evaluating different alternative times for completion will be described in Section III, Evaluation and Qualification Criteria.

13.3 Except as provided under ITT 13.4 below, Tenderers wishing to offer technical alternatives to the requirements of the Tender Document must first price the Employer’s design as described in the Tender 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 Tenderer with the Most Advantageous Tender conforming to the basic technical requirements shall be considered by the Employer.

13.4 When specified in the **TDS**, Tenderers are permitted to submit alternative technical solutions for specified parts of the Works. Such parts will be identified in the **TDS** and described in Section VII, Works’ Requirements. The method for their evaluation will be stipulated in Section III, Evaluation and Qualification Criteria.

14. Tender Prices and Discounts

14.1 The prices and discounts (including any price reduction) quoted by the Tenderer in the Letter of Tender and in the Bill of Quantities shall conform to the requirements specified below.

14.2 The Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Tenderer shall be deemed covered by the rates for other items in the Bill of Quantities and will not be paid for separately by the Employer.

- 14.3 The price to be quoted in the Letter of Tender – Financial Part, in accordance with ITT 12.1, shall be the total price of the Tender, excluding any discounts offered.
- 14.4 The Tenderer shall quote any discounts and the methodology for their application in the Letter of Tender – Financial Part, in accordance with ITT 12.1.
- 14.5 Unless otherwise specified in the **TDS** and the Conditions of Contract, the rates and prices quoted by the Tenderer are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract. In such a case, the Tenderer shall furnish the indices and weightings for the price adjustment formulae in the Table of Adjustment Data in Section IV, Tender Forms, and the Employer may require the Tenderer to justify its proposed indices and weightings.
- 14.6 If so specified in ITT 1.1, Tenders are being invited for individual lots (contracts) or for any combination of lots (packages). Tenderers wishing to offer discounts for the award of more than one Contract shall specify in their Tender the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITT 14.4, provided the Tenders for all lots (contracts) are opened at the same time. If, however, rated criteria are used in accordance with ITT 30.2, discounts on condition of award of more than one Contract shall not be used for Tender evaluation purpose.
- 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 Tenders, shall be included in the rates and prices and the total Tender Price submitted by the Tenderer.

**15. Currencies of
Tender and
Payment**

- 15.1 The currency (ies) of the Tender and the currency (ies) of payments shall be the same and shall be as specified in the **TDS**.
- 15.2 Tenderers may be required by the Employer to justify, to the Employer's satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Table of Adjustment Data in the Appendix to Tender in Section IV, Tender Forms, are reasonable, in which case a detailed breakdown of the foreign currency requirements shall be provided by Tenderers.

**16. Documents
Comprising the
Technical
Proposal**

- 16.1 The Tenderer shall furnish a technical proposal in the Technical Part of the Tender including a statement of work methods, equipment, personnel, schedules and any other information as stipulated in Section IV, Tender Forms, in sufficient detail to demonstrate the

adequacy of the Tenderer's proposal to meet the works' requirements and the completion time.

**17. Documents
Establishing the
Eligibility and
Qualifications of
the Tenderer**

17.1 To establish Tenderer's eligibility in accordance with ITT 4, Tenderers shall complete the Letter of Tender – Technical Part, included in Section IV, Tender Forms.

17.2 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract, the Tenderer shall provide the information requested in the corresponding information sheets included in Section IV, Tender Forms.

17.3 If provisions for development of domestic industry (such as a margin of domestic preference) apply as specified in accordance with ITT 38.1, domestic Tenderers, individually or in joint ventures, applying for eligibility for domestic preference shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITT 38.1.

**18. Period of
Validity of
Tenders**

18.1. Tenders shall remain valid for the Tender Validity period specified in the **TDS**. The Tender Validity period starts from the date fixed for the Tender submission deadline (as prescribed by the Employer in accordance with ITT 22). A Tender valid for a shorter period shall be rejected by the Employer as nonresponsive.

18.2. In exceptional circumstances, prior to the expiration of the Tender validity period, the Employer may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT 19, it shall also be extended for a corresponding period. A Tenderer may refuse the request without forfeiting its Tender security. A Tenderer granting the request shall not be required or permitted to modify its Tender, except as provided in ITT 18.3.

18.3. If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Tender validity period, the Contract price shall be determined as follows:

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

- 19. Tender Security**
- 19.1 The Tenderer shall furnish as part of the Technical Part of its Tender, either a Tender Security or a Tender-Securing Declaration, as specified in the **TDS**, in original form and, in the case of a Tender Security, in the amount and currency, or in the case of a Tender-Securing Declaration, for the period of ineligibility, as specified in the **TDS**.
- 19.2 A Tender-Securing Declaration shall use the form included in Section IV, Tender Forms.
- 19.3 If a Tender Security is specified pursuant to ITT 19.1, the Tender Security shall be a demand guarantee in any of the following forms at the Tenderer's option:
- (a) an unconditional guarantee issued by a bank;
 - (b) an irrevocable letter of credit;
 - (c) a cashier's or certified check; or
 - (d) another security specified in the **TDS**,
- from a reputable source from an eligible country. In the case of a bank guarantee, the Tender Security shall be submitted either using the Tender Security Form included in Section IV, Tender Forms, or in another substantially similar format approved by the Employer prior to Tender submission. The Tender Security shall be valid for twenty-eight (28) days beyond the original validity period of the Tender, or beyond any period of extension if requested under ITT 18.2.
- 19.4 If a Tender Security or Tender-Securing Declaration is specified pursuant to ITT 19.1, any Tender not accompanied by a substantially responsive Tender Security or Tender-Securing Declaration shall be rejected by the Employer as non-responsive.
- 19.5 If a Tender Security is specified pursuant to ITT 19.1, the Tender Security of unsuccessful Tenderers shall be returned as promptly as possible upon the successful Tenderer's signing the Contract and furnishing the Performance Security pursuant to ITT 50.
- 19.6 The Tender Security of the successful Tenderer shall be returned as promptly as possible once the successful Tenderer has signed the Contract and furnished the required Performance Security.
- 19.7 The Tender Security may be forfeited, or the Tender-Securing Declaration executed:
- (a) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Letter of Tender, or any extension thereto provided by the Tenderer; or

- (b) if the successful Tenderer fails to:
 - (i) sign the Contract in accordance with ITT 49; or
 - (ii) furnish a Performance Security in accordance with ITT 50.

19.8 The Tender Security or the Tender-Securing Declaration of a JV shall be in the name of the JV that submits the Tender. If the JV has not been legally constituted into a legally enforceable JV at the time of Tendering, the Tender Security or the Tender-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITT 4.1 and ITT 11.5.

20. Format and Signing of Tender

20.1 The Tenderer shall prepare one original set of the Technical Part of the Tender and one original set of the Financial Part of the Tender as described in ITT 11 and ITT 21, and clearly mark them “ORIGINAL”. Alternative Tenders, if permitted in accordance with ITT 13, shall be clearly marked “ALTERNATIVE.” In addition, the Tenderer shall submit copies of the Tender, in the number specified in the **TDS** and clearly mark them “COPY”. In the event of any discrepancy between the original and the copies, the original shall prevail.

20.2 Tenderers shall mark as “CONFIDENTIAL” all information in their Tenders which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.

20.3 The original and all copies of the Tender shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Tenderer. This authorization shall consist of a written confirmation as specified in the **TDS** and shall be attached to the Tender. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Tender where entries or amendments have been made shall be signed or initialed by the person signing the Tender.

20.4 In case the Tenderer is a JV, the Tender 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.

20.5 Any amendments such as inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Tender.

D. Submission of Tenders

21. Sealing and Marking of Tenders

21.1 Tenderers may submit their Tenders by mail or by hand. If so specified in the **TDS**, Tenderers shall have the option of submitting their Tenders electronically. Procedures for submission, sealing, and marking are as follows:

- (a) Tenderers submitting Tenders by mail or by hand shall enclose the original Technical Part of the Tender, the original Financial Part of the Tender, and the respective copies of the Tender, including Alternative Tenders if permitted in accordance with ITT 13, in separate sealed envelopes. The envelopes shall be duly marked as "ORIGINAL TECHNICAL PART", "ORIGINAL-FINANCIAL PART", "COPY-TECHNICAL PART", "COPY-FINANCIAL PART", "ALTERNATIVE-ORIGINAL-TECHNICAL PART", "ALTERNATIVE-ORIGINAL-FINANCIAL PART", "ALTERNATIVE-COPY-TECHNICAL PART", and "ALTERNATIVE-COPY-FINANCIAL PART". These envelopes shall then be enclosed in one single package. The rest of the procedure shall be in accordance with ITT 21.2 through ITT 21.5.
- (b) Tenderers submitting Tenders electronically shall follow the electronic tender submission procedures specified in the **TDS**.

21.2 The inner and outer envelopes shall:

- (a) bear the name and address of the Tenderer;
- (b) be addressed to the Employer in accordance with ITT 22.1; and
- (c) bear the specific identification of this Tendering process specified in accordance with TDS ITT 1.1.

21.3 The outer envelopes and the inner envelopes containing the Technical Part of Tender shall bear a warning not to open before the time and date for the opening of Technical Part of Tender, in accordance with ITT 25.1.

21.4 The inner envelopes containing the Financial Part of Tender shall bear a warning not to open until advised by the Employer in accordance with ITT 34.

21.5 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the Tender.

22. Deadline for Submission of Tenders

22.1 Tenders must be received by the Employer at the address and no later than the date and time specified in the **TDS**.

22.2 The Employer may, at its discretion, extend the deadline for the submission of Tenders by amending the Tender Document in accordance with ITT 8, in which case all rights and obligations of the Employer and Tenderers previously subject to the deadline shall thereafter be subject to the deadline as extended.

23. Late Tenders

23.1 The Employer shall not consider any Tender that arrives after the deadline for submission of Tenders, in accordance with ITT 22. Any Tender received by the Employer after the deadline for submission of Tenders shall be declared late, rejected, and returned unopened to the Tenderer.

24. Withdrawal, Substitution, and Modification of Tenders

24.1 A Tenderer may withdraw, substitute, or modify its Tender after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITT 20.3 (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Tender must accompany the respective written notice. All notices must be:

- (a) prepared and submitted in accordance with ITT 20 and ITT 21 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL”, “SUBSTITUTION”, “MODIFICATION”; and
- (b) received by the Employer prior to the deadline prescribed for submission of Tenders, in accordance with ITT 22.

24.2 Tenders requested to be withdrawn in accordance with ITT 24.1 shall be returned unopened to the Tenderers.

24.3 No Tender may be withdrawn, substituted, or modified in the interval between the deadline for submission of Tenders and the expiration of the period of Tender validity specified by the Tenderer on the Letter of Tender or any extension thereof.

E. Public Opening of Technical Parts of Tenders

25. Technical Part Opening

25.1 Except in the cases specified in ITT 23 and ITT 24.2, the Employer shall publicly open and read out in accordance with this ITT all Tenders received by the deadline, at the date, time and place specified in the **TDS**, in the presence of Tenderers’ designated representatives and anyone who chooses to attend. Any specific electronic Tender opening procedures required if electronic Tendering is permitted in accordance with ITT 21.1, shall be as specified in the **TDS**.

- 25.2 First, envelopes marked “Withdrawal” shall be opened and read out and the envelope with the corresponding Tender shall not be opened, but returned to the Tenderer. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Tender opening.
- 25.3 Next, envelopes marked “Substitution” shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.
- 25.4 Next, envelopes marked “Modification” shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening.
- 25.5 Next, all remaining envelopes marked “TECHNICAL PART” shall be opened one at a time. All envelopes marked “FINANCIAL PART” shall remain sealed, and kept by the Employer in safe custody until they are opened, at a later public opening, following the evaluation of the Technical Part of the Tenders. On opening the envelopes marked “TECHNICAL PART” the Employer shall read out: the name of the Tender, the presence or the absence of a Tender Security, or Tender-Securing Declaration, if required, and whether there is a modification; and Alternative Tender - Technical Part; and any other details as the Employer may consider appropriate.
- 25.6 Only Technical Parts of Tenders and Technical Parts of Alternative Tenders that are opened and read out at Tender opening shall be considered further for evaluation. The Letter of Tender – Technical Part and the separate sealed envelopes marked “FINANCIAL PART” are to be initialed by representatives of the Employer attending Tender opening in the manner specified in the **TDS**.
- 25.7 At the tender opening the Employer shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 23.1).
- 25.8 The Employer shall prepare a record of the Technical Part of Tender opening that shall include, as a minimum:
- (a) the name of the Tenderer and whether there is a withdrawal, substitution, or modification;
 - (b) the receipt of envelopes marked “FINANCIAL PART”;

- (c) the presence or absence of a Tender Security or Tender-Securing Declaration, if one was required any alternative Tenders; and
 - (d) if applicable, any Alternative Tender – Technical Part.
- 25.9 The Tenderers’ representatives who are present shall be requested to sign the record. The omission of a Tenderer’s signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Tenderers who submitted Tenders in time and posted online when electronic Tendering is permitted.

F. Evaluation of Tenders – General Provisions

- 26. Confidentiality**
- 26.1 Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderers or any other persons not officially concerned with the Tendering process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 45.
- 26.2 Any attempt by a Tenderer to influence the Employer in the evaluation of the Tenders or Contract award decisions may result in the rejection of its Tender.
- 26.3 Notwithstanding ITT 26.2, from the time of Tender opening to the time of Contract award, if a Tenderer wishes to contact the Employer on any matter related to the Tendering process, it shall do so in writing.
- 27. Clarification of Tenders**
- 27.1 To assist in the examination, evaluation, and comparison of the Tenders, and qualification of the Tenderers, the Employer may, at its discretion, ask any Tenderer for a clarification of its Tender, allowing a reasonable time for response. Any clarification submitted by a Tenderer that is not in response to a request by the Employer 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 Tender shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Tenders, in accordance with ITT 36.

- 27.2 If a Tenderer does not provide clarifications of its Tender by the date and time set in the Employer’s request for clarification, its Tender may be rejected.
- 28. Deviations, Reservations, and Omissions**
- 28.1 During the evaluation of Tenders, the following definitions apply:
- (a) “Deviation” is a departure from the requirements specified in the Tender Document;
 - (b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Tender Document; and
 - (c) “Omission” is the failure to submit part or all of the information or documentation required in the Tender Document.
- 29. Nonmaterial Nonconformities**
- 29.1 Provided that a Tender is substantially responsive, the Employer may waive any nonconformities in the Tender.
- 29.2 Provided that a Tender is substantially responsive, the Employer may request that the Tenderer submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Tender related to documentation requirements. Requesting information or documentation on such nonconformities or omissions shall not be related to any aspect of the price of the Tender. Failure of the Tenderer to comply with the request may result in the rejection of its Tender.
- 29.3 Provided that a Tender is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Tender Price. To this effect, the Tender Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified in the **TDS**.

G. Evaluation of Technical Parts of Tenders

- 30. Evaluation of Technical Parts**
- 30.1 In evaluating the Technical Parts of each Tender, the Employer shall use the criteria and methodologies listed in this ITT and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.
- 30.2 If specified in the **TDS**, the Employer’s evaluation will be carried out by applying rated criteria that take into account technical factors, in addition to cost factors. An Evaluated Tender Score will be calculated for each responsive Tender using the formula specified in Section III, Evaluation and Qualification Criteria. The scores to be given to technical factors and sub-factors are specified in the **TDS**.

The weights to be given to the cost and the total technical score are specified in the **TDS**.

31. Determination of Responsiveness

31.1 The Employer's determination of a Tender's responsiveness is to be based on the contents of the Tender itself, as defined in ITT 11.

31.2 A substantially responsive Tender is one that meets the requirements of the Tender Document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:

(a) if accepted, would:

(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 Tender Document, the Employer's rights or the Tenderer's obligations under the proposed Contract; or

(b) if rectified, would unfairly affect the competitive position of other Tenderers presenting substantially responsive Tenders.

31.3 The Employer shall examine the technical aspects of the Tender submitted in accordance with ITT 16, in particular, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.

31.4 If a Tender is not substantially responsive to the requirements of the Tender Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

32. Qualification of the Tenderers

32.1 The Employer shall determine to its satisfaction whether the eligible Tenderers that have submitted substantially responsive Tender - 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 Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 17. The determination shall not take into consideration the qualifications of other firms such as the Tenderer's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in ITT 33.3), or any other firm(s) different from the Tenderer.

32.3 If a Tenderer does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Tender shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

32.4 Only Tenders that are both substantially responsive to the Tender Document, and meet all Qualification Criteria shall have their envelopes marked “FINANCIAL PART” opened at the second public opening.

33. Subcontractors

33.1 Unless otherwise stated in the **TDS**, the Employer does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Employer.

33.2 Tenderers may propose subcontracting up to the percentage of total value of contracts or the volume of works as specified in the **TDS**. Subcontractors proposed by the Tenderer shall be fully qualified for their parts of the Works.

33.3 The subcontractor’s qualifications shall not be used by the Tenderer to qualify for the Works unless their specialized parts of the Works were previously designated by the Employer in the **TDS** as can be met by subcontractors referred to hereafter as ‘Specialized Subcontractors’, in which case, the qualifications of the Specialized Subcontractors proposed by the Tenderer may be added to the qualifications of the Tenderer.

H. Public Opening of Financial Parts of Tenders

34. Public Opening of Financial Parts

34.1 Following the completion of the evaluation of the Technical Parts of the Tenders, and the Bank has issued its no objection (if applicable), the Employer shall notify in writing those Tenderers whose Tenders were considered non-responsive to the Tender Document or failed to meet the Qualification Criteria, advising them of the following information:

- (a) the grounds on which their Technical Part of Tender failed to meet the requirements of the Tender Document;
- (b) their envelopes marked “FINANCIAL PART” will be returned to them unopened after the completion of the selection process and the signing of the Contract; and
- (c) notify them of the date, time and location of the public opening of the envelopes marked “FINANCIAL PART”.

34.2 The Employer shall, simultaneously, notify in writing those Tenderers whose Tenders - Technical Parts have been evaluated as substantially responsive to the Tender Document and met all Qualifying Criteria, advising them of the following information:

- (a) their Tender has been evaluated as substantially responsive to the Tender Document and met the Qualification Criteria;
 - (b) When rated criteria are used, the evaluated technical scores;
 - (c) their envelope marked “FINANCIAL PART” will be opened at the public opening of the Financial Parts; and
 - (d) notify them of the date, time and location of the second public opening of the envelopes marked “FINANCIAL PART” as specified in the **TDS**.
- 34.3 The opening date should allow Tenderers sufficient time to make arrangements for attending the opening. The Financial Part of the Tender shall be opened publicly in the presence of Tenderers’ designated representatives and anyone who chooses to attend.
- 34.4 At this public opening the Financial Parts will be opened by the Employer in the presence of Tenderers, or their designated representatives and anyone else who chooses to attend. Tenderers who met the Qualification Criteria and whose Tenders were evaluated as substantially responsive will have their envelopes marked “FINANCIAL PART” opened at the second public opening. Each of these envelopes marked “FINANCIAL PART” shall be inspected to confirm that they have remained sealed and unopened. These envelopes shall then be opened by the Employer. The Employer shall read out the names of each Tenderer, and the total Tender prices, per lot (contract) if applicable, including any discounts and Alternative Tender - Financial Part, and any other details as the Employer may consider appropriate.
- 34.5 Only envelopes of Financial Part of Tenders, Financial Parts of Alternative Tenders and discounts that are opened and read out at tender opening shall be considered further for evaluation. The Letter of Tender – Financial Part and the Priced Bill of Quantities are to be initialed by representatives of the Employer attending the tender opening in the manner specified in the **TDS**.
- 34.6 The Employer shall neither discuss the merits of any Tender nor reject any envelopes marked “FINANCIAL PART”.
- 34.7 The Employer shall prepare a record of the Financial Part of the Tender opening that shall include, as a minimum:
- (a) the name of the Tenderer whose Financial Part was opened;
 - (b) the Tender price, per lot (contract) if applicable, including any discounts; and
 - (c) if applicable, any Alternative Tender – Financial Part.

34.8 The Tenderers whose envelopes marked “FINANCIAL PART” have been opened or their representatives who are present shall be requested to sign the record. The omission of a Tenderer’s signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Tenderers.

I. Evaluation of Financial Parts of Tenders

35. Evaluation of Financial Parts

35.1 To evaluate the Financial Part, the Employer shall consider the following:

- (a) the Tender price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities for admeasurement contracts, but including Daywork items, where priced competitively;
- (b) price adjustment for correction of arithmetic errors in accordance with ITT 36.1;
- (c) price adjustment due to discounts offered in accordance with ITT 14.4;
- (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITT 37;
- (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITT 29.3; and
- (f) the additional evaluation factors are specified in the **TDS** and 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 Tender evaluation.

35.3 If this Tender Document allows Tenderers to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated cost of the contract combinations, including any discounts offered in the Letter of Tender – Financial Part, is specified in Section III, Evaluation and Qualification Criteria. If, however, rated criteria are used in accordance with ITT 30.2, discounts on condition of award of more than one contract shall not be used for Tender evaluation purpose.

36. Correction of Arithmetical Errors

36.1 In evaluating the Financial Part of each Tender, the Employer shall correct arithmetical errors on the following basis:

- (a) if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity,

the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;

- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail, and the total shall be corrected; and
- (c) 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) and (b) above.

36.2 Tenderers shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITT 36.1, shall result in the rejection of the Tender.

37. Conversion to Single Currency

37.1 For evaluation and comparison purposes, the currency(ies) of the Tender shall be converted into a single currency as specified in the **TDS**.

38. Provision for Development of Domestic Industry

38.1 Unless otherwise specified in the **TDS**, provision for development of domestic industry (such as a margin of preference for domestic Tenderers¹) shall not apply.

39. Comparison of Tenders

39.1 The Employer shall compare the evaluated costs of all substantially responsive Tenders established in accordance with ITT 35.1 to determine the Tender that has the lowest evaluated cost.

39.2 If ITT 30.2 is applicable, the Employer shall evaluate the technical score and financial score of each tender and determine the Tender with the highest combined technical and financial score in accordance with TDS ITT 30.2.

40. Abnormally Low-Priced Tenders

40.1 An Abnormally Low-Priced Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regard to the Tenderer's ability to perform the Contract for the offered Tender Price.

¹An individual firm is considered a domestic Tenderer for purposes of the margin of preference if it is registered in the country of the Employer, has more than 50 percent ownership by nationals of the country of the Employer, and if it does not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign contractors. JVs are considered as domestic Tenderers and eligible for domestic preference only if the individual member firms are registered in the country of the Employer or have more than 50 percent ownership by nationals of the country of the Employer, and the JV shall be registered in the country of the Employer. The JV shall not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign firms. JVs between foreign and national firms will not be eligible for domestic preference.

- 40.2 In the event of identification of a potentially Abnormally Low-Priced Tender, the Employer shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender 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 Tender Document.
- 40.3 After examining the clarifications given and the detailed price analyses presented by the Tenderer, the Employer may as appropriate:
- (a) accept the Tender, if the evidence provided satisfactorily accounts for the low tender price, in which case the Tender is not considered abnormally low; or
 - (b) accept the Tender, but require that the amount of the Performance Security be increased at the expense of the Tenderer to a level sufficient to protect the Employer against financial loss. The amount of the Performance Security shall generally be not more than 20% of the Contract Price; or
 - (c) reject the Tender, if the evidence provided does not satisfactorily account for the low tender price and make a similar determination for the next ranked Tender, if required.

41. Unbalanced or Front-Loaded Tenders

- 41.1 If the Tender that is evaluated as the Most Advantageous Tender is, in the Employer's opinion, seriously unbalanced or front loaded, the Employer may require the Tenderer to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the Tender prices with the scope of works, proposed methodology, schedule and any other requirements of the Tender Document.
- 41.2 After the evaluation of the information and detailed price analyses presented by the Tenderer, the Employer may as appropriate:
- (a) accept the Tender; or
 - (b) accept the Tender, but require that the total amount of the Performance Security be increased at the expense of the Tenderer to a level not exceeding 20% of the Contract Price; or
 - (c) reject the Tender and make a similar determination for the next ranked Tender.

42. Most Advantageous Tender

- 42.1 The Employer shall determine the Most Advantageous Tender. The Most Advantageous Tender is the Tender of the Tenderer that meets the Qualification Criteria and whose Tender has been determined to be substantially responsive to the Tender Documents and:
- (a) when rated criteria are used, is the tender with the highest combined technical and financial score; or

- (b) when rated criteria are not used, is the tender with the lowest evaluated cost.

**43. Employer’s
Right to Accept
Any Tender,
and to Reject
Any or All
Tenders**

43.1 The Employer reserves the right to accept or reject any Tender and to annul the Tendering process and reject all Tenders at any time prior to Contract Award, without thereby incurring any liability to Tenderers. In case of annulment, all Tenders submitted and specifically, Tender securities, shall be promptly returned to the Tenderers.

**44. Standstill
Period**

44.1 The Contract shall not be awarded earlier than the expiry of the Standstill Period. The Standstill Period shall be ten (10) Business Days unless extended in accordance with ITT 48. The Standstill Period commences the day after the date the Employer has transmitted to each Tenderer the Notification of Intention to Award the Contract. Where only one Tender is submitted, or if this contract is in response to an emergency situation recognized by the Bank, the Standstill Period shall not apply.

**45. Notification of
Intention to
Award**

45.1 The Employer shall send to each Tenderer the Notification of Intention to Award the Contract to the successful Tenderer. The Notification of Intention to Award shall contain, at a minimum, the following information:

- (a) the name and address of the Tenderer submitting the successful Tender;
- (b) the Contract price of the successful Tender;
- (c) the names of all Tenderers who submitted Tenders, and their Tender prices as readout, and as evaluated, and when rated criteria are used, the evaluated technical and financial scores, and the combined total scores;
- (d) a statement of the reason(s) the Tender (of the unsuccessful Tenderer to whom the notification is addressed) was unsuccessful, unless the price or score information in (c) above already reveals the reason;
- (e) the expiry date of the Standstill Period; and
- (f) instructions on how to request a debriefing and/or submit a complaint during the standstill period.

J. Award of Contract

- 46. Award Criteria** 46.1 Subject to ITT 43, the Employer shall award the Contract to the successful Tenderer. This is the Tenderer whose Tender has been determined to be the Most Advantageous Tender.
- 47. Notification of Award**
- 47.1 Prior to the expiry of the Tender Validity Period and upon expiry of the Standstill Period specified in ITT 43.1 or any extension thereof, and, upon satisfactorily addressing any complaint that has been filed within the Standstill Period, the Employer shall notify the successful Tenderer, in writing, that its Tender has been accepted. The notification of award (hereinafter and in the Conditions of Contract and Contract Forms called the “Letter of Acceptance”) shall specify the sum that the Employer 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 Employer 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 procurement method used;
 - (c) names of all Tenderers that submitted Tenders, and their Tender prices as read out at Tender opening, and as evaluated, and when rated criteria are used, the evaluated tender scores;
 - (d) names of all Tenderers whose Tenders were rejected either as nonresponsive or as not meeting qualification criteria, or were not evaluated, with the reasons therefor;
 - (e) the name of the successful Tenderer, the final total contract price, the contract duration and a summary of its scope; and
 - (f) successful Tenderer’s Beneficial Ownership Disclosure Form, if specified in TDS ITT 49.1.
- 47.3 The Contract Award Notice shall be published on the Employer’s website with free access if available, or in at least one newspaper of national circulation in the Employer’s Country, or in the official gazette. The Employer shall also publish the contract award notice in UNDB online and AIIB website.
- 47.4 Until a formal Contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract.

48. Debriefing by the Employer

- 48.1 On receipt of the Employer’s Notification of Intention to Award referred to in ITT 44.1, an unsuccessful Tenderer has three (3) Business Days to make a written request to the Employer for a debriefing. The Employer shall provide a debriefing to all unsuccessful Tenderers whose request is received within this deadline.
- 48.2 Where a request for debriefing is received within the deadline, the Employer shall provide a debriefing within five (5) Business Days, unless the Employer 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. The Employer shall promptly inform, by the quickest means available, all Tenderers of the extended standstill period.
- 48.3 Where a request for debriefing is received by the Employer later than the three (3)-Business Day deadline, the Employer should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Contract Award Notice. Requests for debriefing received outside the three (3)-day deadline shall not lead to extension of the standstill period.
- 48.4 Debriefings of unsuccessful Tenderers may be done in writing or verbally. The Tenderer shall bear its own costs of attending such a debriefing meeting.

49. Signing of Contract

- 49.1 The Employer shall send to the successful Tenderer the Letter of Acceptance including the Contract Agreement, and, if specified in the **TDS**, a request to submit the Beneficial Ownership Disclosure Form providing additional information on its beneficial ownership. The Beneficial Ownership Disclosure Form, if so requested, shall be submitted within eight (8) Business Days of receiving this request.
- 49.2 The successful Tenderer shall sign, date and return to the Employer, the Contract Agreement within twenty-eight (28) days of its receipt.

50. Performance Security

- 50.1 Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Employer, the successful Tenderer shall furnish the Performance Security in accordance with the General Conditions of Contract, subject to ITT 40.3 (b) and ITT 41.2 (b), using for that purpose the Performance Security Form included in Section X, Contract Forms, or another form acceptable to the Employer.
- 50.2 Failure of the successful Tenderer to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender

Security. In that event the Employer may award the Contract to the Tenderer offering the next Most Advantageous Tender.

**51. Procurement
Related
Complaint**

51.1 The procedures for making a Procurement-related Complaint are as specified in the **TDS**.

Section II - Tender Data Sheet (TDS)

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

A. General	
ITT 1.1	<p>The reference number of the SPN/Tender is: HORC/HRIDC/Br-1/2022</p> <p>The Employer is: Haryana Rail Infrastructure Development Corporation (HRIDC) Limited</p> <p>The name of the Tender is: Fabrication, assembly & launching of 1X76.2 m span Open Web Girder (OWG) each over three lines on NH-352 W (Pataudi Road) between Manesar and Patli stations including supplying & fixing of H-beam sleepers in connection with laying of New BG Double Railway Line of HORC project at Km 54.498.</p> <p>The number and identification of lots (contracts) comprising this Tender is: Contract Package (Br-1)</p>
ITT 1.2	<p>Add new sub-paragraphs (f) and (g) after sub-paragraph (e) as follows:</p> <p>(f) “Joint Venture” shall be replaced with “Joint Venture or Consortium”</p> <p>(g) “JV” shall be replaced with “JV or Consortium”</p>
ITT 1.2(a)	<p>Electronic – Procurement System</p> <p>The Employer shall use the following electronic-procurement system to manage this Tendering process:</p> <p>E-procurement portal of Govt. of Haryana (https://etenders.hry.nic.in)</p>

ITT 1.3	<p>Add new sub-clause ITT 1.3</p> <p>Instructions for Online Tender Submission:</p> <p>The Tenderers are required to submit soft copies of their Tenders electronically on the e-procurement portal of Government of Haryana i.e. https://etenders.hry.nic.in, using valid Digital Signature Certificates. The instructions given below are meant to assist the Tenderers in registering on the e-procurement Portal, prepare their Tenders in accordance with the requirements and submitting their Tenders online on the e-procurement Portal.</p> <p>Registration:</p> <ol style="list-style-type: none">i) Tenderers are required to enroll on the above-mentioned e-Procurement portal by clicking on the link “Online Bidder Enrollment” on the Portal which is free of charge.ii) As part of the enrolment process, the Tenderers will be required to choose a unique username and assign a password for their accounts.iii) Tenderers are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the e-procurement Portal. <p>A. Obtaining a Digital Certificate:</p> <ol style="list-style-type: none">i. The Tenders submitted online should be encrypted and signed electronically with a Digital Certificate to establish the identity of the Tenderer online. These Digital Certificates are issued by an Approved Certifying Authority, by the Controller of Certifying Authorities, Government of India.ii. A Digital Certificate is issued upon receipt of mandatory identity (i.e. Applicant’s PAN Card) and Address proofs and verification form duly attested by the Bank Manager / Postmaster / Gazetted Officer. Only upon the receipt of the required documents, a digital certificate can be issued. For more details please visit the website – https://etenders.hry.nic.iniii. The Tenderers may obtain Class-II or III digital signature certificate from any Certifying Authority or Sub-certifying Authority authorized by the Controller of Certifying Authorities or may obtain information, application format and documents required for the issue of digital certificate.iv. The Tenderer must ensure that he/she comply by the online available important guidelines at the portal https://etenders.hry.nic.in for Digital Signature Certificate (DSC) including the e-Token carrying DSCs.
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	<p>For any queries related to e-tendering process (registration, online e-bid submission/withdrawal, uploading of documents), Tenderer may contact the below representative of NIC:</p> <p>Ms. Manju Aggarwal Technical Director, Scientist-E, NIC. Panchkula. E - mail: a.manju@nic.in Help Desk: 0172 – 584257, 94170-69017.</p> <p>v. Tender for a particular tender must be submitted online using the digital certificate (Encryption & Signing), which is used to encrypt and sign the data during the stage of Tender preparation. In case, during the process of a particular tender, the user loses his digital certificate (due to virus attack, hardware problem, operating system or any other problem) he will not be able to submit the Tender online. Hence, the users are advised to keep a backup of the certificate and also keep the copies at safe place under proper security (for its use in case of emergencies).</p> <p>vi. In case of online tendering, if the digital certificate issued to the authorized user of a firm is used for signing and submitting a Tender, it will be considered equivalent to a no-objection certificate/power of attorney/lawful authorization to that User. The firm has to authorize a specific individual through an authorization certificate signed by all partners to use the digital certificate as per Indian Information Technology Act 2000. Unless the certificates are revoked, it will be assumed to represent adequate authority of the user to Tender on behalf of the firm in the department tenders as per Information Technology Act 2000. The digital signature of this authorized user will be binding on the firm.</p> <p>vii. In case of any change in the authorization, it shall be the responsibility of management/ partners of the firm to inform the certifying authority about the change and to obtain the digital signatures of the new person/ user on behalf of the firm/ company. The procedure for application of a digital certificate however will remain the same for the new user.</p> <p>viii. The same procedure holds true for the authorized users in a private/Public limited company. In this case, the authorization certificate will have to be signed by the directors of the company.</p> <p>B. Opening of an Electronic Payment Account:</p>
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For purchasing the tender documents online, Tenderers are required to pay the tender documents fee online using the electronic payment gateway service through their Debit Cards & Internet Banking accounts. For online payments guidelines, please refer to the Home page under tab “Guidelines for hassle free Bid Submission” of the e-procurement Portal of Government of Haryana, <https://etenders.hry.nic.in>

C. Pre-requisites for online Tendering:

In order to operate on the electronic tender management system, a user’s machine is required to be set up. A help file on system setup/Pre-requisite can be obtained from National Informatics Center or downloaded from the home page of the website - <https://etenders.hry.nic.in> the link for downloading required java applet & DC setup are also available on the Home page of the e-procurement Portal.

D. Online Viewing of Specific Procurement Notice (SPN):

The Tenderers can view the SPN and the time schedule (Key Dates) through the single portal e-procurement system on the Home Page at <https://etenders.hry.nic.in>

E. Downloading of Tender Documents:

The tender documents can be downloaded free of cost from the e-procurement portal <https://etenders.hry.nic.in>

F. Key Dates:

The Tenderers are strictly advised to follow dates and times as indicated in the online Specific Procurement Notice. The date and time shall be binding on all Tenderers. All online activities are time tracked and the system enforces time locks that ensure that no activity or transaction can take place outside the start and end dates and the time of the stage as defined in the online Specific Procurement Notice.

G. Online Payment of Tender Document Fee and e-Service Fee:

The online payment for Tender document fee and e-Service Fee shall be made using the secure electronic payment gateway by Tenderers online directly through Debit Cards & Internet Banking accounts.

The secure electronic payments gateway is an online interface between Contractors and Debit card/online payment authorization networks.

H. Preparation & Submission of online Applications/Tenders:

	<p>i. Detailed Tender documents may be downloaded from e-procurement website (https://etenders.hry.nic.in) from 08.03.2022 (17:00 Hrs.) to 05.04.2022(15:00 Hrs.) and tender mandatorily be submitted online following the instruction appearing on the screen.</p> <p>ii. Scan copy of Documents to be submitted/uploaded for Technical Part under online PQQ/ Technical Envelope: All documents shall be prepared and scanned in file formats PDF /JPEG/MS WORD format such that file size is not exceed more than 10 MB) and uploaded during the on-line submission of PQQ or Technical Envelope.</p> <p><u>Only Electronic Form (Refer Tender document):</u></p> <p>FINANCIAL PART shall be submitted mandatorily online under Commercial Envelope and original not to be submitted manually</p> <p>NOTE:</p> <p>(A) <i>Tenderers participating in online tenders shall check the validity of his/her Digital Signature Certificate before participating in the online Tenders at the portal https://etenders.hry.nic.in.</i></p> <p>(B) <i>For help manual, please refer to the ‘Home Page’ of the e-procurement website at https://etenders.hry.nic.in</i></p>
ITT 2.1	<p>The Recipient is: HRIDC through Government of Haryana</p> <p>The Bank Loan amount: USD 400 million</p> <p>The name of the Project is: Haryana Orbital Rail Corridor (HORC)</p>
ITT 4.1	<p>Replace ITT 4.1 with the following:</p> <p>A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 4.6. Joint venture/Consortium is not permitted to take part in above Tender.</p>
ITT 4.4	<p>Add the following after the last sentence of Clause 4.4</p> <p>In the event that the Contract is awarded to a foreign Tenderer, such foreign Tenderer shall be required to set up a project office in India in accordance with applicable laws in India, and shall be required to submit a proof of having opened a project office in India along with statutory approvals, if any, prior to submitting any interim payment certificate in accordance with the Contract, failing which no payment shall be made to the Contractor by the Employer (in accordance with the Contract) until such requirement has been complied with by the foreign Contractor.</p>

ITT 4.5	A list of debarred firms and individuals is available on the Bank’s external website: https://www.aiib.org/debarment/
ITT 6.1	<p>Replace ITT 6.1 with the following:</p> <p>The Tender Document consists of Parts 1, 2 and 3, includes all the sections specified below, and should be read in conjunction with any Addenda issued in accordance with ITT 8.</p> <p>PART 1 Tendering Procedures</p> <ul style="list-style-type: none"> • Section I - Instructions to Tenderers (ITT) • Section II - Tender Data Sheet (TDS) • Section III - Evaluation and Qualification Criteria • Section IV - Tender Forms • Section V - Eligible Countries • Section VI - Prohibited Practices <p>PART 2 Works Requirements and Reference Information/ Reports</p> <ul style="list-style-type: none"> • Section VII - Works’ Requirements and Reference Information/Reports <p>PART 3 Conditions of Contract and Contract Forms</p> <ul style="list-style-type: none"> • Section VIII - General Conditions of Contract (GCC) • Section IX - Particular Conditions of Contract (PCC) • Section X - Contract Forms <p>Reference to Section VII - Works’ Requirements anywhere in the Tender document shall be read as Section VII – Works’ Requirements and Reference Information/Reports.</p>
ITT 6.3	<p>Replace ITT 6.3 with the following:</p> <p>The complete tender document can be viewed/ downloaded by the Tenderer from e-procurement portal of Govt. of Haryana https://etenders.hry.nic.in. The Employer is not responsible for the completeness of the Tender Document and their addenda, if they were not obtained directly from e-procurement portal of Govt. of Haryana https://etenders.hry.nic.in .</p>
B. Contents of Tender Document	
ITT 7.1	<p>For <u>Clarification of Tender purposes</u> only, the Employer’s address is:</p> <p>Attention: Mr. Shiv Om Dwivedi</p> <p>Designation: Chief Project Manager</p>

	<p>Street address: Haryana Rail Infrastructure Development Corporation Limited (HRIDC), Plot no.143, Railtel Tower, Sector-44</p> <p>Floor: 5th floor</p> <p>City: Gurugram</p> <p>ZIP code: 122003</p> <p>Country: India</p> <p>Telephone: +91 9311478893</p> <p>E-mail: horc.etendering@gmail.com</p>																										
ITT 7.2	<p>Add the following at the end of Para 7.2: No Site visit will be arranged by the Employer.</p>																										
ITT 7.4	<p>Replace the entire Sub-Clause 7.4 with the following:</p> <p>A Pre-Tender meeting will take place through online Video conferencing (VC) as well as offline in the Conference room of HRIDC office, Plot No 143, 5th Floor, Railtel Tower, Sector-44, Gurugram, Haryana-122003 at the following date and time. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.</p> <p>Date: 15.03.2022</p> <p>Time: 11.00 hrs IST</p> <p>The prospective Tenderers who have purchased Tender Documents and who wish to join the Pre-Tender meeting through VC shall send a request (giving details of the Company, its address, and the name, designation and email of the person attending the VC) through email along with an editable soft copy (MS Word) of the queries raised by them on the email id (i.e.horc.etendering@gmail.com) so that a link for Video Conferencing can be sent by HRIDC. The Tenderers should use the following format for any Pre-Tender queries:</p> <table border="1" data-bbox="431 1465 1382 1873"> <thead> <tr> <th>Query No.</th> <th>Reference to Tender Document (Clause/ Para No. & Page No.)</th> <th>Brief Description of Clause/ Para No.</th> <th>Query Raised</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4.</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5.</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Query No.	Reference to Tender Document (Clause/ Para No. & Page No.)	Brief Description of Clause/ Para No.	Query Raised	1.				2.				3.				4.				5.			
Query No.	Reference to Tender Document (Clause/ Para No. & Page No.)	Brief Description of Clause/ Para No.	Query Raised																								
1.																											
2.																											
3.																											
4.																											
5.																											

	etc.			
	<p>HRIDC will allow maximum of one email Id for one company to participate in the VC. Any request for VC received after the given date and time for sending the link for VC may not be entertained by HRIDC. Prospective Tenderers will be able to join the VC through the link provided to them on their Email ID.</p>			
ITT 7.5	<p>Replace ITT 7.5 with the following:</p> <p>The Tenderer is requested to submit any questions in writing, to reach the Employer not later than 2 days before the pre-tender meeting.</p>			
ITT 7.6	<p>Replace ITT 7.6 with the following:</p> <p>Minutes of the pre-Tender meeting, including the text of the questions raised, without identifying the source, and the responses given, together with any responses prepared after the meeting will be uploaded on e-Procurement portal, https://etenders.hry.nic.in. Any modification to the Tender Document that may in the sole discretion of the Employer become necessary as a result of the pre-Tender meeting shall be made by the Employer exclusively through the use of an Addendum pursuant to ITT 8.</p>			
ITT 8.2	<p>Replace ITT 8.2 with the following:</p> <p>Any addendum issued shall be part of the Tender Documents and shall be uploaded on e-Procurement portal, https://etenders.hry.nic.in. The onus is on the Tenderers to visit the e-Tendering portal to see the addenda published by the Employer.</p>			
C. Preparation of Tenders				
ITT 10.1	<p>The language of the Tender is: English</p> <p>All correspondence exchange shall be in English language.</p> <p>Add the following at the end of Sub-Clause ITT 10.1</p> <p>In case the supporting documents are in foreign language, the translation of the same shall be either stamped by Embassy/High Commission or Partner Countries of Hague convention may submit these documents with “Apostille” stamp.</p>			
ITT 11.1	<p>Replace ITT 11.1 with the following:</p> <p>The Tenderer shall submit their tender on-line on e-procurement portal https://etenders.hry.nic.in as mentioned in para ITT 21.</p>			

	<p>The Tender shall comprise two parts submitted simultaneously, one called the Technical Part containing the documents listed in ITT 11.2 and the other the Financial Part containing the documents listed in ITT 11.3.</p> <p>The Tenderer shall upload only the above mentioned documents in its submission on e-procurement portal and is not required to upload Part 1, Part 2 and Part 3 of the Tender document issued by the Employer. The master copy of Tender Document published on e-Procurement portal shall be available with HRIDC which shall be final and binding.</p>
ITT 11.2	<p>Replace the entire Sub-Clause 11.2 with the following:</p> <p>The Tenderer shall submit all the documents in its Technical Part as per the Checklist (Form CL, A. Technical Part) given in Section 4: Tendering Forms.</p>
ITT 11.3	<p>Replace the entire Sub-Clause 11.3 with the following</p> <p>The Tenderer shall submit all the documents in its Financial Part as per the Checklist (Form CL, B. Financial Part) given in Section 4: Tendering Forms.</p>
ITT 13.1	Alternative Tenders shall not be considered.
ITT 13.2	Alternative times for completion shall not be permitted.
ITT 13.4	Alternative technical solutions shall not be permitted.
ITT 14.2	<p>Replace ITT 14.2 with the following: -</p> <p>The tenderer shall quote single percentage (%) Excess (+) or Less (-) on the estimated amount for each Bill Unit in the prescribed place.</p>
ITT 14.4	<p>Replace ITT 14.4 with the following: -</p> <p>As there is no lot in this Contract Package, no discounts shall be quoted by the Tenderers.</p>
ITT 15.1	The currency of the Tender and the payment currency shall be INR only.
ITT 18.1	The Tender validity period shall be 180 days after the Tender submission deadline date.
ITT 19.1	The Tenderer shall furnish a Tender Security for an amount of INR 15,50,000.00/- (INR Fifteen Lakhs Fifty Thousand only) or INR 1.55 Million (One Million Five Hundred Fifty Thousand only).
ITT 19.2	Not Applicable
ITT 19.3	<p>Replace the ITT 19.3 with the following:</p> <p>The amount for Tender Security will only be paid online by eligible Tenderers on e-procurement Portal in favour of Haryana Rail Infrastructure</p>

	Development Corporation Limited using the electronic payment gateway service.
ITT 20.1	<p>Replace ITT 20.1 with the following:</p> <p>The Technical Part (comprising of documents specified in ITT 11.2) and Financial Part (comprising of documents specified in ITT 11.3) shall be submitted online on e-procurement portal of Government of Haryana (https://etenders.hry.nic.in) only in accordance with the requirements of the Tender Documents.</p>
ITT 20.3	<p>The written confirmation of authorization to sign on behalf of the Tenderer shall consist of:</p> <p>(a) In case of Private/Public Companies or Limited Liability Partnership (LLP) firms, a Power of Attorney from the Director of the Company who has been authorized by the Board of Directors through resolution to sign on behalf of the Company. Copy of Board Resolution shall also be submitted.</p> <p>(b) In case of Proprietary Tenderers, Power of Attorney by the Proprietor.</p> <p>(c) In case of Partnership firms, Power of Attorney duly signed by all the Partners.</p> <p>(d) In case of Limited Liability Partnership (LLP) firms, a Power of Attorney issued by the LLP in favour of the individual to sign the tender on behalf of the LLP and create liability against the LLP.</p> <p>(e) In case of Joint Venture/Consortium, Power of Attorney duly signed by authorized representative of individual Member in favour of the Lead Member and Authorized representative of JV/Consortium.</p>
D. Submission of Tenders	
ITT 21	<p>Replace ITT 21 with the following:</p> <p>21.1 Tenderers shall upload their tender submission online on e-procurement portal (i.e. https://etenders.hry.nic.in) within the stipulated date and time as mentioned in ITT 22.1. The Tenderer shall ensure that they retain a copy of the receipt/ acknowledgement of their Tender submission which is generated by the system upon successful submission of Tender online.</p> <p>21.2 Tenders sent telegraphically or through any other means of transmission except as mentioned above shall be treated as invalid and shall stand rejected.</p>

	21.3 No details about Financial Part shall be submitted/ disclosed directly or indirectly in the Technical Part failing which the employer has the right to reject the Tender.
ITT 22.1	<p>Replace ITT 22.1 with the following:</p> <p>The Tender submission is through the e-procurement portal only (i.e. https://etenders.hry.nic.in) as specified in ITT 21.1</p> <p>The Tenderer shall submit its Tender before expiry of the date and time for tender submission as specified herein.</p> <p>The deadline for Tender submission is:</p> <p>Date: 05.04.2022</p> <p>Time: 15.00 hrs IST</p>
ITT 23.1	<p>Replace ITT 23.1 with the following:</p> <p>Submission of Tenders shall be closed on e-procurement portal on the date & time of submission as prescribed in ITT 22.1 after which no tender can be uploaded.</p>
ITT 24	<p>Replace ITT 24 with the following:</p> <p>The Tenderer may modify, substitute or withdraw its e-Tender after submission prior to the deadline for submission of Tenders. For modification of e-Tender, Tenderer has to detach its old Tender from e-procurement portal (https://etenders.hry.nic.in) and upload/ resubmit digitally signed modified tender. For withdrawal of tender, Tenderer has to click on withdrawal icon at e- procurement portal and can withdraw its e-tender. Before withdrawal of a tender, it may specifically be noted that after withdrawal of a tender for any reason, Tenderer cannot re-submit e-tender again.</p>
E. Public Opening of Technical Parts of Tenders	
ITT 25	<p>Replace ITT 25 with the following:</p> <p>25.1 The Employer shall conduct the electronic opening of Technical Part on e-procurement portal on the date, time and place as specified below:</p> <p>Street Address: Haryana Rail Infrastructure Development Corporation Limited (HRIDC), Plot no.143, Railtel Tower, Sector-44</p> <p>Floor/ Room number: 5th floor</p>

<p>City: Gurugram Zip code: 122003 Country: INDIA Date: 05.04.2022 Time: 03:30 PM</p> <p>The opening of the Technical Part and subsequent details can be viewed by the tenderers by logging on the e-procurement portal. Alternatively, any Tenderer who wish to attend the Technical Part opening can be present during the opening. The Tenderer's representatives who are present shall be requested to mark their attendance on the format available with the Employer.</p> <p>25.2 The Financial Part submitted online on e-procurement portal will remain unopened in the e-procurement portal until the date and time of opening of Financial Part. The date and time of the opening of the Financial Part will be notified to all the Tenderers on e-procurement portal whose tender is found to be substantially responsive and qualified in technical evaluation as specified in ITT 34.2.</p> <p>25.3 At the time of opening of Technical Part, the following shall be read out and recorded:</p> <ul style="list-style-type: none">(a) the name of the Tenderer;(b) the presence of a Tender Security; and(c) any other details as the Employer may consider appropriate. <p>Only Technical Part read out and recorded at Tender opening shall be considered for evaluation.</p> <p>25.4 The Employer shall prepare a record of the opening of Technical Part that shall include, as a minimum, the name of the Tenderer and the presence or absence of Tender Security. The Tenderers' representatives who are present shall be requested to sign the record available with the HRIDC. The omission of a Tenderer's signature on the record shall not invalidate the contents and effect of the record.</p> <p>25.5 At the tender opening the Employer shall neither discuss the merits of any Tender nor reject any Tender.</p>
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F. Evaluation of Tenders – General Provisions	
ITT 27	<p>Replace ITT 27 with the following:</p> <p>27.1 To assist in the examination, evaluation and comparison of the Tenders, the Employer may, at its discretion, ask any Tenderer for a clarification of its Tender. Any clarification submitted by a Tenderer that is not in response to a request by the Employer shall not be considered. The Employer’s request for clarification and the response shall be in writing and delivered to concerned Tenderers (by courier or e-mail through PDF attachment). The due date and time to respond to these queries will also be communicated. No change in the prices or substance of the tender shall be sought, offered, or permitted, except to confirm the correction of errors discovered by the Employer in the evaluation of the Financial Part, in accordance with ITT Clause 35.</p> <p>27.2 If a Tenderer does not provide clarifications of its Tender by the date and time set in the Employer’s request for clarification, their Tender shall be evaluated as per the available information in the submitted Tender.</p>
ITT 29.3	Not Applicable
G. Evaluation of Technical Parts of Tenders	
ITT 30.2	Not Applicable
ITT 32.4	<p>Replace ITT 32.4 with the following:</p> <p>Only Tenders that are both substantially responsive to the Tender Document, and meet all Qualification Criteria, shall be notified on e-procurement portal for the public opening of “FINANCIAL PART”.</p>
ITT 33.1	At this time the Employer does not intend to execute certain specific parts of the Works by subcontractors selected in advance.
ITT 33.2	Not Applicable
ITT 33.3	Not Applicable
H. Public Opening of Financial Parts of Tenders	
ITT 34	<p>Replace ITT 34 with the following:</p> <p>34.1 Following the completion of the evaluation of the Technical Parts of the Tenders, and the Bank has issued its no objection (if applicable), the Employer shall notify in writing those Tenderers whose Tenders were</p>

	<p>considered non-responsive to the Tender Document or failed to meet the Qualification Criteria, advising them of the following information:</p> <ul style="list-style-type: none"> (a) the grounds on which their Technical Part of Tender failed to meet the requirements of the Tender Document; (b) their “FINANCIAL PART” shall remain unopened on the e-procurement portal; (c) notify them of the date, time and location of the public opening of “FINANCIAL PART” on the e-procurement portal; <p>34.2 The Employer shall, simultaneously, notify in writing those Tenderers whose Tenders - Technical Parts have been evaluated as substantially responsive to the Tender Document and met all Qualifying Criteria, advising them of the following information:</p> <ul style="list-style-type: none"> (a) their Tender has been evaluated as substantially responsive to the Tender Document and met the Qualification Criteria; (b) their “FINANCIAL PART” on e-procurement portal will be opened at the public opening of the Financial Parts; and (c) notify them of the date, time and location of the second public opening of the “FINANCIAL PART” as specified below: <ul style="list-style-type: none"> i. The Employer shall publish a notice of the public opening of the Financial Parts on e-procurement portal. ii. Any interested party who wishes to attend this public opening may contact: <p>For the attention: Mr. Shiv Om Dwivedi Title/position: Chief Project Manager Employer: Haryana Rail Infrastructure Development Corporation Limited Email address: horc.etendering@gmail.com</p> <p>34.3 The “FINANCIAL PART” of Tenderers who met the Qualification Criteria and whose Tenders were evaluated as substantially responsive, will be opened on e-procurement portal. The Employer shall read out the names of each Tenderer, and the total Tender prices, per lot (contract) if applicable, including any discounts and any other details as the Employer may consider appropriate.</p> <p>34.4 The Employer shall neither discuss with Tenderer’s representative present, if any, the merits of any Tender nor reject any “FINANCIAL PART”.</p> <p>34.5 The Employer shall prepare a record of the Financial Part of the Tender opening that shall include, as a minimum:</p>
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	<p>(a) the name of the Tenderer whose Financial Part was opened;</p> <p>(b) the Tender price, per lot (contract) if applicable, including any discounts; and</p> <p>(c) if applicable, any Alternative Tender – Financial Part.</p> <p>34.6 The Tenderer’s representatives who are present at the time of opening of Financial Part shall be requested to sign the record. The omission of a Tenderer’s signature on the record shall not invalidate the contents and effect of the record. A copy of the record (i.e. summary of rates quoted) can be viewed by all eligible Tenderers after opening of the Financial Part.</p>
I. Evaluation of Financial Parts of Tenders	
ITT 37.1	The currency that shall be used for tender evaluation and comparison purposes is Indian Rupees (INR) only .
ITT 38.1	Provisions for development of domestic industry (such as a margin of domestic preference shall not apply.
J. Award of Contract	
ITT 47.1	Add the following to ITT 47.1 The Accepted Contract Amount shall be in INR only.
ITT 49.1	The successful Tenderer shall not submit the Beneficial Ownership Disclosure Form.
ITT 50.2	Add the following to ITT 50.2 The Tenderer will be declared ineligible for a period of Two (2) years for participation in any Tender invited by the Employer.
ITT 51.1	The procedures for making a Procurement-related Complaint are detailed in the Bank’s Procurement Instructions for Recipients (Annex IV). A Tenderer may make a Complaint in writing, to: For the attention: Mr. Shiv Om Dwivedi Title/position: Chief Project Manager Employer: Haryana Rail Infrastructure Development Corporation Limited Email address: <i>horc.etendering@gmail.com</i>

Section III. Evaluation and Qualification Criteria

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A. General Provisions

A.1 Evaluation Sequence

- (a) Tenders will be evaluated through the following five stages:
 - (i) Stage 1: Evaluation of Administrative Requirements
 - (ii) Stage 2: Evaluation of Compliance with the Qualification Requirements
 - (iii) Stage 3: Technical Evaluation
 - (iv) Stage 4: Financial Evaluation

A.2 Clarification of Tenders

- (a) The Employer may request clarification of any Tender in accordance with the provisions of the Tender Documents (Part 1, Section-I: Instructions to Tenderers, Clause 27).
- (b) If clarification is required, the Employer will send written (Courier/email with PDF attachment) requests to the Authorized Representative for clarification, specifying the deadline for receipt of reply.
- (c) Replies to the above requests shall be sent by Tenderer through Courier/e-mail with PDF attachments and the same shall be solely to clarify and/or elaborate the items already included in the submitted Tenders for the purpose of evaluation.

A.3 Tender Forms

- (a) Tenderers should note that the information required to be inserted into the Tender Forms shall be comprehensive and detailed. The technical information shall be furnished in line with the requirements of Part 1, Part 2 and Part 3 of the Tender Documents.
- (b) All Forms contained in the Tender Documents must be fully and properly completed and all the forms must be returned, as they will be reviewed exactly as submitted and errors or omissions may count against the Tenderer.
- (c) Any Tenderer who is found to have intentionally submitted false or inaccurate statements/information shall be disqualified from the Tendering process.

Stage 1: Evaluation of Administrative Requirements

A. General

- (a) The Stage 1 Evaluation will consist of checking the Tenders to confirm whether they are substantially responsive to the administrative requirements of the Tender Documents.
- (b) The following administrative items will be checked:
 - (i) Whether the Technical Part is in accordance with ITT 11.2;
 - (ii) Whether the Power of Attorney for the Tender signatory is in the correct form [Ref. ITT 20.3 and ITT 20.4];

Stage 2: Evaluation of Compliance with the Qualification Requirements

A. General

- (a) Tenders will be reviewed to ascertain whether the Tender complies with all of the minimum requirements as stipulated in the Sub-Clause C. Qualification Criteria below of Section-III of the Tendering Documents.

B. Check Items

The following requirements of the Instruction to Tenderers, Clauses 4, 11 & 17 will be checked to ensure compliance to the requirements of criteria given below:

(a) Eligibility

- (i) Nationality: Form ELI-1.1
- (ii) Conflict Interest: Letter of Tender
- (iii) Bank Eligibility: Letter of Tender
- (iv) State-owned Enterprise or Institution of the Recipient country: Form ELI-1.1
- (v) United Nations resolution or Recipient's country law: Form ELI-1.1

(b) Historical Contract Non-Performance and Litigation

- (i) History of Non-Performing Contracts: Form CON-1
- (ii) Suspension Based on Execution of Tender- Securing Declaration by the Employer: Letter of Tender-Technical Part
- (iii) Pending Litigation: Form CON-1
- (iv) Declaration: Environmental, Social, Health, and Safety (ESHS) past performance: Form CON-2

(c) Financial Situation

- (i) Financial Situation and Performance: Form FIN-3.3.1
- (ii) Average Annual Construction Turnover: Form FIN-3.3.2

(d) Financial Resources

- (i) Financial Resources: Form FIN-3.3.3
- (ii) Current Contract Commitments / Works in Progress: Form FIN-3.3.4

(e) Experience

- (i) General Construction Experience: Form EXP-3.4.1
- (ii) Specific Construction and Contract Management Experience: Form EXP-3.4.2(a)

C. Qualification Criteria

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	Lead Member	
3.1 Eligibility							
3.1.1	Nationality	Nationality in accordance with ITT 4.4	Must meet requirement	N/A	N/A	N/A	Forms ELI – 1.1 with attachments
3.1.2	Conflict of Interest	No conflicts of interest in accordance with ITT 4.2	Must meet requirement	N/A	N/A	N/A	Letter of Tender-Technical Part
3.1.3	Bank Eligibility	Not having been declared ineligible by the Bank, as described in ITT 4.5.	Must meet requirement	N/A	N/A	N/A	Letter of Tender-Technical Part
3.1.4	State-owned Enterprise or Institution of the Recipient country	Meets conditions of ITT 4.6	Must meet requirement	N/A	N/A	N/A	Forms ELI – 1.1 with attachments
3.1.5	United Nations resolution or Recipient's country law	Not having been excluded as a result of prohibition in the Recipient's country laws or official regulations against commercial relations with the Tenderer's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITT 4.8 and Section V.	Must meet requirement	N/A	N/A	N/A	Letter of Tender-Technical Part , Forms ELI – 1.1 with attachments

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	Lead Member	
3.2 Historical Contract Non-Performance							
3.2.1	History of Non-Performing Contracts	Non-performance of a contract ² did not occur as a result of contractor default since 1 st April 2019 till 28 days prior to deadline of Tender submission.	Must meet requirement	N/A	N/A	N/A	Form CON-1
3.2.2	Suspension Based on Execution of Tender-Securing Declaration by the Employer	Not under suspension based on-execution of a Tender/Proposal Securing Declaration pursuant to ITT 4.7 and ITT 19.9	Must meet requirement	N/A	N/A	N/A	Letter of Tender
3.2.3	Pending Litigation	Tenderer's financial position and prospective long-term profitability still sound according to criteria established in 3.3.1 below and assuming that all pending litigation will be resolved against the Tenderer	Must meet requirement	N/A	N/A	N/A	Form CON-1
3.2.4	Litigation History	Not Applicable					

² Nonperformance, as decided by the Employer, shall include all contracts where (a) nonperformance 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. Nonperformance shall not include contracts where Employer's decision was overruled by the dispute resolution mechanism. Nonperformance 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 Tenderer have been exhausted.

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	Lead Member	
3.2.5	Declaration: Environmental, Social, Health, and Safety (ESHS) past performance	Declare any civil work contracts that have been suspended or terminated and/or performance security called by an employer for reasons related to the non-compliance of any environmental, or social, or health, or safety requirements or safeguard in the past five years ³ preceding 28 days prior to deadline of Tender submission	Must make the declaration.	N/A	N/A	N/A	Form CON-2 ESHS Performance Declaration
3.3 Financial Situation and Performance							
3.3.1	Financial Capabilities	(i) The Tenderer 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 70 million (INR 7.0 crores) for the subject contract (i.e. Br-1) net of the Tenderer's other commitments.	Must meet requirement	N/A	N/A	N/A	FIN 3.3.3
		(ii) The Tenderers shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash	Must meet requirement	N/A	N/A	N/A	Forms FIN-3.3.1, and FIN-3.3.4

³ The Employer may use this information to seek further information or clarifications in carrying out its due diligence.

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	Lead Member	
		flow requirements on works currently in progress and for future contract commitments i.e. its minimum financial resources specified in Form FIN – 3.3.1 shall be three times of total monthly financial resources requirement for its current contract commitments/ Works in progress specified in FIN – 3.3.4.					
		(iii) The Tenderer must demonstrate the current soundness of its financial position and indicate its prospective long-term profitability i.e. minimum Average Net Worth (Total Assets -Total Liabilities) shall be INR 56 million (INR 5.6 crores) during the last three (03) financial years 2018-19, 2019-20 and 2020-21.	Must meet requirement	N/A	N/A	N/A	Form FIN-3.3.1
3.3.2	Average Annual Construction Turnover	Minimum average annual construction turnover of INR 560 million (INR 56.00 crores) , calculated as total certified payments received for contracts in progress and/or completed within the financial year 2018-19, 2019-20 and 2020-21 divided by three.	Must meet requirement	N/A	N/A	N/A	Form FIN-3.3.2

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	Lead Member	
3.4 Experience							
3.4.1	General Construction Experience	Experience under construction contracts in the role of prime contractor or a JV member in last seven years preceding 28 days prior to deadline of Tender submission.	Must meet requirement	N/A	N/A	N/A	Form EXP-3.4.1
3.4.2 (a)	Specific Construction & Contract Management Experience	<p>Participation, as a prime contractor or a joint venture member, in</p> <p>(i) one contract with a value of the Tenderer's participation of at least INR 224 million (INR 22.40 crores);</p> <p style="text-align: center;">OR</p> <p>(ii) two contracts each with a value of the Tenderer's participation of at least INR 168 million (INR 16.8crores).</p> <p>The contracts mentioned in (i) or (ii) must have been successfully completed or substantially completed since 1st April 2015 till 28 days prior to deadline of Tender submission, and that are similar to the proposed works.</p> <p>The similarity of the contracts shall be based on the following:</p>	Must meet requirement of either (i) or (ii)	N/A	N/A	N/A	Form EXP-3.4.2(a)

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	Lead Member	
		Any civil work for Railway / Metro Rail / Regional Rapid Transit Systems (RRTS) projects involving bridge work of steel fabrication, assembly & launching/erection of at least one span of Open Web Girder (OWG) having clear span of 45.7 m / centre to centre span of 47.24 m or more.					

Notes:**1. Exchange Rate for Qualification Criteria**

Wherever a Form in Section IV, Tendering Forms, requires a Tenderer to state a monetary amount, Tenderers shall indicate the INR equivalent as indicated in the respective form using the rate of exchange determined as follows:

(i) For construction turnover or financial data required for each financial year – Exchange rate prevailing on the last day of the respective financial year.

(ii) Value of single contract - Exchange rate prevailing on the date of the Contract Award i.e. date of issue of Letter of Acceptance.

Exchange rates shall be taken from reference rate published by the Reserve Bank of India (RBI) on its website <https://www.rbi.org.in> . In case the exchange rate of particular currency on given date is not available on RBI web site, it will be as per the web site <https://www.fbil.org.in> of Financial Benchmark India Private Limited (FBIL). Any error in determining the exchange rates may be corrected by the Employer. In the case, where a Tenderer is required to convert a monetary amount from a currency other than those currencies for which the RBI/ FBIL reference rate is not published, the INR equivalent shall be worked out using the rate of exchange as published by the central bank of the country issuing the said currency. In case the exchange rate of that currency is not directly available in INR on the website of the central bank of the country issuing the said currency then the currency will be first converted to USD as per that web site and then converted from USD to INR as Per RBI or FBIL reference rates.

Stage 3: Technical Evaluation

A. Procedure for Technical Evaluation

- (a) The Stage 3 Evaluation will consist of checking the technical aspects of the Tenders to confirm whether they substantially conform to the requirements of the Tender Documents.
- (b) In order to determine whether the Tender substantially conforms to the technical requirements of the Tender Documents, the technical proposal shall broadly cover the following items:

S. No.	Technical Evaluation Items	Relevant Forms
1	Site Organization	Technical Proposal
2	Method Statement	Technical Proposal
3	Works Execution Programme	Technical Proposal
4	ESHS Management Strategies and Implementation Plans	Technical Proposal
5	Contractor's Representative and Key Personnel	Technical Proposal Form PER-1, Form PER-2
6	Equipment	Technical Proposal MOU with RDSO approved plant/workshop owner for fabrication of Bridge Girder. The approved plant/workshop where the girders are proposed to be fabricated should preferably have experience of fabrication and approval of inspecting authority for OWG of 76.2m or more clear span. Approved workshop must have CNC machines.

- (c) The Technical Part will be evaluated to examine the responsiveness and to assess the capability of the Tenderer in executing the proposed work.

B. Evaluation of Technical Proposal

Evaluation of the Tenderer's Technical Proposal will include an assessment of the Tenderer's technical capacity to mobilize key equipment and Personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section VII, Works' Requirements.

The Tenderer's preparedness along with technical capability will be judged by the quality of the Technical Part submitted. It is expected that the Tenderer visits the site

and is fully of aware of all the work requirements under this Tender, and then prepares the Technical Part. The Technical Proposal shall cover the following items.

i. Site Organisation:

Evaluation of Site organisation will be carried out based on the information furnished in Section IV- Tender Forms.

ii. Method Statement:

Evaluation of Method Statement will be carried out based on the information furnished in Section IV- Tender Forms.

iii. Work Execution Programme:

Evaluation of the Work Execution Programme will be carried out based on the information furnished in Section IV- Tender Forms.

iv. ESHS Management Strategies and Implementation Plans

Evaluation of ESHS Management Strategies and Implementation Plans (ESHS-MSIP) will be carried out based on the information furnished in Section IV- Tender Forms.

v. Contractor's Representative and Key Personnel:

The Tenderer must demonstrate that it will have a suitably qualified Contractor's Representative and suitably qualified (and in adequate numbers) Key Personnel, as described in the table below.

The Tenderer shall provide details of the Contractor's Representative and Key Personnel and such other Key Personnel that the Tenderer considers appropriate to perform the Contract, together with their academic qualifications and work experience in Form PER-1 and PER-2, Section IV, Tender Forms.

Item No.	Position/ specialization	Relevant academic qualifications	Total years of work Experience	Minimum years of relevant work experience
1	Contractor's Representative (Project Manager)	Graduation in Civil Engineering	10	5 years in construction of bridges involving Steel/Composite Girders/ OWG in infrastructure projects of railways
2	Manager -Steel Fabrication	Graduation / Diploma in Engineering	7 /9	3 years in fabrication of Structural steel Composite/Open Web Girder in infrastructure projects of railways

3	Manager - Launching	Graduation /Diploma in Engineering	7 /9	3 years in launching of steel Open Web Girder/PSC Girders having at least one OWG of clear span of 45.7m / centre to centre span of 47.24m or more in infrastructure projects of railways
4	Manager - Procurement	Graduation /Diploma in Engineering	3 /5	3 years in procurement of materials in infrastructure projects
5	QA/QC Engineer	Graduation in Civil/Mechanical Engineering	4	3 years in quality control of fabrication and erection of Steel/Composite Girders/ OWG in infrastructure projects of railways
6	Safety and Health Expert	Engineering Graduate with Diploma/ Specialization in relevant fields	6	3 years in Safety and Health in railways/highways infrastructure projects

Notes:

- i. *The Tenderers are advised NOT to submit more than one CV against each of the above-mentioned key positions. In case more than one CV is submitted for any key position, such additional CV(s) shall not be considered for evaluation purposes and only the first CV in the Tender shall be considered for evaluation.*
- ii. *The Contractor shall ensure that during the execution of the Works, the Key Personnel deployed shall continue to meet the experience criteria as mentioned above.*
- iii. *In case, Tenderer is not able to provide the details of Key Personnel for the required key position at the time of tendering as given above, Tenderer must submit an undertaking to provide the Key Personnel as per the requirement of Tender documents upon award of Contract.*

vi. Equipment:

The Tenderer must demonstrate that it has a tie up for fabrication of steel bridge girder included in this tender with RDSO approved plant/workshop in Part-A. MOU with RDSO approved plant/workshop owner for fabrication of Bridge Girder to be submitted. The approved plant/workshop where the girders are proposed to be fabricated should preferably have experience of fabrication and approval of inspecting authority for OWG of 76.2m or more clear span. Approved workshop must have CNC machines.

The Contractor shall mobilise sufficient/ additional equipment/ resources to suit the Contractual Works Programme. The Tenderer shall undertake to deploy sufficient/additional resources to carry out the Works.

All Tenders which are found substantially responsive after stage 3 evaluation will proceed to Financial Part evaluation.

STAGE 4: Financial Evaluation

The activities in this Stage 4 will be in two (2) parts.

A. Evaluation of Compliance and Responsiveness

- (a) Under this Stage the following items will be checked:
 - (i) Whether the Letter of Financial Part is compliant (i.e. does not include any alteration to the basic terms and does not constitute an alternative offer).
 - (ii) Whether BOQ and Schedules have not been altered and are correctly completed and signed.

B. Detailed Financial Evaluation

- (a) After passing the above requirements, the Tender will then proceed for Financial Part evaluation in accordance with ITT 35.
- (b) In principle, the lowest evaluated Tender resulting from ‘A’ above will move to next stage as per ITT “J. Award of Contract”, described in ITT Clauses 46 to 50.

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Letter of Tender – Technical Part

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

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

Note: All italicized text is to help Tenderers in preparing this form.

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

Tender No.: HORC/HRIDC/Br-1/2022

To:

Chief Project Manager,
Haryana Rail Infrastructure Development Corporation Limited (HRIDC),
Plot no.143, 5th floor,
Railtel Tower, Sector-44
Gurugram – 122003
Tel: +91 9311478893

We, the undersigned, hereby submit our Tender, in two parts sealed separately, namely: (a) the Technical Part; and (b) the Financial Part.

In submitting our Tender, we declare that:

- (a) **No Reservations:** We have examined and have no reservations to the Tender Document, including Addenda issued in accordance with ITT 8;
- (b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITT 4;
- (c) **Tender-Securing Declaration:** We have not been suspended nor declared ineligible by the Employer based on execution of a Tender-Securing or Proposal-Securing Declaration in the Employer's Country in accordance with ITT 4.7;
- (d) **Conformity:** We offer to execute in conformity with the Tender Document and in accordance with the implementation and completion specified in the construction schedule, the following Works: *[insert a brief description of the Works]*;

_____;

- (e) **Tender Validity Period:** Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (f) **Performance Security** If our Tender is accepted, we commit to obtain a Performance Security in accordance with the Tender Document;
- (g) **One Tender Per Tenderer:** We are not participating, as a Tenderer, either individually or as a Joint Venture member, in more than one Tender in this tendering process, and meet the requirements of ITT 4.3;
- (h) **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 or any ineligibility imposed or recognized by the Bank. 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;
- (i) **State-Owned Enterprise or Institution:** *[select the appropriate option and delete the other] [We are not a state-owned enterprise or institution] / [We are a state-owned enterprise or institution but meet the requirements of ITT 4.6];*
- (j) **Binding Contract:** We understand that this Tender, 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;
- (k) **Employer Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Tender, the Most Advantageous Tender or any other Tender that you may receive;
- (l) **Prohibited Practice:** 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 Prohibited Practice; and
- (m) **Inspection and Audit:** We agree to permit the Bank or its representative to inspect our accounts and records and other documents relating to the tender submission and to have them audited by auditors appointed by the Bank.

Name of the Tenderer: * *[insert complete name of the Tenderer]*

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

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

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]*

*: In the case of the Tender submitted by joint venture specify the name of the Joint Venture as Tenderer

** : Person signing the Tender shall have the power of attorney given by the Tenderer. The power of attorney shall be attached with the Letter of Tender.

Appendix A to Technical Part: Technical Proposal

- 1. Site Organization**
- 2. Method Statement**
- 3. Work Execution Programme**
- 4. ESHS Management Strategies and Implementation Plans**

1. Site Organization

The Tenderer shall propose organization chart of the project.

2. Method Statement

The tenderer shall propose and provide his proposed method statement of the work. The method statement shall describe every work and in accordance with the sequence of the works. The items to be included in the statement shall be as follows: -

- i) Fabrication, Assembly and Launching/Erection of Open Web Girder (OWG) of 76.2 m clear span
 - a) Name of RDSO approved source of fabrication
 - b) Methodology for transportation, assembly and launching of
 - c) Open Web Girder (OWG)
 - d) Methodology for fabrication of Open Web Girder & fixing of H-beam sleepers.
 - e) Quality Control & Testing Plans

3. Work Execution Programme

The tenderer shall propose and provide in the tender his proposed Works Execution Programme which consists of Construction Program. The Construction Program shall show the relationship and timing of major items of works giving due consideration to climatic conditions pertaining to the Site.

4. ESHS Management Strategies and Implementation Plans (ESHS-MSIP)

The Tenderer shall submit comprehensive and concise Environmental, Social, Health and Safety Management Strategies and Implementation Plans (ESHS-MSIP) as required by ITT 11.2 of the Tender Data Sheet. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor.

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

Appendix B to Technical Part: Equipment

Form EQU: Equipment

DELETED

Appendix C to Technical Part: Key Personnel

Form PER-1

Contractor's Representative and Key Personnel Schedule

[Ref. ITT Sub-Clause 16.1]

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

Contractor' Representative and Key Personnel

1.	Title of position: Contractor's Representative (Project Manager)	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
2.	Title of position: Manager-Steel Fabrication	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
3.	Title of position: Manager-Launching	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
4.	Title of position: Manager-Procurement	
	Name of candidate:	

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

Tenderer's Representative

Signature:

Date:

Company stamp:

Note:

In case, tenderer is not able to provide the details of Key Personnel for the required key position at the time of tendering as given in Section III: EQC, tenderer must submit an undertaking to provide the Key Personnel as per the requirement of Tender document upon award of Contract.

**Form PER-2:
Resume and Declaration
Contractor's Representative and Key Personnel**
[Ref. ITT Sub-Clause 16.1]

Name of Tenderer

Position [#1]: <i>[title of position from Form PER-1]</i>

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	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 project.

Project	Role	Duration of involvement	Relevant experience
<i>[main project details]</i>	<i>[role and responsibilities on the project]</i>	<i>[time in role]</i>	<i>[describe the experience relevant to this position]</i>

Declaration

I, the undersigned *[insert either "Contractor's Representative" or "Key Personnel" as applicable]*, 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 Tender:

Commitment	Details
Commitment to duration of contract:	<i>[insert period (start and end dates) for which this Contractor's Representative or Key Personnel is available to work on this contract]</i>

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

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

Name of Contractor's Representative or Key Personnel: *[insert name]*

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Tenderer:

Signature: _____

Date: (day month year): _____

Appendix D to Technical Part: Tenderer's Qualification

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

Form ELI-1.1
Tenderer Information Form
 [Ref. ITT Sub-Clause 17.1]

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

Tenderer's name
In case of Joint Venture (JV), name of each member: Not Applicable
Tenderer's actual or intended country of registration: <i>[indicate country of Constitution]</i>
Tenderer's actual or intended year of incorporation:
Tenderer's legal address [in country of registration]:
Tenderer'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 documents of registration of the legal entity named above, in accordance with ITT 4.4 <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 4.1 (Not Applicable) <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITT 4.6, documents establishing: <ul style="list-style-type: none"> • Operation on a commercial basis; • Financial and managerial autonomy; • Day-to-day management not controlled by the government; and • Not under the supervision of the Employer or its procuring agency.

Tenderer's Representative

Signature:

Date:

Company stamp:

Form ELI-1.2

Tenderer's JV Information Form

[Ref. ITT Sub-Clause 17.1]

DELETED

Form ELI-1.3
Joint Venture/Consortium Agreement
DELETED

Form ELI-1.4

[Ref. ITT Sub-Clause 20.3]

Power of Attorney (POA) for Submitting Tender (For Single Entity/Sole Tenderer only)

(To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant stamp Act. The stamp paper to be in the name of the company who is issuing the Power of Attorney)

Know all men by these presents, we..... (name and address of the registered office) do hereby constitute, appoint and authorise Mr/Ms..... (name and residential address) who is presently employed with us and holding the position ofas our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our tender for the work of(name of work), including signing and submission of all documents and providing information/ responses to Haryana Rail Infrastructure Development Corporation Ltd (HRIDC), representing us in all matters before HRIDC, and generally dealing with HRIDC in all matters in connection with our tender for the said project.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

..... (Signature)
(Name, Title and address) of the **Person Accepting the POA.**

..... (Signature)
(Name, Title and address) of the **Person issuing the POA**

Notes:

- i. The tenderer should submit the notarised Power of Attorney. In case of Foreign Members, Power of Attorney(s) and Board Resolution confirming authority on the persons issuing the Power of Attorney for such actions shall be submitted duly notarized by the notary public of country of origin and should be either stamped by Embassy/High Commission or Member Countries of Hague convention may submit these document with “Apostille” stamp. Also, in case the documents are in foreign language the translation of the same shall be authenticated by Embassy/High Commission.
- ii. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and

when it is so required the same should be under common seal affixed in accordance with the required procedure

- iii. . The tenderer should submit following additional document in support of the POA as case to case basis
 - a) Proprietorship Affidavit in case of Proprietary Tenderer.
 - b) Partnership Deed in case of Partnership Firms.
 - c) Board Resolution in case of a Public/Private limited company/LLP.
 - d) Incorporation Certificate and Memorandum & Article of Association in case of a Public/Private limited company.
 - e) Incorporation Certificate and Limited Liability Membership Agreement in case of Limited Liability Membership firms.

Form ELI-1.5

**Power of Attorney (POA) for Authorized Signatory of Joint Venture (JV)/ Consortium
Members**

DELETED

Form ELI-1.6

**Power of Attorney to Lead Member and Authorized Representative of Joint Venture
(JV)/ Consortium**

DELETED

Form CON-1

Historical Contract Non-Performance, Pending Litigation and Litigation History

[Ref. ITT Sub-Clause 17.2 and EQC Sub-Clause 3.2.1]

Tenderer's Name: _____

Date: _____

Tender No. and title: _____

Page _____ of _____ pages

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> Contract non-performance did not occur since 1 st April 2019 specified in Section III, Evaluation and Qualification Criteria, Sub-Clause 3.2.1.			
<input type="checkbox"/> Contract(s) not performed since 1 st April 2019 specified in Section III, Evaluation and Qualification Criteria, requirement 3.2.1			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for nonperformance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</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-Clause 3.2.3.			
<input type="checkbox"/> Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Clause 3.2.3 as indicated below.			

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), USD Equivalent (exchange rate)
		Contract Identification: _____ Name of Employer: _____ Address of Employer: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	
		Contract Identification: Name of Employer: Address of Employer: Matter in dispute: Party who initiated the dispute: Status of dispute:	
Litigation History in accordance with Section III, Evaluation and Qualification Criteria (Not Applicable)			

Tenderer’s Representative

Signature:

Date:

Company stamp:

Chartered Accountant/Company Auditor/Statutory Auditor

Certified that the information furnished above is correct as per the audited balance sheets of the entity.

Signature:

Name:

Position:

Date:

Company:

Company stamp:

Membership No:

Address:

Contact No:

Email ID:

Note:

All information furnished in this Form shall be certified by a Chartered Accountant / Company Auditor/ Statutory Auditor.

Form CON-2

Environmental, Social, Health, and Safety Performance Declaration

[Ref. ITT Sub-Clause 17.2 and EQC Sub-Clause 3.2.5]

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

Tenderer's Name: *[insert full name]*

Date: *[insert day, month, year]*

Tender No. and Title: *[insert Tender number and title]*

Page *[insert page number]* of *[insert total number]* pages

Environmental, Social, Health, and Safety Performance Declaration in accordance with Section III, Qualification Criteria, and Requirements			
<input type="checkbox"/> No suspension or termination of contract: An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Clause 3.2.5.			
<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, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Clause 3.2.5. Details are described below:			
Year	Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

...	...	<i>[list all applicable contracts]</i>	...
Performance Security called by an employer(s) for reasons related to ESHS performance			
Year	Contract Identification		Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for calling of performance security: <i>[indicate main reason(s)]</i>		<i>[insert amount]</i>

Tenderer’s Representative

Signature:

Date:

Company stamp:

Form FIN-3.3.1:**Financial Situation and Performance**

[Ref. ITT Sub-Clause 17.2 and EQC Sub-Clause 3.3.1]

Tenderer's Name: _____

Date: _____

Tender No. and title: _____

Page _____ of _____ page

1. Financial data

Type of Financial information in (currency)	Historic information for previous three Financial Years, (amount in currency, currency, exchange rate*, INR equivalent)		
	Year 1: 2018-19	Year 2: 2019-20	Year 3: 2020-21
	Statement of Financial Position (Information from Balance Sheet)		
Total Assets (TA)			
Total Liabilities (TL)			
Total Equity/Net Worth (NW) = TA-TL			
Current Assets (CA)			
Current Liabilities (CL)			
Working Capital (WC)			
Profit Before Tax (PBT)			

2. Sources of Finance

Specify sources of finance to meet the cash flow requirements on **works currently in progress and for future contract commitments** for the contracts mentioned in Form FIN 3.3.4.

No.	Source of finance	Amount (INR equivalent)
1		
2		
3		

*Refer to Notes: Exchange Rate for Qualification Criteria, Section III, EQC.

Notes:

- (i) *The Tenderer is not required to submit any document as documentary evidence along with the Tender Documents. All information furnished in this Form shall be certified by a Chartered Accountant/Company Auditor/Statutory Auditor*
- (ii) *The above documents shall reflect the financial situation of the legal entity or entities comprising the Tenderer and not the Tenderer's parent companies, subsidiaries, or affiliates*

Tenderer's Representative

Signature:

Date:

Company stamp:

Chartered Accountant/Company Auditor/Statutory Auditor

Certified that the information furnished above is correct as per the audited balance sheets of the entity.

Signature:

Name:

Position:

Date:

Company:

Company stamp:

Membership No:

Address:

Contact No:

Email ID:

Form FIN-3.3.2:**Average Annual Construction Turnover**

[Ref. ITT Sub-Clause 17.2 EQC Sub-Clause 3.3.2]

Tenderer's Name: _____

Date: _____

Tender No. and title: _____

Page _____ of _____ pages

Annual Turnover Data for the Last Three (3) Years (Construction Only)			
Year	Amount Currency	Exchange Rate	INR Equivalent
2018-19**	<i>[insert amount and indicate currency]</i>		
2019-20**			
2020-21**			
Average Annual Construction Turnover *			

** In case, the Financial Year is the same as the Calendar Year, the turnover for the year 2018, 2019 and 2020 shall be furnished.

* See Section III, Evaluation and Qualification Criteria, Sub-Clause 3.3.2.

Notes:

- (i) *The Average Annual Construction Turnover shall be calculated by adding the turnover amount of FY 2018-19 2019-20 and 2020-21 divided by three.*
- (ii) *The Tenderer is not required to submit any document as documentary evidence along with the Tender Documents. All information furnished in this Form shall be certified by a Chartered Accountant/Company Auditor/Statutory Auditor.*
- (iii) *The above documents shall reflect the financial situation of the legal entity or entities comprising the Tenderer and not the Tenderer's parent companies, subsidiaries, or affiliates.*

Tenderer's Representative

Signature:

Date:

Company stamp:

Chartered Accountant/Company Auditor/Statutory Auditor

Certified that the information furnished above is correct as per the audited balance sheets of the entity.

Signature:

Name:

Position:

Date:

Company:

Company stamp:

Membership No:

Address:

Contact No:

Email ID:

Form FIN-3.3.3:**Financial Resources**

[Ref. ITT Sub-Clause 17.2 and EQC Sub-Clause 3.3.3]

Tenderers should 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 i.e. Package Br-1**.

Financial Resources		
No.	Source of financing	Amount (INR equivalent)
1		
2		
3		

Notes:

- (i) *The Tenderer is not required to submit any document as documentary evidence along with the Tender Documents. All information furnished in this Form shall be certified by a Chartered Accountant/Company Auditor/Statutory Auditor.*
- (ii) *The above documents shall reflect the financial situation of the legal entity or entities comprising the Tenderer and not the Tenderer's parent companies, subsidiaries, or affiliates.*

Tenderer's Representative

Signature:

Date:

Company stamp:

Chartered Accountant/Company Auditor/Statutory Auditor

Certified that the information furnished above is correct.

Signature:

Name:

Position:

Date:

Company:

Company stamp:

Membership No:

Address:

Contact No:

Email ID:

Form FIN-3.3.4:**Current Contract Commitments / Works in Progress**

[Ref. ITT Sub-Clause 17.2 and EQC Sub-Clause 3.3.4]

Tenderers 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.

Current Contract Commitments							
No.	Name of Contract	Employer's Contact Address, Tel, Fax	Total Contract Value (INR equivalent)	Estimated Completion Date	Value of Outstanding Work (current INR equivalent) (X)	Remaining Contract Period in months from 28 days prior to deadline of Tender submission (Y)	Monthly Financial Resources Requirement (X/Y) (INR/month equivalent)
1							
2							
3							
4							
5							
6	Total Monthly Financial Resources Requirement for Current Contract Commitments / Works in Progress						

Notes:

- (i) *The Tenderer is not required to submit any document as documentary evidence along with the Tender Documents. All information furnished in this Form shall be certified by a Chartered Accountant/Company Auditor/Statutory Auditor.*
- (ii) *The above documents shall reflect the financial situation of the legal entity or entities comprising the Tenderer and not the Tenderer's parent companies, subsidiaries, or affiliates.*

Tenderer's Representative

Signature:

Date:

Company stamp:

Chartered Accountant/Company Auditor/Statutory Auditor

Certified that the information furnished above is correct.

Signature:

Name:

Position:

Date:

Company:

Company stamp:

Membership No:

Address:

Contact No:

Email ID:

Form EXP-3.4.1**General Construction Experience**

[Ref ITT Sub-Clause 17.2 and EQC Sub-Clause 3.4.1]

Tenderer's Name: _____

Date: _____

Tender No. and title: _____

Page _____ of _____ pages

Details of Works executed under construction contracts in the role of Prime Contractor or a JV Member in last seven years preceding 28 days prior to deadline of Tender submission

Starting Year	Ending Year	Contract Identification	Role of Tenderer
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Employer: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Employer: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Employer: _____ Address: _____	

Tenderer's Representative

Signature:

Date:

Company stamp:

Form EXP-3.4.2(a)**Specific Construction and Contract Management Experience**

[Ref. ITT Sub-Clause 17.2 and EQC Sub-Clause 3.4.2 (a)]

Tenderer's Name: _____

Date: _____

Tender No. and title: _____

Page _____ of _____ pages

Similar Contract No.	Information	
Contract Identification		
Award date		
Completion date		
Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>
Total Contract Amount		INR
If member in a JV, specify participation in total Contract amount		
Employer's Name:		
Address: Telephone/fax number E-mail:		
Description of the similarity in accordance with Sub-Clause 3.4.2(a) of Section III:		
1. Amount (in INR)		
2. a) Fabrication, assembly & launching/erection of OWG Spans executed for bridge work for Railway/Metro Rail / Regional Rapid Transit Systems (RRTS) projects in number(s). b) Size of each OWG span mentioned in (a) above.		

Tenderer's Representative

Signature:

Date:

Company stamp:

Notes:

- (i) The Tenderer shall submit copy of certificates issued by the Client as documentary proof clearly indicating the similarity of the work as per Sub-Clause 3.4.2 (a), actual completion cost, actual completion date. Tenders submitted without this documentary proof shall not be evaluated.*
- (ii) In case tenderer submits work experience certificate issued by other than Govt. / Public Sector undertakings, the tenderer shall also submit along with work experience certificate, the relevant copy of work order, bill of quantities, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final/last bill paid by company in support of above work experience certificate.*

Form UT**Undertaking for Downloaded Tender Document**

I/We hereby declare that, I/we have downloaded the tender documents/addendum/corrigendum/clarifications along with the set of enclosures hosted on e-procurement portal as mentioned in tender document. I/We verified the content of the document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenders, execution of work or final payment of the contract, the master copy available with HRIDC shall be final and binding upon me/us.

Signature of Authorized Signatory of Tenderer with Seal

Appendix E to Technical Part: Tender Security

The amount for Tender Security will only be paid online by eligible Tenderers on e-procurement Portal of Government of Haryana.

Form of Tender-Securing Declaration

DELETED

FORM CL**Checklist of submission of Documents/Forms online, duly filled**

(Reference to TDS-ITT 11.2 & 11.3, Section II, Part 1)

Tender No:**Name of Work:****A. TECHNICAL PART**

S.No.	Requirement of Tender Document	Ref. Clause of Tender documents	Tenderer's Name:	
			Whether information submitted (Yes/No/N.A.)	Ref Pg No. in the Technical Submittal
1.	Letter of Tender-Technical Part	ITT 11.2 (a) and Section IV		
2.	Technical Part signed by authorized representative of Single Entity/Joint Venture/Consortium	ITT 20.3		
3.	Tender Security	ITT 19.1		
4.	Form ELI – 1.1: Tenderer Information Form	ITT 17.1 and Appendix D of Section IV		
5.	Form ELI – 1.2: Tenderer's JV Information Form	N.A.		
6.	Form ELI-1.3 – Joint Venture/Consortium Agreement	N.A.		
7.	Form ELI-1.4: Power of Attorney (POA) for Submitting Tender	ITT 20.3 and Appendix D of Section IV		
8.	Board Resolution in case of a Public/Private limited company/LLP	TDS ITT 20.3		
9.	Incorporation Certificate and Memorandum and Articles of Association (MOA & AOA) (in case of Private/Public Limited Company)	Note (iii) (d) of Form ELI 1.4		
10.	Incorporation Certificate and Limited Liability Membership Agreement in case of Limited Liability Membership firms.	Note (iii) (e) of Form ELI 1.4		
11.	Proprietorship Affidavit (in case the Tenderer is Proprietorship Tenderer)	Note (iii) (a) of Form ELI 1.4		

S.No.	Requirement of Tender Document	Ref. Clause of Tender documents	Tenderer's Name:	
			Whether information submitted (Yes/No/N.A.)	Ref Pg No. in the Technical Submittal
12.	Partnership Deed (in case the Tenderer is Partnership Firm)	Note (iii) (b) of Form ELI 1.4		
13.	Form ELI-1.5: Power of Attorney (POA) for Authorized Signatory of Joint Venture (JV) Members	N.A.		
14.	Form ELI-1.6: Power of Attorney to Lead Member and Authorised Representative of Joint Venture (JV)	N.A.		
15.	In case of foreign tenderer, the Notarised POA/MOU/JV Agreement is notarised in the country of origin and stamped by India Embassy/ High Commission or Member Countries of Hague convention submitted these documents with "Apostille" stamp	Note (i) of Form ELI 1.4		
16.	Form CON - 1: Historical Contract Non-Performance, Pending Litigation and Litigation History	ITT 17.2 and Appendix D of Section IV		
17.	Form CON - 2: Environmental, Social, Health, and Safety Performance Declaration	ITT 17.2 and Appendix D of Section IV		
18.	Form FIN - 3.3.1: Financial Situation and Performance	ITT 17.2 and Appendix D of Section IV		
19.	Form FIN - 3.3.2: Average Annual Construction Turnover	ITT 17.2 and Appendix D of Section IV		
20.	Form FIN - 3.3.3: Financial Resources	ITT 17.2 and Appendix D of Section IV		
21.	Form FIN - 3.3.4: Current Contract Commitments / Works in Progress	ITT 17.2 and Appendix D of Section IV		
22.	Form EXP - 3.4.1: General Construction Experience	ITT 17.2 and Appendix D of Section IV		
23.	Form EXP - 3.4.2(a): Specific Construction and Contract Management Experience	ITT 17.2 and Appendix D of Section IV		

S.No.	Requirement of Tender Document	Ref. Clause of Tender documents	Tenderer's Name:	
			Whether information submitted (Yes/No/N.A.)	Ref Pg No. in the Technical Submittal
24.	Site Organization	ITT 16.1 and Appendix A of Section IV		
25.	Method Statement	ITT 16.1 and Appendix A of Section IV		
26.	Work Execution Programme	ITT 16.1 and Appendix A of Section IV		
27.	ESHS Management Strategies and Implementation Plans	ITT 16.1 and Appendix A of Section IV		
28.	MOU with RDSO approved Plan/Workshop owner for fabrication of Bridge Girder	ITT 16.1 and Appendix B of Section IV		
29.	Form PER – 1: Proposed Personnel	ITT 16.1 and Appendix C of Section IV		
30.	Form PER – 2: Resumé of Proposed Personnel	ITT 16.1 and Appendix C of Section IV		
31.	Undertaking for Downloaded Tender Document	Form UT of Section IV		
Note:				
(i) The check list is indicative and not exhaustive. The Tenderer must go through the complete tender documents and submit the required documents accordingly.				
(ii) If any of the above form or criteria is not applicable to the Tenderer, then they can simply indicate N.A. against the relevant column				

B. FINANCIAL PART

The Financial Part is provided in the Tender Documents in the form of MS-EXCEL file and PDF file. The percentage rate above or below against each bill shall be quoted in the MS-EXCEL file provided in the e-procurement portal. The Tenderer shall download the MS-EXCEL file and after quoting their percentage rate, upload the same along with other PDF documents of Financial Part mentioned in (a) below as a ZIP file on e-procurement portal. The percentage rate shall not be offered/quoted elsewhere in the Technical Part submission/ Tender submission. These prices shall include all costs associated with the contract including GST. The Tenderer shall complete the Financial Part in accordance with the instructions given in the Financial Part.

Following information are required to be submitted by Tenderers in their Financial Part:

(a) In PDF File

1. Letter of Tender – Financial Part
2. Appendix A to Financial Part:
Schedule of Cost Indexation
Schedule of Adjustment Data
Table A. Local Currency
Table B. Foreign Currency (FC)
Table C. Summary of Payment Currencies
Appendix B to Financial Part: Bill of Quantities -Preamble
3. Bill Units
Bill No. 1: NWR USSOR Item- Structural Steel
Bill No. 2: NWR USSOR Item- Metalizing of Steel
Bill No. 3: NWR USSOR Items- Miscellaneous
Bill No.4: NS Item-H-Beam Sleepers
Bill No.5: NS Items- Miscellaneous

(b) In MS-Excel File

1. Appendix B to Financial Part: Bill of Quantities
Bill of Quantities quoting percentage rate against each Bill.

I hereby confirm that:

- (i) I have checked the above list with our submittal. I am also aware that if our tender is not containing the above documents, the Employer has the right to reject our tender.
 - a. All the pages of tender submission are properly indexed and numbered.

Seal:

Date:

(Signature of Authorized representative of Tenderer)

Letter of Tender – Financial Part

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

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

Note: All italicized text is to help Tenderers in preparing this form.

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

Tender No.: *[insert tender reference number]*

Alternative No.: *[insert reference number if this is a Tender for an alternative]*

To: *[insert complete name of Employer]*

We, the undersigned, hereby submit the second part of our Tender, the Tender Price and Bill of Quantities. This accompanies the Letter of Tender – Technical Part.

In submitting our Tender, we declare that:

- (a) **Tender Validity Period:** Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 22.1 (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) **Tender Price:** The total price of our Tender is: *[insert the total price of the Tender in words and figures in INR];*
- (c) **Commissions, Gratuities, Fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Tendering 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 Tenderer: * *[insert complete name of the Tenderer]*

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

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

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]*

*: In the case of the Tender submitted by joint venture specify the name of the Joint Venture as Tenderer

**: Person signing the Tender shall have the power of attorney given by the Tenderer. The power of attorney shall be attached with the Letter of Tender.

Appendix A to Financial Part

1. Schedule of Cost Indexation

The formulae for price adjustment shall be as follows:

$$P_n = a + b L_n / L_o + c S_n / S_o + d P_{Mn} / P_{Mo} + e F_n / F_o$$

where:

“P_n” is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period “n”, this period being a month unless otherwise stated in the Contract Data;

“a” is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

“b”, “c”, “d”, “e” are coefficients representing the estimated proportion of Labour, Structural Steel, Plant & Machinery and Fuel & Lubricants respectively related to the execution of the Works as stated in the relevant table of adjustment data;

“L_n”: Consumer Price Index for Industrial Workers – All India: Published in R.B.I Bulletin on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates);

“L_o”: Consumer Price Index for Industrial Workers – All India: Published in R.B.I Bulletin on the Base Date;

“S_n”: Whole Sale Price Index for group item (e) Mild Steel- Flat products under (N) MANUFACTURE OF BASIC METAL, published by Office of Economic Adviser, Government of India, Ministry of Commerce & Industry, Department for Promotion of Industry and Internal Trade (DPIIT) on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates);

“S_o”: Whole Sale Price Index for group item (e) Mild Steel- Flat products under (N) MANUFACTURE OF BASIC METALS, published by Office of Economic Adviser, Government of India, Ministry of Commerce & Industry, Department for Promotion of Industry and Internal Trade (DPIIT) on the Base Date;

“P_{Mn}”: Whole Sale Price Index for the category ‘k. Machinery for mining, Quarrying and Construction under I MANUFACTURE OF MACHINERY AND EQUIPMENT, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry, Department for Promotion of Industry and Internal Trade (DPIIT), on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates);

“P_{Mo}”: Whole Sale Price Index for the category ‘k. Machinery for mining, Quarrying and

Construction under I MANUFACTURE OF MACHINERY AND EQUIPMENT, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry, Department for Promotion of Industry and Internal Trade (DPIIT) , on the Base Date;

“Fn”: Wholesale Price Index- By Groups and Sub-Groups for the group Fuel & Power as published in R.B.I Bulletin on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates) and

“Fo”: Wholesale Price Index- By Groups and Sub-Groups for the group Fuel & Power as published in R.B.I Bulletin on the Base Date.

Note:

Base Date is as defined in Sub-Clause 1.1.4 of GCC i.e. 28 days prior to the deadline for submission of Tender.

2. Schedule of Adjustment Data

Table A provides the coefficients/details to Local currency.

Table A. Local Currency

Index Code	Index Description	Source of Index	Base Value and Date	Weighting
A	Non-Adjustable	-	-	a: 0.15
L	Labour	As specified in Clause 1 of Appendix A to Financial Part	As specified in Clause 1 of Appendix A to Financial Part	b: 0.15
S	Structural Steel	As specified in Clause 1 of Appendix A to Financial Part	As specified in Clause 1 of Appendix A to Financial Part	c:0.40
PM	Plant, Machinery & Spares	As specified in Clause 1 of Appendix A to Financial Part	As specified in Clause 1 of Appendix A to Financial Part	d: 0.15
F	Fuel & Lubricants	As specified in Clause 1 of Appendix A to Financial Part	As specified in Clause 1 of Appendix A to Financial Part	e:0.15
Total				1.00

Table B. Foreign Currency (FC)

Not applicable as Tenderer's are required to quote rates and prices only in INR.

Table C. Summary of Payment Currencies

Not applicable. The payment shall be made in INR only.

Appendix B to Financial Part: Bill of Quantities

1. Preamble

- 1.1 The Bills of Quantities (BOQ) shall be read in conjunction with the Instructions to Tenderers, the General Conditions of Contract, the Particular Conditions of Contract, the General Specifications, the Technical specifications, the Drawings and the Addenda (if any).
- 1.2 The quantities given in the Bills of Quantities are estimated and provisional and are given to provide a common basis for tendering. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
- 1.3 The rates quoted in the priced Bill of Quantities are for complete and finished items of the work in all respects. The rates and prices shall, except in so far as it is otherwise provided under the Contract, shall include all necessary survey work, plants, tools, machinery, labour, compliance of labour laws, supervision, materials, transportation, handling, loading & unloading, storage, sampling, testing, fuel, oil, consumables, electric power, water, all leads & lifts, dewatering, all temporary works including temporary accesses, staging, form works and false works, stacking, provision and maintenance of all temporary works area, construction of temporary store and buildings, fencing, barricading, lighting, drainage arrangements, erection & maintenance of inspection facilities above and below ground such as brick, concrete and steel etc.), restatement, remedy of any defects during the Defects Notification Period, safety measures for workmen and road users, preparation of design and drawings pertaining to temporary works, & traffic diversion works, mobilisation and demobilisation, establishment and overhead charges, labour camps, insurance cost for labour and works, contractor's profit, all taxes including GST, insurance, royalties, duties, cess, octroi, other levies and other charges together with all general risks, liabilities and obligations set out or implied in the Contract.
- 1.4 The cost of all the items as detailed in the General Specifications and the Technical Specifications shall be deemed to have been included in the rates and prices in the priced Bill of Quantities unless otherwise specified in the Contract.
- 1.5 General directions and descriptions of work and materials are not necessarily repeated nor summarised in the Bills of Quantities. References to the relevant sections of the Contract Documents shall be made before entering rates and prices in the priced Bill of

Quantities.

- 1.6 Provisional Sums, if any, included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer, except for the Provisional Sum for the cost of the DB which requires no prior instruction from the Engineer in accordance with Sub-Clauses 13.4 [Provisional Sums] of the General Conditions.
- 1.7 The whole cost of complying with the provisions of the Contract shall be included in Bill Nos. in the priced Bill of Quantities.
- 1.8 The description of items in the BOQ are not exhaustive, and hence the Contractor shall be required to execute all necessary works required for completion of the concerned item of the BOQ in accordance with the Contract.
- 1.9 The rates shall be quoted percentage Excess (+)/ Less (-) against each Bill No. in the Bill of Quantities (Excel Workbook) uploaded on the e-procurement portal.
- 1.10 The rates quoted shall be comprehensive and must include cost for complying in all respects with the Bill of Quantities, Instruction to Tenderers, the General Conditions, the Particular Conditions, Specifications and Drawings and for all matters and things necessary for the proper construction, completion, and making good of any defect in of the whole of the Works.
- 1.11 No claims for additional payment will be allowed for any error or misunderstanding by the Contractor of the work involved.

2. Provisional Sums including Provision Sum for Contingency

Provisional Sums, if any, shall be used as per Sub-Clause 13.4 [Provisional Sums] of the General Conditions.

3. Measurement and Payment

- ~~1.1~~ The measurement shall be made as per Bill of Quantities, the General Specifications, the Technical Specifications, the Drawings and other relevant provisions of the Contract.

4. Procedures for Payment

- 4.1 The Employer shall make interim payments to the Contractor in accordance with the provisions of Sub-Clause 14.7 [Issue of Interim Payment Certificates] of the General Conditions, as certified by the Engineer on the basis of the progress achieved for the items of works/stages of the works.
- 4.2 The Contractor shall base his claim for interim payment in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates] of the General Conditions for various

items of work on the basis of actual progress of work executed till the end of the month for which the payment is claimed in relation to the Contractor's total executed quantity, supported with documents and updated programme in accordance with the Works Requirements.

- 4.3 The Employer may carry out necessary test checks, either directly or through an independent agency, of the Works done by the Contractor for which payment has been accepted and certified by the Engineer. The payment shall depend upon the outcome of such test checks.
- 4.4 Format for the Contractor's application for payment shall be agreed between the Engineer and the Contractor.
- 4.5 All necessary supplementary details to support progress claims, including all certified Request for Inspection in hard bound copy, shall be included with application for payment. Sketches, drawings, approvals, calculations, test reports etc. shall accompany an application for payment to be substantiated by the Contractor, certified by the Engineer and submitted to the Employer.
- 4.6 Even if no work is executed during the month, or the Contractor does not choose to issue an application for payment, a 'NIL' application shall be submitted.
- 4.7 The Employer may deploy external agencies, other than the Engineer, to cross check the work done by the Contractor. If at a later stage it is discovered that excess payment has been released to the Contractor or the work is found to be defective, suitable recoveries would be affected from the first available bill of the Contractor.

5. Methodology for Claiming Payment

- 5.1 The Contractor shall prepare his monthly application for payment in the agreed format in two hard copies and one soft copy. This shall be accompanied by supplementary details in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates] of the General Conditions. All hard copies shall bear the original signatures of the Contractor's Representative and be submitted to the Engineer.
- 5.2 If these are found in order, in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] of the General Conditions, then the Engineer shall forward two certified copies of the application along with certified supplementary details to the Employer, with his recommendation for payment; otherwise, all documents shall be returned to the Contractor for rectification and resubmission.

6. Work Items


The Bill of Quantities contains the following Bill Nos.,

- Bill No. 1: NWR USSOR Item- Structural Steel
- Bill No. 2: NWR USSOR Item-Metalizing of Steel
- Bill No. 3: NWR USSOR Items- Miscellaneous
- Bill No.4: NS Item-H-Beam Sleepers
- Bill No.5: NS Items- Miscellaneous

Bill of Quantities

(Please refer BOQ on e-procurement portal)

NUMBER #		TEXT #		NUMBER #		NUMBER #		NUMBER #		TEXT #	
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Estimated Rate in Rs	PERCENTAGE RATE (%) to be entered by the Bidder	TOTAL AMOUNT With Taxes	TOTAL AMOUNT In Words			
1	Bill No. 1: NWR USSOR Items- Structural Steel	item1	1.00	Nos	2,634.00	Select	-	INR Zero Only			
2	Bill No. 2: NWR USSOR Items- Metalizing Steel	item2			1,18,55,076.00	Select	-	INR Zero Only			
3	Bill No. 3: NWR USSOR Items Miscellaneous		1.00	Nos	95,71,946.00	Select	-	INR Zero Only			
4	Bill No. 4: NS Items H-Beam Sleepers		1.00	Nos	1,01,28,029.00	Select	-	INR Zero Only			
5	Bill No. 5: NS Items Miscellaneous	item5	1.00	Nos	27,54,538.00	Select	-	INR Zero Only			
Total in Figures							-	INR Zero Only			
Quoted Rate in Words							INR Zero Only				

 *Tenderer is only required to fill the information in the boxes highlighted with cyan colour in BOQ (Excel sheet)

Section V - Eligible Countries

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

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

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

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

Section VI - Prohibited Practices

1. The Bank requires that the Recipient (and all other beneficiaries of the Bank financing), as well as tenderers, suppliers, contractors, concessionaires and consultants under Bank-financed contracts for the Project, observe the highest standard of transparency and integrity during the procurement, execution and implementation of such contracts.
2. Definitions. In pursuance of this policy, the Bank defines the terms set forth below as Prohibited Practices:
 - (a) “**coercive practice**” means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of a party to influence improperly the actions of a party;
 - (b) “**collusive practice**” means an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - (c) “**corrupt practice**” means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - (d) “**fraudulent practice**” means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation.
 - (e) “**misuse of resources**” means improper use of the Bank’s resources, carried out either intentionally or through reckless disregard;
 - (f) “**obstructive practice**” means any of the following practices: (i) deliberately destroying, falsifying, altering or concealing of evidence material to a Bank investigation; (ii) making false statements to investigators in order to materially impede a Bank investigation into allegations of a Prohibited Practice; (iii) failing to comply with requests to provide information, documents or records in connection with a Bank investigation; (iv) threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to a Bank investigation or from pursuing the investigation; or (v) materially impeding the exercise of the Bank’s contractual rights of audit or inspection or access to information; and
 - (g) “**theft**” means the misappropriation of property belonging to another party.
3. Any occurrence, or suspected occurrence, of a Prohibited Practice in the procurement, award, or implementation of a Bank-financed contract is dealt with in accordance with the provisions of the Bank’s Policy on Prohibited Practices. Suppliers, contractors, service providers and consultants selected pursuant to the provisions of Section II and concessionaires selected pursuant to paragraph 14.3 of the Bank’s Procurement Instructions for Recipients, as well as the Recipient shall fully cooperate with the Bank (or a cofinancier undertaking an investigation pursuant to paragraph 6.1 of the Bank’s Procurement Instructions for Recipients) in any investigation into an alleged Prohibited Practice to be carried out pursuant to the Policy on

Prohibited Practices, and permit the Bank or its representative (including such co-financier) to inspect such of their accounts and records as may be relevant for such investigation and to have such records and accounts audited by the auditors appointed by the Bank.

4. Provisions to this effect are included in the Legal Agreements and the procurement contracts with such entities.
5. If the Project is financed by a sovereign-backed loan, the Bank (or, where relevant, a co-financier having undertaken an investigation pursuant to paragraph 6.1 of the Bank's Procurement Instructions for Recipients):
 - (a) may take any of the following additional actions in connection with a Prohibited Practice under the Project:
 - (i) reject a proposal for award if it determines that the tenderer recommended for award, or any of its personnel, or its agents, or its sub-consultants, subcontractors, service providers, suppliers or their employees, has, directly or indirectly, engaged in a prohibited practice in competing for the contract in question; and
 - (ii) cancel the undisbursed portion of the loan allocated to a contract (and require reimbursement of the disbursed portion of the loan allocated to the contract) if it determines at any time that representatives of the Recipient or of a recipient of any part of the proceeds of the loan engaged in a prohibited practice during the procurement, administration or implementation of the contract in question; and
 - (b) requires that a clause be included in tender documents and in contracts financed by the Bank loan, requiring tenderers, suppliers and contractors, and their subcontractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank (and a co-financier undertaking an investigation pursuant to paragraph 6.1 of the Bank's Procurement Instructions for Recipients) to inspect all accounts, records, and other documents relating to the submission of tenders and contract performance, and to have them audited by auditors appointed by the Bank.

Tender Document for Works

(Two-Envelope Tendering Process Without Prequalification)

Procurement of:

Br-1: Fabrication, assembly & launching of 1X76.2 m span Open Web Girder (OWG) each over three lines on NH-352 W (Pataudi Road) between Manesar and Patli stations including supplying & fixing of H-beam sleepers in connection with laying of New BG Double Railway Line of HORC project at Km 54.498.

Summary

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- Section IV - Tender Forms
- Section V - Eligible Countries
- Section VI - Prohibited Practices

<p>PART 2 – WORKS' REQUIREMENTS AND REFERENCE INFORMATION/REPORTS</p>
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| <p>Section VII - Works' Requirements and Reference Information/Reports</p> |
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Division 1000: Scope of Works

1010 Project Profile and Background

State of Haryana is strategically located bordering the National capital of Delhi. NCT, Delhi shares three fourth of its border with Haryana alone and remaining with Uttar Pradesh. The development of Haryana region, bordering Delhi is very important for balanced growth of NCR as it acts as buffer zone against rampant migration and other support infrastructure. At present on account of growth of Metro network in Delhi & NCR, there is radial movement of commuters to and fro, Delhi being in centre. This "Hub and Spoke" traffic planning has resulted in rapid growth of Noida, Greater Noida, Faridabad and Gurugram. However, for hub and spoke concept to sustain it is necessary to link the ends of spoke by ring connectivity. There will be natural demand for commuter movement within these towns like Gurugram, Faridabad, Ballabgarh, Palwal, Sohna, Manesar etc. Peripheral roads have been commissioned recently, linking these towns around Delhi but Rail link provides economical, sustainable, eco-friendly and bulk freight transport option. The peripheral Rail link will also help in growth of other cities within the same distance from Delhi like Sonapat, Panipat, and Rohtak. Western DFC originating from Dadri station is passing through Asaoti Station on Delhi- Mathura route, providing connectivity to Haryana Orbital Rail Corridor (HORC). This will also help in easing the pressure on the transport network of Delhi as some of the commuter traffic moving on the radials will get shifted to HORC.

Apart from passenger traffic, substantial amount of freight traffic, which is entering the Delhi area of rail network but is not meant to be consumed in Delhi, will also get diverted via this corridor. Apart from this, there are major goods sheds in the heart of Delhi causing endless avoidable traffic jams. The goods sheds in west Delhi are Azadpur, Shakurbasti, Dayabasti, Sabzi Mandi which are located on prime commercial land and are black spots of the urban planning. Previously moving out commercial activity to other states had interstate taxation issues but now with GST in place, there is no reason of not shifting these activities to the peripheral region. In any case, if freight traffic movement through Delhi is restricted, then these goods sheds or alternatives will be serviced via the proposed HORC.

Haryana Orbital Rail Corridor (HORC) from Palwal to Sonipat Via Sohna, Manesar, Kharkhoda and Harsana Kalan is to be constructed as an Electrified (1X25KV AC-50Hz) double line track, capable of operating at a maximum train speed of 160 kmph.

1020 Scope of Work

1. The Package Br-1 is for fabrication and launching of Open Web Girders (OWG) on major Road Under Bridge (RUB) over NH-352 W (Pataudi Road) on three railway tracks. Substructure of RUB is being constructed through separate contract. The details of the Works required to be executed in this Tender are defined in Sub-Division 1030 "Detailed description of the Scope of Works".
2. The Works under the Contract shall include, but not limited to, the following major items:

Major Items of the Works under the Contract		
S. No.	Items of work	Description
1.	Fabrication, assembly & launching of 76.2 m Open Web Girders	a) Fabrication, assembly & launching of 76.2 m Open Web Girders (3 Nos.) on major RUB (1X76.2 m) over NH-352 W (Pataudi Road) for three tracks. b) Metalizing of OWG.
2.	Installation of bearing	Supplying, fitting and fixing in position rocker/roller bearings.
3.	Supplying and laying track on OWG	Supplying H- beam steel sleepers and track fittings/fixtures for H-beam sleeper and laying of track on OWG bridge.

3. The Work has to be carried out in a manner so as to permit the Interfacing Contractors to carry out construction of formation, ballast supply, track works, electrification, signalling & telecommunication works etc. The Contractor shall interface with the Interfacing Contractors and Interfacing Parties for construction of the Works as specified or as required. Refer Sub-Division 4040 of the General Specifications. In case Interfacing Contractors are not available because of any reason, the role of Interfacing Contractors shall be discharged by the Engineer in consultation with the Employer.
4. The Contractor shall carry out the Works as per the Milestones given in Table of Part A-Contract data, Section IX- Particular Conditions of Contract, Part-3 of the Tender Documents.
5. The Contractor shall refer the information/reports included in Section VII-4, Reference Information/Reports provided by Employer for carrying out the works.
6. When completed, the structure shall be fit for the purpose for which the Works are intended as defined in the Tender Documents.

1030 Detailed Description of the Scope of Works

For detailed requirements, respective Technical Specifications of the “Works Requirements” in the Tender Documents shall be referred to. The detailed description of the Works shall be as follows:

1. **Supply, fabrication, and erection of OWG**

The Contractor shall carry out the supplying, fabrication, assembling of three number (3 Nos.) OWGs of 76.2 m span as per RDSO standard drawings for DFC loading (Drawing No. RDSO/B-17101 to 17118 with latest alterations/correction slips up to 28 days prior to deadline of submission of tender documents) with structural steel conforming to Quality "B0" and Grade Designation E250 conforming to IS:2062, erection / slewing / end launching of steel girders with cranes or any other approved launching methods as per site conditions (not requiring traffic block), on already constructed sub-structure complete as per approved QAP and WPSS and drawings conforming to IRS-B1-2001 and other relevant codes and specifications. The connections shall be done by HSFG bolts of specified grade and diameter, instead of rivets. OWG shall be provided with pathway on one side of the girder as per RDSO standard drawing CBS-0045 with latest alterations/correction slips up to 28 days prior to deadline of submission of tender documents.

2. **Metalizing of steel**

The Contractor shall carry out metalizing of steel work of girders with sprayed aluminium after surface preparation by sand/grit blasting, followed by one coat of etch primer & one coat of Zinc Chrome primer and two coats of aluminium paint with all labour, T&P and material as a complete job duly conforming to all relevant specifications and process given under Clause 39 of IRS-B1-2001.

3. **Installation of Bearing**

The Contractor shall supply, fit and fix in position true to line and level cast steel rocker/roller bearings, including all accessories, as per RDSO drawing No. RDSO/B-17104 with latest alterations/correction slips up to 28 days prior to deadline of submission of tender documents and Technical Specifications with all material, labour, T&P as a complete job.

4. Supplying and laying track on OWG

The Contractor shall supply steel H- beam bridge sleepers and track fittings/fixtures for H-beam sleeper and lay the track on OWG bridges with service rails including preparation and fixing of guard rails as per RDSO drawings mentioned in the Technical Specifications.

Service rails for track and guard rails shall be supplied by the Employer free of cost within 500m radius of proposed Bridge location.

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Division 2000: Works Related Information

2010 Natural Conditions

1. METEOROLOGICAL INFORMATION

The Project falls in subtropical region having hot and cold weather. In accordance with the definitions of the India Meteorological Department, on the Indian sub-continent, a year comprises the following seasons:

Summer (pre-monsoon)	March to May
Monsoon season	June to September
Post-monsoon season	October to November
Winter	December to February

Temperature:

During the summer months, the mean daily maximum temperature is around 40°C and the mean daily minimum temperature is around 25°C, although temperatures can reach peaks of 44-45°C. During the coldest month of January, the maximum temperature is normally below 30°C and the minimum temperature varies from 6°C to 18°C (with a mean of around 14°C). Occasionally the temperature dips to 1-4°C. From the month of March onwards the temperature starts rising, reaching a maximum in June of about 45°C.

Winds:

Winds are generally light to moderate, increasing in intensity during the late summer and monsoon.

Humidity:

The relative humidity in all parts of NCR is low. Generally, the lowest relative humidity is experienced during the months of January to March. Relative humidity increases as the

temperature increases and reaches maximum during the months of June to August and varies from 40% to 70%.

Rainfall:

The rainfall is moderate in Gurugram district. Average annual rainfall is 596mm.

2. HYDROLOGICAL INFORMATION

There are no major river crossings in the proposed alignment and there is no history of floods in this area.

3. TOPOGRAPHICAL INFORMATION

The topography of the Site of Package No. Br-1 is generally level undulating and the elevation varies approximately between is 228.95 m and 256 m above the mean sea level (MSL).

2020 Work Packages

The entire Project for HORC has been divided into following Contract Packages:

Contract Package No.	Description
C-1	Priority section: Construction of Earthwork, Bridges, Station Buildings, Retaining Walls and other miscellaneous Works in Connection with laying of New BG Double Railway Line of HORC project from Km 49.70 to Km 55.60 and its connectivity (new BG single line) from proposed Manesar Station of HORC to existing Patli Railway Station of IR Network
Br-1	Fabrication, assembly & launching of 1X76.2 m span Open Web Girder (OWG) each over three lines on NH-352 W (Pataudi Road) between Manesar and Patli stations including supplying & fixing of H-beam sleepers in connection with laying of New BG Double Railway Line of HORC project at Km 54.498
T-1	Laying of Track and track related works including supply of ballast, special sleepers, switches and crossings track fittings but excluding

	supply of Rails and line Sleepers in connection with laying of New BG Double Railway Line of HORC project from Km 32.00 to Km 61.5 and its connectivities to IR Network from Manesar to Patli Stations and New Patli to Patli & New Patli to Sultanpur Stations.
C-2	Composite Contract Package for Design and Construction of Civil Works (Earthwork, Bridges, Station Buildings, Retaining Walls and other miscellaneous Works) from Km 55.60 to Km 61.50 and its connectivities to IR network from proposed New Patli to Patli & New Patli Sultanpur and Design, Supply, installation and Testing & Commissioning of OHE (1x25KV), general electrical services and Signalling & Telecommunication from Km 49.70 to Km 61.5 and its connectivities to IR network from proposed Manesar to Patli and New Patli to Patli & New Patli to Sultanpur in Connection with laying of New BG Double Railway Line of HORC project.
C-3	Composite Contract Package for Design and Construction of Civil Works (Earthwork, Bridges, Station Buildings, Retaining Walls and other miscellaneous Works), Design, Supply, installation and Testing & Commissioning of OHE (1x25KV), general electrical services and Signalling & Telecommunication in Connection with laying of New BG Double Railway Line of HORC project from Km 29.20 to Km 49.7
C-4	Composite Contract package for Construction of Tunnel (from Km 24.87 to Km 29.06) including installation of Ballast Less Track (excluding supply of rails) , Supply, installation and Testing & Commissioning of OHE (1x25KV), general electrical services and Signalling & Telecommunication in tunnel portion from Km 24.87 to Km 29.20 and construction of Embankment, Bridges, Retaining walls and other miscellaneous works from Km 29.06 to Km 29.20 and Km 12.00 to 18.00 Km in Connection with laying of New BG Double Railway Line of HORC project
C-5	Composite Contract package for Design and Construction of Viaduct (Km 21.33 to Km 24.87), Civil works (Earthwork, , Bridges, Retaining Walls & other miscellaneous Works) from Km 0.00 to Km 12.00 and Km 18.00 to Km 21.33 and Design, Supply, installation and Testing & Commissioning of OHE (1x25KV), general electrical services and Signalling & Telecommunication from Km 0.00 to Km 24.87 in Connection with laying of New BG Double Railway Line of HORC project and its connectivity to station on DFC network from proposed Prithla to New Prithla
C-6	Composite Contract Package for Design and Construction of Civil Works (Earthwork, Bridges, Station Buildings, Retaining Walls and

	other miscellaneous Works), Design, Supply, installation and Testing & Commissioning of OHE (1x25KV), general electrical services and Signalling & Telecommunication in Connection with laying of New BG Double Railway Line of HOCR project from Km 61.5 to Km 125.98 and its connectivities to stations on IR network from proposed Badsa to Sultanpur and proposed Mandothi to Asaudha
T-2	Design, Supply and Laying of Track and Track related Works in Connection with laying of New BG Double Railway Line of HOCR project from Km 0.00 to Km 24.87 , Km 29.20 to Km 32.00 and Km 61.50 to Km 125.98 including its connectivities to stations on DFC/ IR network from proposed Prithla to New Prithla, proposed Badsa to Sultanpur and proposed Mandothi to Asaudha.

* The above list is only tentative and has been provided for giving overview of the Project to the Tenderers. However, it may undergo change in future at the sole discretion of HRIDC.

Division 3000: Information and Communication Management

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3010 DEFINITIONS AND ABBREVIATIONS

1. Definitions

In addition to the words and expressions defined in the General Conditions, following words and expressions shall have the meaning assigned to them except where the context otherwise requires:

- **“As-Built Drawings”** means those drawings produced by the Contractor and endorsed by its true records of construction of the Permanent Works and which have been given a consent from the Engineer.
- **“As-Built Documents”** mean the set of drawings and documents which are a true record of the construction of the Permanent Works prepared by the Contractor.
- **“CAD Standards”** means requirements for CAD, as specified in the Clause 5 in Sub-Division 3030 [Format of Document and Drawings] of the General Specifications by the Engineer.
- **“Chartered Utilities”** mean identified Utilities listed in the Reference Information/Reports, which may be affected by the execution of the Works under the Contract.
- **“Classified Distinction”** means a distinctive category of the Contractor's submission to obtain the Engineer's response for, as specified in the Clause 1 [General] under Sub-Division 3020 of the General Specifications by the Engineer.
- **“Construction Environmental Management Plan”** means the plan including, as required, details of compliance with applicable laws and regulations for environmental protection and mitigation requirements, including the AIIB guidelines for environmental and social considerations.
- **“Construction Phase”** means the phase of the work during which construction/ installation of the Works shall be undertaken by the Contractor as per Works Requirements.
- **“Construction Management Plan”** means the plan that shall be coordinated with each other and shall collectively define, describe and encompass the Contractor's proposed methods, procedures, processes, organization, sequencing of activities, etc. and shows how these combine together to assure that the Works fully meet the requirements of the

- Contract in respect of Clause 6 [Construction Management Plan] of Sub-Division 4020 of the General Specifications.
- **“Contractor’s Project Plan”** means the plan to provide a clear overview of the Contractor’s organisation, management systems and the methods to be used for the execution and completion of the Works.
 - **“Contractual Works Programme”** shall supersede all other programmes previously submitted and shall be deemed to be the programme on which the Contractor has based his Accepted Contract Amount and in accordance with which it shall execute the Works within the specified time for completion for each Milestone as required in Sub-Clause 8.3 [Programme] of General Conditions.
 - **“Consumables”** means those parts that are not repairable and usually have a relatively short life span.
 - **“Critical Path Method”** means a schedule network analysis technique used to determine the amount of scheduling flexibility (the amount of float) on various logical network paths in the project schedule network, and to determine the minimum total project duration.
 - **“Defects Notification Management Plan”** means the plan as set forth in Sub- Division 4140 of the General Specifications.
 - **“DN Line”** means the down line of the HORC double line track route from Sonipat to Palwal.
 - **“Design Quality Management Plan”** means the document, submitted by the Contractor to the Engineer for consent, as specified in the Clause 3 [Design Quality Management Plan (DQMP)] under Sub-Division 7010; detailing provisions, for its management and control of design works, that are to be implemented and maintained effectively during the period of the Works.
 - **“Field Change Notice”** means changes incorporated in the Drawings depending upon the site conditions. The Contractor shall propose a solution and procedure through a Field Change Notice.
 - **“Interface Management Plan”** means the plan for all interface issues that may arise during the design, construction, testing and commissioning of the Works, in consultation with the Interfacing Contractors/ Interfacing Parties and the Engineer

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- under, Sub-Division 4040[Interface, Coordination and Cooperation with Other Parties Employed by the Employer] of the General Specifications.
- **“Independent Laboratory”** means a laboratory, submitted by the Contractor to the Engineer for approval, as specified in the Sub-Clause 5.3 [Independent Laboratory] under Sub-Division 7020; that is free from outside control and not subject to direct or indirect influence or authority of the Employer, the Engineer, or the Contractor
 - **“Inspection and Test Plan”** means a document, as specified in the Sub-Clause 2.8.2[Reference to Inspection and Test Plan (ITP)] under Sub-Division 7010 of the General Specifications, that states inspection and testing requirements and actions provisioned for the Works, related process, Plant, or Materials. It is used to control, check, monitor and record; testing procedures that are required for quality assurance and to achieve the agreed quality requirements for the Works.
 - **“Installation Tests”** means the tests to be performed to verify the conformity of completion of an installation/assembly to the design documents approved by the Engineer prior to the start of Commissioning, and they must be successfully completed before the Tests on Completion.
 - **“Integrated Testing and Commissioning”** means those tests that demonstrate the integration of the complete system meeting the requirements of the Contract in an operating environment. Integrated Testing and Commissioning form part of the Tests on Completion to be performed by the Contractor in order to achieve Employer's Taking Over of the Works or any Section.
 - **“Interface Coordinator”** means the person who has the responsibility, and authority with substantial experience to resolve interface matters to the satisfaction of the Engineer and provide the necessary support team for the Interface Management System as specified in, Sub-Division 4040 [Interface, Coordination and Cooperation with Other Parties Employed by the Employer] of the General Specifications.
 - **“Interfacing Contractor”** means the Contractor engaged by the Employer or other agencies having an interface issue with the Contractor for the Works.
 - **“Interfacing Parties”** comprises the interfacing contractors/ consultants/ service providers, who are engaged in part of the works, relevant authorities and public utility agency.

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- **“Interface Table”** means the table that describes the relationships between the Contractor and Interfacing Contractors / Interfacing Parties and their roles and responsibilities is a key document.
 - **“ITP for Tests on Completion at Proposal Phase”** means the Contractor’s submission of proposed outline of ITP for each Tests on Completion; submitted by the Contractor to the Engineer for review, as specified in the Sub-Clause 3.2 [Proposal and Submittal Phase] under Sub-Division 7030 of the General Specifications.
 - **“ITP for Tests on Completion at Submittal Phase”** means the Contractor’s submission of detailed ITP for each Tests on Completion; submitted by the Contractor to the Engineer for consent, as specified in the Sub-Clause 3.2 [Proposal and Submittal Phase] under Sub-Division 7030 of the General Specifications.
 - **“Kick-Off Meeting”** means the meeting held by the Engineer under, Sub division 4030 [Meetings], which is formally to notify all parties concerned under the Contract that the project has commenced and to ensure that every party has a common understanding of their role from the Commencement Date up until issuance of the Performance Certificate.
 - **“Lead Contractor”** means where the Contractor or an Interfacing Contractor is assigned a leading role, he is referred to as the “Lead Contractor”. The Lead Contractor shall take the lead in the management of the coordination for specific interface requirement(s), with the Contractor and Interfacing Contractors.
 - **“Manufacturer’s Certificate”** means an official document from the manufacturer, attesting facts and test result about the quality characteristics of the manufactured product supplied by it and duly certified by the Contractor for acceptance of related product upon approval by the Engineer to the Contractor’s submission; as specified in the Sub-Division 7020 Clause 4 [Contractor’s submission with reference to Approval for Plant and Materials] Sub-Clause (4).
 - **“Method Statement”** means a document, as specified in the Sub-Clause 2.8.1 [Reference to Method Statement and Manufacturer’s Arrangement] under Sub-Division 7010, that states the way a particular work, task or process along with various associated aspects such as quality, safety, environment protection, time and resources; are planned to be directly controlled by the Contractor or its Subcontractor.

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- **“Monthly Progress Meeting”** means the meeting specified under Sub-Division 4030[Meetings]of the General Specifications.
 - **“Monthly Progress Report”** means the report that the Contractor shall prepare and submit to the Engineer in accordance with the Sub-Division 4080 [Monthly Progress Report Requirements]
 - **“Nonconformity Report”** means a report documenting non-fulfilment of a requirement, with objective evidence, the location and time of occurrence or detection, and provision for its proper resolution by the concerned responsible.
 - **“Notice of No Objection”** means a category of Engineer’s response, issued by the Engineer to the Contractor as specified in the Clause 3 [Engineer’s Response] under Sub-Division3020.
 - **“Notice of No Objection with Comments”** means a category of Engineer’s response, issued by the Engineer to the Contractor as specified in the Clause 3 [Engineer’s Response] under Sub-Division 3020.
 - **“Notice of Objection”** means a category of Engineer’s response, issued by the Engineer totheContractorasspecifiedintheClause3[Engineer’sResponse]underSub-Division3020.
 - **“Not Reviewed”** means a category of Engineer’s response, issued by the Engineer to the Contractor as specified in theClause3 [Engineer’s Response] under Sub-Division 3020.
 - **“On-Site Laboratory”** means Contractor’s own laboratory submitted by the Contractor to the Engineer for approval as specified in the Sub-Clause 5.2 [On-Site Laboratory] under Sub-Division 7020.
 - **“Participating Contractor”** means the Contractor or an Interfacing Contractor who is assigned a cooperating role (referred to as the “Participating Contractor (Design)” or “Participating Contractor (Construction)” for specific interface requirement(s) by the Engineer.
 - **“Priority Section”** means the section from Km 49.7 to Km 55.6 of HORC Main line and connectivity line from Manesar station on HORC and Patli station on Delhi-Rewari section of Indian Railway Network.

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- **“Programme Analysis Report”** means the report submitted to the Engineer that shall, in narrative format, describe the basis and assumptions used to develop each programme as described in Division 4000 of Employer’s Requirement General Specification.
 - **“Project”** means the project named as “Haryana Orbital Rail Corridor (HORC)”.
 - **“Project Management Plan”** refers to the plan that will be established by the Contractor for the management of activities related to design, procurement, manufacture, execution/construction, delivery, installation, testing and commissioning.
 - **“Project Management Information System”** means a document, information and communication technology system (platform) that is to be implemented by the Contractor so that the management of information between the Contractor, Employer and the Engineer is efficient, reliable and secure, as specified in the Sub-Clause 5.2 [Project Management Information System (PMIS)] under Sub-Division 3020.
 - **“Indian Railway”** means the rail tracks of the Indian Railway or any other organization and any ancillary areas of Indian Railway such as the depots, sidings, stations, terminus, traction power stations, etc.
 - **“Request for Inspection”** means the form used to give notice by the Contractor to the Engineer as specified in the Clause 11 [Request for Inspection] under Sub-Division 7020 when any work is ready for inspection and test.
 - **“Railway Representative”** means a person, or persons, nominated by the Employer /Engineer to liaise with the Contractor and the Engineer on matters affecting the operation of Indian Railway.
 - **“Restriction”** means speed restriction, which is a limitation of the normal permitted speed of rail traffic over a specified length of the Railway.
 - **“Reference Drawings”** means the drawings prepared by the Employer for reference purposes only and included in the Tender documents.
 - **“Reliability”** means the probability that an item/equipment/system can perform a required function under given conditions for a given time interval.

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- **“Routine Test”** means the test which is required to perform or undergo on each Plant, Contractor’s Equipment and Materials during or after manufacture to ascertain that it complies with specified criteria.
 - **“Right of Way”** means the land area of the Project, either acquired by the Employer or for which the Employer has the permission of the Stakeholder to construct the embankment & bridges, etc. over their area.
 - **“Environmental, Social, Health and Safety Management Plan”** means the plan in accordance with the requirements of Division 8000 [Environmental, Social, Health and Safety Management] of the General Specifications.
 - **“Software Related Items”** comprises (but not limited to) erasable programmable read only memory (EPROM), digital versatile disc (DVD), other related items which are the most updated items used in relation to the Works, and those to be supplied by Subcontractors of any tiers
 - **“Site Offices”** means the Site Office and Site Huts for Employer's/ Engineer’s Personnel constructed by the Contractor as specified in Clause 1 of Sub-Division 4060[Facilities for Employer's Personnel].
 - **“Site Quality Management Plan”** means the subsidiary document in the Works Quality Management Plan (WQMP), submitted by the Contractor to the Engineer for consent in the Clause 3 [Site Quality Management Plan (SQMP)] under Sub-Division 7010; detailing provisions, for its management and control of execution of the Works, that are to be implemented and maintained effectively during the period of the Works to be carried out on the Site.
 - **“Spare Parts”** means those parts which are generally repairable and have normally a service life of several years.
 - **“Submission Review Request”** means a document accompanying the Contractor’s submission, as specified in the Clause 2 [Submission Procedure] under Sub-Division 3020, to be used for the review.
 - **“Temporary Benchmarks (TBM)”** means the benchmarks provided by the Employer, used to locate & confirm the Right of Way (ROW) and its co-ordinates including levels.

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- **“Three Months Rolling Programme”** means the programme which the Contractor shall prepare and update monthly under Sub-Division 4070 [Works Programme and Schedule] of General Specification.
 - **“Three Weeks Rolling Programme”** means the programme which the Contractor shall prepare and update weekly under Sub--Division 4070 [Works Programme and Schedule] of General Specification.
 - **“Time Bar Chart”**, known as “Gantt Chart” too is a type of bar chart which illustrates a project schedule. i.e. the start and finish dates of the activities and summary elements of a project.
 - **“Uncharted Utilities”** mean Utilities other than Chartist Utilities which are identified during a survey conducted by the Contractor or encountered during excavation/other works.
 - **“UP Line”** means the up line of the HORC double line track route from Palwal to Sonipat.
 - **“Utilities”** means the electricity, lighting, traffic control, telephone and/or communication cables, gas, water, sewage and drainage pipes, including all associated protection, supports, ancillary structures, fittings and equipment.
 - **“Work Segment Programme”** means the programme dividing Contractual Works Programme into sub-programmes of work segments of manageable size, addressing in more detail certain specific segments of the Works as specified in Clause 4 of Sub-Division 4070 [Works Programme and Schedule] of General Specification.
 - **“Working Drawing”** means additional drawings developed by the Contractor as necessary to supplement the Drawings and to specify additional details and procedures for construction of the Works, such as shop drawings, fabrication drawings, erection drawings, Temporary Works drawings, bar bending schedules, bar reference drawings. All such drawings shall comply with the requirements of the Contract.
 - **“Works Areas”** means the areas of the Site within the Right of Way and any additional areas which may be obtained by the Contractor and agreed by the Engineer as additional working area.
 - **“Works Programme”** means the time-scaled and resource-loaded critical path network, updated from time to time in accordance with the General Conditions of

Contract and Works Requirements, depicting activities, durations, sequences and interrelationships that represent the Contractor's workplan, work breakdown, schedule structure for constructing and completing the Works, distributed over the Time for Completion of the Contract.

- **“Works Quality Management Plan”** means the document in line with ISO 9001: 2015, submitted by the Contractor to the Engineer for consent, as specified in the Clause 2 [Works Quality Management Plan (WQMP)] under Sub-Division 7010; detailing its Quality Management System to be implemented and maintained effectively during the period of the Works.

2. Abbreviations

AC	:	Alternating Current
AIIB	:	Asian Infrastructure Investment Bank
ASLI	:	Automatic Safe Load Indicator
BG	:	Broad Gauge
BIS	:	Bureau of Indian Standards
BOCW	:	Building or Other Construction Work
CAD	:	Computer Aided Design
CCTV	:	Closed Circuit Television
CD	:	Compact Disc
CE	:	EU Standard
CEM	:	Crane Erection Method
CEMP	:	Construction Environmental Management Plan
CIF	:	Cost, Insurance and Freight
CP	:	Contract Package
CPM	:	Critical Path Method
CRS	:	Commissioner of Railway Safety
CS	:	Curve to Spiral
CT	:	Circular to Transition
CV	:	Curriculum Vitae

CWC	:	Central Water Commission
Db	:	Decibel
D&B	:	Drill and Blast
DB	:	Distribution Box
DCN	:	Design Change Notice
DG	:	Diesel Generator
DGPS	:	Differential Global Positioning System
DIN	:	Deutsche Industrial Norms
DNP	:	Defect Notification Period
DPI	:	Dots per Inch
DPR	:	Daily Progress Report
DSS	:	Distribution Substation
DVD	:	Digital Versatile Disc
E&M	:	Electrical & Mechanical
EIA	:	Environmental Impact Assessment
ELCB	:	Earth Leakage Circuit Breaker
EMP	:	Environmental Management Plan
EPROM	:	Erasable Programmable Read Only Memory
ESHS	:	Environmental, Social, Health and Safety
FAT	:	Factory Acceptance Test(s)
FCN	:	Field Change Notice
FL	:	Formation Level
GAD	:	General Arrangement Drawing
GCC	:	General Conditions of Contract
GIS	:	Geographical Information System
GL	:	Ground Level
GNSS	:	Global Navigation Satellite System

GOI	:	Government of India
GPS	:	Global Positioning System
GRC	:	Grievance Redress Committee
GRM	:	Grievance Redress Mechanism
GS	:	General Specifications
HDPE	:	High Density Polyethylene
HFL	:	Highest Flood Level
HP/BHP	:	Horse Power/ Brake Horse Power
HORC	:	Haryana Orbital Rail Corridor
HV	:	High Voltage
IC	:	Integrated Circuit
ID	:	Identification
IISWBM	:	Indian Institute of Social Welfare & Business Management
IMP	:	Interface Management Plan
INR	:	Indian Rupee
IP	:	Point of Intersection
IR	:	Indian Railways
IRC	:	Indian Road Congress
IRJ	:	Insulated Rail Joints
IRS	:	Indian Railway Standards
IS	:	Indian Standards
ISO	:	International Organization for Standardization
IT	:	Information Technology
ITP	:	Inspection and Test Plan
ITT	:	Instruction to Tenderers
LAN	:	Local Area Network
LCD	:	Liquid crystal Display

LCX	:	Leaky Coaxial Cable
LED	:	Light Emitting Diode
LV	:	Low Voltage
LWL	:	Lowest Water Level
MC	:	Municipal Corporation
MCB/LV	:	Miniature Circuit Breaker/ Low Voltage
MCCB	:	Moulded Case Circuit Breaker
MDR	:	Major District Roads
MOR	:	Ministry of Railway
MPR	:	Monthly Progress Report
MQR	:	Monthly Quality Report
MS	:	Method Statement
MSDS	:	Material Safety Data Sheet
MSL	:	Mean sea level
NABL	:	National Accreditation Board for Testing and Calibration Laboratories
NCR	:	Non conformity Report
NGO	:	Non-Governmental Organization
NH	:	National Highway
NHAI	:	National Highway Authority of India
NONO	:	Notice of No Objection
NONOC	:	Notice of No Objection with Comments
NOO	:	Notice of Objection
NR	:	Not Reviewed
O&M	:	Operation and maintenance
OCS	:	Overhead Catenary System
ODR	:	Other District Roads (ODR)

OEM	:	Original Equipment Manufacturer
OFC	:	Optical Fibre Cable
OHE	:	Over Head Electrification
OHSAS	:	Occupational Health and Safety Assessment Series
PCC	:	Particular Conditions of Contract
PDF	:	Portable Document Format
PMIS	:	Project Management Information System
PPE	:	Personal Protective Equipment
PQMP	:	Procurement Quality Management Plan
PR	:	Public Relation
PVC	:	Polyvinyl Chloride
PWD	:	Public Works Department
QA	:	Quality Assurance
RAP	:	Resettlement Action Plan
RC	:	Reinforced Concrete
RCC	:	Reinforced Cement Concrete
RDSO	:	Research Designs and Standards Organisation
RFI	:	Request for Inspection
RFO	:	Rail Fly Over
RINL	:	Rashtriya Ispat Nigam Limited
RL	:	Rail Level
ROM	:	Read Only Memory
ROW	:	Right of Way
ROB	:	Road Over Bridge
RUB	:	Road Under Bridge
S&T	:	Signalling and Telecommunication
SAIL	:	Steel Authority of India Limited

SAT	:	System Acceptance Test(s)
SH	:	State Highway
SI	:	International System of Units
SOD	:	Schedule of Dimensions
SP	:	Sectioning Post
SQMP	:	Site Quality Management Plan
SRR	:	Submission Review Request
SSP	:	Sub-sectioning Post
ST	:	Straight to Transition
TC	:	Transition to Circular
TCP	:	Traffic Control Plan
T&P	:	Tools & Plants
TS	:	Transition to Straight
TSS	:	Traction Substation
UG	:	Under Ground
UPS	:	Uninterrupted Power Supply
USB	:	Universal Serial Bus
UTM	:	Universal Transverse Mercator
VN	:	Variation Notice
WGS84	:	WorldGeodeticSystem84
WHO	:	World Health Organisation
WQMP	:	Works Quality Management Plan
XLPE	:	Cross Linked Polyethylene

3020 CORRESPONDENCE, COMMUNICATIONS AND SUBMISSION

1. General

- 1) Where the Contract requires communications for 'approval', 'certification', 'consent', 'determination', 'notice', 'review', 'application', and request', these communications shall be in writing. The Contractor shall issue communications in compliance with such Classified Distinctions, following which the Engineer's response to such communications shall generally be given or issued to each communication in the form (as applicable) of a "Notice of No Objection", "Notice of No Objection with Comments", "Notice of Objection", or "Not Reviewed".
- 2) The Engineer's responses to Contractor's submissions shall be given or issued in accordance with his authorized duties and shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract, including responsibility for errors, omissions discrepancies and non-compliance.
- 3) Unless otherwise stated in the Contract, each review period for an Engineer's response shall not exceed twenty-one (21) days. The Contractor shall make allowance for the Engineer's review period in his planning and programming of submissions under the Contract.

2. Submission Procedure

- 1) As outputs of the Contractor's activities, all submissions including detail arrangement of the Contractor's proposal, Contractor's proposals for Variation and adjustment, Statement, notices, and applications shall be submitted to the Engineer for a relevant Classified Distinction, such as for 'approval', 'certification', 'consent', 'determination', 'notice', 'review', 'application', and 'request' as specified in the Contract. The requirements of the Technical Specifications shall prevail over those of the General Specifications in the event of any discrepancy.
- 2) Each of Contractor's submission of Contractor's Documents shall include:
 - a) A brief introduction to explain sub system or part of the Works to which the submission refers,
 - b) a list of the documents enclosed with the submission,
 - c) an outline of how the submission meets all relevant requirements of the Works Requirements, and
 - d) Submission Review Request.
- 3) The Submission Review Request (SRR), shall include the date of submission, the submission reference number, the submission title, the stage of submission, and the authorized signature of the Contractor's Representative, to confirm that, in the opinion of the Contractor, and where applicable, the submission:
 - a) complies with all relevant requirements of the Contract;

-
- b) conforms to all interface requirements;
 - c) contains, or is based on auditable and proven or verifiable calculations and designs, as applicable;
 - d) has been properly approved by the Contractor, according to the Contractor's Quality Management System, to confirm its completeness, accuracy, adequacy and validity;
 - e) has accounted for all necessary approvals and permissions required to be given by statutory bodies or similar organizations, and that, where required, such approvals and permits have been granted; and
 - f) contains are view and reply sheet.
- 4) If, in the Engineer's opinion, following receipt of a submission there is a benefit to be gained from a meeting with the Contractor to clarify or discuss any of the contents of the submission, he shall notify the Contractor accordingly, giving not less than five (5) working days advance written notice. The Contractor shall attend at the time and place as notified by the Engineer. The Contractor shall record and endorse all relevant deliberations and conclusions of any such meetings and submit to the Engineer the records, duly endorsed by the Engineer, within seven (7) days after the meeting.
 - 5) Unless otherwise specified in the Contract or agreed with the Engineer, all submissions shall comprise one (1) original set and five (5) hard copy sets accompanied with one (1) electronic set on CD or DVD including PDF files for the scanned original set.

3. Engineer's Response

- 1) Unless otherwise specified in the Contract, Engineer's responses shall be given within twenty-one (21) days of receipt of a Contractor's submission. The Engineer will respond in one of the following four ways:
 - (a) "Notice of No Objection" (NONO);
 - (b) "Notice of No Objection with Comments" (NONOC);
 - (c) "Notice of Objection" (NOO);
 - (d) "Not Reviewed" (NR).
- 2) If the Engineer, having reviewed the submission, has not discovered any non-compliance with the Contract, it will be returned endorsed with the Engineer's signature and the words "Notice of No Objection". Receipt of such "Notice of No Objection" entitles the Contractor to proceed to the next stage of the Works.
- 3) If the Engineer discovers minor non-compliance, discrepancies, omissions, or errors that, in his opinion, are not of a fundamental nature, he may return the submission endorsed with the Engineer's signature and the words "Notice of No Objection with Comments", and include details of the comments that are required to be incorporated in order for the

submission to comply with the Contract. Issue of a "Notice of No Objection with Comments" entitles the Contractor to proceed to the next stage of the Works, provided all of the Engineer's comments are taken into account and implemented.

- 4) If the Engineer issues a "Notice of No Objection with Comments", the Contractor shall resubmit the affected part(s) of the submission, clearly demonstrating how the Engineer's comments have been taken into account, and resubmit amended or corrected material by the date specified by the Engineer or (if no such date has been specified) within fourteen (14) days of issue of the Engineer's comments.
- 5) If the Engineer discovers major non-compliance, discrepancies, omissions or errors that, in his opinion, are of a fundamental nature, he may return the communication endorsed with the Engineer's signature and the words "Notice of Objection", and include details of the amendments, inclusions or improvements required in order to comply with the Contract. The issuance of a "Notice of Objection" does not entitle the Contractor to proceed to the next stage of the Works.
- 6) If the Engineer issues a "Notice of Objection", the Contractor shall resubmit the complete submission, clearly demonstrating how the Engineer's comments have been taken into account and resubmit amended or corrected material by the date specified by the Engineer or (if no such date has been specified) within fourteen (14) days of issue of the Engineer's comments. If the Contractor proceeds with any Works without an Engineer's Notice of No Objection or Notice of No Objection with Comments having been issued, it does so at its own risk and responsibility.
- 7) If the Engineer discovers that submitted documents are incomplete and the Engineer could not carry out the required review, then the Engineer may return the submission endorsed with the Engineer's signature and the words "Not Reviewed" and include details of the amendments the amendments, inclusions or improvements that are required in order to comply with the Contract. Issue of a "Not Reviewed" does not entitle the Contractor to proceed to the next stage of the Works until all of the Engineer's comments have been fully taken into account and a satisfactory resubmission has been made (meaning one which results in either a "Notice of No Objection" or "Notice of No Objection with Comments").

- 8) For the avoidance of doubt, any change or additional work arising out of or becoming necessary due to any errors, omissions, discrepancies, or non-compliances on the part of the Contractor in the preparation, submission or resubmissions of Contractor's Documents shall not constitute a Variation.

4. Document Control Procedure

- 1) Within twenty-eight (28) days after the Commencement Date, the Contractor shall submit the Method Statement for the control of document and management information to the Engineer for consent, which with regards to control of document shall include but not be limited to the following:
 - a) identification and description such as title, date, authors (editor, reviewer, responsible person and reference number),
 - b) format such as letter, submission, transmittal, request, notice, application, statement, software including their version, and media, and
 - c) review and approval for conformity with the Contract, and adequacy of the submission or Contractor's proposal in case of Variation.
- 2) Unless otherwise defined in the Contract, the Contractor shall coordinate with sample forms to be utilized with some submission in its document control procedure which are provided by the Engineer at the Commencement Date.

5. Project Information and Communication System

5.1 Document Control System

- 1) Employer is in the process of implementing a document control system such that all drawings/documents related to the construction phase are well documented and archived, etc. The Contractor shall utilize the document control system being setup by the Employer such that all documents generated by the Contractor can be transmitted to the Engineer by electronic means (and vice versa) and that all documents generated by either party are electronically captured at the point of origin and can be reproduced later, electronically and in hard copy. In addition to the Contractor's submittals referenced in Sub-Division 3020, Sub-Clause 2.0 [Submission Procedure], Contractor shall also transmit all documents through Document Control system provided by the Employer.
- 2) Employer shall provide access from its system to the Contractor for communication and for storing the documents. The Contractor shall be responsible to maintain periodical backup of data/documents for his record.
- 3) The Method Statement for the control of document and management information as specified in the Clause 4 [Document Control Procedure] under Sub-Division 3020 shall

also detail the uploading, maintaining, and archiving the following submittals, including but not limited to:

- a) Contractual Works Programmes, Contractual Works Programmes and supporting reports (including plans) as per the format and using the software as defined in the Contract,
- b) drawings and designs created by the Contractor as per the construction asset (classification) and on the software platform defined in the Contract,
- c) records of measurement or Contractor's Statements or both, in a format defined in the Contract,
- d) construction asset details needing to be updated in the Contractor's Monthly Progress Reports,
- e) geo-referencing of the alignment,
- f) geo-referencing co-ordinates of assets into a geographic information system (GIS) which the Contractor's Monthly Progress Report has utilised,
- g) Contractor's Monthly Progress Reports, and
- h) source files for submittal as required by the Engineer.

5.2 Project Management Information System (PMIS)

- 1) The Employer is in the process of implementing PMIS to monitor and track the progress of the whole project, tailored to match the specific needs of the project.
- 2) The aim is to provide the Employer and the Engineer with insights critical for the smooth and timely execution of the project. The Contractor will be required to submit the data and information for the PMIS as described by the Engineer.
- 3) The Method Statement for the control of document and management information as specified in the Clause 4 [Document Control Procedure] under Sub-Division 3020 shall also detail the PMIS.
- 4) The information shall include but shall not be limited to:
 - a) Schedule related information
 - b) Progress related information
 - c) Issues related to the project
 - d) Safety related information
 - e) Quality related information
- 5) The integrated system will also take inputs from Primavera and project the possible delays and achievements of the various Contractors and also the overall project. The management team can review the overall health and synopsis of the entire project on the master dashboard.

3030 FORMAT OF DOCUMENTS AND DRAWINGS

1. General

A document may consist of document cover, revision history, table of contents, text, and attachment(s) in this sequence where applicable. The document control procedure to be submitted to the Engineer in accordance with Sub-Clause 4 of Sub-Division 3020 [Document Control Procedure] shall incorporate the requirements specified in this Sub-Division.

1.1 Cover format (Times New Roman)

- a) Heading and name of client are on top, in capital, size 10.
- b) Name of the project is in bold letters, size 22.
- c) Content of document is in bold capitals, size 16.
- d) Document reference number is in bold capitals, size 12.
- e) Company name: capitals, size 14.
- f) Company logo is in size 35x 40 (W x H) mm.
- g) Address of the company is in regular letters, size 10.

1.2 Document format (Times New Roman)

- a) General regulations

Letter size: 12.

Paper size A4 (A3 is used for tables and figures)

Periods and semi colons shall be placed right after the preceding letter or number. The space between paragraphs and headings shall be 1.15 lines.

Main headings: are placed in number order, with a period placed right after the number, followed by a space, with the heading text in bold capital letters. For example,

1. IN BOLD CAPITAL

Other headings: are placed in number order, with a period placed right after the number, followed by a space, with the heading in regular letters. For example,

1. In bold normal letter

- b) Notes

Notes relating to tables shall be included in the table; in case they are not able to be included, it shall be clearly specified that they are notes relating to a particular table reference.

The text of notes is usually given in italics.

2. Language of Communication and Units

The ruling language of the Contract shall be as stated in the Particular Conditions of Contract. If no language is stated, the language for communications shall be the English language. The Contractor shall utilize the SI system of measurement units.

3. Photographs

The Contractor shall take digital photographs of the Works on at least a monthly basis and include them in the Contractor's Monthly Progress Reports. These photographs shall be taken at locations agreed with the Engineer as appropriate to record progress, quality and other relevant aspects of the Works. The number of the photographs shall be sufficient to cover all aspects of the Works in progress.

The digital photograph shall be colour jpeg image format with standard aspect ratio 4:3 and resolution of 300 DPI for all graphics in the printing. Read Only Memory (ROM) based electronic media of digital photographs shall be included as an integral part of the submittal. The locations and directions of the photographs taken shall be marked on a key plan of the Site, to be included in the submittal.

Each photograph shall be properly numbered and dated and include a brief explanatory note of the subject matter of the photograph, for ease of understanding.

Immediately before the issue of any Taking-Over Certificates for Works or Sections, the Contractor shall commission a professional photographer (or any person with equivalent skills) and take photographs of (where applicable, the interior to be taken by wide angle lenses) of exterior and all salient sections and features of the Works, for record purposes. The Contractor shall submit to the Engineer for approval as an integral part of the As-Built Documents, six (6) separately bound sets of colour prints of such record photographs, including one (1) set of Read Only Memory (ROM)-based electronic media containing an original jpeg image file of each photograph in accordance with the directory and naming convention agreed with the Engineer. The number of colour print images in a set shall not exceed 100, and each hard copy set of photographs shall be of A4 size with a cover page indicating information such as date, titles of the project and the Contract, and name of the Employer and the Contractor. Each of the photographs shall be properly numbered, dated and include a brief explanatory note of the subject matter.

4. Videos

On a monthly basis, or earlier if directed by the Engineer, the Contractor shall take digital video record store cord the progress of the Works on Site (minimum duration of each to be ten minutes, covering all the areas of the Site where works are ongoing) as agreed with the Engineer, and submit the videos every month along with the Monthly Progress Report. The first video shall be made before the Commencement of the Works on the Site. The Contractor shall install CCTV cameras at location of major bridge i.e. NH-352W on Pataudi road and provide access to the Employer and Engineer for monitoring the work on day-to-day basis.

Within twenty-eight (28) days of receipt of the Letter of Acceptance, but in no case later than the Commencement Date, the Contractor shall submit to the Engineer a proposal for the provision of digital video recordings along with commentary of the progress of the Works.

The videos shall be taken by a competent person from an approved professional service provider (or any person with equivalent skills). The video shooting locations are to be identified in the a fore mentioned proposal. This video should be submitted in a video format acceptable to the Engineer, with or without editing.

Immediately before the issue of the Taking-Over Certificate for the whole of the Works, the Contractor shall complete video recording and start editing the videos taken, to produce a 60-minute digital video-audio presentation with a suitable title. Each section of the video shall indicate the date on which it was taken. The presentation material shall have narration in English. The Contractor shall use a professional service provider to video, edit and produce the presentation material.

5. CAD Standards

5.1 General

The Contractor shall establish his own CAD operation team utilising Autodesk's AutoCAD2016 or higher release. The Contractor's CAD manager shall request the Engineer to obtain CAD resource libraries and file naming conventions before commencement of the Works. In addition to the Contractor's submittal of drawings and designs, the Contractor shall upload, maintain, and archive its source files utilising CAD software defined by the Contract into DCS in accordance with Sub-Paragraph 5 of Sub-Division 3020 [Correspondence, Communications, and Submission]. The Contractor shall also ensure its quality management of CAD drawings and design in accordance with the WQMP under Sub-Division 7010 [Quality Management].

5.2 CAD Resource Libraries

The Contractor shall utilise CAD resource libraries provided by the Engineer to execute routines and scripts for CAD workings. Resource libraries shall include and use references which include, but are not limited to, the following:

- a) title block,
- b) project co-ordination,
- c) track horizontal alignment,
- d) track alignment vertical profile reference,
- e) geo-referencing for alignment,
- f) existing utility base map,
- g) batch processing script files,
- h) layers and symbols,
- i) plotting and pentable, and
- j) printing size for each submittal.

5.3 File Naming Convention

The Contractor shall adopt the file naming convention provided by the Engineer for discipline drawings and designs. These conventions shall include, but are not limited to, the following:

- a) file directories and folders structure,
- b) sequence of characters for directories, folders, and files,
- c) fields to comprise a name of directories, folders, and files, and
- d) codes to interpret in the context of the field.

5.4 Drawings and Designs on Document Control System

The working files of drawings and design shall be in accordance with the Sub-Clauses 5.2 and 5.3 above. In addition to the Contractor's submittal of drawings and designs, the Contractor shall upload, maintain, and archive the related source files, created by utilising the CAD software specified in the Contract, in the document control system. The Engineer may also require the Contractor to upload his working CAD source files in the document control system before submission, so that the Engineer can access working files in order to observe progress.

5.5 CAD Quality Management

The Contractor shall ensure that the quality management of their CAD drawings and designs are in accordance with the WQMP. Where CAD drawings and designs have been specified as Contractor's Documents, the Contractor's policy in the WQMP shall be clearly identified. In addition, the process of data checking in the WQMP shall be determined by the Contractor.

This process shall include:

- a) elimination of spurious data outside normal file extension limits
- b) checks on set-up parameters,
- c) testing of container allocation within files including layers by switching on and off containers,
- d) elimination of information which is not to scale,
- e) purging all unnecessary data,
- f) elimination of references to un-checkable (i.e. uncontrolled) files such as renditions,
- g) formats that do not maintain dimensional integrity shall not be used,
- h) CAD resource libraries,
- i) file naming conventions,
- j) other contents checks, and
- k) data integrity through document control system.

Division 4000: Works Administration

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4010 LAWS, STANDARDS AND CODES

1. Compliance with the Laws:

The Contractor shall familiarize themselves and conform in all aspects with:

- a) The provision of any enactment in India of any authority having jurisdiction over any part of the Works, as applicable from time to time;
- b) The Laws of local bodies and utilities applicable to the Works.

The Contractor shall give all notices required by the Laws, and pay all fees, taxes and bills payable in respect thereof. The Contractor will arrange necessary clearances and approvals to commence the Works on Site.

Ignorance of the Laws shall not constitute a basis for any claim at any stage of the Works.

The Contractor shall indemnify the Employer and the Engineer against all penalties and liabilities of every kind assessed because of breach of any such Laws.

2. Relevant Documents

- 2.1 The Bidding Documents include Reference Information/ Reports. The data provided in the Reference Information/ Reports is indicative and for reference only. The Employer bears no responsibility as to its accuracy and adequacy.

3. Applicable Standards and Codes

- 3.1 Where reference is made in the Works Requirements to a particular standard or code, the provisions of both these documents shall be considered a minimum level of the quality standard applicable to the Works under the Contract. These standards and codes shall be adopted by the Contractor unless the Contractor has submitted proposals to adopt alternative standards or codes and has received an approval from the Engineer.
- 3.2 Where reference is made to two (2) or more codes in parallel, the Engineer shall have the right to apply that which is more stringent, and the Accepted Contract Amount shall be deemed to have allowed for such decision of the Engineer. Where there is a conflict or discrepancy between the requirements of the referenced standards or codes, the Engineer shall determine the governing requirements on the principle that the higher or more stringent requirements shall govern.
- 3.3 For the purpose of the Contract, and where the applicable standards or codes are not described in the Works Requirements, the standards and codes used shall be in accordance with the following sequence:

Applicable Indian/International standards or codes which are equivalent to standards or codes specified in the Technical Specifications for the particular Plant, Materials, equipment, processor systems proposed by the Contractor.

4. Other Standards and Codes

- 4.1 Other standards and codes may be acceptable as substitutes of the standards and codes referred to in the Contract, provided that the Contractor is able to demonstrate for the approval of the Engineer that the standard or code proposed by the Contractor as a substitute is equal to or better than the standard or code referred to in the Contract. The design, Materials and the workmanship of the Works meeting such approved substitutes shall in principle be acceptable under the Contract.
- 4.2 Whenever the Contractor wishes to propose a substitute to any standard or code referred to in the Contract, the Contractor shall at his own risk and responsibility submit a request for substitution to the Engineer, including all information and data necessary to demonstrate that the proposed substitute is equal to or better than the standard or code referred to in the Contract. Differences between the referred standard or code and the proposed substitute shall be fully and clearly described in the proposal. Such request for substitution shall be submitted to the Engineer at least 28 days prior to the date when the Contractor requires the Engineer's consent and be sufficiently in advance so as to avoid causing delay to the progress of the Works. The information and data submitted with the Contractor's proposal shall include a copy of the substitute standard or code proposed by the Contractor, including where applicable an English language translation of same.
- 4.3 The Engineer shall review the Contractor's proposal documents and inform the Contractor of his decision whether the proposed substitute is acceptable or otherwise with comments. The Contractor may submit a second proposal should the first proposal not be accepted, provided that the agreed time schedule of the Works including Milestones (if any), and Time(s) for Completion will not be adversely affected. No third proposal will in principle be entertained by the Engineer.
- 4.4 The Engineer shall have the right to request the Contractor to submit supplementary information or data or both which he considers is required for determining the acceptability or otherwise of the Contractor's proposed substitute standards or codes. The Engineer, at the risk and responsibility of the Contractor, may defer response to a Contractor's request for substitution, unless and until the Engineer receives copies of such supplementary information or data or both.
- 4.5 Should the Engineer not respond to the Contractor's request for substitution within fifty-six (56) days after the Engineer's receipt of the complete proposal, the Engineer shall be deemed to have unconditionally accepted the proposed substitute.
- 4.6 In the event that the Engineer does not accept the Contractor's proposed substitute:
- i. The Contractor shall comply with the standard or code referred to in the Contract;

-
- ii. Milestones (if any) and Time for Completion shall not be extended and the Contractor shall not be entitled to additional payment.
5. Copy of Standards and Codes
- 5.1 The Contractor shall provide and maintain in the Engineer's office two (02) hardcopies, two (02) Hardcopies for Employer's office and two (02) licenses for online access where applicable, of each of all standards and codes specified or shown in the Contract, within fifty-six (56) days from the Commencement Date. Copies of any standards and codes subsequently consented to by the Engineer shall be added to the archive without delay.

4020 WORKS MANAGEMENT PLANNING

1. General

- 1.1 In order to organise the various submissions required by the Contract, and to ensure the Contractor's understanding and compliance with the requirements of the Contract, the Contractor shall develop a series of management plans. These management plans will serve to structure the Contractor's submissions in such a manner that the Contractor can develop and prepare the submissions and the Engineer can review and comment on them in a prescribed manner.
- 1.2 The management plans shall be configured as an integrated plan with associated documents, each covering one of the subjects listed below. These plans and documents shall be co-ordinated with each other and shall collectively define, describe and encompass the Contractor's proposed methods, procedures, processes, organisation, sequencing of activities, etc. and shall show how these combine to assure that the Works fully meet the requirements of the Contract with respect to the subjects listed. Unless otherwise stated in the Contract, all plans and documents shall be submitted in preliminary form within fifty-six (56) days after the Commencement Date, followed by detailed plans within fifty-six (56) days after the preliminary submission. Further submissions shall be made:
- i. When required in accordance with the Contractual Works Programme;
 - ii. Whenever the development of the Contractor's planning allows the plan to be developed further;
 - iii. In response to comments made by the Engineer in accordance with clause 3. [Engineer's Response] of Sub-Division 3020 [Correspondence, Communications and Submissions] of the General Specifications;
 - iv. whenever any change occurs that invalidates the information contained in a previously submitted and reviewed document, within fourteen (14) days of occurrence of such change; and
 - v. when requested by the Engineer from time-to-time.

2. General Organization

- 2.1 The Plans listed below shall be developed and submitted by the Contractor for the Engineer's review:
- 1) Project Management Plans
 - i. Contractor's Project Plan
 - ii. Interface Management Plan
 - 2) Works Quality Management Plan
 - 3) Construction Management Plans
 - i. Construction Plan

- ii. Construction Environmental Management Plan
- 4) Completion Management Plans
 - i. Commissioning Plan
 - ii. Defects Management Plan

3. Project Management Plan

The overall management of the Works shall be the Contractor's responsibility. The organisation of the resources for the design, procurement, manufacture, delivery, installation, testing and commissioning, and setting to work is to be developed into a Project Management Plan. Each section of this plan shall fully describe the Contractor's understanding of the Works and the management skills and structures required to achieve the same.

3.1 Contractor's Project Plan

- a) The Contractor's Project Plan shall provide a clear overview of the Contractor's organisation, management systems and the methods to be used for the execution and completion of the Works.
- b) The Contractor's Project Plan shall include a summary description of each and every stage of implementation of the Works, clearly showing the principal organisational interfaces both within the Contractor's own organisation (including Subcontractors of every tier) and with Interfacing Contractors and Interfacing Parties, defining how each of these interfaces is to be managed and controlled. An organisation chart shall be produced to illustrate the subdivision of the Works into elements for effective technical and managerial control, the reporting structure and the interface relationships among all parties involved. The names, addresses, telephone numbers and email addresses of all principal contacts shall be listed.
- c) The Contractor's Project Plan shall contain structured organisation charts showing the hierarchical relationship of the Contractor's organisation (including Subcontractors of every tier). The organisation charts shall be produced in such a manner that the basic chart shows the overall organisation structure supported by the subsidiary charts detailing the internal structure of the various departments or sections of the overall organisation.
- d) The Contractor's Project Plan shall include full details of the qualifications, experience, authority and responsibility of the personnel assigned to all key positions of the Contractor's organisation (including Subcontractors of every tier). As a minimum, this shall include all levels down to senior managers and shall include the personnel responsible for each individual department and functional group. A clear reference shall be given to the location of staff (e.g. site-resident, factory-based, etc.). The names,

- addresses, telephone numbers and email addresses of all principal contacts shall be listed.
- e) The Contractor's Project Plan shall define the Contractor's management structure for the execution of the Works and for the control of the safety and quality of the Works and shall, without limitation, identify and set out:
- i. The procedure for audits;
 - ii. The procedures for the control of receipt and issue of all Works-related correspondence so as to ensure traceability;
 - iii. The procedures for the filing system to be implemented to maintain the Contractor's records during the course of the Works. The filing system used by the Contractor (and Subcontractors of any tier) shall be compatible with the Engineer's filing system;
 - iv. The procedures for the identification, production, verification, internal approval, review (when required) by the Engineer, distribution, implementation and recording of changes to all drawings, reports, plans and specifications;
 - v. The procedures for the evaluation, selection, engagement and monitoring of Subcontractors/ suppliers together with the means of application of quality assurance to their works including audit and acceptance;
 - vi. The procedure for the regular review and revision of each type of quality plan and its supplemental individual specific quality plans to ensure their continuing suitability and effectiveness, in addition to the method to be used for revision and issue of revised documentation;
 - vii. The procedures for the control, calibration and maintenance of inspection, testing and measuring equipment;
 - viii. The procedures for the selection, indexing, disposition and maintenance for the archiving of project records. A list of items to be archived including their periods of retention shall be submitted to the Engineer for review;
 - ix. The procedures for identifying training needs and for the provision of training of all personnel performing activities affecting quality; and
 - x. The procedures for the control of non-conformities.
- f) Contractor's Representative
- i. The Contractor shall be responsible for the provision of all necessary supervision during the execution of the Works for as long as the Engineer considers necessary for the proper fulfilment of the Contractor's obligations under the Contract.
 - ii. The Contractor shall ensure that he is at all times represented on the Site by competent and authorised English-speaking Contractor's Representative. Such

Contractor's Representative shall be constantly on the Site and shall give his whole time to directing the Contractor's performance of the Works.

- iii. The Engineer shall have the authority to revoke consent to the Contractor's Representative at any time. If such consent is withdrawn the Contractor shall forth with remove the Contractor's Representative from the Site and shall not there after employ him again on the Site in any capacity and shall forth with replace him by another competent and qualified English-speaking Contractor's Representative, whose appointment shall be subject to the Engineer's consent.

3.2 Interface Management Plan

The Contractor shall submit to the Engineer for review a Interface Management Plan in accordance with the requirements of Sub-Division 4040 [Interface, Coordination and Cooperation with Other Parties] of the General Specifications.

4. Works Quality Management Plan

The Contractor shall submit to the Engineer for review a Works Quality Management Plan in accordance with the requirements of Sub-Division 7010 [Quality Management] of the General Specifications.

5. Construction Management Plans

The Construction Management Plans shall be configured as an integrated plans and associated documents, each covering one of the subjects listed below.

The Plans shall be co-ordinated with each other and shall collectively define, describe and encompass the Contractor's proposed methods, procedures, processes, organisation, sequencing of activities, etc. and shall show how these combine together to assure that the Works fully meet the requirements of the Contract with respect to the subjects listed.

5.1 Construction Plan

- a) The Contractor shall prepare plans for construction activities on and off the Site and shall ensure that these are properly co-ordinated with other relevant plans, including those for procurement, delivery, testing and commissioning activities.
- b) The Construction Plan shall contain separate parts for the Contractor's and Subcontractors' on-and off-Site activities.
- c) Each Construction Plan shall identify the scope of activity to be controlled. In relation to such scope of activity, it shall, without limitation, define:
 - i. The organisation of the Contractor's staff directly responsible for the day-to-day management of the activity on or off the Site;
 - ii. The specific allocations of responsibility and authority given to identified personnel for the day-to-day management of the Works with particular reference to the supervision, inspection and testing of the Works;

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- iii. The interfacing and co-ordination required with the Contractor's other related plans;
 - iv. The relevant method statements which are to be developed to a sufficient degree of detail for review by the Engineer;
 - v. The list of procedure and work instructions to manage and control the construction and installation works, including without limitation:
 - The Contractor's arrangements for the security of the Site and the Works area(s);
 - The Contractor's accommodation, storage, car parking, other temporary works or facilities or both, etc.
 - d) The Contractor's arrangements for temporary traffic control, including but not limited to the following:
 - i. Type and main specifications of traffic control devices and facilities;
 - ii. Scale plan of the location/s, clearly identifying existing roads, proposed diversions of pedestrian and road traffic, locations of warning signs and traffic control measures;
 - iii. Details of all lane widths, temporary surfaces, etc.;
 - iv. Construction details of any proposed diversion(s);
 - v. Safety measures including signage and staffing;
 - vi. Programme for installation and erection of traffic control devices and facilities;
 - vii. Traffic control measures during non-working times (including during holiday periods and at night);
 - viii. Details of the personnel responsible for overseeing implementation of all aspects of the temporary traffic control measures.
 - e) The inspection and testing activities for construction or installation activities or both so as to ensure the specified requirements for the Works are met;
 - f) The construction processes including Temporary Works so as to ensure compliance with the Contract. In addition, any software to be used in the construction and installation process shall be identified;
 - g) The construction and installation process so as to ensure clear identification and traceability of Plant and Materials;
 - h) The identification of the inspection and test status of all Plant and Materials during all stages of the construction and installation process to ensure that only products that have passed the required inspections and tests are used in the construction or installation or both;
 - i) The review and disposition of any non-conforming Plant or Materials or both so as to avoid unintended use/installation;
 - j) The assessment and disposition of any non-conforming Plant or Materials or both and approval for reworking or rejection;

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- k) The identification of preventive action so as to prevent any recurrence of similar non-conformance; and
 - l) The handling, storage, packaging, preservation and delivery of Plant and Materials.
 - m) Drawings showing the layout within the Site of the Contractor's temporary facilities, including the Contractor's offices, temporary access roads and other facilities required early in the Contract shall be submitted to the Engineer for review within fourteen (14) days after the Commencement Date.
 - n) Drawings showing the location of stores, laydown/storage areas, workshops, work areas and other major facilities shall be submitted to the Engineer for review as early as possible, but in any case, not later than twenty- eight (28) days before construction of any such facilities.
- 5.2 Construction Environmental Management Plan
- a) Within twenty-eight (28) days of issue of the Letter of Acceptance but in no case later than the Commencement Date, the Contractor shall prepare and submit to the Engineer for review a draft Construction Environmental Management Plan (CEMP) which includes the Contractor's proposed means of complying with the obligations detailed in Division 8000 [Environmental, Social, Health and Safety Management] of the General Specifications. The CEMP shall include, as required, details of compliance with applicable laws and regulations for environmental protection and mitigation requirements, including the AIIB guidelines for environmental and social considerations.
 - b) The CEMP will set out in detail the Contractor's approach for dealing with each of the potential environmental impacts arising from the various construction, installation and other activities involved in the execution of the Works, both on-and off-Site.
 - c) The Contractor shall submit the final CEMP, for review by the Engineer, at least twenty-eight (28) days prior to the commencement of construction activities.
6. Completion Management Plan
- 6.1 The Contractor shall detail the various services required under the Contract to bring the Works to completion into one plan. This co-ordinated approach shall allow the Engineer to review all aspects of completion in an integrated manner.
- a) The Completion Management Plan shall be configured as an integrated plan with associated documents each covering one of the subjects described herein.
 - b) The Plans shall be co-ordinated with each other and shall collectively define, describe and encompass the Contractor's proposed methods, procedures, processes, organisation, sequencing of activities, etc. and shall show how these combine together to assure that the Works truly meet the requirements of the Contract with respect to the matters listed.

6.2 Commissioning Plan

The Contractor shall submit the first draft of the Commissioning Plan to the Engineer within one hundred and eighty (180) days after the Commencement Date.

The Commissioning Plan shall include the following:

(i) Installation Tests Schedule

A comprehensive schedule of Installation Tests as required by Works Requirements -Technical Specifications and in accordance with the programme as described in Clause5 [Inspection, Testing and Commissioning Programme] in Sub-Division 4070 [Works Programme and Schedule] of the General Specifications. The schedule shall be submitted within the period of time laid down in Works Requirements – Technical Specifications, or if none is given not later than fifty six (56) days in advance of the date for the commencement of the Installation Tests.

6.3 Defects Management Plan

The Contractor shall submit to the Engineer for review a Defects Management Plan for the repair, replacing or performance or both of such remedial actions as required to correct any defects in the Works, as may be notified by (or on behalf of) the Employer during the Defects Notification Period (DNP). The first submission of this Plan is required not less than one hundred and eighty two (182) days prior to the due date for issue of the Taking-Over Certificate for the Works or any Section. During the Defects Notification Period the Contractor shall:

- i. endeavor to complete all necessary work in a timely and responsible manner;
- ii. not proceed with any remedial work without the consent of the Employer and Engineer;
- iii. submit a plan that details the methods and timing of any proposed work; and
- iv. update the plan monthly, showing progress of the work and the time to completion

4030 MEETINGS

1. Kick-Off Meeting

The Engineer shall hold Kick-Off Meeting within 7 calendar days from the Commencement Date. Purpose of the Meeting is formally to notify all parties concerned under the Contract that the project has begun, and every party has a common understanding and his role from the Commencement Date until issuance of the Taking-Over Certificate.

At the Kick-Off Meeting, followings will be, but not limited, discussed.

- a) Outline of the Works
- b) Communication rules (process, emails, approvals, etc.)
- c) Other matters regarding proceeding and management of the Contract.
- d) Profile of the Site
- e) Time Schedule List of Contractual Events/ Submissions, including Milestones, Time(s) for Completion and Defects Notification Period(s).
- f) Introduction of key persons of the Contractor and Employer, with role, Function and authority of each person.
- g) Role and responsibility of Emergency notification process.

2. Regular Meetings

- 2.1 The Engineer shall hold regular meetings with the Contractor as necessary for the proper management and co-ordination of the Works. The Contractor's representative and other personnel as considered necessary by the Engineer, shall attend such meetings.
- 2.2 Within twenty eight (28) days after the Commencement Date, the Engineer and the Contractor's Representative shall agree upon a programme for weekly and monthly meetings covering the first three (3) months after such twenty eight (28) days. The Contractor's Representative shall make sure that the Contractor's Personnel designated to attend meetings make themselves available for the meetings. The Engineer shall prepare the agenda for the meetings and the relevant documents to be submitted to the meeting, including as a minimum the minutes of the previous meeting. Thereafter, the programme for weekly and monthly meetings shall be updated monthly in the monthly progress meetings.
- 2.3 The Engineer may initiate ad-hoc meetings as and when the need arises, through prior consultation with the Contractor's Representative where possible, and the Contractor's Representative and other Contractor's Personnel designated by the Engineer and/or the Contractor's Representative shall attend such meetings. The Engineer shall prepare a proposed agenda of the meeting, for prior consultation with the Contractor's Representative where possible.

3. Monthly Progress Meeting

- 3.1 A Monthly Progress Meeting shall be called by the Engineer and shall be held every month within three (3) days following issuance of the Contractor's Monthly Progress Report as described in clause 1 of Sub-Division 4080 [Monthly Progress Report Requirements] of the General Specifications. If the day specified, is not a working day, then the meeting shall be held on the next working day after the specified date. The Engineer shall notify the Contractor of any change in the date or time, or both, of the meeting. The main purpose of the meeting is to discuss progress of the Works and if there is any delay in progress, being encountered by the Contractor, the Contractor shall indicate the cause of delay and present the method of recovery. The results of the discussions of the meeting shall be included in the Contractor's next Monthly Progress Report to be provided as described in Sub-Division 4080 [Monthly Progress Report Requirements] of the General Specifications.

3.2 Meeting agenda

The meeting agenda shall include the following:

Progress planned, and progress achieved, along with the contractor's stated reasons for any delay and actions proposed to be or being taken to reduce or eliminate delays;

- a. Actual return subcontractor's personnel and contractor's equipment assigned compared with the planned requirements, along with the contractor's stated reasons for any differences and actions proposed to be or being taken to improve the situation;
- b. Any difficulties being encountered in the execution of the works, along with the contractor's proposed actions or solutions and any actions required of the engineer;
- c. Any outstanding information/ actions required of the employer, the engineer or authorities or all with jurisdiction; and
- d. Any outstanding information/actions required of the contractor.

3.3 Meeting Procedure

The detailed procedure of the Meeting is as follows:

- a) The Employer shall chair progress meetings every month with the Contractor and the Engineer. These meetings shall be held at dates and times to be advised by the Engineer. Progress meetings shall not be later than ten (10) days after the issue of the Contractor's Monthly Progress Report.
- b) The Engineer shall convene at his discretion, at any time upon reasonable notice to the Contractor, any meeting, either on or off the Site, to discuss and address any aspect of the works or the Contract. The Contractor shall attend any such meetings convened by the Engineer.

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- c) On monthly basis, the Contractor shall arrange for its Project Manager, Superintendent, and Scheduler to meet at the site with the Engineer to review Contractor's Monthly Programme Update before Monthly Progress Meeting. A turnaround document as per the agreed computer software generated by the Contractor shall be marked-up to show the agreed upon progress, signed by the Contractor, and a signed copy issued to the Engineer. The Monthly Programme Update shall show up-to-date and accurate progress of the work and shall forecast the completion date for activities in progress based on the approved Contractual Works Programme. The Monthly Programme Update shall be prepared by the Contractor in co-ordination with all its principal subcontractors and suppliers and the other Contractors if necessary.
 - d) Monthly Programme Update shall include actual activity data for progress to date, but in the Monthly Programme Update, the Contractor shall not change the schedule logic, the activity relationships/dependencies, or planned activity durations and shall not add or delete activities. If the Contractor believes that any of these items should be changed, then a proposed revised Contractual Works Programmes shall be submitted by the Contractor to the Engineer. Although activities shall not be added or deleted in the Monthly Programme Update, activities that have been recommended and consented by the Engineer shall be included in the next Monthly Programme Update.
 - e) The Contractor will be notified by the Engineer, in writing, as to acceptance, reasons for rejection, or any revisions required to the Programme. Changes to the Programme agreed upon by the Contractor and the Engineer and consented by the Employer shall be incorporated by the Contractor into the Programme within seven (7) calendar days after such agreement. Changes on which the Contractor and the Engineer cannot agree shall be documented and shall be subject to the final decision of the Employer and which shall be binding.
 - f) The Contractor shall adjust the data date ("as of date") to be the same as the end date for the invoicing period.
 - g) Monthly Programme Update shall show actual activity commencement and completion dates, the actual remaining duration in workdays and physical percent complete for those activities commenced and not complete. For the stored materials, the update shall show the amount of material stored, representing the total cost of the materials delivered and properly stored. The Monthly Programme Update shall also show a graphic comparison of the current status and the Contractual Works Programme for each activity in the network.
 - h) Each Monthly Programme Update shall continue to show all work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed.
 - i) Monthly Programme Updates shall also contain the following information for each activity:

- i. Activity identification number, description and estimated original duration in work days;
 - ii. Calculated early and late finish dates;
 - iii. Actual start and actual finish dates, and remaining duration, in calendar, for those activities started and not completed;
 - iv. Days ahead and/or behind schedule of milestones related to the Key Dates and the Times for Completion;
 - v. Physical percent complete for each activity;
 - vi. A float analysis of the longest path through the Programme detailing potential delays and areas for acceleration. Actual start and finish dates shall be indicated for each activity as appropriate. Completed activities shall be omitted from remaining float and late start sorts.
- j) The deliberation of all meetings shall be recorded by the Engineer as Minutes of Meeting.

3.4 Co-ordination Meeting

The Contractor shall organise co-ordination meetings as required with related parties. Before conducting such co-ordination meetings with there lated parties, the Contractor shall give prior notice and agenda of the meeting to the Engineer and the Employer.

3.5 Meetings called by the Contractor

The Contractor's Representative may request the Engineer to meet him and other Contractor's Personnel whenever necessary to discuss the issues pertaining to the Works and the Contract. The Engineer shall comply with the request where physically possible. The Contractor shall prepare a proposed agenda for the meeting and submit it to the Engineer when making request for the meeting.

3.6 Other Meetings

The Contractor's Representative shall attend, and shall arrange for representatives of the Subcontractors, public departments, transportation companies, utility undertakings and other contractors employed by the Employer to attend, meetings when required by the Engineer. The Contractor shall inform the Engineer in 48 hours (or such a shorter period as agreed by the Engineer) before conducting meetings with the public departments, transportation companies, utility undertakings and/or the other contractors and shall give the Engineer an opportunity to attend such meetings.

3.7 Minutes of Meetings

The Engineer in principle shall be responsible for the preparation of the minutes of meetings, circulating it to the parties who attended the meeting before the next relevant meeting. The Engineer shall also be responsible for the minutes of ad-hoc meetings in a

similar manner, unless otherwise agreed with the Employer. All minutes of meetings shall be prepared in the Language stipulated in the Particular Conditions. The Engineer shall submit six (6) copies of such minutes to the Employer, unless otherwise instructed by the Employer.

4040 INTERFACE, COORDINATION AND COOPERATION WITH OTHER PARTIES

1. General

- 1.1 The construction of New Railway Line over NH-352 W (Pataudi Road) is to be done through several packages of works as defined in Clause 3 of Sub-Division 1020 of the General Specifications.
- 1.2 The careful coordination of all technical and programming matters between the relevant parties is a critical element in achieving a fully coordinated construction process. This Sub-Division describes the Contractor's responsibilities with regard to interface management and coordination and includes interfacing with other contractors employed by the Employer (referred to as "Interfacing Contractors" hereinafter), and Interfacing Parties including entities such as local authorities, statutory bodies, public utility companies, private service providers, consultants or contractors whether or not specifically mentioned in the Contract. This responsibility is not limited to a particular number of Interfacing Contractors and Interfacing Parties, and all interfaces as required in the Contract are the sole responsibility of the Contractor.
- 1.3 Interfaces internal to the Contract are the sole responsibility of the Contractor and are not covered by this Sub-Division.

2. Responsibilities of the Contractor

- 2.1 So as to ensure that the whole Project including Interfacing Contractors' works as well as the Contractor's Works shall be executed in the most efficient manner in the best interest of the Employer, the Contractor shall:
 - a) Take the lead in the management of the coordination process with Interfacing Contractors and Interfacing Parties.
 - b) Accord access to the Site and/or services to any related party in the Contract including members of the Interfacing Contractors, Interfacing Parties and the Engineer/Employer.
 - c) Not impede the work of the Interfacing Contractors and Interfacing Parties and shall accord the most reasonable opportunities and facilities.
- 2.2 The Contractor shall, in accordance with the Works Requirements, coordinate and integrate the:
 - a) Contractor's own Works under the Contract with the works of the Interfacing Contractors and Interfacing Parties.
 - b) Works of the Interfacing Contractors and Interfacing Parties.
- 2.3 The Contractor shall comply with any instruction which the Engineer may give. The Contractor's responsibilities shall neither be mitigated nor in any way affected by virtue of similar responsibilities being placed on the Interfacing Contractors. The Contractor shall be responsible for the detailed coordination of his manufacturing, installation, construction, testing and commissioning activities.

- 2.4 Where the Contractor or an Interfacing Contractor is assigned a leading role, he is referred to as the "Lead Contractor". The Lead Contractor shall take the lead in the management of the coordination for specific interface requirement(s), with the Contractor and Interfacing Contractors.
- 2.5 The Contractor shall carefully review any pertinent information made available by the Engineer relating to the nature and programming of all related parties' contracts and use such information in his planning of the Works.
- 2.6 The Contractor shall communicate and exchange information directly with the Interfacing Contractors and Interfacing Parties with a copy to the Engineer for information. Information as necessary to fulfil the Contractor's interface obligations shall be directly requested and obtained from the Interfacing Contractors and Interfacing Parties with a copy to the Engineer for information and receipt acknowledged.
- 2.7 The Contractor shall ensure that the Contractor's requirements, including any design inputs to other packages, are provided to all related parties of the Interfacing Contractors and Interfacing Parties before the cut-off dates as identified in the Interface Management Plan to be developed by the Contractor and consented to by the Engineer.
- 2.8 Where other contracts requiring interface are yet to be awarded, the Contractor shall proceed with coordination activities with the Engineer, until such time as the Interfacing Contractors are employed by the Employer.
- 2.9 The Contractor shall take all reasonable steps to ensure that the Works are integrated with the manufacture, installation, execution and testing of such other works and shall in particular but without limitation to:
 - a) Comply with any instruction which the Engineer may give for the integration of the Works with the design of any other part of the Project;
 - b) Consult, liaise and cooperate with those responsible for carrying out such other works, including where necessary, in the preparation of the respective designs and drawings, the preparation of coordinated programmes, method statements, coordination drawings and specifications together with arrangements of service priorities and zoning to coordinate the priorities of tasks and division of the are a together with the items mentioned previously; and
 - c) Participate in the Integrated Testing and Commissioning of the Works with the Interfacing Contractors and Interfacing Parties and demonstrate to the satisfaction of the Engineer that the Works have been constructed in a manner compatible with the works of the Interfacing Contractors and Interfacing Parties.
- 2.10 There shall be a continuous requirement for coordination by the Contractor between Interfacing Contractors/ Interfacing Parties.
- 2.11 During the Works the Contractor shall provide within the Site the facilities including, but not limited to, staging, storage and unloading, and temporary storage areas for the temporary use of Interfacing Contractors and/or Interfacing Parties, as may reasonably be required during the construction/ installation and commissioning process. Where separate locations need to be provided for each of the Interfacing Contractors and/or Interfacing Parties, prior to construction commencing, specific details shall be coordinated and agreed between the Contractor and the Interfacing Contractors and/or Interfacing Parties.
- 2.12 The Contractor shall attend meetings with Interfacing Contractor and Interfacing Parties (if necessary) and raise/provide correspondence in this regard in accordance with the

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- Works Requirements and/or as instructed by the Engineer. The identity of the Interfacing Contractor(s) and/or Interfacing Parties may not be known before the execution of the Contract but this shall not be a grounds for the Contractor to object to the subsequent appointment of any Interfacing Contractor and/or Interfacing Party.
- 2.13 The Contractor shall in accordance with the requirements of the Contract and instructions of the Engineer coordinate his own Works with the works of Interfacing Contractors and/or Interfacing Parties strictly adhering to the Coordination and Interfacing Programme as detailed in Clause 8 and Interfacing Parties [Coordination and Interfacing Programme] in this Sub-Division, and shall accord the Interfacing Contractors and/or Interfacing Party's all reasonable opportunities for carrying out their works.
- 2.14 If the Contractor suffers delay by reason of failure caused by any Interfacing Contractor/ Interfacing Party to meet the specified installation interfacing and/or coordination completion dates resulting in delay beyond the extent which could be reasonably foreseen by an experienced contractor at the time when the Coordination and Interfacing Programme is formulated and consented by the Engineer, then the Engineer shall take such delay into consideration in determining any extension of time to which the Contractor is entitled under the Contract.
- 2.15 If any act or omission of the Contractor, whether directly or indirectly, results in the delay in execution of the works of an Interfacing Contractor and/or Interfacing Party associated with the execution of the project, the matter shall be settled by the Engineer under Sub-Clause 3.7 [Determination] and Sub-Clause 20.1 [Claims] of the General Conditions of Contract.
- 2.16 The Contractor shall coordinate the access and delivery routes and ensure that all provisions for access and the delivery of Plant, Goods and Materials are coordinated with the delivery route drawings of Interfacing Contractors/Interfacing Parties. The Contractor shall coordinate with the Interfacing Contractors and Interfacing Parties with regard to the details to be provided by them for the provision of any access to the Works for the Contractor's Goods and Materials in accordance with the Coordination and Interfacing Programme.
- 2.17 All requests for information or clarification, acknowledgement of receipt of information and any official communication between the Contractor and Interfacing Contractors/Interfacing Parties shall be made in writing with a copy to the Engineer for information.
- 2.18 The Contractor shall notify the Engineer in writing of any problems encountered in obtaining necessary information and/or lack of cooperation from an Interfacing Contractor/Interfacing Party. In the event that the Engineer considers that the resolution of an interface is not proceeding satisfactorily, the Engineer shall review the matter and establish a coordinated plan directing the Contractor and the Interfacing Contractors/ Interfacing Parties regarding the required action.
- 2.19 The Contractor shall arrange meetings with the Interfacing Contractors and the Interfacing Parties to clarify particular aspects of interface requirements of the Works. The Contractor shall advise the Engineer in advance of the date, time and location of such meetings. The Engineer may elect to attend such meetings as he deems necessary.
- 2.20 The Contractor shall prepare minutes recording all the matters discussed and agreed at all the meetings.

- 2.21 The Contractor shall ensure that copies of all correspondence, drawings, meeting minutes, programmes, etc. relating to the Contractor's coordination and interfacing meetings with the Interfacing Contractors and Interfacing Parties or the sharing of correspondence, drawings, programmes, etc. are issued to all concerned parties and the Engineer no later than seven days from the date of such meetings and the date of issue of such correspondence, drawings, programmes, etc.
- 2.22 The Contractor shall, in carrying out his coordination and interfacing responsibilities, raise and provide sufficient information for the Engineer to decide on any disagreement between the Contractor and the Interfacing Contractors/ Interfacing Parties. If the Contractor, despite having made all reasonable efforts, cannot resolve such disagreement with the Interfacing Contractor/ Interfacing Party in the execution his interfacing duties, the Contractor shall then refer said disagreement to the Engineer. The Engineer shall then issue a final and binding decision on the Contractor and the Interfacing Contractors.
- 2.23 Should it appear to the Engineer that the Three Month Rolling Programme does not conform with the Coordination and Interfacing Programme, the Contractor shall be required to revise all such programmes so as to conform to the approved Contractual Works Programme.
3. Interface Administration System
- 3.1 The Contractor shall establish an Interface Administration System (the "IAS") and participate in the activities with the Interfacing Contractors and Interfacing Parties. The IAS shall include, but not be limited to, the following provision of:
- a) An Interface Manager who shall be responsible for and the authority to resolve interface matters to the satisfaction of the Engineer;
 - b) The necessary support team for the IAS;
 - c) Procedures and details for response to, confirmation of and making written agreements with regard to interfaces;
 - d) Details of the arrangement for attendance at coordination and interface meetings (including those that may be arranged by Interfacing Contractors, Interfacing Parties or the Engineer). The representatives of Contractor, Interfacing Contractors and Interfacing Parties shall be empowered to make agreements on coordination and interfaces. The Contractor shall arrange regular meetings for the Engineer to monitor the status of coordination and interfaces and may arrange special coordination and interface meetings as may be necessary to resolve specific issues. The Engineer can require the Contractor to arrange a special coordination and interface meetings if necessary. The Contractor may request assistance from the Engineer to arrange coordination and interface meetings on particular subjects;
 - e) Details to the Engineer of regular status information and/or details of coordination and interfaces including copies of relevant correspondence and material; and
 - f) Details to the Engineer of access to information for the purpose of conducting audits on interface compliance and for confirming that interface coordination and interface management is proceeding consistently with the requirements of the Contract.

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4. Construction Interface
 - 4.1 Construction coordination and interface shall be required throughout the duration of the Contract and shall commence from the time of the LOA until the Taking Over of the Works.
 - 4.2 The Contractor shall coordinate and interface with the Interfacing Contractors and Interfacing Parties to execute the respective construction activities efficiently.
 - 4.3 The Contractor shall cooperate with Interfacing Contractors and Interfacing Parties on all Site-related matters including but not limited to Site access and occupation, safety, verification of work compatibility and survey control, etc. The Contractor shall advise the Interfacing Contractors and Interfacing Parties in advance when a construction item is ready for site inspection to verify compatibility with the Interfacing Contractors' and Interfacing Parties' needs and shall facilitate access to the Site for the Interfacing Contractors and Interfacing Parties.
 - 4.4 At or near the completion of the construction of any interface-related element of the Contractor's Work, the Contractor shall:
 - a) Advise the Interfacing Contractors and Interfacing Parties that the as-constructed interface-related Works can be inspected and provide the necessary access to the Site and its occupation.
 - b) Agree in writing to the Interfacing Contractors and Interfacing Parties, and as consented by the Engineer, on the adoption of any Interfacing Contractors' and/or Interfacing Parties' applicable comments on the constructed Works.
 - 4.5 On advice from the Interfacing Contractor or Interfacing Party that an as-constructed interface-related element is ready for inspection, the Contractor shall:
 - a) Conduct on-site inspections of the Works elements and give comments in writing to the Interfacing Contractor and/or Interfacing Party.
 - b) Agree in writing to the Interfacing Contractor or Interfacing Party that the as-constructed Works meet the coordination and/or interface requirements.
 - 4.6 Prior to applying for a Taking-Over Certificate, the Contractor shall obtain written confirmation from each Interfacing Contractor and each Interfacing Party, that the interface elements meet the requirements of the Interfacing Contractors and Interfacing Parties. If any Interfacing Contractor or Interfacing Party withholds such confirmation, the Engineer shall decide on further action, as requested by the Contractor prior to the issue of a Taking-Over Certificate.
 - 4.7 Where Contractor's Works are identified as failing to meet the requirements of the Contract and such shall impact the Interfacing Contractors' works or Interfacing Parties' works, the Contractor shall submit the proposed remedial measures to the Engineer for review and shall copy the same to the Interfacing Contractors and/or Interfacing Parties.
 - 4.8 The Contractor shall coordinate and interface with the Engineer with respect to all construction/installation activities and shall follow the Engineer's instructions for requesting access for such activities.
 - 4.9 The Contractor shall undertake construction/ installation in accordance with the approved (Contractual) Works Programme.
 - 4.10 The Contractor shall coordinate and interface with Interfacing Contractors and/or Interfacing Parties for the planning and execution of the testing and commissioning activities.

5. Preparation of Interface Documents

5.1 The Contractor shall prepare as required the following coordination and interface documents which shall be used to completely define the Contractor's coordination and interface details:

- a) Interface Table;
- b) Coordination and Interfacing Programme; and
- c) Interface Management Plan (IMP).

5.2 These coordination and interface documents shall be submitted for review by the Engineer in order to obtain the Engineer's Approval. For all subsequent updates, these documents shall be submitted to the Engineer for information, review and comment. A summary of principal issues with suitable solutions shall be included in each Monthly Progress Report.

6. Interface Table for Supply and Installation Items

6.1 The Interface Table shall include at least (but without limitation) the items related with the Contractor's Contract described in Appendix 4000-1 of Division 4000. The Interface Table, which describes the relationships between the Contractor and Interfacing Contractors and/or the Interfacing Parties and their roles and responsibilities, shall be submitted to the Engineer for consideration after further development of the above attached Interface Table.

6.2 The Interface Table shall indicate the demarcation of scope of responsibilities between the Contractor and the Interfacing Contractors and the Interfacing Parties.

6.3 Within sixty (60) days of notification from the Engineer of the identity of each Interfacing Contractor, the Contractor shall develop and submit to the Engineer an Interface Table that is mutually acceptable to both the Contractor and the Interfacing Contractors and Interfacing Parties.

7. Coordination and Interfacing Programme

7.1 The Contractor shall prepare and submit a Coordination and Interfacing Programme to the Engineer in accordance with the Works Requirements and/or as instructed by the Engineer as detailed below.

7.2 The Coordination and Interfacing Programme is one of the Works Programme (or Contractual Works Programmes) as detailed in Clause 4 of Sub-Division 4070 of the General Specifications.

7.3 The Coordination and Interfacing Programme shall be submitted to the Engineer for consent within sixty (60) days from the Letter of Acceptance (LOA) to allow for checking and monitoring by the Engineer.

7.4 The Coordination and Interfacing Programme shall include detailed activities describing all aspects of the works of Interfacing Contractors and Interfacing Parties to meet all Sections or Milestones given in the Contract and be clearly linked to other programmes such as the (Contractual) Works Programme (or Contractual Works Programmes) to streamline the Works and the works of the Interfacing Contractors and Interfacing Parties.

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- 7.5 The Coordination and Interfacing Programme shall indicate the physical areas to which the Interfacing Contractors and Interfacing Parties require access, with access dates, durations required and the required degree of completion of the Works prior to the access dates by Interfacing Contractors and Interfacing Parties.
- 7.6 It is the Contractor's responsibility to ensure timely coordination with the Interfacing Contractors and Interfacing Parties to review, revise and finalise his Coordination and Interfacing Programmes so as not to affect the progress of the Works and/or the works of the Interfacing Contractors and Interfacing Parties.
- 7.7 The Contractor shall note that the following conditions apply to the works of the Interfacing Contractors and/or Interfacing Parties:
- a) The Interfacing Contractors and/or Interfacing Parties shall not have exclusive access to any part of the Site except with the consent of the Engineer;
 - b) The Contractor shall take note that concurrent time allocations for certain areas may be given to more than one Interfacing Contractors and or Interfacing Parties. The Contractor shall coordinate the Works in such areas with the works of the Interfacing Contractors and/or Interfacing Parties and report to the Engineer for his review and consent;
 - c) The absence of a Coordination and Interfacing Programme date or construction/installation period for the Interfacing Contractors and/or Interfacing Parties in a specific area shall not prejudice the right of the Engineer to establish a reasonable Coordination and Interfacing Programme date or construction/installation period for that area;
 - d) The Contractor and the Interfacing Contractors shall comply with the Sections or Milestones and other successive activities specified in the Coordination and Interfacing Programme.
8. Interface Management Plan (IMP)
- 8.1 The Contractor shall develop and submit to the Engineer, within sixty (60) days from the LOA, an IMP for all interface issues that may arise during the construction, testing and commissioning of the Works, in consultation with the Interfacing Contractors / Interfacing Parties and the Engineer. The IMP shall allow adequate time periods for each of the Interfacing Contractors/Interfacing Parties and the Contractor to install their Plant, equipment and Materials in the designated areas.
- 8.2 The IMP shall:
- a) Identify all the systems and sub-systems and facilities with interfacing requirements;
 - b) Define as far as possible the authority and responsibility of the contractor's, the Interfacing Contractor's and interfacing party's involved in interface management and development;
 - c) Identify the information to be exchanged, together with the management and technical skills required for the associated development of the works, at each phase of the contractor's and Interfacing Contractor's and Interfacing Parties' project life-cycles;

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- d) Address the Contractual Works Programme (or Contractual Works Programmes) of the Contract to meet the Contractor's sections or Milestones and the Interfacing Contractors' sections or milestones and highlight any programme risks requiring the Engineer's attention;
 - e) Include relevant consideration of the requirements of "Safety, Health and Environment Management" as described in Division 8000 of the General Specifications;
 - f) Address the supply, installation, testing and commissioning programmes of the Contract to meet Interfacing Contractors' Sections or Milestones, and highlight any programme risks requiring management attention; and
 - g) Indicate dates for commencement and completion of each principal activity by the Contractor and those of the Interfacing Contractors and Interfacing Parties, including delivery and installation of Plant, equipment and Materials.
- 8.3 An example of the typical contents to be described in an IMP is included in Chapter I [Contents of Interface Management Plan], Appendix 4000-1 of Division 4000.
- 8.4 After the Engineer reviews and issues approval to the IMP, the Contractor shall execute the Works accordingly.
- 8.5 The Contractor shall raise and apprise the Engineer immediately of any difficulty in developing a mutually acceptable IMP.
9. Employer's/ Engineer's Input
- 9.1 The Employer or Engineer or both will coordinate the activities of the Contractor with reference to interfacing with third parties during all the phases of the Contract.
- 9.2 The Employer or Engineer, within the scope of the relevant Contract provisions, may assist the Contractor in the following fields:
- a) Coordination and interface with state and local authorities for the timely receipt of required permits, certificates and approvals related to the construction process;
 - b) Coordination and interface with state and local authorities for the implementation of acquisition procedures for any additional land areas that may be required by the Contractor; and
 - c) Any other fields or activities related to the Contract as may be required for the purposes of facilitating the Contractor's performance.
- 9.3 The Engineer shall conduct a coordination and interface meeting with the interfacing parties every fortnight with the Contractor which may be attended by the Employer. The primary objective of the meeting will be to review progress of the coordination and interface activities.
- 9.4 The support and assistance of the Employer and/or the Engineer shall not release the Contractor of any of his obligations under this Contract.
10. Detailed Interface Description (DID)
- 10.1 The DID is the document that provides a clear technical description of each of interface in the Interface Table.
- 10.2 Any revision to the DID shall be mutually acceptable to both the Interfacing Contractors and Interfacing Parties. Only then shall this be submitted to the Engineer for his review.

10.3 DID shall contain the following items:

Table 4.1: Detailed Interface Description

S. No.	Detailed Interface Description
1.	Item number and name of interface in Interface Table
2.	Name of the Contractor and Interfacing Contractor/ Interfacing Party
3.	Confirmation Table of both the Contractor and Interfacing Contractor/ Interfacing Party
4.	Creation date and modification date
5.	Correction history
6.	The following items shall be described: Physical interface, functional interface, protocols, software and data Interface, naming conversion, design constrains, environmental conditions, and drawings
7.	Reference Documents

4050 CONTRACTOR'S OBLIGATIONS FOR OBTAINING AUTHORITIES' APPROVALS**1. Approvals from Public Authorities and Agencies**

The Contractor shall make all necessary arrangements with and obtain all necessary approvals from public authorities and agencies, utility agencies and other relevant/competent authorities. Such public authorities and agencies will include the following:

- a) NHAI (National Highway Authority of India);
- b) HSIIDC
- c) Public Works Department
- d) Local Authorities and stake holders;
- e) Local Municipal Corporation or Council;
- f) Urban Local Bodies; and
- g) Any other agency or stakeholder whose approval, consent or permit is necessary for the implementation of the Works.

The Contractor shall be responsible for obtaining all necessary approvals and permits from public authorities and Government or Private agencies and other relevant organizations necessary with respect to the construction activities and meetings with Public Authorities and Agencies. The Employer shall facilitate these activities to support the Contractor. Approvals from Northern railway for working near/on the railway track and traffic block will be taken by HRIDC. However, the requirement for the duration of working near the railway track or the traffic block required shall be submitted by the Contractor to HRIDC giving detailed justification for the same. The Contractor shall also be required to attend the meeting with Northern Railway along with HRIDC whenever required.

When the Contractor arranges meetings with Interfacing Parties including government departments, utility agencies or Interface Contractors, it shall inform the Engineer at least four (4) official working days (excluding general holidays) or such shorter period permitted by the Engineer, before they are to be held and shall give the Engineer and the Employer the agenda and the objective of the meetings. The Employer and Engineer may require that certain organizations are not contacted directly by the Contractor and that communication is initiated by the Employer, should this be necessary the Engineer shall provide a list of such organizations to the Contractor.

2. Correspondence with Public Authorities and Agencies

Both, hard (one (1) set) and softcopies of correspondence received from or dispatched to public authorities, utility undertakings, and other agencies shall be submitted to the Engineer and the Employer for information within two (2) days of receipt or dispatch.

4060 FACILITIES FOR EMPLOYER'S/ ENGINEER'S PERSONNEL

1. Site Offices

1.1 General

The Contractor shall provide space of approximately 20 sqm in his Site Office for the use of the Employer's and Engineer's Personnel at its own cost.

4070 WORKS PROGRAMME AND SCHEDULE

1. General

The programme has the following three primary purposes in three respective phases of the contract procedure. The purpose for each of these respective phases is as set out below:

1.1 Programme in Technical Proposal

The Tender Programme submitted as part or parts of the Tenderer's Technical Part, which is a part of this Contract, shall bind the Contractor until the Contractual Works Programme specified here under is consented to by the Engineer.

1.2 DELETED

1.3 Contractor's Deliverables

The Contractor shall consider in his programme, time period for submission and revision by the Contractor and review and notice by the Engineer for the Contractor's deliverables.

2. Methodology

Unless otherwise instructed by the Engineer, the programme shall be in the form of a Critical Path Method (CPM) network showing the critical path, together with narrative statements. The programme shall also be submitted in the form of a time bar-chart showing a critical path and S-curve (cumulative progress in percentage). The time bar-chart programme shall list all the main activities and connected sub-activities

The network shall be prepared in accordance with current recognised and accepted good planning and programming practice and shall show graphically the chain of activities/sub-activities and their sequential relationship with each other from the Commencement Date to the date of issue of the Taking-Over Certificate of the whole of the Works. It shall include all activities with their durations and shall meet the provisions of the Contract in all respects. It shall be noted that the Contractor does not have an exclusive right to use free and total float without the consent of the Engineer.

In preparing the CPM network and the time bar-chart programme showing a critical path and S-curve, the Contractor shall make due allowances for delays, holidays, local working conditions, maintenance of equipment, trial runs, and similar items. Under no circumstances shall the CPM network or the time bar-chart programme show a date for the taking over of the Works date beyond the Time for Completion.

3. Contractual Works Programme

The Tender Programme in the Contractor's Technical Part shall be further developed by the Contractor into the detailed time programme referred to in Sub-Clause 8.3 of the General Conditions and shall be submitted to the Engineer within 28 days after the Commencement Date. Upon consented by the Engineer, this programme shall be referred to as the Contractual Works Programme and shall serve as the base against which the

Contract progress shall be monitored. The Contractual Works Programme shall supersede all other programmes previously submitted and shall be deemed to be the programme on which the Contractor has based his Accepted Contract Amount and in accordance with which he shall execute the Works within the specified Time for Completion.

The Contractual Works Programme shall be the highest priority programme. Other programmes with respect to structure/priority, shall be a particular time window taken from the Contractual Works Programme and detailed in terms of their purpose.

If, at any time, actual progress is too slow to complete within the Time for Completion, or progress has fallen (or will fall) behind the planned progress indicated in the current Contractual Works Programme, or both, by a time of eight (8) weeks, then the Engineer shall instruct the Contractor to submit a revised Contractual Works Programme and supporting report describing the revised methods and resources which the Contractor proposes to adopt in order to expedite progress and to complete the Works within the specified Time for Completion as stipulated in Sub-Clause 8.2 of the General Conditions.

Any changes to the Contractual Works Programme shall be subject to the consent of the Engineer and shall not relieve the Contractor of his responsibility to complete the Works within the Time for Completion as per the Contract.

3.1 DELETED

3.1.1 The Contractual Works Programme shall include but are not limited to the following:

- i. Temporary Facilities Programme;
- ii. Procurement Programme;
- iii. Construction Programme;
- iv. Co-ordination and Interfacing Programme;
- v. Inspection, Testing and Commissioning Programme;
- vi. Programme of Tests on Completion and Taking Over.

3.1.2 Programme Requirements

All the programmes required to be provided in accordance with the Contract shall comply with the following requirements unless otherwise instructed by the Engineer:

- a) All programmes submitted under this Contract shall be prepared, scheduled, executed and reported using the latest version of CPM scheduling software of Primavera P6 Project Planner.
- b) All programmes shall be accompanied by a Programme Analysis Report as described hereinafter.
- c) The Contractor is responsible for determining the sequence of activities, the time estimates for the design, procurement, construction, testing and commissioning, training and completion activities and the means, methods, techniques and procedures to be employed. Programmes identified herein shall represent how the Contractor will execute the Works in compliance with the Contract requirements. The Contractor shall ensure that programmes are current and accurate and are properly monitored in a timely manner, updated and revised to accommodate current conditions of the Works and so as to be in compliance with the requirements in the Contract.

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- d) The Gregorian calendar shall be used for the planning and execution of the Works. All programme submissions shall include details of the Contractor's allowance for public holidays, recognized festivals, days of rest and other non-working periods. If a Milestone falls on a public holiday or non-workday, it shall be effective the next working day.
 - e) The planning unit for the duration of all programme activities shall be the day. Any activity having a duration of more than sixty (60) days shall be divided into sub-categories that shall not exceed sixty (60) days.
 - f) CPM programmes shall reflect status using remaining duration and percent complete;
 - g) All programmes shall be fully resource-loaded as appropriate or as required by the Engineer, covering all stages and aspects of the Contract and shall include, but not be limited to:
 - i. Major manpower for design, construction, testing and commissioning and completion;
 - ii. Number of itemized contractor's equipment;
 - iii. Drawings and other design deliverables;
 - iv. Principal quantities of components or parts;
 - v. Principal quantities of bulk materials including, for example: cut/fill volumes, piles, concrete, steel reinforcement, cabling, piping, ducting, etc.; and
 - vi. Subcontractor's deliverables.
 - h) Each activity shall be coded to indicate, as a minimum, the work group or entity responsible for the activity; the area, facility or location; when and which Interfacing Contractors, Interfacing Parties or other entities are involved.
 - i) All the activities including Milestones shall be coded so as to be separately identifiable. The Contractor shall be required to assign additional activity codes as required by the Engineer.
 - j) Respective Contractual Works Programmes shall be identified and detailed in the categories as specified herein below.

3.1.3 DELETED

3.1.4 DELETED

3.1.5 Temporary Facilities Programme

The Contractor shall prepare and submit to the Engineer for review and consent a Temporary Facilities Programme, detailing all major temporary facilities to be provided by the Contractor, including but not limited to:

- a) Temporary offices, stores, workshops, storage areas, accommodation, major items of Contractor's Equipment;
- b) Associated temporary services, such as electricity, water, telephone, internet, drainage, sewerage, etc.
- c) Temporary access roads to and within the Site;
- d) Sources of natural materials, such as borrow pits and quarries;
- e) Any other temporary facilities together with their associated temporary services.

The Temporary Facilities Programme shall include the duration(s) required to arrange land, if required by the Contractor, including land within the right-of-way (ROW) for temporary facilities and Temporary Works (if requested by the Contractor to the Engineer / Employer). The Temporary Facilities Programme shall also allow for any durations required for:

- a) Making payments to land owners;
- b) Payment of royalty charges etc.;
- c) The required approval process;
- d) Design and construction of temporary facilities and temporary works;
- e) design, procurement, transportation and delivery of contractor's equipment;
- f) demobilization and reinstatement.

3.1.6 Procurement Programme

Within fourteen (14) days from the Commencement Date the Contractor shall prepare and submit to the Engineer for review and consent an initial Procurement Programme for items manufactured off-Site.

Not less than three (3) months prior to the first shipment of each category of manufactured Plant or Materials or both, the Contractor shall prepare and submit an updated Procurement Programme to the Engineer for review and consent. The Procurement Programme shall:

- 1) Show the interdependencies of the various Contractor's, Subcontractors' and suppliers' design disciplines;
- 2) Identify items produced or assembled within and outside the Country or both, together with the durations required for manufacture, shipping, inland transportation and off- and on-Site storage;
- 3) Separately identify any Plant and Materials which are subject to long lead times or component parts or items manufactured outside the country of assembly or testing or all;
- 4) Include relevant information for each major/significant item of Plant and Materials (including any major/significant components), which shall include, but not be limited to the following:
 - (i) Name and description detailing the supplier/sub-supplier;
 - (ii) Drawing information (where appropriate), title, drawing status, submission dates, shop drawings/ fabrication drawing preparation, etc.;
 - (iii) The manufacturing process, manufacturing of test pieces, testing programme (type tests and factory acceptance tests), trial production, monthly production and supply of components;
 - (iv) The assembly process, erection and assembly sequences (particularly for the first pieces) prior to shipment, test assemblies, monthly assembly requirements;
 - (v) Quality release from factory, factory storage, transportation and delivery to Site; and
 - (vi) Off-Site inspections and tests, which shall include details of factory inspections, tests and witnessing required for the Contractor's, Subcontractors' and suppliers' procurement and manufacturing activities.

From the base data above, the Contractor shall prepare and submit to the Engineer an exceptions report, detailing any Plant or Materials (including components) that are in

delay. This report shall include the reason for each delay and indicate what action the Contractor is taking to recover the delay.

3.1.7 Construction Programme

The Contractor shall prepare and submit a Construction Programme to the Engineer for review and consent.

The Construction Programmes shall be identified by distinctive names and/ or numbers. Programmes for all major activities shall be submitted to the Engineer for consent.

3.1.8 Coordination and Interfacing Programme

The Contractor shall prepare and submit a Coordination and Interfacing Programme to the Engineer for review and consent. The requirements for the Coordination and Interfacing Programme are set out in Clause 8 [Coordination and Interfacing Programme] of Sub-Division 4040 [Interface, Coordination and Cooperation with Other Parties] of the General Specification.

3.1.9 Inspection, Testing and Commissioning Programme

Within twenty eight (28) days from the Commencement Date the Contractor shall prepare and submit an initial Inspection, Testing and Commissioning Programme to the Engineer for review and consent.

Not less than two (2) months prior to the first inspection or test, the Contractor shall prepare and submit to the Engineer for review and consent an updated Inspection, Testing and Commissioning Programme.

The Inspection, Testing and Commissioning Programme shall include:

- a) Activities for the preparation, submittal, review and consent of the various inspection, testing and commissioning procedures;
- b) Demonstrate the sequencing and logical dependencies and correlations between the various on-Site inspection, testing and commissioning activities required for the Works.

Prior to accepting any manufactured Plant and Materials for use in the Permanent Works or Temporary Works to the extent required for safety considerations. The Engineer shall carry out an inspection and witness the testing carried out by the Contractor as prescribed in the respective standards and codes.

3.1.10 Programme of Tests on Completion and Taking Over

Within fifty-six (56) days from the Commencement Date the Contractor shall prepare and submit an initial Programme of Tests on Completion and Taking Over to the Engineer for review and consent.

Not less than three (3) months prior to the first test, the Contractor shall prepare and submit to the Engineer for review and consent an updated Programme of Tests on Completion and Taking Over.

The Programme of Tests on Completion and Taking Over shall be fully detailed and include, but not be limited to:

Activities for the preparation, submittal, review and consent of the various inspection, testing and commissioning procedures;

Demonstrate the sequencing and logical dependencies and correlations between the various on-site inspection, testing and commissioning activities required for the works.

4. Three Months Rolling Programme

The Three Months Rolling Programme shall be an expansion of the Contractual Works Programmes, covering sequential periods of three months. The Three Months Rolling Programme shall provide more detail of the Contractor's plan, organization and execution of the work within these periods. In particular, the Contractor shall expand each activity planned to occur during the next three (3) month period, if necessary, to a daily or weekly level of detail.

The Three Months Rolling Programme shall be developed as a Critical Path Method (CPM) network and shall be presented in bar chart and time-scaled network diagram format. Bar charts shall be presented on an A3 size and time-scaled networks diagrams on an A1 size reproducible media.

The Contractor shall describe the discrete work elements and work element inter-relationships necessary to complete all Works and any separable parts thereof, including work assigned to Subcontractors and suppliers. Each activity in the Three Months Rolling Programme shall be coded or described so as clearly to indicate the corresponding activity in the Contractual Works Programmes.

The Three Months Rolling Programme shall be issued on a monthly basis.

Within 14 days from the Commencement Date, the Contractor shall submit to the Engineer for consent an initial Three Months Rolling Programme. The initial submission shall show in detail all activities that have commenced or are due to start within the first three calendar month period to meet Milestones and any other dates set out in the Contract. Thereafter, the Contractor shall submit a new Three Months Rolling Programme every month as part of the Monthly Progress Report.

The Three Months Rolling Programme shall, after the initial submittal:

- 1) Provide details of all activities that are in progress, or are due to start, within the forthcoming two (2) month period, and the previous one (1) month period shall also be shown;
- 2) Be updated every month and be submitted concurrent with the monthly progress report;
- 3) Highlight all required dates for transmittal or receipt of information to or from the engineer, subcontractors or interfacing contractors and interfacing parties; and
- 4) Consist of a three month time window extracted from the Contractual Works Programme.

5. Three Weeks Rolling Programme

Prior to the start of the Site mobilization and each week during the construction and testing and commissioning phases, a time-scaled Three Weeks Rolling Programme shall be prepared and submitted to the Engineer for each section of the Works. The Three Weeks Rolling Programme shall show in detail the current week's progress, and the

following two (2) weeks planned progress. All activities that are in progress or due to start or finish within two (2) weeks of its submission shall be shown. The programme shall clearly tie into the Three Months Rolling Program in all respects.

The activities shown on the Three Weeks Rolling Programme shall be an amplification of and compatible with the latest version of the Three Months Rolling Programme in all respects.

The Three Weeks Rolling Programme need not be computer-generated and does not require a detailed programme analysis report. Any activity exceeding one (1) week in duration shall be divided into sub-activities, the duration of which shall not exceed one (1) week.

6. Review and Monitoring of Programme

6.1 Programme Review

- 1) The Contractor shall submit all programmes as required in the Contract to the Engineer for review and consent.
- 2) The Engineer shall, within 28 days of receipt of the initial submission of any programme for consent, issue a response to the Contractor's submittal in accordance with Clause 2 [Submission Procedure] of Sub-Division 3020 [Correspondence, Communications and Submissions] of the General Specifications.
- 3) In the case of further re-submittals, the re-submission shall be made within 14 days after issue of the Engineer's response.

6.2 DELETED

7. Progress Monitoring

The Contractor shall monitor the progress and his Subcontractors' performance against programmes to ensure compliance with the Contractor's obligations under the Contract. Monitoring of the Works shall include direct, daily monitoring of the progress of the Works and the preparation of written reports to be submitted to the Engineer. These reports shall include all necessary supporting data to appraise the Engineer of the status of completion of the Works. The Contractor shall prepare the Monthly Progress Reports covering all aspects of the execution of the Works.

8. Programme Analysis Report

The Contractor shall submit a Programme Analysis Report that shall, in narrative format, describe the basis and assumptions used to develop each programme. The Programme Analysis Report shall be prepared in a format which has received the Engineer's consent and contain as a minimum the following:

- a) Cycle times and work sequences;
- b) The deployment of contractor's equipment and labour;
- c) The production rates used in determining durations;
- d) The shifts assumed in determining durations;
- e) The breakdown of labour requirements by trades;

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- f) Details of the quantities used in developing the programme, to the extent that such information is not provided elsewhere; and,
 - g) Interfaces with the engineer and interfacing contractors/ interfacing parties and other constraints.

9. Progress Meetings and Programme Updates

- 1) The Employer shall chair progress meetings every month with the Contractor, along with the Engineer as described in Clause 3.3 [Meeting Procedure] in Sub-Division 4030 [Meetings] of the General Specifications.
- 2) On a monthly basis, the Contractor shall arrange for their Contractor's Representative, Construction Manager and Planning Manager to meet at the Site with the Engineer to review the Contractor's Monthly Programme Update. A turn around document as per the agreed computer software generated by the Contractor shall be marked-up to show the agreed upon progress, signed by the Contractor, and a signed copy issued to the Engineer. The Monthly Programme Update shall show up-to-date and accurate progress of the Work and shall forecast the completion date for activities in progress based on the Contractual Works Programme. The Monthly Programme Update shall be prepared by the Contractor in co-ordination with all its principal Subcontractors and suppliers and the Interfacing Contractors and Interfacing Parties, if necessary.
- 3) The Monthly Programme Update shall include actual activity data for progress to date, but in the Monthly Programme Update, the Contractor shall not change the schedule logic, the activity relationships/ dependencies, or planned activity durations and shall not add or delete activities. If the Contractor believes that any of these items should be changed, then a proposed revised Contractual Works Programmes shall be submitted by the Contractor to the Engineer. Although activities shall not be added or deleted in the Monthly Programme Update, activities that have been recommended and received the consent of the Engineer shall be included in the next Monthly Programme Update.
- 4) The Contractor will be notified by the Engineer, in writing, as to the acceptance, reasons for rejection, or any revisions required to the Contractual Works Programmes. Changes to the Programmes agreed upon by the Contractor and the Engineer and which have received the Engineer's consent shall be incorporated by the Contractor into the Programmes within seven (7) calendar days after such agreement. Changes on which the Contractor and the Engineer cannot agree shall be documented and shall be subject to the final decision of the Employer which shall be binding.
- 5) The Contractor shall adjust the data date ("as of date") to be the same as the end date for the invoicing period.
- 6) The Monthly Programme Update shall show actual activity commencement and completion dates, actual remaining durations in workdays and the physical percentage complete for those activities commenced and not yet complete. For the stored materials, the update shall show the amount of material stored, representing the total cost of the materials delivered and properly stored. The

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- Monthly Programme Update shall also include a graphic comparison of the current status and the Work Programme for each activity in the network.
- 7) Each Monthly Programme Update shall continue to show all work activities including those already completed. These completed activities shall accurately reflect the “as built” information by indicating the dates when activities were actually started and completed.
 - 8) The Monthly Programme Updates shall also contain the following information for each activity:
 - (a) Activity identification number, description and estimated original duration in work days;
 - (b) Calculated early and late finish dates;
 - (c) Actual start and actual finish dates, and remaining duration, in calendar, for those activities started and not completed;
 - (d) Days ahead or behind or both schedule of the Milestones representing the identified contracted Milestones and Times for Completion;
 - (e) Physical percentage complete for each activity;
 - (f) A float analysis of the longest path through the Programmes detailing potential delays and areas for acceleration. Actual start and finish dates shall be indicated for each activity as appropriate. Completed activities shall be omitted from remaining float and late start sorts.
 - 9) The deliberation of all meetings shall be recorded by the Engineer as Minutes of Meeting.
 - 10) Other Programme Meetings
 - (i) The Engineer shall convene routine or ad-hoc review meetings or both.
 - (ii) Requirement of the meetings shall be provided by the Engineer.
10. Revision of Programme
- a) If at any time it is evident to the Engineer that the current Contractual Works Programmes or Monthly Programme Update, no longer represents the actual progress or planned execution of the Work, and the Work is delayed by a period of four (4) weeks, the Engineer shall require the Contractor to submit a revised Contractual Works Programmes within seven (7) days after the Engineer's instructions.
 - b) Revisions to the programme shall be made by the Contractor by:
 - i. Modification of activities or activity durations or both;
 - ii. Modification in logic connections between activities;
 - iii. With a supporting report describing any additional resource loadings (e.g. Labour, equipment, material etc.) And / or revised construction methods /sequences from those included in the current Works Programmes or other sub-programmes, at the risk and cost of the contractor.
 - c) Any proposed revisions to the Contractual Works Programmes and other sub-programmes shall be submitted to the Engineer for consent with the supporting reports as stated above. This submittal shall include, as a minimum, a written narrative with a full description and reasons for each revision to a Works activity, a full print out of the Contractual Works Programme, and an electronic copy of the revised Contractual Works Programmes (and / or any sub-programme). For revisions

affecting the sequence of the Works, the Contractor shall provide a programme diagram "fragment" which compares the original sequence to the revised sequence of work. This diagram shall maintain all the Milestones and Times for Completion and comply with the Contractual Works Programme.

11. Recovery Programme

- 1) Should an updated Contractual Works Programme, sub-programme, Monthly Programme Update or Three Months Rolling Programme at any time during the Time for Completion show that the Contractor's progress is ten (10) or more calendar days in delay in relation to any forthcoming Milestone(s) or any other identified time(s) for completion on the Contractual Works Programme, the Contractor shall prepare a Recovery Programme separate from the updated Monthly Programme Update at no additional cost to the Employer (unless the Employer is responsible for the event or occurrence which has caused the progress slippage) explaining and demonstrating how the Contractor shall reschedule its Works in order to regain compliance with the Contractual Works Programme.
- 2) If a Recovery Programme is required as detailed above, the Contractor shall prepare and submit a Recovery Programme to the Engineer, in incorporating the best available information from the Contractor, Subcontractors, Interfacing Contractors and Interfacing Parties, which shall permit the forecast completion date(s) to achieve the designated Milestone(s) or other identified time(s) for completion in the Contractual Works Programme. The Contractor shall prepare a Recovery Programme to the same level of detail as the originally consented-to Contractual Works Programme, sub-programme(s), Monthly Programme Update or Three Months Rolling Programme or both.
- 3) The Contractor shall discuss and finalise their proposed Recovery Programme with the Engineer within seven (7) working days after the date of its initial submission by the Contractor. Once it has received the Engineer's consent, the Recovery Programme shall be implemented as the Revised Contractual Works Programme, sub-programme(s) or Three Months Rolling Programme(s) or both as the case may be, for the remaining Works in the Contractor's scope.

4080 MONTHLY PROGRESS REPORT REQUIREMENTS

1. General

This Sub-Division is to provide detailed requirements for the Contractor's Monthly Progress Report in addition to those stipulated in Sub-Clause 4.20 of the General Conditions.

The Contractor shall submit a Progress Report to the Engineer on a monthly basis (referred to as the "Monthly Progress Report" or "MPR") in accordance with the Sub-Clause referenced in the previous paragraph above. This Monthly Progress Report shall be submitted by 7th day of next month and shall account for all work actually performed from the first (01st) day of the month up to and including the last day of the month of the MPR submission. This period shall be referred to as the 'Report Month'.

The Monthly Progress Report shall be submitted in a format to which the Engineer shall have given his consent, describing, but not limited to, the topics listed below.

2. Executive Summary

The Contractor shall provide an executive summary covering the major achievements made during the Reporting Month, the activities planned for the next month and any issues that are affecting or may in future affect the progress of the Works. These items shall be dealt with in full detail within the body of the MPR.

3. Programme Update and Status

The Contractor shall provide a programme update for the Works which shall include but not be limited to the following items:

- a) A Monthly Programme Update, which shall be prepared by recording actual activity completion dates and percentage of activities completed up to the end of the Report Month, together with estimates of remaining durations and expected activity completion based on current progress. The Monthly Programme Update shall:
 - i. Account for the actual progress of the Works;
 - ii. Include updated Contractual Works Programmes to reflect modifications in the design, construction and testing and commissioning programme'
 - iii. Include the status of every activity in progress, its graphic representation (completed and remaining) with respect to the identified works in the Report Month, as well as for all the major works and relevant activities; and
 - iv. Include a progress 'S' curve indicating the baseline 'S' curve for the accepted programme and physical progress.
- b) The Monthly Programme Update shall be accompanied by an activity report and a narrative statement which shall explain the basis of the Contractor's submittal regarding:
 - i. Contractual Works Programmes– explaining the determination of activity durations and describing the Contractor's approach for meeting Milestones, other identified time(s) for completion and Time(s) for Completion as specified in the Contract;

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- ii. Updated Contractual Works Programmes – stating in the narrative the Works actually completed and reflecting along the critical path in terms of days ahead or behind allowable dates. Specific requirements for the narrative are:
 - Identification of causes of actual and potential delays (if any) with respect to Milestones, other identified time(s) for completion and Time(s) for Completion;
 - Provision of an explanation for any works affected by delays and proposed corrective actions / mitigation measures to achieve the Milestones, other identified time(s) for completion and Time(s) for Completion and mitigate potential delays;
 - Identification of any deviation from the previous month's critical path;
 - Clear identification of every activity with a number and description for activities in progress and activities scheduled to be completed;
 - Provision of time required to cater for any design changes or Variation, if any.
 - iii. Programme Status presenting:
 - The status of Contractual Works Programmes upto and including the current
 - Report Month, with cumulative progress to date and a forecast of remaining work;
 - A programme bar-chart in A3 size and a time-related logic network diagram in A1 size, including activity listings.
 - iv. Activity Variance Analysis - analysing activities planned to start prior to or during the Report Month but not started at the end of the Report Month, as well as activities started or completed in advance of the Contractual Works Programmes or both.

4. Three Months Rolling Programme Revisions and Updates

The Three Months Rolling Programme shall be extended forward each month as described above. Each submission of the Three Months Rolling Programme shall be accompanied by a Programme Analysis Report, describing actual progress to date, and the forecast for activities occurring over the next three-month period.

If the Three Months Rolling Programme is at variance with the Contractual Works Programmes, the Programme Analysis Report shall be accompanied by a supporting narrative statement describing the Contractor's plan for the execution of the activities to be undertaken over the three month period, including programme assumptions and methods to be employed in achieving timely completion.

The Contractor shall revise the Three Months Rolling Programme or propose revisions of the Contractual Works Programmes, or both, from time-to-time as may be appropriate to ensure consistency between them.

5. Physical Progress

The MPR shall describe the status of the Works performed, significant accomplishments, including critical items and any problem areas, corrective actions

taken or planned and other pertinent activities, with respect to all items/sub-items of the Milestones/cost centre in each Contractual Works Programme and shall, in particular, address any interface issues, problems and resolutions, and including are presentation of progress measured in percentage terms compared with percentage planned, as derived from the Contractual Works Programmes.

The physical progress shall be reported including:

- a) A listed description of all Works performed during the Reporting Period with quantified progress and updated Contractual Works Programmes showing both the programmed and actual progress of each sub-item of the work corresponding to each Milestone / cost centre pertaining to each Work Segment;
- b) The percentage of each main work activity completed, as well as the projected percentage there of to be completed to the end of the Report Month;
- c) The total overall percentage of the Works completed, as well as the projected percentage there of to be completed with respect to each cost centre, each Work Segment and the Works as a whole to the end of the Report Month, and with appropriate comments to explain any differences and how to regain any lost time or set-backs which may have occurred;
- d) A list of quantities of each of the major items of the Works (including Temporary Works) performed during the month vis-a-vis the total estimated quantities to be executed, and illustrations showing the exact location of the work done, such as for example, a schedule of concrete lifts; and
- e) A list of the major Works (including Temporary Works) activities to be started within the next two (2) months and estimated quantities thereof. If the expected start or completion dates are different from those shown on the updated programme or both, an explanation is to be given.

6. Contractor's Personnel, Contractor's Equipment and Employer's Equipment

A detailed description and record of Contractor's Personnel, Contractor's Equipment, and any equipment provided by the Contractor to the Employer and Engineer.

The Contractor's Equipment report shall include but not be limited to the following:

- a) A list of all the construction equipment located at the Site vis-à-vis that required during the month to achieve targeted progress (segment wise);
- b) The daily working and operation records of each item of equipment;
- c) The inspection, repair and maintenance records;
- d) Accident reports; and
- e) A list of unserviceable equipment and action being taken to put back in operation.
- f) Details of the construction equipment required at Site and the Contractor's proposed mobilization programme for the next three months.

7. Coordination and Interfacing

The status and any outstanding issues relating to coordination and interfacing activities with Interfacing Contractors and other entities as described in Sub-Division 4040 [Interface, Coordination and Cooperation with Other Parties] of the General Specifications. Items to be reported shall include:

- 1) A summary of the coordination and interfacing activities during the Report Month and details of any outstanding actions; and
- 2) A schedule of all submissions and consents/approvals outstanding, as well as those obtained.

8. Procurement

The procurement status of major items such of Plant and Materials shall be reported, including but not limited to:

- 1) A summary of all significant procurement activities during the Report Month, including actions taken to overcome any problems;
- 2) A list of major items with description detailing their manufacturer, date of letter of credit, status of manufacturing and its origin, transportation and date of arrival at Site (scheduled/actual), reasons for delay (if any) procured immediately and made available for the Works,
- 3) Delays in procurement (if any), including reasons therefore and the Contractor's mitigation measures

9. Performance on Quality Management System

The MPR shall include the Contractor's monitoring report on the performance of the Contractor's Quality Management System and shall include the following as a minimum:

- 1) The submission status and review status of the quality system documents;
- 2) An up-to-date audit schedule and status;
- 3) An up-to-date nonconformity register, providing the status of all non-conformities identified by the Engineer or the Contractor within the Report Period and those non-conformities not yet satisfactorily closed;
- 4) A narrative appraisal of the performance of the Quality Management System, including any non-conformities, short-comings or problem areas identified and the corrective and preventative action(s) taken or proposed; and,
- 5) All pending issues/references with the Engineer, Employer and the Contractor and the action(s)proposed.

10. Financial Status

The MPR shall include the following aspects of the financial status of the Works:

- 1) A narrative review of all significant financial matters, and actions proposed or taken with respect to any outstanding matters;
- 2) A spread sheet summarizing each major activity as defined in Sub-Division 4070 [Works Programme and Schedule] of the General Specifications, the budget, costs incurred during the period, costs to date, costs to go;
- 3) Details indicating the status of all payments due and made, including a list of the amount and date of each payment received and the amount of any monthly invoice which has been submitted but not yet paid;
- 4) An 'S' curve for the cashflow planned as per the Contract and the actual up to the end of the Report Month, including a description of any variance;

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- 5) A report of the status of any outstanding claims, including a list of claims (if any) submitted during the month, with claimed amounts and details of any extension(s) of time;
 - 6) The interim updated accounts of any continuing claims;
 - 7) Any other information as required by the Engineer.

11. Other Items

The MPR shall also include but not be limited to the following:

- a) A list of local workers (in man-days by trade classification) employed during the month and a statement concerning labour relations, including details of any shifts and hours of works executed and an explanation of any actual or potential problems;
- b) A list of expatriate personnel (in man-months by position) employed during the month;
- c) A table showing actual working hours of each item of construction equipment, a list of stand-by equipment and a list of unserviceable (inoperable) equipment, describing the actions being taken to return it to operation;
- d) A list of the quantities of the contractor's construction materials consumed or used during the month and accumulated quantities thereof;
- e) Photographs of progress of the site activities;
- f) A summary of the quality control tests (routine tests and check tests) performed on materials and the products for the permanent works during the month, including results (in values) of performance for each test and contrasted fluctuations of the properties with the specified range of their acceptability. The results of quality audits shall also be summarized in the contractor's monthly progress reports;
- g) A general description of the weather, listing rainfall in mm, maximum and minimum temperatures, river water levels, foreach day throughout the month;
- h) A statement concerning the effectiveness of the contractor's safety/security activities, including a list of each accident involving the hospitalization or death or both of any person and a list of any major thefts. Also, a list of any accidents in which equipment was damaged to the extent that it become inoperable, and any fire which occurred;
- i) A list of the amount and date of each payment received and amount of any monthly invoice which has been submitted but not yet paid;
- j) A list of claims (if any) submitted during the month, including claim amounts and extension(s)of time;
- k) A table of updated cashflow estimate;
- l) A list of letters, drawings, and documents received from or submitted to the engineer or employer or both during the month;
- m) Resources Mobilization: the status with respect to key personnel and major construction materials, indicating the resources already available at Site and the proposed mobilization programme for the next three months;
- n) The status of all Temporary Works, including temporary facilities and utility services for the:
 - i. Contractor's use; and
 - ii. Use of the Employer and Engineer.

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- o) Details of any assistance required from the Employer.

4090 WORK AREA (WITHIN ROW) ACCESS DATES

1. General

- a) The dates on which Work Areas (within ROW) are available to the Contractor for the commencement of the Works are defined as Work Area Access Dates (AD).
- b) The Work Area Access Dates that apply to this Contract are stated in terms of days after the Commencement Date of the Works.
- c) Where Work Areas are to be made available to the Contractor, they shall be available within the specified day. Where Work Areas are to be vacated, they shall be released not later than midnight on the specified day.

2. Work Area Access Schedule

The access to and possession of Works Area (within ROW) shall be made available as per Sub-Clause 2.1 of Part A Contract Data of Particular Conditions of the Contract (PCC).

4100 MILESTONES

1. General

- a) The construction of the Works includes a number of Stages. These Stages, called Milestones, which are inter-related with and essential to the completion of the Project, are to be achieved in the respective stipulated Time for Completion.
- b) Milestones are to be achieved in stipulated Time for Completion from the Commencement Date of the Works and all works to be achieved shall be constructed by midnight on the day given. Milestone shall be considered to be achieved on the date stated in the Milestone Certificate by the Engineer.
- c) If a Milestone is not achieved by the stated Time for Completion, Delay Damages shall apply as set out in the Table: Summary of Milestones of Part A – Contract Data of Particular Conditions of the Contract (PCC).
- d) If Time for Completion of a Milestone falls on a Public Holiday or non-working day, it shall be effective the next working day.
- e) Handing over means “the Contractor allowing access and temporary occupation to Interfacing Contractors for their works.”
- f) Descriptions of each Milestone together with the Interface Contractors to which the Milestone relates, are given below.

2. Milestone Schedules

For Milestone Schedules refer Table: Summary of Milestones of Part A – Contract Data of Particular Conditions of the Contract (PCC).

4110 TAKING OVER OF WORKS/ SECTIONS

1. Procedures

1.1 Inspection

(a) General

Within seven (7) days of receipt of the Contractor's written application for a Taking-Over Certificate, pursuant to Sub-Clause 10.1 of the General Conditions of Contract, the Engineer, in the company of the Contractor, will inspect the Works or Section covered by the application, as per the requirements described in this Sub-Clause. During the joint inspection, the Works or Section will be examined and relevant documentation will be reviewed. The Engineer will prepare a written list of outstanding items, if any, to be completed or corrected before issuance of the Taking-Over Certificate and a separate written list of items to be completed or corrected during the remainder of the Contract or the Defects Notification Period. The list shall include an agreed date of correction for each deficiency.

The Contractor shall also obtain written confirmation from all applicable Interfacing Contractors that all interfacing matters have been concluded.

If there are no outstanding items to be completed or corrected before the Taking Over of the Works or a Section, the Contractor shall submit to the Engineer all guarantees, warranties, final certifications or similar documents or both as are required under the Contract.

(b) Static Inspection

The inspection listed in the following table shall be conducted by the Engineer, in coordination with Interfacing Contractors as necessary.

The Contractor shall prepare and submit for review and approval by the Engineer a Static Inspection Plan detailing and explaining how the Contractor will plan, perform and document all tests and inspections that shall be conducted to verify and validate the Works. The Static Inspection Plan shall consist of a narrative description supported by graphics, diagrams and tabulations as required.

Inspection Item	Inspection Method			
	Confirmation of "As-Built" Records	Visual Inspection	Measurement Test Check	Dead load Camber
Steel Girder	✓		✓	✓
Bearings	✓	✓		
Track at every sleeper location parameters	✓		✓	

After Static Inspection of the Works as mentioned above the Contractor shall submit the Inspection Report in the agreed format in six (6) signed copies to the Engineer for review and approval.

1.2 Remedial Action and Re-inspection

Within twenty-eight (28) days of receipt of a written application for a Taking-Over Certificate, the Engineer shall proceed in accordance with Sub-Clause 10.1 of the General Conditions of Contract.

1.3 Taking Over Certificate

If the Engineer does not issue a Taking-Over Certificate, but gives instructions in accordance with sub-paragraph (ii) of Sub-Clause 10.1 of the General Conditions of Contract, the Contractor shall, when he considers the work specified by the Engineer completed, give written notice to the Engineer and the Contractor and Engineer shall again follow the procedure in sub-clause 1.1 of this Sub-Division.

1.4 The Contractor shall submit documents required by Commissioner of Railway Safety (CRS) and shall accompany him during his inspection along with necessary records.

4120 DEFECTS NOTIFICATION PERIOD

1. General

- 1.1 The Contractor shall be responsible for the rectification of any defect, fault or failure in the Works that is attributable to the Contractor, as may be notified by (or on behalf of) the Employer on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).
- 1.2 The Contractor shall carry out the rectification of any defect, fault or failure in the Works that is attributable to the Contractor in accordance with the Defects Management Plan specified in Sub-Clause 7.4 [Defects Management Plan] in Sub-Division 4020 [Works Management Planning] of the General Specifications and which has received the consent of the Engineer.

2. Final Inspection

- 2.1 Subject to having completed the works in Sub-Clause 2.5 below and all outstanding Works, no earlier than thirty (30) days prior to the expiry of the Defects Notification Period for the Works or Section (as the case may be), the Contractor may request the Employer and the Engineer to conduct a final inspection of the Works or Section.
- 2.2 The Employer, the Engineer and the Contractor will conduct a joint final inspection of the Works or Section (as the case may be). The final inspection will include Contractor clean-up and Site restoration requirements. The final inspection will be completed within twenty one (21) Days from the Engineer's receipt of the Contractor's request for final inspection.
- 2.3 During the joint final inspection, the Employer and the Engineer will identify a list of any deficiencies and agree with the Contractor a programme for the rectification of each of any such deficiencies.
- 2.4 The Contractor shall correct every deficiency before the Engineer issues a Defects Correction Certificate for the Works or Section (as the case may be). After correction of any deficiencies identified during the joint final inspection, the Contractor shall request re-inspection by the Employer and the Engineer. The Employer and the Engineer shall re-inspect the Works or Section within seven (7) days from the Engineer's receipt of the Contractor's request for re-inspection.
- 2.5 The Contractor shall complete the following works prior to final inspection. In completing these works, the Contractor shall if necessary co-operate and co-ordinate with any Interfacing Contractors or Interfacing Parties and shall not interfere in their works.
 - (a) Works to be completed prior to the final inspection of any Section
 - i. any outstanding works or defects listed on the Taking-Over Certificate for the Section;
 - ii. all Contractor's documentation required under the Contract has been submitted; all interface work requirements have been completed, including but not limited to,
 - iii. utilities, drainage and services;
 - iv. touch-up, repair and remedy of any cosmetic deficiencies in the Works.
 - (b) Works required to be completed prior to the final inspection of the last Section
 - i. the items listed in Sub-Clause 2.5 (1) above;
 - ii. restoration of the Site as follows:

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- Removal of all Temporary Works;
 - removal/restoring of all temporary facilities, including but not limited to temporary access roads, work areas, yards, stores, toilets, offices, workshops; except as may be specified in the Contract or ordered by the Employer to remain;
 - Reinstatement of all topsoil and restoration of ground surfaces (to their original condition, if applicable; or as specified);
 - Removal of any remaining surplus Plant and Materials;
 - removal of all debris, waste, garbage, etc. whether hazardous or otherwise and disposal of same in accordance with the Contract;
 - cleaning of all drains and waterways of construction debris, waste, garbage, etc.
- iii. Plant is in good repair and good working condition and all requisite operation and maintenance manuals have been provided to the Employer.
- iv. Any operation, test or other certificate(s) or the like, not previously provided, have been provided to the Employer enabling full and unrestricted use of the Works.
- v. Ownership of or rights to/in any documentation as specified in the Contract has been transferred to the Employer.

Appendix 4000-1: Schedule of Interface, Coordination and Cooperation with Other Parties

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1. Contents of Interface Management Plan

Interface Management Plan (IMP) should be prepared including necessary contents referring Table 1. The intention of each section is described by the text inside angle brackets.

Table1: Sample Contents of Interface Management Plan

1	Introduction	
	1.1	Purpose of Document <Describe the methodology to be adopted by the Contractor in managing all interface issues >
	1.2	Overview <Project overview of the Contractor and the Interfacing Contractor>
2	Resource Management	
	2.1	Organization and Roles & Responsibilities
	2.2	Resource Requirement <Detailed description of the manpower, tools, logistics shall be included in this section>
3	Interface Requirements	
	3.1	Allocation of Interfacing Requirements <This is an introduction to Section3.2>
	3.2	Interface Description between Contractors <Task Allocation Table (TAT) shall be included in this section>
	3.3	Areas of Concern <Process for managing the interface concern>
4	Process Management	
	4.1	Change of Interfacing Requirement <The process for the management of interface requirement change shall be addressed in this section.>
	4.2	Verification and Validation of Interfacing Requirements <The approach to be adopted by the Contractor to manage verification and validation of interfacing requirements shall be addressed in this section.>
	4.3	Testing and Commissioning on Interfaces <The approach to be adopted by the Contractor for the management of Interface in the Testing and Commissioning stage shall be addressed in this section.>
	4.4	Quality Procedures <All Contractor's internal quality procedures applicable for the interface management shall be listed here.>
	4.5	Systems Assurance Plans <Considered requirement of the Systems Assurance.>
5	Document Management	
	5.1	Reference Documents <All applicable reference documents shall be listed in this section.>
	5.2	Structure of Reference Documents <The Structure of reference documents shall be addressed in this section.>

	5.3	Version Control of Interface Documents <Configuration management of interface documents shall be addressed in this section.>
6	Communication	
	6.1	Terms of Reference of Interface Meetings <The terms of reference of interface meetings shall be addressed here.>
	6.2	Exchange of Information between Contractors <The process for the exchange of information between the pair-wise contractors shall be stated here.>
	6.3	Submission to Employer <The approach to be adopted by the pair-wise contractors on the Submission of the Interface Management Plan to Employer shall be described here.>
	6.4	Request for Employer Attention <The criteria and methodology on requesting for Employer attention shall be mentioned here.>
7	Interface Hazard Management	
	7.1	Strategy and Approach
8	Programme	
	8.1	Key Activities <Include schedule of meetings, schedule of exchange of information, etc.>
	8.2	Section and Milestone <Include Design Freeze Dates, Integrated Test Dates, Critical Items dates, etc. Should include reference to appropriate programmes so that any future changes in programme date need not result in resubmission of this plan for approval.>
	8.3	Critical Items/ Critical Paths <This section shall highlight all the critical items and critical paths to the Employer.>

2. Interface Table

2.1 Interface Table between C-1 and Br-1

S.No	Description	Remarks
1	Handing/Taking over of site for construction of superstructure of major RUB over NH-352W (Pataudi road)	C-1 Contractor shall complete the work of substructure upto bearing pedestal as per the Drawings and MS-1 of C-1 package and hand over the site to Br-1 Contractor for construction of superstructure.

2.2 Interface Table between Br-1 and Road Authorities (Interfacing Parties)

S.No	Description	Remarks
1	Interfacing with road authorities for launching of girders including temporary supports.	Br-1 Contractor shall interface with road authorities for obtaining permissions/approvals for launching of girders.

2.3 Interface Table between Br-1 and T-1

S.No	Description	Remarks
1	Providing access to T-1 Contractor	Br-1 Contractor shall complete the bridge works along with track in bridge portion with service rails with stipulated track parameters as per MS-3 of Br-1 and handover to T-1 Contractor for carrying out track works.

2.4 Interface Table between Br-1 and C-2

S.No	Description	Remarks
1	Providing access to site for C-2 Contractor	Br-1 Contractor shall complete the Works and provide access to C-2 Contractor for OHE and S&T works as per MS-3 of Br-1 for Manesar-Patli connectivity. Access for main line tracks shall be decided mutually by Br-1 and C-2 Contractor.

Division 5000: Contractor's Drawings and Documents

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5010 CONTRACTOR'S DRAWINGS

1 GENERAL

- a) This section covers the drawings to be prepared and submitted by the Contractor.
- b) Approval of the Engineer of any drawing submitted by the Contractor shall not relieve the Contractor of any of his responsibilities or liabilities under the Contract.
- c) The Contractor's drawings specified herein shall include, but not be limited to, temporary works design drawings, shop drawings, fabrication drawings, coordination drawings and As-Built Documents forming part of the Contractor's Documents.
- d) The Contractor's drawings shall be provided as and when necessary for the proper procurement, execution, completion, testing and As-Built recording of the Works or any part thereof.
- e) The Contractor's drawings shall be prepared in a format acceptable to the Engineer. The Contractor shall submit the proposed format within twenty-eight (28) days of the Commencement Date.
- f) Upon receipt of further Drawings or documents from the Engineer and prior to the Contractor's use of the information contained therein for preparation of the Contractor's drawings or other Contractor's Documents, the Contractor shall examine them carefully and advise the Engineer in writing of any errors, discrepancies, ambiguities and the similar defects found therein.

5020 SHOP DRAWINGS AND COORDINATION DRAWINGS**1 General**

The Contractor shall produce Contractor's drawings to supplement the Drawings and show further details for construction.

a. Working Drawings

The Working Drawings shall be additional drawings developed by the Contractor as necessary to supplement the Drawings and which specify additional details and procedures for construction of the Works, such as shop drawings, fabrication drawings, erection drawings, Temporary Works drawings, bar bending schedules, bar reference drawings.

- (i) Shop Drawings: These are supplementary detail drawings which expand and explain the information shown on the Drawings;
- (ii) Fabrication Drawings: These are supplementary drawings of specific elements of the Works shown on the Drawings and Shop Drawings for the purpose of manufacture or fabrication of those elements;
- (iii) Temporary Works Drawings: These drawings shall be prepared for all the items mentioned in Clause 2 of the Technical Specifications.
- (iv) Re-bar Drawings: These drawings shall show cutting, bending and reference schedules; and
- (v) All other drawings as deemed necessary by the Contractor for the accurate and safe construction of the Works in accordance with the Contract.

b. Construction Practicing Documents

The Contractor shall submit the following documents along with Working Drawings:

- (i) Updated Construction Method Statement;
- (ii) Construction Sequence Statement: The document illustrates the sequence of one cycle of a particular construction implementation in which such sequence is critical to maintain the quality, safety and/or any other important factors of the construction implementation;
- (iii) Temporary Works Design Report;
- (iv) Updated Construction Programme; and
- (v) Safety Risk Assessment: The analysis describes and evaluates the risks associated with the construction implementation anticipated in the course of the construction.

2 Shop Drawings Schedule

The "shop drawings" shall be understood to have included drawings for further development of the Drawings, manufacture/fabrication drawings to be prepared by the suppliers/manufacturers/fabricators, the Contractor's working drawings including those for the Temporary Works, and other detailed drawings of similar nature and/or purpose, wherever required. The Contractor shall note that, where necessary for the Engineer's comprehensive review of the shop drawings, the relevant coordination drawings as specified below shall be submitted together with the shop drawings.

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- a) Within twenty-eight (28) days of the Commencement Date the Contractor shall submit to the Engineer, for review and comments, six (6) printed copies of a proposed schedule of shop drawings indicating at least the following:
 - (i) Drawing categories;
 - (ii) Section titles(e.g. civil);
 - (iii) Drawing titles and numbers(preliminary);
 - (iv) Planned submission date; and
 - (v) Planned date for completion of the Engineer's review.
 - b) In preparing the above schedule, the Contractor shall ensure that a minimum period of twenty-one (21) days for each submission is allowed for the Engineer's review, commentor approval. The Contractor shall also allow sufficient time for modification, correction and resubmission where so required by the Engineer. This process of resubmission shall continue until the drawing is accepted by the Engineer, provided that the Contractor maybe allowed to proceed with the works upon the relevant drawings reaching the "Notice of No Objection" or "Notice of No Objection with comments" status.
 - c) This schedule shall be updated on a monthly basis and submitted to the Engineer, in one (1) original and five (5) copies, for his review and comments. This submission should include where possible:
 - (i) The actual drawing title, number and revision number as and when they are known;
 - (ii) The Contractor's drawing preparation status;
 - (iii) Revised planned dates for submission or re-submission; and
 - (iv) Status of all submissions.
 - d) Any failure of the Contractor to list any shop drawings in the Schedule will not relieve him of his responsibility to submit all required shop drawings in a timely manner.

3 Shop Drawings- Particular Requirements

- a) The Contractor shall submit shop drawings in a timely manner when and where the Contract considers it necessary or as instructed by the Engineer. The shop drawings shall accompany the relevant coordination drawings which are essential for the Engineer's understanding of the conditions or interface with the related works.
- b) The shop drawings shall be developed in strict accordance with the Works Requirements set out in the Drawings and the Specification, and the Contractor's documents to be submitted to a suitable approved scale and shall clearly show all working details for procurement, manufacture, fabrication, assembly and construction or installation for all elements and parts of the Works. The shop drawings shall include, but not limited to:
 - (i) plans, layouts, sections, elevations and details,
 - (ii) Waterproofing details and penetrations of all structures,
 - (iii) connections, anchorages, fixings, hangers and supports.

-
- c) The respective shop drawings shall be submitted as early as possible to the Engineer for review, comment or approval, but in any event not later than the "planned date for submission" indicated in the shop drawings schedule accepted by the Engineer.
 - d) All shop drawings shall be prepared in an approved CAD format and submitted to the Engineer in six (6), one (1) original and five (5) printed copies.
 - e) All shop drawings submitted, including those produced by the manufacturers, fabricators or suppliers, shall be signed by the Contractor's Representative and a responsible person in the Contractor's Quality Assurance section on the Site, to warrant that the Contractor has verified the adequacy of the shop drawings submitted and accepts all responsibilities pertaining there to. Any shop drawing which has clearly not been reviewed by the Contractor as set out below and/or does not bear the signatures as aforesaid may be returned to the Contractor without the Engineer's review.
 - f) Shop drawings prepared by the manufacturers, fabricator, suppliers or the like, shall be thoroughly reviewed by the Contractor before submission to the Engineer. Such review by the Contractor shall include a study of all technical and dimensional aspects to gather with a review for coordination purposes to ensure that the work indicated on the shop drawings is correctly coordinated with all related works according to the constraints of these related works. The Contractor's requirements, comments or corrections, deriving from his review, shall be incorporated by the respective manufacturer, fabricator, supplier, etc, prior to submission by the Contractor to the Engineer.
 - g) The submitted shop drawings shall be reviewed, commented, accepted by the Engineer or otherwise will be returned to the Contractor with comments within twenty-one (21) days after the Engineer's receipt of the submission.

4 Coordination Drawings

- a) Before the respective parts or elements of the Works are fabricated, manufactured, executed, constructed or installed on the site or elsewhere, the Contractor shall coordinate all parts and elements of the Works with each other or with the works of the Interfacing Contractors or Sub-Contractors and accordingly prepare and submit to the Engineer for his acceptance with all necessary coordination drawings along with any relevant shop drawings.
- b) The coordination drawings shall include plans, sections, elevations and the details to the appropriate scales for clear understanding of the required works or actions.
- c) The coordination drawings shall be provided in Six (6) hard copies, (1) original and five (5) copies, unless submission of additional copies is instructed by the Engineer for confirmation with the Interfacing Contractors or Subcontractors.
- d) The coordination drawings shall be submitted as early as possible in order that any required preparations and modifications can be arranged well in advance, without delaying the progress of the works and the works of the interfacing contractors or subcontractors. For each submission of coordination drawings, a minimum period of twenty-one (21) days shall be allowed for review, comment and/or approval by the Engineer.

5030 AS-BUILT DRAWINGS AND DOCUMENTS**1 General**

- a) The Contractor shall prepare throughout the progress of the Works and keep up-to-date the "As-Built Documents" of the Works as part of the Contractor's Documents. These documents shall show all changes or revisions from the original documents and show the exact "As-Built" field-measured conditions of the Works.
- b) The master copy of these documents shall be kept by the Contractor at the Site for the inspection of the Engineer whenever needed and shall be used as a record set for ad hoc entering of the changes made to the Works. The originals of the "As-Built Documents" shall be promptly revised to reflect these entries made.
- c) At the end of every month, or such other times as the Engineer may instruct, three (3) hardcopies of the originals of the "As-Built Documents" reflecting all entries made to the master copy shall be submitted to the Engineer for review.
- d) Prior to issue of the Taking-Over Certificate for the whole of the Works or any Section or part thereof, the Contractor shall submit to the Engineer, copies of the final version of the As-Built Documents for the approval of the Engineer. These documents shall have to be fully checked by the Contractor and certified. Most of the final version of the "As-Built Documents" shall be submitted to the Engineer progressively and at least twenty-eight (28) days before the date of the Taking-Over Certificate for the whole of the Works. Minor portion there of may be submitted at least fourteen (14) days before the date of the Taking-Over Certificate.
- e) The Works shall not be considered to be complete for the purposes of Taking-Over Certificate until the final version of the "As-Built Documents" has been approved by the Engineer in writing and submitted to the Engineer.
- f) The final version of the "As-Built Documents" shall accurately show the Works as constructed incorporating the effect of all site changes, Variations and instructions and will particularly highlight and detail the locations, elevations, sizes, dimensions, the materials used and the workmanship applied in the Works including all Plant and equipment inclusive of pipes, ducts, cables, wires and the like, for the convenience of the operation and maintenance personnel. Accuracy of the As-Built Documents shall be certified by a responsible person in the Contractor's Quality Assurance department on the site.
- g) After approval by the Engineer, these documents shall be securely bound by the Contractor into separate volumes, with covers and contents pages added, as agreed with the Engineer. Final submission shall be made to the Engineer for transmission to the Employer.
- h) All As-Built Drawings and Documents shall be signed off by the Contractor's respective Construction Superintendent for different category of structures and the Contractor's Representative.

2 Detailed Requirements

As-Built Drawings and Documents shall show all the changes from the Drawings of the Permanent Works. The "As-Built" information shall include, but not be limited to, the following:

- a) Changes to dimension and detail from the Drawings;

-
- b) Components left in place including temporary support systems, concrete outside of neat lines of permanent structures and other such matters;
 - c) Depths of all elements of foundations in relation to survey datum;
 - d) Horizontal and vertical locations of public utilities related to the Works, including diverted public utilities and public utilities left in-place;
 - e) Location of appurtenances and public utilities concealed within a structure;
 - f) Changes due to variation orders;
 - g) Records data, As-Built records, damage or settlement surveys, property surveys and similar final record information;
 - h) Compiled project photographs;
 - i) Geotechnical data and records;
 - j) As-Built survey data and drawings as specified;
 - k) Official letters regarding the design change acceptance;
 - l) Certificates of acceptance between the Contractor and the Engineer;
 - m) A construction diary and
 - n) Design Certificate for all Internal Authorizations carried out.

3 Submittals

The following copies of the final version of the As-Built Documents shall be submitted to the Engineer-

- a) Hard (printed) copy (As per Drawing Schedule): Six (6) sets
- b) Soft (electronic) copy both of "DWG" and "PDF" Formats on Compact Disks or DVD-R: Three (3) Sets.

Division 6000: Site Management

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6010The SITE

1. Location and Boundaries

- 1.1 The Site for the Works includes major Road Under Bridge (RUB) at NH 352 W (Pataudi Road) Chainage Km 54.498 between Manesar and Patli stations in connection with laying of New BG Double Railway Line of HOCR project and the plant where steel girders are to be fabricated.

Except where an express permission in writing is obtained from the Engineer in advance, the Contractor shall limit the area of its construction activities to the area within the Site.

- 1.2 The Contractor shall be deemed to have inspected, examined and made himself fully familiar with the Site area. The Contractor shall be deemed to have been fully aware that the Site is not for the Contractor's exclusive use, that the Contractor shall allow the Interfacing Contractors and Interfacing Parties to have reasonable access there to as a part of Contractor's management of the works, and that the areas may be subject to change in location and/or size during the execution of the works. The Contractor shall be responsible in all respects for these areas while they are in his possession or under his custody and control, even when others are working in these areas.

2. Access to the Site

- 2.1 The Contractor shall be deemed to have inspected, examined and made himself fully familiar with the access routes necessary for the proper execution of the Works and accounted for in the Accepted Contract Amount any costs arising in connection with the accessibility to the ROW. The Employer will not be responsible for any claims which may arise from the use of or otherwise in connection with any access route. The Employer does not guarantee the suitability or availability of any particular access route and will not entertain any claim for any non-suitability or non-availability of any such route for use (whether continuous or otherwise) during the Contract Period.
- 2.2 The Contractor shall make its own arrangements, subject to the consent of the Engineer, for access required to the Site. The Contractor shall negotiate with the landowners or other appropriate government agencies to seek temporary occupation of land and seeking necessary permission for construction of temporary access roads.

3. Contractor Operations Outside the Site

- 3.1 The Contractor shall be solely responsible for acquiring any additional land (land in addition to the Site) required by him for his Temporary Works areas outside the ROW, at his own expense, including maintaining and reinstating the same on completion of the Works to the entire satisfaction of the land owner and the Engineer.
- 3.2 The Contractor shall make the necessary arrangements with land owners and relevant government authorities for any work to be undertaken outside the Site. Two copies of all the relevant documents/ permissions/ agreements, etc., as required by the Engineer in respect of the land arranged by the Contractor outside the Site, shall be submitted to the Engineer. Before commencing operations, the Contractor shall also submit to the Engineer a detailed plan and a programme of the Works to be carried out in the works area, including areas outside the Site.

- 3.3 When using and/or occupying works areas on existing public roads, the Contractor shall undertake all necessary procedures and mitigation measures as per the requirements set by the relevant authorities.
- 3.4 The Contractor shall submit to the Engineer proposals for the use and occupation of such works areas. Any such proposal shall be submitted to the Engineer at least twenty-eight (28) days prior to the start of the programmed use of the specific works area.
- 3.5 On completion of the Works, the land arranged by the Contractor outside the Site shall be restored back to its original condition to the entire satisfaction of the land owner and the Engineer.

4. Site Security

- 4.1 The Contractor shall be wholly responsible for security on the Site and any other areas being used by him or any Subcontractors for the purposes of the Contract. The Contractor shall implement and cause Subcontractors to implement proper security management procedures in accordance with the approved security management plan described in Appendix 8000-1 [Environmental, Social, Health and Safety Management Manual] to Division 8000 [Environmental, Social, Health and Safety Management] of the General Specifications.
- 4.2 The Contractor shall assign on the Site an appropriate safety and security organisation headed by experienced and professionally qualified safety and security personnel, who shall be primarily responsible for the Contractor's security services and shall fully cooperate with the Employer's security organization throughout the Time for Completion.
- 4.3 The Contractor shall prepare and submit to the Engineer for approval a security management plan (it may be included in the Environment, Social, Health and Safety Management Plan) fully complying with not only the relevant applicable Laws but also the regulations of the Employer which may be imposed from time to time on the Project within twenty-eight (28) days after the Commencement Date or at least one week before commencing the Works on the Site or any other area being used by the Contractor (whichever is the earlier). The plan shall include detailed procedures for daily security management operations as described in Division 8000 (ESHS Management) of General Specifications.

5. Possession of Third Parties Facilities

- 5.1 The definition of "Possession" to be applied in this Clause is 'possession of a segment or stretch of the Works and/or Indian Railways (IR) track(s) and/or other related authorities required by the Contractor from the Employer and/or IR and/or other related authorities for execution of the Works during the Time for Completion and/or after issue of the Taking- Over Certificate and during the Defects Notification Period for maintenance / rectification of any defects in the Works.
- 5.2 While undertaking construction activities within an existing railway line or road under the Contractor's Possession, the Contractor shall abide by the rules/guidelines included within the relevant manuals of Indian Railways and/or the National Highways Authority of India (NHAI)/Public Works Department (PWD)/ Panchayats/Municipal Corporations and/or any other authority.
- 5.3 The Contractor shall undertake any construction activities on existing 'live' or operating lines only after the grant of Possession by the relevant authorities.

- 5.4 An area under the Contractor's Possession is the sole responsibility of the Contractor and all issues relating to safe working within that area, including the movement of traffic, are his responsibility.
- 5.5 If the Contractor has more than one work front within the same Possession, one person shall be nominated by the Contractor as the person responsible for the coordination for all work fronts within the Possession.
- 5.6 The Contractor shall ensure that construction activities shall be undertaken strictly within the area which is under the Contractor's Possession.
- 5.7 The Contractor shall appoint a responsible person who shall coordinate with the Employer, IR/ relevant authorities, Interfacing Contractors and Interfacing Parties as applicable and who shall act as the Possession Coordinator for the Contractor. The person appointed shall have experience of IR/ relevant authorities operations and shall be fully aware of IR Rules and Regulations related to possession of track for construction of railway works and in accordance with IR/ relevant authorities regulations to issue Possession requests. For the purposes of the Works, such person shall be duly certified in accordance with the said Rules and Regulations, if required.
- 5.8 The Contractor shall use Possessions on the line as follows:
- For each particular Possession and depending on the duration and the location of the Possession, alternative route(s) may be required, such alternative diversion route(s) if required to be constructed, shall be at the Contractor's cost.
 - The normal alternative mode of transport will be proposed by the Contractor, and the route and timings of this alternative transport are to be agreed with the Engineer/IR /Road Authorities / Panchayat prior to obtaining Possessions.
- 5.9 The Employer shall provide assistance necessary to the Contractor to enable him to obtain the Possessions required by him, subject to being approved by IR, NHAI or relevant authorities. No claim shall be entertained by the Employer on this account.
- 5.10 The Contractor's request for Possession shall include a technical and organizational schedule and submit the same to the Engineer for his consent.
- 5.11 The Contractor shall submit his requests for Possessions well in advance as per requirements of relevant authorities.

6. Damage and Interference

6.1 General

- 6.1.1 Work shall be carried out in such a manner that there is no damage to or interference with:
- Water courses and drainage system,
 - Utilities,
 - Structures (including foundations), roads including street fixtures or other properties;
 - Public or private vehicular or pedestrian access, and
 - Monuments, graves or burial grounds other than to the extent that it is necessary for them to be removed and reinstated to permit the execution of the Works.
- 6.1.2 Heritage structures shall not be damaged or disfigured on any account. The Contractor shall inform the Engineer as soon as practicable of any items which are not stated in the Contract to be removed or diverted but which the Contract or considers necessary

to be removed or diverted to enable the Works to be carried out. Such items shall not be removed or diverted until the approval of the Engineer has been obtained.

- 6.1.3 Assets/ items of the Employer, Indian Railway (IR), Other Contractors and any other entities and relevant authorities which include, but are not limited to, water, sewage, gas authority, electrical, OFC communication cables etc. carried out shall be replaced / reinstated by the Contractor to the same condition as existed before the Works started and to the satisfaction of the Engineer and the concerned entity.
- 6.1.4 In case of damage to the existing cables, the Contractor shall have suitable procedure for cable joining under the technical supervision of IR or the relevant authority.
- 6.1.5 The Contractor shall indemnify the Engineer, Employer, Indian Railway, Other Contractors and relevant authorities against any damages or any penal action, any claim or legal action as a result of the damages.

6.2 Utilities

- 6.2.1 The Contractor shall follow the requirements on care for utilities as specified in Sub-Division 6060 of the General Specifications.

6.3 Structures, Roads and Other Properties

- 6.3.1 The Contractor shall carry out a precondition survey of all roads and structures and drainage channels adjacent to the Site. Contractor originated deterioration of the roads and damage to adjacent structures and drainage facilities shall be reported to the Engineer with appropriate records.
- 6.3.2 The Contractor shall maintain / replace / reinstate to the same condition as existed before the Works started and to the satisfaction of the Engineer and the concerned entity.

6.4 Access

- 6.4.1 Where existing access to premises either public or private is damaged or unusable, alternative access shall be provided by the Contractor to enable the Works to proceed. The arrangements for the alternative access shall be as agreed by the Engineer, the relevant authorities and the owners of the premises affected.
- 6.4.2 Unless agreed otherwise, the permanent access shall be reinstated as soon as practicable after the Works are complete and the alternative access shall be removed immediately when it is no longer required, and the ground surfaces reinstated. Proper signage and guidance shall be provided for traffic/ users diversions.

6.5 Trees

- 6.5.1 Materials, including excavated materials, shall not be banked around trees. Trees shall always be protected from damages.
- 6.5.2 Unless otherwise consented to by the Engineer, trees shall not be trimmed or cut as stated in Division 8000 [ESHS] of this Section.

6.6 Removal of monuments, graves, burial grounds and other obstruction

- 6.6.1 If any graves and other obstructions are required to be removed in order to execute the Works and such removal has not already been arranged, the Contractor shall draw the Engineer's attention to the min good time to make the necessary arrangement for authorization for removal.

6.7 Protection of the Other Adjacent Structures and Works

- 6.7.1 The Contractor shall take all necessary precautions during the construction to protect structures or works being carried out by others, adjacent to or within the Site from the

effects of vibrations, undermining or any other earth movements or the diversion of water flow, arising from its work.

7. Defined Area and Train Operation

- 7.1 When the Project under construction has been made available for track and system related installation works, the area will be classified as a Defined Area for train movement. The defined area shall be controlled by the Lead Contractor (as nominated by Engineer) with regard to access.
- 7.2 All persons whose duties require them to work within a Defined Area must have been required to be examined for safety knowledge and to have been safety inducted. Evidence of safety induction must be exhibited whenever present or working in a defined area. All persons present in defined areas are required to observe safety rules and procedures to be defined by the Contractor and reviewed without objection by the Engineer.
- 7.3 The Contractor shall ensure that the necessary rules and procedures for all persons are published from time to time and communicated to the workers and/ or agents and the Interfacing Contractors on the Site. The Contractor shall also ensure that all such rules and procedures are being followed during the course of all works and construction activities at the Site.
- 7.4 When overhead lines are energized, Train Sets/Cars may be moving in the Defined Area. No work shall be undertaken on the tracks when Train Sets/Cars are moving. Procedures for obtaining access to the energized tracks will be detailed in the rules. The Contractor shall make requests for obtaining access to the energized track or in the vicinity of the tracks as per the approved and notified rules and procedures.
- 7.5 After overhead lines are installed, the lines are energized, the Contractor shall comply with the rules/ measures against electric shock.

8. Site Clearance

The contractor shall clear the Site as required by demolishing all buildings, structures (above and below ground such as brick, concrete, steel, etc.) and removing all rubbish as agreed by the Engineer. The Site shall also be cleared of vegetation, trees, stumps roots, etc. as mentioned in Appendix 8000-1 (ESHS Manual). All material so cleared from the site shall be disposed off by the Contractor outside the ROW as directed by the Engineer.

6020 SURVEYS AND SETTING-OUT**1. General**

- 1.1 The Contractor shall plan and programme for the validation of any Site data provided by the Employer.

The Contractor shall summarize the results of their validation of the Site data. The Contractor shall set out the Works to commence the construction with consistent accuracy and entirely throughout the construction stages.

2. DELETED**3. DELETED****4. DELETED****5. DELETED****6. DELETED****7. Setting Out**

- 7.1 The Contractor shall set out the Works at the Site. The Contractor shall ensure that all the Permanent Works are accurately set out.
- 7.2 The setting out of the Works shall be carried out based up on the "Good For Construction" Drawings.
- 7.3 The Contractor shall consistently apply the HORC Benchmarks to the setting-out.

8. Auxiliary Works

- 8.1 In addition to the requirements specified elsewhere in the Works Requirements and the Conditions of Contract, the Contractor shall follow good industry practice when carrying out surveying, setting out and associated activities, which includes but is not limited to the following:
- a) performing all necessary calculations accurately and presenting all computations and results clearly in order to facilitate verification by the Contractor and Engineer;
 - b) Removing machinery and obstructions fromr required sight-lines;
 - c) prior to carrying out surveys, setting out or similar works, stopping or relocating any operating machinery, drilling, blasting, pile driving or the like which may cause ground or structure vibration; and stopping any activity which could generate smoke, dust, gas, etc., thereby obscuring clear views or causing refraction, which would thereby interfere with such survey works;
 - d) Restricting or stopping pedestrian and/or vehicular traffic near instruments or insight-lines during instrument observations, as required;
 - e) providing adequate equipment, labour and materials as deemed necessary and suitable to carry out control and any other surveys required.

6030 DELETED

6040 CONTRACTOR'S TEMPORARY FACILITIES**1. General**

- 1.1 The Contractor shall be entirely responsible for the provision, erection, maintenance and removal on completion of all required temporary facilities, as part of the Temporary Works, which are required for the proper execution and completion of the Permanent Works. Such temporary facilities shall include the Contractor's offices, laboratories, workshops, stores, utilities, services, accommodation, canteens, recreational and welfare facilities, health, safety, security and environmental protection facilities and the like, whether on or of the Site.
- 1.2 The Contractor's Personnel shall not be allowed to live on the Site. A limited number of security personnel designated to secure the Contractor's facilities will be permitted to stay after working hours subject to the approval of the Engineer. The Contractor shall make all necessary arrangements for suitable off-Site accommodation and transportation for the Contractor's Personnel.
- 1.3 All of the Contractor's temporary facilities on the Site or elsewhere within the Project site shall be designed, provided, erected, maintained and removed to the satisfaction of the Engineer and in strict accordance with applicable Laws. The Contractor shall obtain all necessary approvals and permits from the relevant authorities having jurisdiction for the provision, erection, operation, maintenance and removal of the Contractor's temporary facilities.
- 1.4 All of the Contractor's temporary facilities, other than those designated to remain, are to be removed on the completion of the Works and the ground surfaces reinstated to the satisfaction of the Engineer.
- 1.5 When deemed essential for the preservation or maintenance of health, safety, security and/or environmental protection, the Engineer may instruct the Contractor to modify the Contractor's temporary facilities, regardless of any approvals or consents previously given, and the Contractor shall promptly comply with such instructions. These instructions shall not constitute Variations.

2. Location of Area for Temporary Facilities

- 2.1 The Contractor shall be aware that the area for temporary facilities is not for the Contractor's exclusive use, and the Contractor shall cooperate fully with the Interfacing Contractors if it becomes necessary for the efficient use of a limited area among the said Interfacing Contractors.
- 2.2 The precise locations of the Contractor's Temporary Works including the temporary facilities within and outside the Site area shall be proposed by the Contractor and approved by the Engineer.
- 2.3 The Contractor shall submit drawings showing the proposed locations and outlines of the proposed temporary facilities. Drawings and details of the Temporary Works for a particular part of the Permanent Works may be submitted as part of the shop or working drawings and/or the work method statements forming part of the Contractor's Documents. These locations and outline drawings for the temporary facilities shall be submitted twenty-eight (28) days before commencing the construction of any temporary facility or twenty-eight (28) days after the Commencement Date. These drawings and outlines shall be updated whenever addition or removal of any facility is planned. Detailed drawings for any particular temporary facility, showing all necessary utilities

and services, shall be submitted at least fourteen (14) days before the planned commencement date of construction there of.

2.4 Deleted

2.5 Deleted

2.6 The Contractor is free to make his own arrangements for any additional areas required for the proper execution of the Works, and the costs of same shall be borne by the Contractor.

3. Site Offices

3.1 The Contractor shall be responsible for identifying and establishing suitable facilities for the Contractor's office facilities as approved by the Engineer.

3.2 The Contractor's Site offices and facilities shall be provided within or in the vicinity of the work site, with all necessary facilities including furniture, office equipment, office supplies, utility services, sanitary system and vehicle parking. The Contractor shall provide space for Engineer/Employer's Personnel as mentioned in Division 4060.

4. Project Information Sign boards

4.1 The Contractor shall provide one project profile sign board at each of the Site Offices of a size, minimum 1.5mx2.5m, and maintain them in good condition. All information on the sign boards will be written in English and local language for separate signboard. The sign boards will be positioned on a steel frame as directed by the Engineer. The Contractor shall submit proposals for the signboard materials, the text layout (in English and local language) and installation of the signboards at the Site Offices of the Engineer and the Contractor for Engineer's approval. Each sign board shall show:

- a) The name of the Project and the Works,
- b) The Location Map,
- c) The name of the Bank,
- d) The name of the Employer,
- e) The name of the Engineer,
- f) The name of the Contractor, and
- g) All other details as required by the Engineer

The Contractor shall maintain the signboards and remove them on completion of the Works or when instructed by the Engineer. The Contractor shall clean, update, maintain and replace the sign boards if damaged, throughout the duration of the Contract. No additional payment shall be applicable for damaged signs which are required to be replaced.

4.2 Within twenty eight (28) days from the Commencement Date, the Contractor shall provide and install a Project information sign, as per the requirements for signboards at the Employer's/Engineer's Site Offices, at each of the entrance points to each Site Office location (both the Contractor's and Employer's/Engineer's offices) and the Site entrances, or, as directed by the Engineer.

4.3 The Contractor shall maintain the signboards and remove them on completion of the Works or when instructed by the Engineer, so as to inform the public of the implementation of the Works and the Project and to advise road users of on-going construction.

4.4 The Contractor shall clean, update, maintain and replace the signboards if damaged, throughout the duration of the Time for Completion. No additional payment shall be applicable for damaged signs which are required to be replaced.

5. First Aid Station

5.1 The Contractor shall construct, equip, and maintain First Aid stations at a sufficient number of appropriate locations on the Site and at each labour camp.

5.2 The Contractor shall comply with all requirements specified in the Works Requirements (including Division 8000 [Environmental, Social, Health and Safety Management]) and the Conditions of Contract.

6. Labour Accommodation Camps

6.1 The Contractor shall supply, equip and maintain facilities as necessary for the living accommodation, feeding and welfare of its employees by providing, servicing, and maintaining a camp at appropriate location(s), as necessary.

6.2 The Contractor shall comply with all requirements specified in the Works Requirements (including Division 8000 [Environmental, Social, Health and Safety Management]) and the Conditions of Contract.

7. Site Storage and Yards

7.1 The Contractor's Site storage areas and yards shall be utilized for, among other things, material and equipment storage, casting of precast structural elements, workshops, warehouses and secure storage.

7.2 The Contractor shall erect a 2.0 metres high chained security fence around the Site storage areas and yards, complete with suitable lighting and lockable gates.

7.3 The location of each Site storage area and yard shall be determined prior to the commencement of the works and the Contractor shall propose the locations and details of same and submit to the Engineer for consent.

8. DELETED

9. Stockpile Areas

9.1 The land available, if any, within the ROW may be used by the Contractor for storage of materials required for the project, subject to the consent of the Engineer.

9.2 The Contractor may also arrange any additional stock pile areas as required by him at his own discretion and cost.

9.3 The location and size of stock pile areas proposed by the Contractor shall be subject to consent of the Engineer. The Engineer's consent may be withheld, if:

a) in the opinion of the Engineer, a stockpile area or access thereto may be such as:

i. would have a detrimental effect on the natural and social environment;

ii. would disturb drainage system(s) around the stockpile areas;

iii. would constitute a danger to the public; or

b) at the Engineer's discretion, a stockpile would become too high.

9.4 Before commencing operations, the Contractor shall submit detail drawings of the proposed stockpile areas, together with the proposed method of operation, including stockpile heights, angles of repose, runoff / dust control measures, access road layouts, drainage, measures to be taken for restoration, all verified by appropriate calculations and analysis.

- 9.5 On completion of stockpiling operations, the Contractor shall reinstate stockpile area(s) to a safe and stable condition.
- 9.6 The Contractor shall indemnify the Employer against all claims in relation to stockpile area(s), both during the Time for Completion and after the Works are completed and taken over.

10. Contractor's Plants.

- 10.1 The Contractor shall plan, install, erect, maintain, dismantle and remove all plants required for the Works, including but not limited to major items such as concrete batching/mixing plants, rock crushers, casting yard, curing yard, stacking yard etc. of sufficient number and capacity to meet planned peak requirements during construction. The capacity of such plants shall be subject to consent by the Engineer. The location of concrete batching plants is subject to environmental approval from the appropriate authorities and shall not be able to operate until such approval is obtained. All control and measuring equipment shall be regularly checked and calibrated and the Contractor shall regularly submit calibration certificates for same to the Engineer.
- 10.2 The land available, if any, within the ROW may be used by the Contractor for storage of materials, concrete batching/mixing plants, casting yards, curing yard and stacking yards subject to the consent of the Engineer. The Contractor shall arrange any additional areas as required by him at his own discretion and cost.

11. Material Testing Laboratories

- 11.1 The Contractor shall design, construct, equip, maintain, dismantle and remove all required material testing laboratories and associated facilities on the Site and / or at work areas as are required for the sampling and testing of materials as required in the Works Requirements. The Engineer's consent shall be obtained to the location of material testing laboratories.
- 11.2 Laboratory buildings shall be supplied with adequate electricity, water, air-conditioning, etc., and shall have sufficient area(s) for storing samples.
- 11.3 The laboratory equipment to be supplied and the methods of testing shall be in accordance with relevant International, Indian and/or other standards and codes as detailed in the Works' Requirements. All apparatus and equipment shall be brand new and of the latest design and manufactured by a reputable manufacturer. The proposed type and number of items of laboratory equipment shall be submitted to the Engineer for review and consent prior to purchase.
- 11.4 The laboratory equipment and apparatus shall be checked and calibrated before testing starts and thereafter at regular intervals as specified by the manufacturer and as directed by the Engineer. The Contractor shall regularly submit calibration certificates for same to the Engineer.
- 11.5 The Contractor shall complete the design, construction and installation of the laboratory facilities for operation expeditiously to match with the progress of works at site after the Commencement Date and operate and maintain the facilities until the issue of Taking-Over Certificate, unless otherwise authorized by the Engineer. The Contractor shall also make all facilities and services available to the Engineer as required. All sampling and testing to be undertaken shall be under the direct supervision of the Engineer. The material testing laboratory shall be staffed by Contractor's personnel fully experienced in the sampling and testing of materials, and quality control.

11.6 Any testing which may be required in accordance with the Works Requirements and which cannot be performed in the Contractor's laboratory due to lack of time or equipment shall be assigned to an independent organization having NABL accreditation and as duly consented to by the Engineer. The Contractor shall accept all results, instructions or restrictions stipulated by the Engineer based on such tests.

12. Wheel Washing Facilities

12.1 In and around residential and commercial area, the Contractor is required to install wheel washing area within ROW at the "Exit" points/ gates of the construction area to ensure the removal of wheel/band dirt from construction vehicles and machines. Wheel washing area design shall be proposed in CEMP. As a part of the Contractor's method statement for the site preparation plans, wheel washing area shall be proposed and approved by the Engineer before the commencement of the work. The facilities are required to have access for cleaning out the sludge which collects together with provision for 2 high pressure hose connections and adequate water supply.

13. Temporary Roads

13.1 The Contractor at his own discretion construct and dismantle/alter/dispose of the temporary roads after the completion of Contract as directed by the Engineer.

13.2 Before constructing any temporary roads outside the ROW, the Contractor shall make all necessary arrangements, including payment if required, with the public authorities or landowners concerned, for the use of the required land and shall obtain the consent of the Engineer. Such consent will be dependent on the Engineer being satisfied with the Contractor's proposals for items such as capacity, signage, lighting and surface quality of the temporary road, together with proposed maintenance arrangements. Such consent shall not relieve the Contractor from any of its responsibilities under the Contract.

13.3 The Contractor shall note that temporary road shall not be for the Contractor's exclusive use and shall be subject to relocation or restrictions at his cost during the execution of the Works as and when such relocation or restriction is inevitable. Except in an emergency, the Contractor will be given a prior notice of any such relocation or restriction. The road layout and design proposal shall be revised and re-submitted to the Engineer for consent whenever road arrangements are to be modified for whatsoever reasons.

13.4 Within forty-two (42) days after the Commencement Date and consequent to the surveys performed by the Contractor in accordance with Sub-Division 6020 [Surveys and Setting-Out] of the General Specifications, the Contractor shall submit for the Engineer's review and approval of the proposed design, including layout, and details of the temporary road, fences, protection to underground pipes and culverts at road-crossing points and all additional temporary pipes and culverts that shall be provided by the Contractor, to sustain road traffic, irrigation and drainage flow in all existing streams, irrigation canals and ditches, drainage canals and ditches, and utilities or services, whether buried or exposed, all of which, in the opinion of the Engineer, are necessary for the proper execution of the Works.

13.5 During the transportation of Goods and Contractor's Personnel, the Contractor shall be responsible for keeping all railways, roads, bridges, watercourses, utilities services, etc. free from damage and from spillage of construction materials, detritus, oils, etc. and shall repair any damage howsoever caused to any such structure or property (whether on or

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- off the Site) by Contractor's Equipment (including that of any Subcontractor). In that respect the Contractor will be required to carry out a condition survey of all roads and other facilities in and adjacent to the works area which will show in detail the state of those items prior to the commencement of construction. The full records shall be submitted to the Engineer and the status monitored through out the course of construction with further records maintained.
- 13.6 At the junction of temporary roads with existing roads, the Contractor shall provide suitable traffic marshals to warn and regulate the traffic as per the requirements.
- 13.7 The Contractor shall be responsible for upholding and protecting all slopes at the boundaries of the Site against slippage into adjacent properties. As adjacent areas may be irrigated, this requirement will also therefore include the provision of temporary coffering as appropriate.
- 13.8 All temporary roads, culverts, ditches and the like required for the Contractor's or Subcontractors' or any other Contractor's operations shall be provided and maintained by the Contractor, kept in good condition by cleaning, watering, rolling, grading, repairing and maintaining, all to the approval of the Engineer.
- 13.9 If the Engineer has provided drawings or details of any temporary works, then such drawings or details shall be understood to be indicative of the minimum required standard only. The Contractor shall remain responsible for the design of Temporary Works.
- 13.10 Unless otherwise approved by the Engineer, the demolition of any existing roads, culverts, etc. shall not commence until the replacement facilities therefore have been completed by the Contractor.
- 13.11 When any of the temporary approach roads are no longer required, or earlier if so directed by the Engineer, the Contractor shall carefully dismantle the temporary bridge or road, and remove and dispose of all surplus materials in compliance with the applicable Laws, and reinstate the area to its original condition to the approval of the Engineer.
- 14. Vehicles**
- 14.1 The Contractor shall provide all necessary vehicles required for the transportation and movement of Goods and Contractor's Personnel, including but not limited to trucks, cranes, trailers, cars, motorcycles, etc.
- 14.2 The Contractor shall provide competent and licensed drivers and operators for all such vehicles. Vehicles shall be licensed and insured in accordance with the applicable Laws and the Contractor shall be responsible for all servicing, repairs and maintenance required.
- 15. Contractor's Equipment**
- 15.1 The Contractor shall ensure that all Contractor's Equipment whether on or in the vicinity of the Site, including apparatus, machinery, vehicles and other similar things to be operated by him or his Sub-Contractors for the execution and testing of the Works, are maintained and operated in a good and safe condition.
- 15.2 All lifting and hoisting equipment shall be regularly certified in accordance with the applicable Laws, and the safe working load limits shall not be exceeded.
- 15.3 The Contractor shall operate and maintain an equipment repair facility with in or in the vicinity of the Site, so that downtime of Contractor's Equipment can be minimized. Temporary fuel and lubricant stores shall be properly designed, constructed, secured,

fire- and spill-guarded, and be well ventilated so as to comply with the relevant applicable Laws.

16. Utilities for Temporary Facilities

16.1 Power Supply and Lighting:

- i. Electric power supplies for the Contractor's temporary facilities, including but not limited to Contractor's camps, offices, Site, work areas and other facilities as described herein, shall be arranged by the Contractor.
- ii. The Contractor shall install, operate and maintain its own electrical distribution systems for the electrical supply required for his temporary facilities as described in paragraph (1) above.
- iii. The Contractor shall also furnish, install and keep operational the diesel power generating facilities of such capacity as the Contractor considers necessary to prevent any interruption to the progress of the Works.
- iv. The Contractor shall ensure adequate lighting is provided for all his operations at the Site and the temporary facilities and camp according to the National Building Code of India (2016).

16.2 Water Supply

- i. The Contractor shall design, install, operate and maintain water supply systems including pumps, piping systems, valves, storage tanks etc., at the Site with respect to:
 - (a) Industrial water supply system
For construction use the water quality shall meet the quality requirements in the Works Requirements.
 - (b) Potable water supply system
For supply to all the Contractor's temporary facilities including but not limited to Contractor's camps, offices, Site, work areas and other facilities for human consumption and use.
- ii. In case the Contractor plans to install borewell(s) for water supply, he shall thoroughly investigate the relevant legislation and regulations imposed by the competent authorities and the installation shall be subject to approval by the said competent authorities and/or consent of the Engineer.
- iii. Throughout the Time for Completion the Contractor shall take samples from all water supplies at regular intervals and test it for suitability for the intended use.

16.3 Sanitation and Sewerage

- i. All operational parts of the Site, offices, workshops, fabrication yards, laboratory, camp and other facilities, etc. shall be provided with sanitation and sewage handling and disposal systems complying with the statutory requirements and applicable Laws, codes and standards.
- ii. If required, portable sanitary facilities including chemical toilets shall be provided and maintained by the Contractor for the use of all personnel at all work locations.
- iii. All the requirements of the Works Requirements (including Division 8000 [Environmental, Social, Health and Safety Management] of the General Specifications) and the Conditions of Contract shall also be complied with.

16.4 Waste and Garbage Disposal

- i. The Site and the work areas shall be kept clean and free of detritus at all times.

- ii. The Contractor shall collect waste material and garbage from Site, camp, offices, yards, workshops, etc. on a daily basis and dispose of same in an approved disposal area(s) and as per guidelines prescribed by local and governmental authorities having jurisdiction. No waste of any kind shall be deposited in any watercourses.
- iii. All the requirements of the Works Requirements (including Division 8000 [Environmental, Social, Health and Safety Management] of the General Specifications) and the Conditions of Contract shall also be complied with.

16.5 Fencing, Site Security and Safety

- i. The Contractor shall be responsible for the security and safety of the Site. Accordingly, the Contractor's temporary facilities including offices, workshops, fabrication yards and storage compounds, campsites, all construction areas, storage areas shall be adequately fenced, gated, lighted and guarded on a twenty-four hour, seven days a week basis. Firefighting equipment shall be provided in accordance with the applicable Codes and the requirements of local authorities.
- ii. Any storage facilities for explosives shall comply with the relevant Laws and regulations of India and shall be situated at locations approved by the competent authorities. Detonators and fuses shall be stored in facilities separate from explosives. In no case shall detonators and fuses be transported in the same vehicle as explosives. Storage facilities for explosives, detonators, fuses, etc. shall be secure, kept locked and the keys shall be accounted for at all times.
- iii. All the requirements of the Works Requirements (including Division 8000 [Environmental, Social, Health and Safety Management] of the General Specifications) and the Conditions of Contract shall also be complied with.
- iv. The Contractor shall be responsible for any losses occurring within the Site premises.
Inspection by the Employer or Engineer
- v. The Employer and the Engineer have the right at any time to inspect any part of the Contractor's temporary facilities and to require immediate rectification to comply with the specified requirements.

16.6 Final Clean-Up

- i. Upon the completion of Works, or when any of the Contractor's Equipment and/or temporary facilities have fulfilled or completed their function, the Contractor shall dismantle and demobilize such Contractor's Equipment and/or temporary facilities and remove all equipment, machinery, materials, refuse, debris, objectionable material, and reinstate, including filling, grading and dressing all areas to their original condition prior to completion of the Works.
- ii. The Contractor shall not proceed with any demobilization and/or removal of temporary facilities and equipment without the prior consent of the Engineer.

17. Maintenance of Temporary Facilities

- 17.1 The Contractor shall provide all necessary maintenance requirements and shall keep the temporary facilities and other areas established for the Works, clean, tidy and litter-free.
- 17.2 The Contractor shall be responsible throughout the Time for Completion for keeping the Site and temporary facilities to the satisfaction of the Engineer.
- 17.3 The Contractor shall maintain all existing security fences required for the Works until completion of the Works. Existing fences which interfere with construction operations,

shall not be relocated or dismantled, until written permission has been obtained from the fence owner.

18. Damage to Existing Property

- 18.1 The Contractor shall be responsible for any and all damage that may occur to any existing structures, works, materials, or equipment that is due to any operation(s) for which the Contractor is responsible, including any operation(s) of any Subcontractor.
- 18.2 The Contractor shall repair or replace any damaged structures, works, materials, or equipment to the satisfaction of the Engineer.
- 18.3 The Contractor shall be responsible for all damage to roads, railway infrastructure, curbs, sidewalks, highways, shoulders, embankment, ditches, drains, culverts, bridges, or other public or private property, which may be caused by their construction activities and shall indemnify for losses due to such damages.

6050 MOBILIZATION AND DEMOBILIZATION**1. General**

- 1.1 The Contractor shall mobilize to the Site the Contractor's Equipment and the Contractor's Personnel as appropriate for the execution and completion of the Works in strict accordance with the requirements of the Contract.
- 1.2 The Contractor shall demobilize Contractor's Equipment and Contractor's Personnel from the Site as appropriate when they are no longer required to be on the Site.

2. Engineer's Consents

- 2.1 The Contractor shall inform the Engineer regarding mobilization of Contractor's Equipment, including that required for use by any Subcontractor, at least seven (7) days before the date planned for the mobilization of same to the Site. The Contractor should note that:
 - a) The Contractor shall be solely responsible for the consequence of any such mobilization;
 - b) The relevant insurances shall be in place as evidenced by insurance documents included in the application;
- 2.2 The Contractor's Equipment shall be mobilized to the Site complete with all necessary spare parts, consumables and the like indispensable for proper operation and maintenance thereof. The Contractor shall provide maintenance facility complete with qualified maintenance personnel on or in the vicinity of the Site.
- 2.3 The Contractor shall obtain a written consent from the Engineer before removing any of the Contractor's Equipment from the Site or any managerial person among the Contractor's Personnel mobilized exclusively for the Contract. Provided that the proposed demobilization is in accordance with the Contractual Works Programme to which the Engineer has given consent and that the Contractor shall be solely responsible for any consequences of such demobilization, the Engineer shall not unreasonably withhold consent.
- 2.4 Although they are deemed intended for exclusive use on the Works asset for thin Sub-Clause 4.17 of the General Conditions, the Contractor may divert any of the Contractor's Equipment to other uses within the Site, provided that the Contractor's written undertaking to return the same to the Works whenever needed is submitted to the Engineer and the Engineer's written consent to such diversion is granted.

3. Records

- 3.1 In addition to the Monthly Progress Reports described in Sub-Division 4080 [Monthly Progress Report Requirements] of the General Specifications, the Contractor shall submit to the Engineer, on a daily basis, details of the mobilization and demobilization of any of the Contractor's Equipment or any managerial person among the Contractor's Personnel.
- 3.2 Without undue delay after demobilization from the Site, the Contractor shall submit to the Engineer copies of certified evidence of lawful re-export from the Country of any Contractor's Equipment imported into the Country on a temporary basis exclusively for use on the Contract.

4. Mobilization

- 4.1 The Contractor shall mobilize to the Site the Contractor's Equipment and the Contractor's Personnel as appropriate for the execution of the design, construction and

completion of the Works. An Initial Mobilization Plan for the 3 months following the Commencement Date shall be submitted to the Engineer within 7 days after the Letter of Acceptance has been received by the Contractor. An overall Mobilization Plan for the Works shall be submitted to the Engineer for his approval within 15 days after the Commencement Date.

- 4.2 In the event that manufacturing activities are to be carried out outside the Republic of India, the Contractor shall submit detailed organizational structure(s) for such manufacturing teams. This submission shall include the organization of such teams and details of the key personnel, including contact address, i.e., the addresses of the locations where such manufacturing activities are carried out and thee-mail address of each key personnel.
- 4.3 The Mobilization Plan shall include, but not be limited to the following:
- a) Details of each major item of Contractor's Equipment, i.e., the name, size and capacity etc. of each item.
 - b) The number of each equipment and the time of mobilization and duration of the use of each equipment.
 - c) The name and details of key personnel for each section of the Works and their responsibilities.
 - d) Details and time for installation of temporary facilities for the Works including temporary facilities for the Employer and the Engineer.
 - e) The numbers of Contractor's Personnel, including site engineers, administrative staff and labour in each trade category.

5. Demobilization

Demobilization shall be carried out in accordance with the provision of Sub-Clause 4.2.2 [Contractor's Operation on Site], and Sub-Clause 11.11 [Clearance of Site] of General Conditions. Upon receiving the Performance Certificate under Sub-Clause 11.9 [Performance Certificate], the Contractor shall carry out the Clearance of the Site and the Contractor shall inform in writing to the Employer the completion of Demobilization or Clearance of Site and obtain the consent of the Employer. In case the Clearance of Site has not been completed in a specified period by the Contractor, the Employer may carry out the Clearance of Site. The Employer shall be entitled subject to Sub-Clause 20.2 [Claims For Payment and/or EOT] to payment by the Contractor of the costs reasonably incurred in connection with, or attributable to, such sale or disposal and reinstating and/or cleaning the Site, less an amount equal to the moneys from the sale (if any). In case the Taking-Over is conducted section by section, the Contractor shall inform in writing to the Employer the completion of Demobilization of the section and obtain the consent of the Employer or the Engineer as a representative or on behalf of the Employer.

6060 UTILITIES AND FACILITIES**1. General**

- 1.1 The Contractor shall at all times work with due diligence to ensure the safety of all personnel and property from injury and damage from known ("Charted Utilities") and unknown utilities ("Uncharted Utilities").
- 1.2 The Contractor shall always take care of concerning buried Charted and Uncharted Utilities and if any such Utilities infringe the work, the Contractor shall make the area affected safe and ensure that no unauthorised member of the workforce or members of the public shall enter such area.
- 1.3 Contractor shall be responsible for relocation/ diversion/ shifting/ modification of all charted/uncharted utilities infringing the Works.
- 1.4 Contractor shall indemnify the Employer against any losses/claim/damage cost to any damage to utility/services during execution of Works.

2. Utilities, Services and Facilities

- 2.1 The Utilities are categorised as (i)Charted Utilities, which have been identified by the Employer and may be affected during the execution of the Works. and, (ii)Uncharted Utilities, which are not known and would get identified during the execution of the Works.

2.2 Charted Utility

There is no Charted Utility identified by the Employer.

2.3 Uncharted Utility

The Uncharted Utilities will be those unknown utilities which get identified during execution of the Works. These may be identified during Ground Penetration Survey or anytime during execution of the Works.

- 2.4 The Contractor shall do a general survey and Ground Penetrating Radar (GPR) Survey of the Site after possession and notify the Engineer of Charted & Uncharted Utilities, which may obstruct the works and need to be relocated.

- 2.5 For Uncharted Utilities requiring relocation identified by the Contractor in the Utilities survey, the Contractor shall inform the Engineer and provide relevant details, including but not limited to, the following:

- i. Location of the Utility;
- ii. Date on which Utility was encountered;
- iii. Nature and size of the Utility;
- iv. Condition of the Utility
- v. Type of the Utility & its owner:
 - a) Electrical cables;
 - b) OFC & Telecom cables;
 - c) Gas pipelines;
 - d) Water/sewerage/drainage/stormwater/hume pipelines;
 - e) Irrigation pipelines/channels;
 - f) Telecom towers;
 - g) Overhead Water tanks and others overhead tanks;
 - h) Others, if any
- vi. Reasonable estimate of time required for shifting of Unchartered Utilities.

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- vii. The information shall also cover the details of the agency/department carrying out the utility shifting.
- 2.6 The trial trenching, arrangements and working methods to be employed in respect of such Uncharted Utilities which warrants removal/relocation, including proposed protection measures, diversions, reinstatements in consultation with utility owner shall be done within 56 days after Handing Over of the Site by the Employer. The Contractor shall provide relevant justification for the identified utilities (Charted & Uncharted) which require removal/diversion for proceeding with the works.
- 2.7 The Engineer will accord approval within 21 days to the Contractor for initiating required action for the utilities warranting removal/relocation/modification.
- 2.8 The Contractor shall be responsible for taking prompt necessary action for such identified utilities (Uncharted) including the following but not limited to:
- i. Identification of the extent of the utility to be relocated
 - ii. Coordinate and get permissions from utility owner & all relevant authorities.
 - iii. Preparation and submission of relevant documentation to the authorities.
 - iv. Mitigate the situation and re-arrange the work to minimise the effect on the time line of the Works
 - v. Continue with other related works in as much as possible to maintain the timeline of the Works.
- 2.9 The relocation/removal/diversion of identified Uncharted Utilities shall be assigned to the Contractor to be carried out through the utility agencies, or their specified contractor or by the Contractor himself. The cost of relocation/ removal/ diversion of Uncharted Utility shall be paid by the Employer as mentioned below:
- i. If Uncharted Utility relocation/ removal/ diversion is carried out by Utility agency or their specified contractor, the Contractor shall make the payment to such agency or specified contractor. The Employer shall reimburse such amount as Specified Provisional Sum based on invoices.
 - ii. If Uncharted Utility relocation/removal/diversion is carried out by Contractor himself, then he shall be paid under Specified Provisional Sum.
- 2.10 The Contractor shall not divert, remove or relocate any such identified Charted & Uncharted Utilities without having first received the Engineer's consent to such diversion, removal or relocation.
- 2.11 The Contractor shall liaise and co-ordinate with the relevant Utilities Companies to ensure that all the above-mentioned works of relocation/diversion, support and protection are executed satisfactorily. Contractor shall obtain necessary clearances from the Utility company/owner prior to the start of any relocation/removal/diversion works of the utilities. The same shall be submitted to the Engineer prior to start of the works.
- 2.12 Throughout the execution of the Contract, the Contractor shall reasonably comply, in all respects, with the requirements of all the utility owners and authorities regarding the handling, protection and maintenance of the utility facilities. The responsibility in respect of diversion/modification/relocation/protection etc. of the Utilities (Charted or Uncharted) to facilitate safe construction lies with the Contractor. If required, the employer shall provide support to facilitate approvals/ permits from utility owner/ concerned department for the proposed diversion/ relocation of utilities.

3. Prevention of Damage and Interference

- 3.1 Temporary supports and protection methods proposed by the Contractor and agreed by the utility owner shall be provided to the utilities. The permanent supports and protection shall be provided wherever required for the safety and security of the utility service.
- 3.2 The Contractor shall not interfere in any manner with the Utility lines and services without prior approval of the Utility owner and Engineer. Whenever the interfering necessity arises, the Contractor shall submit a proposal to the Engineer for his approval. Any unintentional interference caused shall be immediately corrected without causing danger and trouble to any on-going operations or the existing utility lines or services. The Contractor shall immediately inform the Engineer and the utility agencies of:
- i. damage to utilities;
 - ii. leakage of utilities;
 - iii. discovery of utilities not previously identified; and
 - iv. Any hazardous material found during the excavation.
- 3.3 The Contractor shall inform the Engineer of the programme of all works of utility diversions and shall take all steps to enable the utility diversions to proceed in accordance with the programme. The Contractor shall maintain close liaison with the utility owners.
- 3.4 Records of the Charted & Uncharted utilities requiring diversion/relocation encountered shall be kept by the Contractor on the Site. The records shall contain the following details:
- i. Location of utility
 - ii. Date on which the utilities were encountered;
 - iii. Nature and sizes of the utilities;
 - iv. Condition of utility;
 - v. Temporary or permanent supports provided; and
 - vi. Diversions made—temporary or permanent

The Contractor shall include the details (plan, location, ownership, size and material) of all such utilities in the As-built Drawings.

4. Drainage Systems

- 4.1 All existing drainage systems that are affected by the Temporary and the Permanent Works shall be protected, relocated and/or diverted as required for the Works, by the Contractor.
- 4.2 Such protection, relocation or diversion works shall be carried out by the Contractor, and his designs shall be approved by the utility owners /relevant authorities and the Engineer.
- 4.3 Upon completion of the works, all the diverted or temporarily diverted drains/box culverts and canals shall be fully reconstructed to their original size or to a revised size as required by the utility owners /relevant authorities. However, if the utility owner or relevant authority requires to keep the Utility at the original location, the same shall be reconstructed at the original location.

5. Building Service Connections

- 5.1 Building service connections shall be maintained and protected or if required to be shifted, shall be informed to the Engineer during the execution of the works. The Contractor shall take necessary steps to ensure these services with the approval of utility owner and the Engineer.

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- 5.2 Building service connections shall include the branch pipes from the main water pipe, water meter chambers/bulk meter, sewer and drainage discharge pipes, grease traps, etc.
- 5.3 Building service connections shall be identified by trial trenches or other methods approved by the relevant Utility Companies. Where these service connections interfere with the works, the Contractor shall follow the methodology as approved by the relevant Utility Companies and the Engineer.

6. Street Furniture and Minor Service

Where street furniture, including lamp posts, traffic lights, fire hydrants, signage, minor electrical cables, water services, etc. are required to be dismantled and stored or relocated temporarily or permanently, the Contractor shall propose such works to the Engineer and Utility Companies or relevant authorities for their approval.

6070 TRAFFIC MANAGEMENT**1. General**

- 1.1 The Contractor shall thoroughly acquaint itself with existing traffic conditions and understand the importance of maintaining traffic safety and the avoidance of excessive traffic delay. The Contractor shall co-operate with the relevant agencies regarding traffic control and all details shall be subject to the Engineer's approval.
- 1.2 The requirements concerning temporary road works shall include, but not be limited to, construction of detours, temporary bridge approach roads, traffic control devices and services for the control and protection of traffic through areas of construction.
- 1.3 The Contractor shall be responsible for investigating and establishing the requirements for traffic control and ensuring safety at each site and shall submit such details in the form of a Temporary Traffic Control Plan for the Engineer's review and consent.
- 1.4 All temporary roadworks and traffic management shall be as specified in this Sub-Division, unless specified otherwise elsewhere in the Contract or local Indian regulations and standards, and the more onerous provision shall apply.

2. Temporary Traffic Control Plan (TCP)**2.1 Submission, Consent and Change**

- 2.1.1 Within twenty-eight (28) days after the Commencement Date, the Contractor shall submit a Temporary Traffic Control Plan (TCP) to the Engineer for review and consent. The Engineer's consent shall be obtained prior to the start of Works on Site.
- 2.1.2 The Contractor shall comply with the TCP which has received the Engineer's approval and any Engineer's instructions issued concerning traffic control.
- 2.1.3 Should the Contractor propose any ~~to~~ change to the TCP which has received the Engineer's approval, the Engineer shall be notified in writing at least seven (7) calendar days prior to the date planned for the implementation of any such proposed change. Changes proposed are subject to receipt of the Engineer's consent. If the Engineer makes any subsequent recommendations or issues instructions concerning the TCP in writing, the Contractor shall revise the TCP accordingly.

2.2 Contents of Temporary Traffic Control Plan

- 2.2.1 The main contents of the Temporary Traffic Control Plan shall include, but not be limited to, the following:
 - a) Type and main specifications of traffic control devices and facilities;
 - b) A scale plan of the location(s), clearly identifying existing road(s), proposed diversions of pedestrian and road traffic, locations of warning signs and traffic control measures;
 - c) Details of all lane widths, temporary surfaces, etc.;
 - d) Construction details of any proposed diversion(s);
 - e) Safety measures including signage and staffing;
 - f) Program for installation and erection of traffic control devices and facilities;
 - g) Traffic control means during non-working time and during nighttime;
 - h) Protection/ diversion of any existing utilities;
 - i) Environmental measures to be implemented, e.g. dust suppression, noise abatement,
 - j) Water course diversion and the like; and
 - k) Person responsible for overseeing implementation of all aspects of the TCP.

- 2.2.2 In addition to the above and prior to the implementation of any Site-specific traffic control schemes, the Contractor shall obtain any necessary approval letters from relevant authorities who have jurisdiction over or ownership of the existing traffic way including the Traffic Police, NHAI, PWD and any other local government/authorities and other related parties having jurisdiction, as applicable and as required.
- 2.3 Number of Lanes for Traffic Control
- 2.3.1 The existing traffic on roads at the Site must be maintained at all times during the execution of the Works and if diversions are required these must be of the same traffic capacity as the original road. Notwithstanding the above, the Engineer may give consent to reductions in traffic capacity if the Contractor can demonstrate that such will not cause excessive delays to traffic flow. If such consent is given, the Engineer may specify the hours during the day when the reduction in capacity may be applied and it should be anticipated by the Contractor that these hours will not include any peak periods for the traffic movement.
- 2.3.2 The Contractor shall cooperate with relevant authorities having jurisdiction regarding traffic control and all details will be subject to receipt of the Engineer's consent.
- 2.4 Temporary Traffic Ramps and Speed Breakers
- 2.4.1 In locations where it is necessary (for example, pipeline crossing a road above ground), the Contractor shall construct and maintain temporary traffic ramps.
- 2.4.2 In cases where it is necessary (for example, requirement by an agency having jurisdiction) or required by the Engineer, the Contractor shall provide and maintain temporary speed breakers.
- 2.5 Traffic Control for Public Roads
- 2.5.1 The Contractor shall maintain close liaison with the Traffic Police, NHAI, PWD and any other local government/authorities and other related parties having jurisdiction, as applicable to traffic control requirements and shall comply with all approval and permit requirements from such authorities.
- 2.5.2 In order to facilitate traffic through or around the Works, or wherever ordered by the Engineer, the Contractor shall erect and maintain at prescribed points on Site roads and at approaches to the Works, a temporary fence made of corrugated metal sheet supported by hard posts with foundations and horizontal bars, traffic signs, lights, barricades, traffic cones with traffic warning lamps and other facilities for the direction and control of traffic. The fence is to be painted and maintained in good condition. Drawings and details of the fence are to be prepared and submitted to the Engineer for review and issue of a approval.
- 2.5.3 Where required, or as directed by the Engineer, the Contractor shall provide competent flag men whose sole duties shall consist of directing the movement of traffic through or around the Works.
- 2.5.4 In addition to the requirements as described above, the Contractor shall furnish and erect, within or near Works areas, such warning and guide signs as may be ordered by the Engineer.
- 2.5.5 For all traffic safety precautions, the Contractor shall refer to Section VII-1, Appendix 8000-1, Traffic Management and Site Barricading. The Contractor shall refer to Section VII-4, Reference Information/Reports for details of barricading.

2.5.6 The repair of any existing roads that have been damaged by the Contractor during the execution of the Works (including any damage caused by Contractor's Equipment) shall be at the risk and cost of the Contractor.

3. Extra ordinary Traffic

3.1.1 The Contractor shall be responsible for carrying out any necessary investigations and the obtaining of approvals, licenses, escorts and any other necessary facilities in order to enable extraordinary traffic to be moved on the roads in the Works area.

4. Maintenance and Protection of Traffic

4.1.1 During the execution of the Works the Contractor shall keep open to traffic existing roads, provided that where required or as directed by the Engineer, the Contractor shall arrange detours subject to the consent of the Engineer. The Contractor shall at all times keep roads and footpaths affected by its operations, free from obstruction and nuisance and suitable for public use.

4.1.2 The Contractor shall take necessary care at all times during the execution of the Works to ensure the convenience and safety of residents along and adjacent to public roads and highways that may be affected by the Works. Street lighting shall be relocated as necessary to maintain the same standard of lighting during the course of the Works, until new lighting facilities are brought into operation.

4.1.3 Any failure of the Contractor to meet these requirements will entitle the Engineer to carry out such works as he deems to be necessary and to charge the Contractor with the full cost there of plus ten percent of such cost, which sum will be deducted from any money due or which may become due to the Contractor under the Contract.

5. Vertical Clearance

5.1.1 In general, any Temporary Works placed over roads or diversions used by public traffic shall maintain a vertical clearance of at least 5.5metres unless otherwise directed by the Engineer. Where required by the Engineer the Contractor shall erect and maintain suitable check-gates, fitted with warning signs indicating the vertical clearance.

6. Materials

Materials and other specifications related to traffic control devices shall conform to IRC Standards unless otherwise specified elsewhere in the Contract.

6.1 Retro-reflective Material

Unless otherwise specified in the Contract, sign panels, barricades, traffic cones, vertical panels, and flag mans' paddles shall have retro-reflective sheeting, as consented to by the Engineer.

6.2 Sign Panels

Sign panels shall be yellow with black legend unless otherwise specified in the Contractor local Indian regulations and standards.

6.3 Sign Posts

Sign posts shall be fabricated from materials as acceptable to the Engineer. Signs shall be provided with suitable foundation sand be designed so as to be capable of remaining in position during normal traffic flow and wind conditions.

6.4 Barricades

Barricades shall be constructed in accordance with the Drawings.

6.5 Traffic Cones

6.5.1 Traffic cones shall be capable of withstanding impact without damage to the cones or vehicles. All cones shall be orange with highly reflective white bands which is easily visible both in daylight and darkness. Traffic cones shall be capable of remaining visible and in position during normal traffic flow and wind conditions in the area where they are used. Lamps for cones shall be suitable for purpose.

6.5.2 Where traffic cones are used for the diversion of pedestrians the cones shall be fitted with yellow/black reflective cone bars to prevent pedestrians walking outside the protected walkarea.

6.5.3 All cones shall be as above unless otherwise specified in the Contractor local Indian regulation and standards, whichever is more onerous.

6.6 Warning Lights (flashing or steady-burn)

High visibility traffic warning lights shall be provided and used at all locations where Works are being carried out and visible warnings are required, i.e. roadworks, excavations, pedestrian diversions, etc. The requirements for warning lights shall be:

- i. Lens colour shall be amber;
- ii. Lens diameter shall be not less than 185mm;
- iii. Flashing shall be 110 per minute;
- iv. Suitable for fitting to traffic cones;
- v. Battery operated; and
- vi. Continuous operation of more than 600 hours.

7. Construction Requirements

7.1 The Contractor shall keep the length of construction areas to manageable lengths such that traffic will be accommodated safely. Traffic control devices and services shall be provided and maintained both inside and outside the limits of work as required to facilitate traffic guidance, should this be necessary. The provision of traffic control devices and services shall comply with the provisions of the Works Requirements and the Conditions of Contract and local Indian regulations and standards.

7.2 Prior to the start of construction operations, the Contractor shall erect such signs, barricades, and other traffic control devices as may be required by the Works Requirements and the Conditions of Contractor as directed by the Engineer. Traffic control devices shall be operated only when required and only those devices that apply to conditions actually in existence shall be operable.

7.3 Wherever required or directed by the Engineer, temporary fences shall be placed to provide a visual barrier between the work area and adjacent traffic or buildings.

7.4 Any devices provided under this clause that are lost, stolen, destroyed, or deemed unacceptable while in use on the Works shall be replaced by the Contractor at the Contractor's risk and cost.

7.5 During non-working hours and following completion of a particular construction operation, all warning signs, except those necessary for the safety of the public, shall be

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- removed or entirely covered with either metal or plywood sheeting so that the sign panel will not be visible.
- 7.6 Retro-reflective sheeting on signs, barricades, and other devices shall be kept clean. Stretches, rips, and tears in the sheeting shall be promptly corrected by the Contractor. Retro-reflective sheeting shall have a maintained retro-reflection.
- 7.7 Nighttime operations shall be illuminated by a lighting system which has received the Engineer's consent. The lighting system shall be positioned and operated to avoid glare to road users. The heat produced by any lighting system shall be considered and allowed for. The use of lights with flames (such as gas-powered lighting) will not be permitted.
- 7.8 The Contractor shall ensure that no Contractor's Equipment leaves the work sites with mud, debris or rock that may drop or be deposited on a public highway or private right-of-way, and the roads in the vicinity of the Site shall be kept clean. Suitable vehicle washing facilities shall be provided by the Contractor.

6080 PACKAGING, STORAGE, SHIPPING AND DELIVERY**1. General**

- 1.1 Unless otherwise required by the Particular Conditions, Plant and the Materials shall be delivered to the Site at the most suitable time(s) in accordance with the Works Programme and Procurement Contractual Works Programme, so as to avoid undue damage and/or deterioration due to a storage period of excessive duration.
- 1.2 All Plant and the Materials, if manufactured or assembled off-Site, shall be properly and securely packed at the point of origin, in order to prevent damage during transport to the Site and due to storage in the weather conditions to be countered at the Site.
- 1.3 The Contractor shall securely crate or box all consignments for ocean shipment in a manner suitable to protect them from damage in transit and shall be responsible for and rectify any and all damage due to any improper packing. Crates shall have external markings identifying the Contract reference number, origin, destination, contents and consignee.
- 1.4 The Contractor may be required to furnish the Employer, by courier or other approved means with advance copies of shipping documents, invoices and other pertinent papers showing the date and origin of shipment, a description of the Goods, the shipping weight of each item, destination, name of the vessel and other pertinent information.
- 1.5 The Contractor shall also be responsible for the trans-shipment up till the delivery to the installation sites.
- 1.6 The Contractor shall ensure, prior to delivery of Plant or Material, that adequate storage facilities and/or areas are available on Site to properly store and protect the Plant or the Material so as to prevent any damage or deterioration. Air-conditioned or other controlled-environment storage shall be provided for Plant items sensitive to high humidity and/or temperature.
- 1.7 Materials of an inflammable, explosive, toxic or similarly hazardous nature shall be securely stored separately at approved locations. The Contractor shall provide adequate security and safety control at such locations through out the storage period. Before delivery of such Materials to Site, all necessary permits and licenses shall have been obtained from the authorities having jurisdiction, all in accordance with the applicable Laws.
- 1.8 When Plant or Materials arrive on Site it shall as soon as practicable be inspected by the Contractor in the presence of the Engineer, for damage or deterioration. The Contractor shall be responsible for unpacking and re-packing in an appropriate manner and for provision of all necessary equipment, tools, materials and labour at his own expense. If damage or deterioration has occurred as determined by the Engineer, payment shall not be made for such damaged or deteriorated Plant or Materials, and such shall be removed from the Site and repaired or replaced according to the instructions of the Engineer, at the Contractor's risk and cost.
- 1.9 For the Plant or the material which is subject to deterioration after opening the packing, appropriate alternative inspection measures shall be determined on Site between the Engineer and the Contractor. No payment shall become due to the Contractor for those uninspected Plant or Material, unless otherwise determined by the Employer.
- 1.10 Packing materials shall remain the property of the Contractor and shall be removed from the Site immediately when no longer required on the Site, as determined by the Engineer.

- 1.11 The Contractor shall be responsible for the safe and secure storage and handling of Plant and Materials on Site until the issuance of the Taking-Over Certificate for the relevant part of the Works, regardless of any transfer of ownership thereof to the Employer.
- 1.12 Any action taken by the Engineer in inspecting Plant or Materials upon arrival on Site or any determination subsequently made by the Engineer shall not relieve the Contractor of any of his responsibilities under the Contract.

2. Storage of Plant and Materials

- 2.1 The Contractor shall provide and maintain storage facilities at acceptable locations in consultation with the Engineer, for the equipment and materials of all kinds intended for use in carrying out the Permanent Works or for incorporation into the Permanent Works.
- 2.2 The Contractor shall prepare, protect, provide security and store in an agreed manner for all Works, Contractor's Equipment, equipment and materials until the Project completion so as to safeguard them against any loss, damage and any other hazards arising during shipment, storage on/off the Site or climatic influences.

3. Crating

- 3.1 The Contractor shall provide all packing, crates and markings. In doing so, it shall comply with the following requirements:
 - i. Each case, crate or package shall be waterproof, rot, insect and rodent proof. It shall be of robust construction and fit for its intended purpose. The Contractor shall, in determining the packaging materials to be used, take into consideration the climatic conditions likely to occur during the period of transport, shipment and storage.
 - ii. Each case, crate or package shall be legibly and indelibly marked in large letters with the Site address, Contract number, "right way up", opening points and other markings as necessary to permit materials to be readily identified and handled during transit and when received at the Site.
 - iii. Each case, crate or package shall contain a comprehensive packing list showing the number, mark, size, weight and contents, together with any relevant drawings. A second copy of the packing list shall be closed in a watertight enclosure on the outside of each case, crate or package. Distribution of additional copies of each packing list shall be in accordance with the Engineer's instructions.
 - iv. All items heavier than 100 kg shall be marked on the outside of the case, crate or package, indicating the gross and net weights, the points for slinging, and where the weight is bearing.
 - v. Care shall be taken to prevent movement of items within cases, crates or packages by the provision of bracing, straps and securing bolts as necessary. Bags of loose items shall be packed in cases and shall be clearly identified by well-secured metal labels on which the quantity and name of the parts and their index or catalogue number have been stamped.
 - vi. All packing shall be free from sharp edges to prevent injury to persons or other objects.
 - vii. Each bulky/ heavy case, crate or packages shall include wedge(s) for easy loading and unloading by mechanical handling equipment such as forklift truck.
 - viii. Electronic circuit boards, integrated circuits and the like shall be well protected by using appropriate packing, e.g. anti-static bubble wrap or similar.

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- ix. Rubber products and the like shall be suitably packed to avoid damage including but not limited to hardening, deformation and peel-off.

4. General Precautions

- i. Spare parts shall be tropicalized in their packing for prolonged storage in accordance with appropriate international/Indian standards and shall be suitably and individually labelled to indicate:
 - a) Name of parts;
 - b) Shelf life and date of manufacture;
 - c) Type or condition(s) of storage and special handling information;
 - d) Description of item and relevant part number;
 - e) Serial number, if applicable;
 - f) Inspection/ test certificate number and batch number; and
 - g) Contract number, order number and item number.
- ii. Tubes, cable, conductor and other similar openings shall be properly sealed and blanked off to prevent ingress of dirt or moisture.
- iii. Spare ball and roller bearings and similarly protected items shall not be removed from the manufacturer's wrappings or packing.
- iv. Fragile materials shall be packed in such a way that they shall not be damaged during transit and when they are properly unpacked for quality inspection. Glass items shall be capable of being easily re-packed without removing the original wrappings or packing for long-term storage within the same packing case.
- v. Appropriate precautions in accordance with the Contractor's safety regulations, the regulations of the Employer, Division 8000 [Environmental, Social, Health and Safety Management] and statutory regulations in respect of all hazardous, toxic, inflammable, etc. materials.

5. Packaging Procedures

- 5.1 All required inspection/test certificates shall be supplied and packed together with individual materials. All packaging materials and procedures shall be subject to review by the Engineer.
- 5.2 All empty cases, crates or packages, whether or not returnable, shall be removed from the Site by the Contractor or stored by the Contractor in such a way that they do not interfere with the progress of the Works.

6. Shipping

- 6.1 The Contractor shall notify the Engineer at least fifteen (15) days in advance of any expected shipment date and give further notification of the actual shipment date and routing when such information is subsequently established. This shall complement the inspection requirements prior to delivery as specified herein.
- 6.2 Two (2) copies of packing lists and quality certificates shall be attached with each case or package to be shipped. One copy shall be placed inside the package and the second copy shall be enclosed in a water tight enclosure on the outside of each case or package. A copy of packing lists and quality certificates shall be sent to the Engineer after each package of the Works, the equipment, spare parts and other items have been shipped.
- 6.3 Without prejudice to any other provisions of the Contract, the Contractor shall be responsible for all legal requirements, insurance, customs, duties, dues, taxes and other

such requirements and expenditures required for the plant, equipment, spare parts and other items to be supplied under the Contract.

7. Delivery

- 7.1 The Contractor shall deliver Plant and Materials required for the Works and all items to be supplied under the Contract to the Site.
- 7.2 The Contractor shall unload all items to be supplied under the Contract at the designated delivery point and place them in position or store them.
- 7.3 Any part of the Works or any item to be supplied under the Contract that is damaged in transit shall not be considered as delivered until repairs or replacements have been made and all necessary spare parts or items have been delivered to the Site.
- 7.4 All documents, manuals, drawings and other deliverables shall be delivered to an address to be designated by the Engineer in writing.
- 7.5 The Contractor shall store and secure Plant and Materials until the same have been inspected by the Engineer and are considered delivered at the designated point.
- 7.6 The Contractor shall remove temporary fittings required for shipment and re-assembly of Plant and Materials and shall complete this prior to the inspection of same and before they are considered delivered.
- 7.7 An item shall be considered delivered when all damage has been repaired and all documentation and post-delivery preparation has been completed.

Division 7000: Quality Administration

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Division 7000: Quality Administration

7010 QUALITY MANAGEMENT

1 General

The Contractor shall establish and maintain a quality management system that shall remain in effect throughout the execution of the Works. The Contractor's quality management system shall be tailored specifically to the Contract and the Works in accordance with ISO9001:2015. The Contractor shall submit for the Engineer's consent a Works Quality Management Plan (WQMP) as specified herein, detailing the quality management system to be implemented.

The WQMP may be supplemented by a number of subsidiary quality plans, which may include but is not limited to, the following:

- i. Site Quality Management Plan (SQMP) (see Clause 3 given below),
- ii. Procurement Quality Management Plan (PQMP) (see Clause 4 given below).

Within 15 days after the Commencement Date, the Contractor shall submit the WQMP to the Engineer for consent. The subsidiary quality management plans may also be submitted at the same time, but in any event these plans shall be submitted for the Engineer's consent a minimum of 15 days in advance of the date planned for the commencement of the works described in the particular subsidiary plan.

2 Works Quality Management Plan (WQMP)

The WQMP shall include the Contractor's quality policy, quality objectives, organisation, and processes to achieve the Contract requirements through planning, control and improvement.

2.1 Context of the Contractor

The Contractor shall determine its internal and external issues considering Contract requirements including the General Conditions, the Particular Conditions, and Annex to Particular Conditions– Contract Forms and the site conditions.

The Contractor shall determine the needs and expectations of interested parties whose activities, potentials and requirements will affect the quality management system. These interested parties may include the Employer, the Employer's Personnel, Subcontractor(s), the Contractor's Personnel, Interfacing Contractors and Interfacing Parties, including relevant authorities.

The Contractor shall determine the scope of its quality management system by describing each interested party, together with the boundaries and applicability of the system. Where the precise identity of a specific party has not been finalized by the due date for submission, the description used may indicate the function to be fulfilled by such party. Whenever such party has been identified, the relevant details shall be notified and submitted to the Engineer as a revision of or addendum to the WQMP.

The Contractor shall establish the processes of the quality management system, including its interactions by referring to Sub-Clause 0.3.1 General and Figure 1 [Schematic representation of the elements of a single process] of ISO 9001:2015.

2.2 Leadership and Commitment

The Contractor's Representative shall demonstrate his leadership and commitment with respect to the quality management system as assured and detailed in the WQMP.

2.3 Quality Policy

The Contractor's Representative shall determine the Contractor's quality policy to be included in the WQMP. The quality policy shall meet the requirements of ISO 9001:2015 and the relevant requirements of the Contract.

2.4 Organisation

The Contractor's Representative shall establish organisational departments, with the person-in-charge of each department being assigned the responsibility and authority for the implementation and management of the quality management system in their particular department. Each department shall be efficiently structured to implement and maintain the quality management system, and the Contractor's organisation chart shall illustrate each department together with the main tasks, lines of authority and interactions, including:

- i. Interfaces between the Contractor, the Engineer and the Employer,
- ii. Interface between the Contractor's departments, including the quality function,
- iii. Details of the person-in-charge of each of the Contractor's departments,
- iv. Interface between the Contractor and Subcontractor(s), including design consultants, suppliers and testing laboratories,
- v. Person-in-charge of each of the departments within each Subcontractor, and
- vi. Coordination between the Contractor, Interfacing Contractors and Interfacing Parties including relevant authorities.

The organisation chart in the WQMP, may be in a summary format where the ones in the subsidiary quality management plans provide further details of the above-referenced personnel, interfaces and coordination.

Job titles for each designated person in the organisation shall be given in a tabular format, together with their responsibilities. The Contractor's Representative may have the discretion to organise his personnel. However, directly controlled departments viz. safety, environment, and quality shall be ensured against influence from other departments. For each job title, the Contractor shall include details of the intended duration of the assignment on the Works. Any changes proposed to the organisation charts shall be submitted to the Engineer for review prior to implementation.

The resume of each person-in-charge shall demonstrate their experience and competence to conduct their designated responsibilities. The Contractor shall submit the resume of each person-in-charge to the Engineer for review, including certified true copies of any relevant academic certifications and qualifications, as applicable and provide complete and accurate details of the qualifications and experience of Key Personnel in accordance with the requirements, elsewhere in the Contract.

The organisation chart shall be updated where any amendment is required regarding interactions such as: interface between the Contractor's department and consented Subcontractors (if any); coordination between the Contractor, the authorities of jurisdiction,

and Interfacing Contractor's or Interfacing Parties or both; and designation of each anticipated information.

The organisation chart, the job title table and the job descriptions may be appended to the WQMP. In this case, the Contractor may separately submit its revised organisation chart with amendment sheet for the Engineer's review.

2.5 Quality Objectives

The Contractor shall plan and programme to achieve the quality objectives for the Works within the Time for Completion by allocating its functions such as organisation, Contractor's Equipment and processes accordingly. The quality objectives shall be consistent with the quality policy and shall be achieved in time as per the programme.

The quality objectives shall be measurable. These may separately be established in the subsidiary quality management plans such as:

- i. Site Quality Management Plan (SQMP) (see Sub-Clause 3.1 (2) given below).
- ii. Procurement Quality Management Plan (PQMP) (see Sub-Clause 4.1 (2) given below).

In such case, measurability of quality objectives shall be demonstrated in each subsidiary plan. The Contractor shall recognise that achievement of the quality objectives shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

2.6 Planning

- i. Actions to address risks and opportunities

The Contractor shall determine the opportunities for the Contractor to execute the Works in order to comply with the Specification and to improve the performance of its quality management system. It shall also determine the risks that may adversely impact its Works or its quality management system. The Contractor shall plan actions to address the determined opportunities and risks.

- ii. Quality objectives and planning to achieve them

The Contractor shall plan, in accordance with ISO 9001:2015 its activities, resources, persons-in-charge, due dates and method of evaluation for achieving its objectives.

- iii. Planning of changes

Whenever changes are necessary, the Contractor shall submit a revised WQMP to the Engineer for his consent. The Contractor shall ensure the integrity of its systems, the arrangement of resources and responsibilities for the effective adoption of any changes.

2.7 Support

- i. Resources

The Contractor shall determine the required resources such as persons, facilities, monitoring equipment and knowledge for the execution of the Works. The resources that are required for the quality objectives in each subsidiary plan (see Clause 1) may be separately determined therein.

Where the Contractor is required to establish its own On-Site Laboratory in accordance with Sub-Division 6040 [Temporary Facilities of Contractor] of the General

Specifications, or organises his own laboratory(ies) to carry out the tests specified in the Contract, the Contractor shall submit to the Engineer for consent a Method Statement (MS) for the operation of the On-Site Laboratory which shall include the requirements of Sub-Clause 7.1.5 [Monitoring and measuring resources] of ISO 9001:2015 and shall especially ensure that the MS complies with the requirements of Sub-Clause 7.1.5.2 [Measurement traceability]. In addition, reference to this MS shall be included in the WQMP.

Where the Contractor proposes an Independent Laboratory(ies) to carry out its quality control, acceptance and conformity testing of the Works, the Contractor shall submit to the Engineer, for consent, a Manufacturer's Arrangement (MA) for Independent Laboratory(ies) that shall detail applicable quality assurance activities to be managed by the Contractor for the Independent Laboratory(ies). In addition, reference to this MA shall be included in the WQMP.

Where the Contractor intends to utilise a Manufacturer's Certificate(s) from a manufacturer or a supplier for its submission regarding Plant, Materials or for quality control in the Inspection and Test Plan (ITP) submitted in accordance with Sub-Paragraph (4), under Clause 4 of Sub-Division 7020 [Contractor's Submissions Relating to Approval for Plant and Materials] of the General Specifications, the Manufacturer's Certificate(s) shall be recognised as the Contractor's resources after obtaining Engineer's approval on each submission for Plant and Materials.

ii. Competence, awareness and communication

The job titles together with their respective responsibilities in the organisation as detailed in the Sub-Clause 2.4 [Organisation] are deemed to be the competence that is required for the abilities to implement and maintain the quality management system. The Contractor shall ensure that employee performance is evaluated at least annually.

The Contractor shall plan and implement employee guidance and training so that the Contractor's Personnel acquire the awareness of the quality management system and maintain communications for the system with stakeholders such as the Employer, the Engineer, relevant authorities, subcontractors, manufacturers, suppliers and local communities adjacent to the Works. The WQMP shall document these communications and establish suitable formats for same.

The Contractor shall ensure that all persons under its control on the Works are made aware of the quality policy, relevant quality objectives, the benefits of improved performance and the consequences of not conforming with the quality management system requirements.

iii. Documented information

Documented information for the system and Works shall be controlled and managed in line with the Clause 4 [Document Control Procedure] and Clause 5 [Project Information and Communication System] of Sub-Division 3020 of the General Specifications. The Contractor shall establish relevant formats to manage the documented information following the Method Statement for the control of document and management system required at Sub-Division 3020 of the General Specifications.

2.8 Operation

Operations at the Works shall be executed in accordance with the WQMP and other subsidiary plans (see Clause1) as follows:

- i. Site Quality Management Plan (SQMP) (see Clause 3 given below): Management plan related to the Contractor's execution of the Works and provision of Contractor's Equipment (excluding its procurement but including its installation) to be carried out on the Site under the Contract.
- ii. Procurement Quality Management Plan (PQMP) (see Clause4 given below): Management plan related to the Contractor's procurement of any Plant and other major item of Goods, and its transportation to delivery places (excluding Goods manufactured by the Contractor) under the Contract.

The WQMP shall determine categories of each operation to be subsidiary. Where the Contract is deemed not to be adequate for establishing a subsidiary plan, the plan may be eliminated as "Not Applicable".

Each subsidiary plan shall be detailed in accordance with the relevant requirements of ISO9001:2015. The WQMP shall detail the required process(es) for the Tests on Completion and the Tests after Completion (if any).

2.8.1 Reference to Method Statement and Manufacturer's Arrangement

The WQMP and other subsidiary plans may refer to the following:

- i. Method Statement (MS) means details of the methods to directly execute the Works by the Contractor or the Subcontractors or both, which shall specify the scope, the organisation including responsibilities, communications with the Engineer and other entities if any, resources, procedures, schematic diagrams, drawings, allocated ITPs, environmental precautions, and safety precautions including rail possession procedures (for Works adjacent to running railway lines) if any; and
- ii. Manufacturer's Arrangement (MA) means details of the arrangement to indirectly execute the Works by the Contractor or the Subcontractors or both, which should specify (as applicable) the scope, arranging of manufacturers, the organisation including responsibilities, communications with the Contractor and other entities if any, resources, procedures, schematic diagrams, drawings, approved quality management plans and corrigendum, certification procedures by the Contractor including allocated ITPs, the endorsement procedure to be adopted by the Engineer, consented environmental plan, and consented safety plan including rail possession plan (for Works adjacent to running railway lines) if any.

The lists of Method Statements and Manufacturer's Arrangements shall be included as appendices in the WQMP and other subsidiary plans with the ID, title, revision number and their hierarchy. The Contractor shall promptly revise an appendix where another reference document is to be introduced or where a previously submitted reference document is to be removed.

2.8.2 Reference to Inspection and Test Plan (ITP)

The WQMP or other subsidiary plans may refer to Inspection and Test Plan (ITP), which means the detailed test and inspection plan for the Plant, Materials, and Works as the case may be. The ITP shall include all quality requirements considering the 'concept to commissioning stage' approach and also the complete supply chain stages with due diligence. The timely submission of inspection and test records shall be included in the ITP for the issuing of certification by the Contractor and endorsement (if required) by the Engineer.

The ITP shall include, but not limited to, the following information (as applicable):

- i. Quality level required in the Specification,
- ii. Particulars of the materials to be used in the manufacturing process,
- iii. Particulars of procurement,
- iv. Contractor's design, works specifications, and drawings,
- v. The requirements of ISO 9001:2015 and other compliance requirements of the Contract,
- vi. Scope of activities covered by the plan,
- vii. A sequence of the activities related to the Works in the scope,
- viii. Personnel responsible for undertaking the inspections and tests and the personnel responsible for certifying the inspections and tests,
- ix. Definition of inspection section,
- x. Inspections and test methods, their frequency and reference materials to the relevant standard of the inspections and the tests,
- xi. Compliance criteria of the inspections and tests with clear descriptions of the quality hold point and the quality control point,
- xii. Documents to be used for reporting the results of inspections and tests with sample documents and formats incorporated,
- xiii. Identification or referencing procedures for traceability of manufactured items,
- xiv. Identification of the inspection and test status of materials, procured items and the final manufactured item,
- xv. Handling, storage, packing, presentation and delivery of the manufactured and procured items,
- xvi. Procedure for monitoring and recording of the ordering, release before shipping, delivery and acceptance of the item,
- xvii. Methods of record keeping and document storage, documents to be maintained and stored and procedures for these to be acknowledged and filed,
- xviii. Procedure for monitoring and recording of the ordering, delivery and acceptance of procured items, and
- xix. Possibilities of other external bodies in the inspection.

ITPs shall be listed in the quality management plans as an appendix and list shall be tabulated with the ID, title, revision number and their hierarchy. The Contractor shall promptly revise an appendix where another reference document is to be introduced or where a previously-submitted reference document is to be removed.

2.9 Performance Evaluation

i. Monthly Quality Report (MQR)

The Contractor shall regularly monitor the performance of the quality management system and shall include the results of such performance monitoring in the Monthly Progress Report that is required as per Sub-Division 4080 [Monthly Progress Report Requirements] of the General Specifications.

The Contractor shall provide and maintain at all stages of the Works a quality control register(s) to identify the status of inspections, sampling and testing of the Works and all certificates. Such register(s) shall be updated by the Contractor to show all activities in previous months and shall reach the Engineer's office before the 7th working day of each month. Each register shall:

- a) Align with the relevant ITPs,
- b) Provide a summary of results of inspections and test activities, traceable to the test reports and work components and batches and shall be compared with ITP provisions with respect to frequency of performance, and
- c) Show the results of each report of inspection and test and any required analysis of these results and compare these results against the pass or fail criteria.

The test report may be submitted monthly as agreed with the Engineer.

The MQR shall also comprise of:

- a) A register of the NCRs that details and compiles the nonconformities at the Works, their close-out status and the number of "Open NCRs",
- b) A calibration and verification register that details overall calibration and verification plan, calibrations performed during the month and plans for the next month. It shall highlight any overdue calibration and verification with respect to calibration and verification plan,
- c) A section detailing key highlights and events in the Works with respect to quality management during the month and those planned for next month,
- d) A section on performance status on the quality objectives, and
- e) A section for highlighting quality improvements carried out during the month and improvements planned for the forthcoming period.

The Engineer shall submit the MQR to the Employer along with his observations and comments after receiving each Monthly Progress Report (MPR) from the Contractor.

ii. Quality Audit

The Contractor shall carry out internal quality audits on the Works at quarterly intervals, or at such other intervals as the Engineer may require, to ensure the continuing suitability

and effectiveness of the quality management system. Reports of each such audit shall be submitted within 7 days after completion of the audit to the Engineer for review.

The Contractor shall submit details of the authority, qualifications and experience of personnel assigned for carrying out internal quality audit activities, for review by the Engineer before carrying out quality audits.

The Engineer may require quality audits on the Contractor and his Subcontractors (if any) of any tier to be carried out by his representative or the Employer's staff. In such case, the Contractor shall afford to such auditors all necessary facilities and access to the activities and records to permit such audit to be performed. The auditor shall notify the dates, time, criteria and scope of audit, which shall not be beyond the scope of the consented WQMP.

Upon receipt of the reports or findings issued by the Engineer as a result of quality audits carried out, the Contractor shall promptly investigate the causes of any non-conformities and within 14 days from the receipt of the audit report, submit to the Engineer for review proposed corrective actions. The Contractor shall take timely corrective actions to rectify any non-conformity so as to prevent re-occurrence. Evidence to demonstrate the effective implementation of corrective actions shall be submitted by the Contractor to the Engineer for review and verification (if needed) and the Contractor shall close-out the results of any such audits after a specified surveillance period by the Engineer.

iii. Management Review

The WQMP shall specify details for the management review of the quality management system. The Contractor's quality manager shall arrange for the management reviews to be chaired by the Contractor's Representative and be attended by various department heads. He shall prepare inputs for the reviews and shall compile review outputs in accordance with the requirements of ISO 9001:2015. A management review shall be held at least once in every twelve months and be timed to be held after an internal quality audit. Reports of each such management review shall be submitted to the Engineer for review within 7 days of the review meeting.

2.10 Quality Improvement

i. Non conformity and corrective action

If, prior to the issue of the Taking-Over Certificate for the Works or any Section, the Contractor has used or proposes to use or repair any item of the Works which does not conform to the requirements of the Contract, the Contractor shall immediately submit for the Engineer's review any such proposal and supply full particulars of the non conformity and, if appropriate, of the proposed means of correction.

If the Engineer issues a non conformity report or similar document to notify the Contractor of any item of the Works which does not conform to the requirements of the Contract, the Contractor shall promptly investigate the matter and, within 14 days of notification by the Engineer, submit to the Engineer for review the remedial measures and necessary actions to be taken to rectify the item(s) and to prevent re-occurrence.

The Contractor shall maintain and update a nonconformity register to indicate the status of all non conformities which are identified either by the Engineer or the Contractor. The Contractor shall submit the register for review upon request by the Engineer.

ii. Continual Improvement

The Contractor shall continually improve the quality management system in accordance with the result of quality audits, the output of its management reviews of the system and the identified nonconformities.

The Contractor shall, at quarterly intervals, submit to the Engineer for review the details of all such improvements made or to be made.

3 Site Quality Management Plan (SQMP)

3.1 General

The Contractor may submit a SQMP separately. It shall detail the quality management plan for Works on Site and Contractor's Equipment (excluding procurement but including installation) on the Site under the Contract. The SQMP shall be developed in line with the requirement at Paragraph 2 of Clause 1 and quality policy (see Sub-Clause 2.3) by the Contractor's Representative and shall, without limitation, specify the following:

- i. Organisation of the Contractor's construction department in accordance with the requirements of Sub-Clause 2.4 [Organisation] and the person(s) directly responsible for the day-to-day management of the construction and installation activities on Site. It shall also refer to the information that the WQMP has defined;
- ii. Quality objectives, in accordance with the requirement of Sub-Clause 2.5 [Quality Objectives], for carrying out construction and installation activities required for the execution of the Works in compliance with the Specification and Conditions of Contract. The SQMP may be cross-referenced with any relevant parts of WQMP;
- iii. Support, in accordance with the requirements of Sub-Clause 2.7 [Support], including a hierarchy of relevant quality management system documentation (in addition to drawings) for the; management and coordination of construction and installation of the Works; and management of Subcontractors of any tier so as to avoid conflicts in the execution of the Works; and
- iv. Processes, in accordance with the requirements of Sub-Clause 2.8 [Operation]. The SQMP shall particularly specify inputs from the design department; coordination with Interfacing Contractors; the allocation of responsibilities and authorities given to delegated Contractor's staff or Subcontractors for the construction and installation of particular elements of the Works; the sequences and interactions to be applied to manage, control and record the construction and installation of the Works.

3.2 References in SQMP

The processes detailed in the SQMP may refer to relevant Manufacturer's Arrangements (for external bodies) and Method Statements (for the Contractor's or Subcontractor's own activities), which are detailed procedures for particular construction and installation activities required for the execution of the Works on Site.

The processes detailed in the SQMP may also refer to quality manuals or plans or both, produced by other external bodies including Subcontractors. The Contractor shall submit such reference documents, which shall complement the SQMP, for the Engineer's review. If these are planned for separate submission, it shall be stated accordingly in the SQMP.

3.3 Reference to Inspection and Test Plan (ITP)

The processes detailed in the SQMP shall refer to relevant Inspection and Test Plans for possible controls and check points. The ITPs shall ensure that only delegated Contractor's Personnel (including approved Independent Laboratories) have the responsibility to execute works.

3.4 Non conformity at Site

The SQMP shall detail or shall refer to the control procedure to be used for the non conforming product on Site. The Contractor's construction and production departments shall be responsible for ensuring compliance to agreed corrective actions.

4. Procurement Quality Management Plan (PQMP)

4.1 General

The Contractor may submit a PQMP separately. It shall detail the quality management plan for procurement of any Plant, other major items of Goods (except those manufactured by it) and their transportation to the delivery places under the Contract.

The Contractor shall specify the criteria for the evaluation, selection, performance monitoring and re-evaluation of external providers in the PQMP. The Contractor shall keep documented information of such activities and of any actions arising from the evaluations.

The PQMP shall be developed in line with the requirement at Paragraph 2 of Clause 1 and quality policy (see Sub-Clause 2.3) by the Contractor's Representative; and shall, without limitation, specify the following:

- i. Organisation of the Contractor's procurement department, in accordance with the requirements of Sub-Clause 2.4 [Organisation]. It shall also refer to any other information that the WQMP has defined;
- ii. Quality objectives, in accordance with the requirements of Sub-Clause 2.5 [Quality Objectives] for carrying out procurement activities required to execute the Works in compliance with the Specification and Conditions of Contract. The PQMP may be cross-referenced with any relevant parts of the WQMP;
- iii. Support, in accordance with the requirements of Sub-Clause 2.7 [Support] including the documentation for managing; monitoring and recording the on-site receipt of general construction resources, such as construction materials, personnel, works, services, and Contractor's Equipment (e.g. Concrete batching and mixing plant, aggregate storage, and soon) at the places of delivery; and
- iv. Processes, in accordance with the requirements of Sub-Clause 2.8 [Operation]. The PQMP shall particularly specify inputs from the construction and manufacturing department (especially Plant and Materials which have received the Engineer's

approval); coordination with Interfacing Contractors; delivery of the procured items to the site and manufacturing plants; the sequences and interactions to be applied to manage, control and record the procurement of the Works.

4.2 Reference to Inspection and Test Plan (ITP)

The processes detailed in the PQMP shall refer to relevant Inspection and Test Plans for possible controls and check points. The ITPs shall ensure that procedures are in place for the monitoring and recording of the ordering, delivery and acceptance of an item.

For the procurement of critical items, in addition to inspection and testing by the Contractor; the Engineer and the Employer may, at their own cost, delegate its representative or an independent inspection agency for the supervision of the processes and products at a production facility. To facilitate such an inspection, the Contractor shall provide a detailed production plan and timeline sufficiently in advance for the required logistics. These plans and timeline shall include a description of the inspections and tests proposed to be conducted on the products which have been ordered, along with their acceptance criteria.

4.3 Non conformity of Procurement

The PQMP shall detail or shall refer to the control procedures to be used for the non conformities encountered in any procured item on-site before their acceptance. The Contractor's procurement department shall be responsible for ensuring compliance to establish corrective actions.

7020 PLANT, MATERIALS AND WORKMANSHIP**1 General**

Unless otherwise specified, all Plant (including components), Materials, workmanship, construction and installations for the Works, shall meet the specified standards. Where no such standard is specified, the standard shall be developed and submitted to the Engineer for consent.

Unless otherwise specified, the Works shall not commence before obtaining the Engineer's response in the form of either a NONO or NONOC as specified in Clause 3 in Sub-Division 3020 [Correspondence, Communications and Submission] of the General Specifications. The Contractor shall comply with the requirements specified or otherwise consented, which shall be one of the criteria for the acceptance of the Works. Unless specified otherwise, the Engineer shall send his response to submissions within 21 days.

The Engineer's response to the Contractor's submission for any Plant (including components), Materials or workmanship shall not relieve the Contractor of any of his responsibilities and liabilities under the Contract.

The Works shall be executed in a professional and workman like manner using such Contractor's Personnel and Contractor's Equipment as are necessary to achieve the requirements of the Contract and with due care in accordance with the Environmental, Social, Health and Safety (ESHS) requirements of the Contract. The workmanship shall attain the specified dimensions, lines, levels, alignment, tolerances, finish, features, functions, performance, reliability, durability, serviceability and aesthetics requirements.

The Works shall be carried out by competent persons, who shall be subject to evaluation by the Engineer, as specified in the Contract or if so directed. Persons declared unsuitable by the Engineer for the intended works shall not be utilised for those Works and the Contractor shall ensure compliance with the Engineer's instructions.

Unless specified otherwise in the Contract, the Plant and Materials for the Works shall be of the specified quality and new. The Plant and Materials shall have been used in similar types of works or functions or both specified elsewhere in the Contract. However, this requirement shall not apply where it is not specified so.

The Plant and Materials shall be transported, handled, stored and protected on the Site or elsewhere in such manner as to prevent shortages, damages and deterioration. The Plant and Materials shall display the approval and certification or compliance information, wherever practicable, along with identification information such as name plates, rating plates and labels. Unless otherwise specified in the Contract or approved by the Engineer such information shall be in the language of the Contract, easily readable, placed at a prominent position and tamper-proof.

The Contractor shall plan its procurement with due expedition considering the need for spares, lead time, training, shipping and transport, necessary clearances, Make in India objective (if applicable), coordination and administration. The Plant and Materials shall be made available sufficiently in advance at site taking into consideration the time required for the acceptance process on receipt, as no Plant and Materials shall be incorporated into the Works until the Engineer's response in the form of either a NONO or NONOC has been obtained.

2 Contractor's Submissions Relating to Consent for Subcontractors (if any)

This clause shall apply to all Subcontractors (if permitted in the Contract).

In accordance with the Conditions of Contract, the Contractor is not required to obtain the Engineer's consent to any subcontract for which the Subcontractor is named in the Contract. However, the Engineer's prior consent shall be obtained to other proposed Subcontractors. The Contractor shall submit to the Engineer such details of any proposed Subcontractors as the Engineer may reasonably require for review.

Before any such submission, the Contractor shall assess the Subcontractor's capability to carry out the part of the Works, manufacture or produce the Materials or Plant of the same or similar type to that to be manufactured or supplied for the Works. The Contractor shall, prior to any submission, assess the Plant and Materials to be supplied with regards to their compliance with the Contract requirements, as applicable and specified elsewhere in the Contract.

The proposed manufacturers and suppliers shall have achieved a quality level of the production output acceptable to the Engineer in their manufacturing of the Material or Plant of the same or similar type to that to be manufactured or supplied for the Works.

3 Contractor's Submissions Relating to Consent for Contractor's Approach to the Works under the Contract

The Contractor's submission of the Works Quality Management Plan (WQMP) including its subsidiaries (SQMP and PQMP), Inspection and Test Plans (ITP), Method Statements (MS), and Manufacturer's Arrangements (MA) in accordance with the Sub-Division 7010 [Quality Management] to be consented by the Engineer shall include criteria for the workmanship to be applied to the Works.

When the Contractor proposes to submit new materials or products or specialist works or propriety items for the Engineer's review, manufacturer's recommendations and specifications shall be assessed against the materials and workmanship standards specified in the Contract and the most suitable solution for the purpose shall be selected for submission. The Contractor shall then submit to the Engineer the full specifications together with a comparison with the materials and workmanship standards for the Works and the required inspections and tests.

3.1 Identification Labels on Equipment for Plant

Method Statements (MS) and Manufacturer's Arrangements (MA) for Plant shall include a labelling system in accordance with the asset identification in the Contract. The Contractor shall make due allowance for the Engineer's review period (at least 3 months before the planned delivery date to site of the shipment of the first individual item of equipment forming part of the Plant) in the submission of MS and MA. 'Individual item of equipment' refers to a complete assembly of components and to each removable sub-module within a complete assembly. Each identification label in the labelling system shall:

- i. Be permanent,
- ii. Not become detached or illegible during the lifetime of plant from any cause including wear, tear, environmental effects (such as rain and direct sunlight), or any other influence, and

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- iii. Be easily cleaned to remove dirt and debris (including grease and oil) without affecting its legibility.

4 Contractor's Submissions Relating to Approval for Plant and Materials

Unless otherwise stated in the Contract, the Employer shall make no Employer's Equipment available for the use of the Contractor in the execution of the Works and supply no "free issue materials". The technical and other documents relating to Plant and Materials which the Contractor is required to submit to the Engineer for approval shall include, but not limited to, the following:

- i. A review by the Contractor of the Contract requirements and compliance listings, showing in a simple tabulated formalist of all the pertinent Contract requirements compared with the properties and specifications for the proposed item, indicating if compliant or non-compliant for each,
- ii. All relevant details along with manufacturer's original brochures, specifications and certificates,
- iii. The ITP and the results of latest testing to demonstrate compliance with the Contract,
- iv. The Manufacturer's Certificate (controlled copy of the certificate by the manufacturer or supplier may be substituted if the original cannot be obtained) which the Contractor intends to utilise for its acceptance and quality control in the ITP,
- v. A letter to the Contractor with the official seal of the manufacturer or supplier, stating that the Manufacturer's Certificate (if any) regarding the material to be delivered to the site,
- vi. Competent samples as applicable,
- vii. Shop drawings and coordination drawings, as applicable,
- viii. Sample of manufacturer's guarantee or warranty statement,
- ix. Programme and methodology for any related factory and on-site tests proposed,
- x. Spare parts list with interchangeability record and list of consumables including Indian equivalent of consumables and tools,
- xi. List and details of entities capable of providing maintenance and repair services and supply spare parts, consumables and tools, as applicable, and
- xii. Any other requirement, as specified in the Contract.

4.1 Mineral Resources (not used in other than civil works)

The mineral resources (such as coarse aggregates, fine aggregates, sand, gravel etc.) to be used in the Works shall be approved by the Engineer before their use in the Work.

The Contractor shall explore possible mineral resources with reference to the Specification and Conditions of Contract, including the quantities required and the programme of the Works and propose the potentiality of resources to the Engineer along with its priorities.

The Engineer shall confirm a suitable time for a joint visit with the Contractor for assessment of the proposed resource(s), and to witness the taking of samples of the proposed raw and processed materials from the proposed quarry.

The samples taken shall be sent to approved laboratories for testing, which, may be witnessed by the Engineer, as per the relevant applicable specifications and requirements in the Contract. Sealed laboratory test reports shall be sent to the Engineer for review with a copy to the Contractor.

The Contractor shall be responsible for all administrative and compliance requirements in accordance with the applicable Laws related to obtaining the materials from the approved source(s).

4.2 Material Substitution in the Plant Submission– Not Applicable.

5 Contractor's Submissions Relating to Approval for Laboratories

5.1 General

The Contractor shall be responsible for all on-site and off-site testing including any in-situ testing that is required. Both the calibration of testing equipment and the testing of Plant and Materials shall be carried out in approved and competent laboratories, details of which shall, prior to their commissioning, be submitted to the Engineer for approval. The requirements for such laboratories shall include, but is not limited to, the following:

- i. Shall be a legal entity, except for On-Site Laboratory, and be accredited to carryout each test specified in the Contract or be approved by the Engineer to carry out each test in which the entity is not accredited,
- ii. Maintain a management system appropriate to the scope of its activities,
- iii. Cooperate in clarifying any requests and in monitoring its performance in relation to the works performed,
- iv. Have a system for managing and resolving complaints including any made in regard to any aspect of its testing and calibration works which do not conform to its own procedures or the agreed requirements,
- v. Retain records of original observations and a copy of each test report or calibration certificate issued for a defined period and include the identity of personnel responsible for the sampling, performance of each test, calibration and checking of results,
- vi. Ensure the competence of all who operate specific equipment, perform tests and calibrations, evaluate results and sign test reports and calibration certificates,
- vii. Have equipment, environmental conditions and facilities for testing and calibration, to facilitate correct performance of the tests and calibrations,
- viii. Have restricted access and use of areas affecting the quality of the tests and calibrations,
- ix. Propose alternatives where no standard method is applicable to the tests and calibrations,

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- x. Use calibrated equipment along with programme and procedure for the calibration of its equipment,
 - xi. Ensure that calibrations and measurements made by the laboratory are traceable to the National or International System of Units (SI),
 - xii. Report the results accurately, clearly, unambiguously and objectively and in accordance with any specific instructions in the test or calibration methods,
 - xiii. Report results, usually in a test report or a calibration certificate that include all the information requested and that is necessary for the interpretation of the test or calibration results and all information required by the method used,
 - xiv. Document the basis for any opinions and interpretations given, and
 - xv. Transmit test or calibration results by telephone, email, facsimile, courier or other means also where so requested.

5.2 On-Site Laboratory

An On-Site Laboratory means a laboratory established by the Contractor to carry out the tests specified in the Contract. Unless otherwise specified, the Contractor shall establish the On-Site Laboratory in accordance with Sub-Division 6040 [Temporary Facilities of Contractor] of this General Specification, or may organise his testing resources (including apparatus, assistance, documents and other information, electricity, equipment, fuel, consumable, instruments, labour, material and suitable qualified and experienced staff) as the On-Site Laboratory.

The location of the laboratory shall be at or near the Contractor's work site and such location shall be subject to the consent of the Engineer.

Within 56 days after the Commencement Date, in accordance with the requirements of Sub-Clause 5.1 [General] and having due regard to the matters described below, the Contractor shall submit to the Engineer for approval details of any On-Site Laboratory to be provided. In the provision of an On-Site Laboratory, matters to be considered by the Contractor shall include, but not are limited to, the following:

- i. The detailed and overall inspection and testing requirements and plan,
- ii. The various categories of testing and adequacy of layout and size of working areas,
- iii. Standards of construction considering the quality and Environment, Social, Health and Safety (ESHS) requirements,
- iv. Infrastructure requirements such as equipment, electrical power, furnishings and fixtures, and
- v. The competency requirements for the personnel.

5.3 Independent Laboratory

Within 56 days after for the Commencement Date, in accordance with requirements of Sub-Clause 5.1 [General] and having due regard to the matters described below, the Contractor shall submit to the Engineer for approval details of any Independent Laboratory to be used.

The proposed laboratory shall be independent and impartial and shall implement a system to ensure that information related to the Work remains confidential.

5.4 Off-Shore Independent Laboratory (If applicable)

Within 56 days after the Commencement Date, in accordance with the requirements of Sub-Clause 5.1 [General] and having due regard to the matters described below, the Contractor shall propose to the Engineer for approval details of any Off-Shore Independent Laboratory to be used. Any such laboratory shall also meet the requirements of Sub-Clause 5.1 [General] and have accreditation at the country of origin or international accreditation for the services offered. The location shall have ease of access, in terms of legal or regulatory access and also logistics. Any such laboratory shall have no objection to any representative(s) of the Employer, the Engineer or any independent agency attending at the said laboratory to witness or inspect any inspection or test being carried out in connection with the Works.

6 Contractor's Submissions Relating to Approval for Procurement of Plant and Materials

The Contractor shall submit to the Engineer for approval a procurement timeline for the approved Plant and major items of other Goods to be procured from eligible source countries, including Country and domestic market to the Engineer for approval. The Engineer will laydown a detailed approval procedure to be followed by the Contractor.

The procurement timeline shall include the name of the Plant and Materials, source country, name and address of the supplier, planned dates of shipping (ex-factory) and arrival on the Site, locations of storage place and other information as appropriate.

The procurement timeline shall be compatible with the Contractual Works Programme and the Contractual Works Programmes submitted by the Contractor in accordance with Sub-Division 4070 [Works Programme and Schedule] of the General Specification.

The monthly procurement status of the procurement timeline shall also be included in the Monthly Progress Report to be submitted to the Engineer in accordance with Sub-Division 4080 [Monthly Progress Report Requirement] of General Specifications.

Records of procurement such as each certificate for Plant and major items of other Goods, all reports (to comply with the Contract) of inspection and tests by the manufacturer or supplier, names and address of manufacturers, suppliers or vendors, and proofs of purchase for Plant and Materials shall be kept in the custody and care of the Contractor.

7 Substitution of Plant or Materials

Notwithstanding any Contractor's Technical Proposal in their Bid for Plant and Materials to be incorporated into the Works, or any subsequent approval by the Engineer for any such items, the Engineer shall have the right to instruct the Contractor, without any extra cost or impact to Programme or Time for Completion, to substitute any such items that the Engineer, upon subsequent examination, considers not to comply with the requirements of the Contract.

In exceptional circumstances acceptable to the Engineer, the Contractor may be allowed to the proposed substitution of Plant and Materials named in the Contract or included in the Specification or which have previously received the Engineer's approval, if they are equal to or better than the Plant and Material so named, included or approved, and there is no additional cost to the Employer or impact to the Programme and Time for Completion.

In the above circumstances, the Contractor shall submit his proposal to the Engineer in a timely manner, together with samples where necessary, including a full and detailed explanation of the reason(s) for such substitution and a description of the advantages or benefits to the Employer. The proposal shall include full documentary evidence showing clearly that the substitute product equals or is better in all respects to the Plant and Materials so named, included or approved to.

Any proposal for substitution must also include a view of and proposals for substitution of all other related or affected parts of the Works and any modification(s) that are necessary to make them compatible with the proposed substitute Plant and Materials. This shall be supported with evidence of equivalent durability, functionality and appearance of the Works as a whole. If such substitution has received the Engineer's consent and before ordering any such substitute Plant and Materials, the Contractor shall provide revised design, shop and coordination drawings, specifications and manufacturer's guarantees as per the submission criteria specified in the Contract for review and consent by the Engineer.

8 Delivery of Plant and Materials to the Site

If Sub-Clause 14.5 [Plant and Materials intended for the Works] of the General Conditions of Contract applies, the records of the Plant and Materials kept by the Contractor in accordance with Sub-Clause 14.5(a) (i) shall be in such a form as is acceptable to the Engineer. The Contractor shall include all such records in its Statement.

9 Samples and Mock-Ups

9.1 Samples

The Contractor shall submit manufacturer's standard samples for Plant and Materials and those samples that are specified in the Contract, all (including transportation) at the Contractor's cost. Unless otherwise stated in the Contract, the Contractor shall provide a minimum of two samples for each item to the Engineer for information or consent. Following the Engineer's review, both shall be marked to indicate the review status and one shall be retained by the Engineer and one shall be retained on the site in the custody and care of the Contractor.

The Contractor shall propose quantity of the samples, in the submission, to be reverted that those samples are available on each site where the Engineer would reasonably access it for reference. If the Engineer is of the opinion that the Contractor's proposal does not include sufficient number of samples such as would ensure reasonable access, the Engineer may, at his sole discretion, request the Contractor to provide additional samples all at the Contractor's cost.

Each sample shall have an identification label affixed indicating the Contract reference number, name of the item (including its submittal reference), the referenced Drawing numbers, Specifications (Division – Sub-Division-Clause), the manufacturer's name, the model number, brand name, supplier's name and any other relevant data.

The Engineer may, at his sole discretion, reject any materials and goods which are inferior to the reference samples which have previously received his consent on the submission by the Contractor. The Contractor shall promptly remove any such materials and goods from the site and promptly provide replacements complying with the reference samples.

9.2 Constructional Mock-Ups

The Contractor shall construct, maintain, and remove (all at his cost) any mock-ups that are specified in the Contract. The Contractor shall maintain any such mock-ups in his custody and care until their removal is directed by the Engineer.

The Contractor shall, sufficiently in advance of the planned commencement date of subject part of the Permanent Works, be required to demonstrate his proposed standard of workmanship through the provision of mock-ups (of sufficient size as to permit the Engineer to observe constructability and appearance of the subject part) for various specified items in the Contract, all as may be reasonably instructed and consented by the Engineer. Where the Engineer has issued his approval, a mock-up to be used as reference for the Permanent Works may be constructed or installed as part of the Permanent Works acceptable. Any such mock-ups may be termed as the reference mock-ups. Any such mock-ups which have received the Engineer's consent shall be deemed to indicate the minimum acceptable level of workmanship and appearance for the respective part(s) of the Works.

A minimum of 28 days before the start of the subject Works, the Contractor shall submit a Method Statement for the construction or installation of the mock-up(s). The programme shall be fully in compliance with the Contractual Works Programme and the Contractual Works Programmes. The timeline of provision for mock-up(s) shall be updated as the case may be.

Subsequent to the Engineer's issue of consent to a mock-up, the subject Plant, Materials and part(s) of the Permanent Works, shall be delivered to the Site or executed in conformity with the said mock-up(s).

10 Execution of Inspection and Test Plan (ITP)

The Engineer shall have the right, at any time, to inspect the manufacturing of any Plant and Materials at the manufacturer's facilities.

Inspection and testing shall be carried out in accordance with the Inspection and Test Plan (ITP) which has received the Engineer's consent. The ITP shall be prepared in accordance with the requirements of Sub-Division 7010 [Quality Management] of the General Specifications and the Works Quality Management Plan which has received the Engineer's consent.

The ITP, amongst other information, shall also specify such Manufacturer's Certificate(s) as the Contractor intends to issue for acceptance without further confirmatory testing.

Following the completion of a test or inspection, the Contractor shall promptly forward the results to the Engineer for endorsement, using the consented forms and formats in the ITP, duly completed and certified. If Sub-Clause 14.5 of the General Conditions of the Contract applies, the Plant and Materials records kept by the Contractor shall include the relevant inspection and test records.

Inspection and testing carried out by an approved Independent Laboratory or Off-Shore Independent Laboratory or both, shall be effectively coordinated by the Contractor, taking into consideration the programme for the Works. The requirements for the Contractor's submission relating to laboratories shall be taken up in accordance with the provisions of Sub-Clause 5 [Contractor's Submissions Relating to Approval for Laboratories].

11 Request for Inspection (RFI)

The Contractor shall give an RFI to the Engineer whenever any parts of the Works are ready for inspection and test at the stages so designated in the Method Statements (MS) or Manufacturer's Arrangements (MA) or Inspection and Test Plans (ITP) which have received the Engineer's consent.

The RFI format shall either be that specified in the Contract, or if none is specified therein, the format which has been proposed by the Contractor and consented by the Engineer.

Each MS, MA, and ITP shall indicate the timing to issue each RFI as the Contractor's advance notice to the Engineer which, unless specified otherwise in the Contract, shall be not less than 24 hours after its receipt by the Engineer. The Contractor shall preferably give the Engineer notice of weekly schedule of RFIs in which the procedure shall be agreed with the Engineer and then report the updated RFI status in each Monthly Progress Report. The Contractor shall provide the necessary facilities, access, and arrangement of any specific permissions and resources that are required for the Engineer to carry out any requested inspection or witnessing of any test.

12 Coordination for Plant and Materials installed by Interfacing Contractors

Where there is a requirement for Interfacing, the Contractor shall refer to Sub-Division 4040 Interface, Coordination and Cooperation with Other Parties which shall take precedence if there is any conflict between Sub-Division 4020 and this Sub-Division 7020.

The Contractor shall coordinate, where plant and materials are to be installed by an Interfacing Contractor, in accordance with the relevant method statements or manufacturer's arrangements or both which are to be prepared by the Interfacing Contractor and consented by the Engineer.

13 Rejection and Remedial Works

If as a result of any inspection, examination or test, any Plant, Materials or workmanship is found to be defective or otherwise not in accordance with the requirements of the Contract, the Contractor shall promptly forward to the Engineer the relevant test report(s) in the forms and formats required by the related ITPs.

The Engineer may notify the Contractor that retests are required or reject such defective or non-compliant Plant, Materials and Works after receiving the above-referenced test reports. The Contractor shall propose rectification procedures for the Engineer's consent, including any Method Statements or Manufacturer's Arrangements that are required. Rectification works shall not commence before the Engineer's consent has been obtained to the Contractor's rectification proposals. Upon the Engineer's acceptance of the rectification proposal and following completion of the rectification works, the tests required by the Contractor shall be repeated under the same terms and conditions. Unless otherwise accepted by the Engineer, all inspection and testing shall be performed by an approved external testing laboratory or On-Site Laboratory.

In the event that the Engineer's response to the above rectification proposal is NOO or the Contractor fails to provide any rectification procedures, the Engineer may instruct the Contractor to comply with the provisions of Sub-Clause 7.6 [Remedial Work] of the Conditions of Contract.

The Engineer may notify the Contractor of any such nonconformity as described above by issuing a Nonconformity Report. In the event of receipt of such a Nonconformity Report, the Contractor shall proceed to close out such nonconformity in accordance with the provisions of their Works Quality Management Plan which has received the Engineer's consent.

14 Spares, Special Tools and Consumables (If applicable)

The Contractor shall propose the plans in which spares, special tools for operation and maintenance, or consumables shall be manufactured and be readily available for reasonable period and quantities, specified elsewhere in the Contract, from the date of the Taking-Over Certificate for the whole of the Works.

The Contractor shall submit the guarantee in support of those availabilities at the time of submission for the respective plans. The Contractor shall promptly supply the spares, special tools and consumables, as specified elsewhere in the Contract. The spares, special tools, and consumables shall be genuine. The Contractor shall propose spare part and interchangeability record for the Plant provided by him.

The Contractor shall, in order to determine the spares required for the operation, consider the criticality of the equipment, their liability, the maintenance capability and an understanding of the planned consumption as a minimum. Any unused commissioning spares shall be taken back, if, so decided by the Engineer

7030 TESTS ON COMPLETION**1 General**

- i. The Contractor shall submit the necessary Contractor's Documents for each Tests on Completion in accordance with the requirements of the Contract. The Contractor shall have received a "Notice of No Objection" response from the Engineer before commencement of the Tests on Completion.
- ii. The Contractor shall propose each ITP for Tests on Completion at Proposal Phase in accordance with the Contract within 56 days after the Commencement Date.
- iii. The Contractor shall also submit each ITP for Tests on Completion at Submittal Phase in accordance with the Contract not less than 56 days in advance of the date from which the Contractor will be ready to carry out each of the Tests on Completion.
- iv. The Contractor shall co-operate with Interfacing Contractor when carrying out Tests on Completion.
- v. Each Contractor's application for a Taking-Over Certificate issued in accordance with Clause 10 [Employer's Taking Over] of the General Conditions of Contract shall include, for each Tests on Completion, a certified report of the results of these inspections and tests detailed in the ITP.

2 Contractors Documents for Tests on Completion

As-built documents and operation and maintenance manuals shall be in accordance with the requirements of Division 5000 [Contractor's Drawings and Documents] of the General Specification.

3 ITP for Tests on Completion**3.1 Additional Requirements**

- i. In addition to the requirements for ITPs in Sub-Division 7010 [Quality Management] the following requirements shall also be applied.
- ii. If the Works are divided into Sections, the ITP for the Tests on Completion may be separated for each Section.
- iii. The ITP for the Tests on Completion may refer to other ITPs and the Engineer's endorsement to the Contractor's certified results of ITPs.
- iv. The Contractor shall clearly designate the location and expected duration for the Tests on Completion. If the Tests on Completion are conducted outside the Country, all costs and expenses for accommodation, travel and the services for the Employer shall be borne by the Employer and the same for the Engineer shall be borne by the Contractor.
- v. The ITP for the Tests on Completion shall include an evaluation procedure for the related "As-Built" documents and operation and maintenance manuals.
- vi. The ITP for the Tests on Completion shall include procedure(s) where the Contractor endorses the performance of works carried out by Interfacing Contractors. The endorsement shall refer to controls and checks in the ITP to monitor and measure performance.

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- vii. If the Interfacing Contractor has a requirement for endorsements of its work by the Contractor for the Tests on Completion, the same shall be carried out by the Contractor.

3.2 Proposal and Submittal Phase

- i. ITP for Tests on Completion shall have two phases. Firstly, a proposal phase for review by the Engineer to declare the Contractor's intention for execution of the Works, and then a submittal phase for consent by the Engineer to execute the Works.
- ii. ITP for Tests on Completion at Proposal Phases shall identify in it any other ITPs that are related to it. The Engineer shall review the proposal and those other ITPs referred in it.
- iii. The ITP for Tests on Completion at Proposal Phase can be revised till the submittal phase sets in and actioned as set out in Clause 1(c) above.
- iv. The Contractor shall give to the Engineer notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion.
- v. The ITP for Tests on Completion at Submittal Phase must have the Engineer's Notice of No Objection before the date mentioned in the above notice otherwise it shall be considered as the failure of the Contractor for Test on Completion.

3.3 Sequence of Tests on Completion

- i. Unless otherwise stated in the Particular Conditions, both phases of ITP for the Tests on Completion shall contain the following sequence: pre-commissioning tests, commissioning tests, and trial operation.
- ii. The Contractor may declare in the ITP for the Tests on Completion at Proposal Phase that the pre-commissioning tests and commissioning tests are going to be provided separately during submittal phase.
- iii. In the trial operation sequence, ITP for Tests on Completion at Proposal Phase shall designate conditions in which the Contractor is going to give notice to the Engineer that the Works are ready for any other Tests on Completion, including performance tests to demonstrate whether the Works conform with criteria specified in the Specification and with the schedule of guarantees, if any.
- iv. No trial operation shall be conducted in this Contract (i.e. Br-1).

3.4 Co-operation for Tests on Completion by Interfacing Contractors

- i. The Contractor shall co-operate with Interfacing Contractors whilst the latter are carrying out their tests on completion. The Contractor shall take care to protect the Interfacing Contractors' materials, plant and works from damages caused by the Contractor.
- ii. The Contractor shall give, as soon as practicable, notice to the Engineer where its execution of Works has caused damage or deterioration to the materials, plant and works of Interfacing Contractors. Any such damage or deterioration shall be remedied by the Contractor at his own cost. The Contractor shall submit to the Engineer for approval of its proposal in this regard, duly endorsed by the Interfacing Contractor, before commencement of any remedial works.

3.5 Execution of Tests on Completion

- i. The Contractor shall carry out procedures to endorse the performance of works by Interfacing Contractors before commencement of the Tests on Completion. If there is any non-conformance, in the works of an Interfacing Contractor, which prevents commencement of the Tests on Completion, this shall not be deemed to be caused by the Contractor.
- ii. The Contractor shall verify the test results by himself where the performance of works by an Interfacing Contractor prevents to the achievement of the specified criteria for the Tests on Completion.
- iii. As soon as the Works, or a Section, have passed any Tests on Completion, the Contractor shall submit a certified report of the results of these Tests in accordance with the Engineer's consented ITP for Tests on Completion at Submittal Phase.

Division 8000: Environment, Social Health and Safety Management

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8010 General Requirements of Environment, Social, Health and Safety (ESHS)

1 General

- 1.1 The Contractor shall be wholly and solely responsible for Environment, Social, Health and Safety (ESHS) on the Site and any other areas being used by him for the purposes of the Contract. The Contractor shall ensure that all appropriate ESHS protection measures are implemented throughout the execution of the Works. The Contractor's attention is drawn to the relevant provisions regarding ESHS in the Contract Documents.
- 1.2 Costs for all necessary measures in Division 8000 [Environmental, Social, Health and Safety Management Plan] and Appendix-8000-1[Environmental, Social Health and Safety Management Manual] shall be deemed to have been included in the Accepted Contract Amount.

8020 Environment, Social, Health and Safety

1. Contractor's Obligation

- 1.1. Within twenty-eight (28) days of receipt of the Letter of Acceptance, but not later than the Commencement Date, the Contractor shall prepare and submit to the Employer/Engineer for Notice of No Objection (NONO) a ESHS Management Plan fully complying with not only the relevant applicable latest Laws of the land but also the regulations of the Employer which may be imposed from time to time on the Project. It is to be noted that the Employer (or the Engineer on its behalf) is entitled to amend environment, social, health and safety related terms and conditions and the same shall be binding on the Contractor to implement without any financial claim from the Contractor to the Engineer.
- 1.2. The ESHS Management Plan shall contain adequate control measures and procedures in accordance with the relevant applicable latest Laws of the land and the Engineer's regulations imposed as per Conditions of Contract, ESHS Management Manual attached as Appendix 8000-1, State BOCW Acts and Rules, Indian Electricity Acts and Rules, BS:6164: 2011 and other applicable latest Indian Legislations, whichever is more stringent, as well as internationally accepted good practice for the prevention of contamination, food poisoning, epidemics, diseases, accidents, fires and public nuisance. The ESHS Management Plan shall be implemented by the Contractor and the Subcontractor properly and diligently throughout the execution of the Works.
- 1.3. The Contractor is required to prepare a method statement for each activity. The method statement is required to cover the Hazard Identification and Risk Assessment, aspect and impacts in detail obtaining NONO from the Engineer.
- 1.4. The Contractor shall identify the ESHS requirement related to each activity planned and in advance the Contractor will arrange the required safety gears and equipment to control the hazards and obtain the relevant licenses, permissions and fulfil the construction machine/equipment safety requirement.
- 1.5. All accidents and dangerous occurrences must be investigated by the Contractor. On all such occurrences, the Contractor convene all the persons involved including workers and carry out re-induction about safety for half a day. In case a stop order is issued by the Engineer, the Contractor shall not resume the Works until the corrective action's compliance is accepted /NONO issued by the Engineer.

2. Site ESHS Management Plan

The ESHS Management Plan shall have NONO from the Engineer. In addition, this plan shall be made in accordance with the latest amendments/revisions/clauses as applicable, as per the Haryana Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Rules, 2005 and its amendment vide notification dated January 25, 2018; ISO45001:2018;ISO 14001: 2015; Bureau of Indian Standard Specifications; National Building Code and BS 6164: 2011, whichever is more stringent. The Contractor's ESHS Management Plan shall address the following:

- a) The Contractor's ESHS Management Policy;
- b) The Contractor's ESHS Management Organization Plan (Roles, Responsibilities and Powers of key members of the ESHS Organization);

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- c) Compulsory ESHS Induction Training, Job Specific ESHS Training, the Contractors' engineers training as per Appendix 08000-1 (ESHs Management Manual);
 - d) Applicable Laws of the land;
 - e) Enforcement of ESHS regulations;
 - f) System of warnings;
 - g) Weekly, monthly and tool-box meetings;
 - h) ESHS management reports including accident reports & statistics and investigation procedure;
 - i) Corrective measures to improve unhealthy/unsafe conditions;
 - j) Waste management plan;
 - k) Accident prevention signs and notices;
 - l) ESHS audits, inspection and compliance;
 - m) Permits for work in dangerous or restricted work areas;
 - n) Safety gears and protective equipment;
 - o) Emergency procedures;
 - p) First aid medical facilities and occupational health centre;
 - q) Traffic management;
 - r) Visitors/guests permit and control;
 - s) Fire prevention and fire-fighting;
 - t) Electricity leakage and electric shock;
 - u) Oxygen/Acetylene/Fuel gases;
 - v) Deep boring with hydraulic rigs, excavation and trench shoring;
 - w) Excavation near underground utilities;
 - x) Operations in confined spaces;
 - y) Guard-railing, Hand-railing, Barricading and Opening Protecting;
 - z) Scaffolding and Staging and Fall protection;
 - aa) Elevated Work including roofing and structural steel erection;
 - bb) Craning and Hoisting – Testing, ASLI calibration, Trained lifting supervisor and rigger;
 - cc) Handling and Storing of Toxic Paints, explosive and blasting material, Harmful Chemical Material with (MSDS), Flammable Material;
 - dd) Hazard Identification and Risk Assessment;
 - ee) Housekeeping;
 - ff) Safety of Public & Public Property nearby Work Place;
 - gg) Provision of Identity Card for Workers & Supervisors

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- hh) ESHS Committee Management;
- ii) Project Site and Labour Colony Hygiene, Living, Water Supply, Sanitation and Fumigation to control insects; and
- jj) ESHS Submission of Contractor: Monthly ESHS Report as asked by the Engineer including ESHS Statistics, Audit, Inspection and Compliance Report, ESHS Committee Minutes, Management Audit Rating Score Report and Closing Report of the Engineer.
- 2.2. The ESHS Manager shall be responsible for fully implementing the ESHS Management Plan.
- 2.3. The Contractor shall ensure that the Contractor's Personnel on the Site are all fully aware of and trained in the ESHS practices set out in the ESHS Management Plan.

3. ESHS Management Manual

- 3.1. The Contractor shall submit the ESHS Management Plan for all the above-mentioned items complying with Appendix 8000-1(ESHS Management Manual).

4. ESHS Facility and Equipment

- 4.1 The Contractor shall provide, operate and maintain the first aid facilities as needed to fully comply with the ESHS requirements. Maintenance of the first aid facilities shall include supply of appropriate disinfectants, medicines, bandages, equipment, transportation and nurses as may be required to treat type of injury and sickness that would usually be expected on the construction site of similar projects. The Contractor shall display clearly at the first aid stations, the locations and direction to the nearest hospital or medical centre where first-aided patients can be sent in accordance with the latest Haryana Building and Other Construction Workers (Regulation of Employment and Conditions of Services) Rules, 2005 and its amendment vide notification dated January 25, 2018.
- 4.2. The Contractor shall provide all guests and visitors on the Site with appropriate safety gears and protective clothing including hard hats with chin strap, retro-reflective jacket, safety shoes and make sure that the safety gears and protective clothing are worn by them while they are on the Site. No shoes other than proper safety shoes will be allowed on the Site. All safety helmets shall bear the sticker by which the category of the person wearing it could be identified.
- 4.3. The Contractor shall provide all his staff and the labour on the Site with appropriate safety gears and protective clothing including hard hats with chin strap, retro-reflective jacket and safety shoes, any other job specific safety gears, personal protective equipment (PPE) and make sure that the safety gears and protective clothing are worn by them while they are on the Site. No shoes other than proper safety shoes will be allowed on the Site. The Contractor shall give and ensure that his labour and staff using PPE/Safety Gears have got awareness training related to handling and usage of PPE/Safety Gears.

8030 Staff and Labour**1. Engagement of Staff and Labour**

1.1. The Contractor shall make his own arrangements for the engagement of staff and labour.

2. Rates of Wages and Conditions of Labour

2.1. Apart from compliance of statutory requirements, the Contractor shall pay rates of wages and observe conditions of labour not less favourable than those established for the trade or the industry where the work is carried out.

2.2. In the event of default being made in the payment of any money in respect of wages of any person employed by the Contractor or any of his subcontractors of any tier in and for execution of this contract and if a claim therefore is filed in the office of the Labour Authorities and proof thereof is furnished to the satisfaction of the Labour Authorities, the Engineer may, failing payment of the said money by the Contractor, make payment of such claim on behalf of the Contractor to the said Labour Authorities and any sums so paid shall be recoverable by the Engineer from the Contractor.

3. Persons in the Service/Retired of the Engineer.

3.1. The Contractor shall not recruit or attempt to recruit staff and labour from amongst the Engineer's personnel.

3.2. The Contractor either at the bidding stage or during construction stage shall not employ any retired employee of the Engineer in any capacity unless such employee has completed at least one-year post retirement period or has obtained the No Objection Certificate from the Engineer for being employed with the Contractor. It will be responsibility of the Contractor to collect the Engineer's No Objection Certificate from such retired employee and submit the same to the Engineer.

4. Labour Laws

4.1. In dealing with labour and employee, the Contractor and his subcontractors (including piece rate and petty contractors) shall comply fully with all the latest laws and statutory regulations pertaining to engagement, payment and upkeep of the labour in India.

4.2. The Contractor shall have a labour welfare organization headed by a Labour Welfare Officer (LWO; qualified as per the state BOCW Acts). The Contractor's Project Manager and the LWO shall be responsible for labour welfare and compliance with prevalent labour laws, statutes and guidelines. In this context the Contractor is also required to familiarize himself with the latest Labour Welfare Fund Rules and comply with the same.

4.3. The Contractor shall prepare and submit compliance reports of adherence to labour laws as and when desired by the Employer/Engineer.

5. Working Hours

5.1. The Contractor, if required, shall carry out work during night hours or in shift, unless specifically provided otherwise in the Contract. No increase in rates or extra payments shall be admissible for night work other than the Contract. The Contractor shall provide adequate lighting and safety arrangements.

6. Facilities for Staff and Labour

6.1. The Contractor shall provide and maintain at his own expense all necessary accommodation and welfare facilities as per prevailing labour and welfare laws for his

(and his subcontractor's) staff and labour. All accommodation shall be maintained in a clean and sanitary condition by the Contractor.

7. Safety and Occupational Health

- 7.1. Precaution shall be taken by the Contractor to ensure the safety and occupational health of his staff and labour. The Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are always available at the accommodation and on the Site, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
- 7.2. The Contractor shall maintain records and make reports concerning safety, occupational health and welfare of persons and damage to property as per the Employer/Engineer's requirement. The Contractor's ESHS Management Plan shall be developed from his outline safety plan as per the Works' requirements.
- 7.3. The Contractor shall appoint a member of his staff at the Site to be responsible for maintaining the safety and protection of personnel against accidents on the Site. This person shall be qualified for his work and shall have the authority to issue instructions and take protective measures to prevent accidents.

8. Contractor's Superintendence

- 8.1. The Contractor shall provide all necessary superintendence during execution of the Works and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract. Such superintendence shall be provided by sufficient persons 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.

9. Provision of Efficient and Competent Staff

- 9.1. The Contractor shall employ (or cause to be employed) only persons who are careful and appropriately qualified, skilled and experienced in their respective trades or occupations. The Engineer can instruct the Contractor to remove (or cause to be removed) any person employed on the Site or the Works, including the Contractor's Representative, who in the opinion of the Engineer:
 - a) persists in any misconduct;
 - b) is incompetent or negligent in the performance of his duties; and
 - c) fails to conform to any provisions of the Contract or persists in any conduct which is prejudicial to safety, health or protection of the environment.

10. Preservation of Peace and Orderly Conduct

- 10.1. The Contractor shall be responsible for preservation of peace and orderly conduct at the Site and its neighbourhood by the Contractor's employees, representatives, petty contractors, subcontractors, etc. In case deployment of a special police force becomes necessary at or near the Site during the tenure of the Works, the expenses for the same shall be borne by the Contractor.
- 10.2. The Contractor shall always take all reasonable precautions which will include that no labour or employee is permitted to work at the Site under the influence of alcohol or in

an intoxicated state or under influence of drugs to prevent any unlawful, riotous or disorderly conduct by or amongst his staff and labour and to preserve peace and protection of persons and property in the neighbourhood of the Works against such conduct.

11. Labour to be Contractor's Employee

- 11.1. If the Contractor directly or through petty contractors or subcontractors supplies any labour to be used wholly or partly under the direct orders and control of the Engineer, whether regarding any work being executed by the Contractor or otherwise for the purposes of the Employer, such labour shall, for the purpose of this clause, be deemed to be persons employed by the Contractor.

12. Report of Accidents to Staff and Labour

- 12.1. The Contractor shall be responsible for safety of all persons, employed by him on the Works, directly or through subcontractors and shall report accidents to any of them, however and wherever occurring on the Works, to the Engineer or the Engineer's Representative and shall make every arrangement to render all possible assistance and to provide prompt and proper medical attention to the affected persons.
- 12.2. The compensation for affected workers or their relatives shall be paid by the Contractor in such cases with utmost expedition in accordance with the latest Workmen's Compensation Act.

13. Claim on Account of Violation of Labour Laws

- 13.1. The Contractor shall be solely accountable for violation of any labour law by it, its subcontractors and will pay any such claim/damage to the authorities forthwith on demand. If any money shall, as a result of any instructions, directions or decisions from the Authorities or claim or application made under any of the labour laws or regulations, be directed to be paid by the Engineer, such money shall be deemed to be money payable to the Engineer by the Contractor and he will pay the same to the Engineer forthwith on demand, without demur and without asking for any reasons/explanations from the Engineer. On failure of the Contractor to repay the Engineer any money paid or to be paid by it as aforesaid within seven days after the same shall have been demanded, the Engineer shall be entitled to recover the amount from any money due or accruing to the Contractor under this or any other contract with the Engineer.
- 13.2. Any violation (unsafe act or unsafe condition) of the ESHS requirements as mentioned above shall attract financial deductions to be withheld from the Contractor as per the provisions of Clause 7 of Appendix 8000-1 of the General Specification.

8040 Environment and Social**1. General**

- 1.1. The Contractor shall avoid, minimize and mitigate, as per concerned laws and regulations and practicable good practices, the adverse effects of all its and the Subcontractors' activities on the natural and social environment throughout the execution of the Works. This project being a AIIB loan project, the Works must comply not only with regulatory requirements but also with AIIB Environmental and Social Framework, February 2016. (<https://www.aiib.org/en/policies-strategies/frameworkagreements/environmental-social-framework.html>).
- 1.2. After the award of contract within the period specified by the Sub-Division 4020 [Works Management Plan], the Contractor shall prepare and provide its ESHS Plan based on the Contractor's past experiences and good practices in India as given in the ESHS Management Manual (Appendix 8000-1). The Contractor shall propose construction methodologies/plans that shall demonstrate assurance of environmental protection, social safeguards measures and enforcement of necessary counter measures as required under the Contract. All potentially affected areas within and in the vicinity of the Site, as instructed by relevant authorities and the Engineer, shall be covered by the Contractor's ESHS Plan.
- 1.3. The Contractor shall obtain necessary approvals from competent authorities such as state pollution control board, central pollution control board, district agencies or panchayat/Gram Sabha in scheduled area by its own costs and efforts to establish and operate the work, use local resources including water, treat and discharge permissible exhaust and wastewater, and storage and disposal of all construction materials and wastes including hazardous waste by licenced/authorized management agencies (ex. batching plants, casting yard, DG set, etc.).
- 1.4. The Contractor shall prepare its work specific ESHS Plan considering the following main points:
 - i. Environmental and social impacts due to site preparation and construction activities;
 - ii. Acquisition of prior clearances from competent authorities and concerned local bodies if it is applicable and No Objection Certificates from concerned authorities/stakeholders;
 - iii. Compliance with applicable laws and regulations not only for environmental considerations but also for social considerations;
 - iv. Practical management programmes and institutional framework to adequately implement ESHS Plan;
 - v. Public relation tools, which aims to build understanding of the Project and its construction activities by the Project affected communities and to provide an initial dispute resolution mechanism at the construction sites;
 - vi. Reporting system (daily, weekly, monthly, quarterly, annually, completion); and
 - vii. Appointment of a qualified Environmental Manager and Social Expert.

2. Frameworks for Environmental Management

- 2.1. An institutional framework for the appropriate environmental management and social safeguard will be established at the Project implementation units of the Employer. The ESHS Plan prepared by the Contractor shall be treated as the binding condition of the Contract between the Employer and the Contractor.
- 2.2. Before the Commencement of the Works, the Contractor shall prepare its own ESHS Plan covering "Overall" and "Construction specific" management strategies and clarifying responsibilities of the Contractor and shall be reviewed and given approval by the Engineer prior to the Commencement of the Works, and implemented during the course of the Works.

3. Enforcement of Mitigation Measures

- 3.1. The Contractor is responsible for implementing mitigation measures related to the listed items below (Refer to Appendix 8000-1):
 - General Conduct of the Works
 - Legislation
 - General Pollution Control
 - Water Quality Management
 - Air Quality Control
 - Noise Control
 - Vibration Control
 - Waste Management
 - Housekeeping
 - Prevention of nuisance
 - Landscape, Greenery and Aesthetics
 - Tree falling
 - Energy Management
 - Mosquito Breeding
 - Hazardous Waste Storage and Management
 - Archaeological and Historic Resources
 - Fly Ash
 - Site inspections
 - Environmental Audits
 - Training
 - Complaint Response

- **Monitoring and Reporting**

3.2. The Contractor shall be responsible for designing and implementing practical mitigation measures to comply with permissible disposal or emission norms and for appropriate management in and around the construction site and proposed in the ESHS Plan and/or the method statements for the Works.

4. Monitoring and Reporting

4.1. The Contractor shall monitor the items specified in accordance with the approved ESHS Plan.

4.2. The monitoring results shall be compared with the applicable permissible standards. Necessary counter measures to comply with the requirements shall be proposed by the Contractor if they are required. The monitoring reports shall be prepared as per the formats and submitted to the Engineer within the submission periods as specified.

8050 Publicity and Public Relations**1. General**

1.1. In the case of dispute with the Project affected persons, project affected community representatives, the Contractor shall be principally responsible for making best efforts and solving the issues by himself. However, in the case of unresolved dispute, either the Contractor or those who claim the issues shall approach the Grievance Redress Mechanism (GRM) set by the Engineer.

2. Stakeholder Consultation (If required)

2.1. The Contractor shall carry out stakeholder consultation with the guidance of the Engineer, but not be limited to, the following stakeholder consultation works:

- i. The Contractor shall inform and consult the relevant government authorities concerning the Project, local residents, property management offices, shops, schools and sensitive receivers at least 15 days prior to the Commencement of the Works;
- ii. The Contractor (or the specialized subcontractor if hired) shall organize and participate in commissions and stakeholder consultations with relevant authorities concerning the civil, ecological and archaeological issues;
- iii. The Contractor shall gain support, ease concerns and minimize objections from the stakeholders affected by the Works during the stakeholder consultation; and
- iv. The Contractor shall address stakeholders' concerns and feedbacks as far as possible to minimize disturbance to the public during construction at the Contractor's own expenses.

2.2. The Contractor shall ensure proper communications to the public by establishing an effective communication channel. The communications shall be open and transparent in the form of mutual communication from both sides.

2.3. The Contractor shall post on-site notices with the consent of the Engineer with clear description of the Works and indication of anticipated completion advance notices shall be given in carrying out the Works with great impact on local residents. The design of this notice shall be well considered to be in harmony with the local landscape and surrounding features.

3. Grievance Redress Mechanism

3.1. A Grievance Redress Mechanism (GRM) will be independently established to receive and appropriately solve complaints among the Project affected individuals and representatives, the Contractor and other stakeholders by the Engineer.

3.2. The Contractor shall set up a 24-hour hotline with the consent of the Engineer to provide enquiry services to the public and the Contractor shall ensure queries and enquiries regarding the Project are taken seriously and dealt with swiftly. Whenever complaint/query is received, the Contractor's response shall be made available within 14 calendar days. If a longer processing time is needed, an interim reply shall be served to the complainant within 14 calendar days.

Appendix 8000-1: Environment, Social, Health and Safety Management Manual

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1. ESHS FRAMEWORK

1.1. General

1.1.1. The Contractor shall be responsible for Environment, Social, Health and Safety (ESHS) on the Site and any other areas being used by him for the purposes of the Contract. Each Contractor shall develop his own contract specific ESHS Management Plan, which will represent his approach to the management of ESHS activities on his work, sites under the Contract with the Employer.

1.1.2. The Contractor shall ensure that all appropriate ESHS measures are implemented throughout the execution of the Works.

1.2. Scope

1.2.1 The Environment, Social, Health and Safety Management Manual defines the principal requirement of the Employer and forms an essential part of the overall Environment, Social, Health and Safety Management System proposed to be employed by the Employer for the construction of the Project.

1.3. Definition

- a) **HEALTH & SAFETY** – Conditions and factors that affect the well-being of employees, temporary workers, Contractor personnel, visitors and any other person at the workplace;
- b) **ENVIRONMENT** – Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interaction;
- c) **ENVIRONMENT ASPECT** – Element of an organization's activities or products or services that can interact with the environment;
- d) **ENVIRONMENT IMPACT** – Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects;
- e) **HAZARD** – Source, situation, or act with a potential for harm in terms of human injury or ill health or a combination of these;
- f) **Ill Health** – Identifiable, adverse physical or mental condition arising from and/or made worse by a work activity and/or work-related situation;

-
- g) Incident – Work related event (s) in which an injury or ill health (regardless of severity) or fatality occurred, or could have occurred:
- “Accident” is an incident which has given rise to injury, ill health or fatality;
 - “Emergency” is an incident having potential to affect many persons or severe property damage;
 - “Near Miss” is an incident or a situation with clear potential for an undesirable outcome to occur, even though no actual negative consequences happened. In other words, it is an event with potential to cause injury, property damage, environmental release or an adverse community reaction; and
 - “Dangerous Occurrence” is an unplanned and undesired occurrence (incident) which has the potential to cause injury, and which may or may not cause damage to property, equipment or the environment.
- h) AUDIT – Systematic examination to determine whether activities planned are implemented effectively and related results are suitable for achieving the organization policy and objectives;
- i) INTERESTED PARTIES – Individual or group concerned with or affected by the ESHS Management Performance of an Organization;
- j) NON-CONFORMITY – Any deviation from work standards, practices, procedures, regulations, management system performance, etc. that could either directly or indirectly lead to injury or illness, property damage, damage to workplace environment, or a combination of these;
- k) OBJECTIVES – Goals in terms of ESHS Management Performance that an organization sets itself to achieve;
- l) ESHS MANAGEMENT SYSTEM – Parts of overall management system that facilitates the management of the ESHS risks associated with the business of the organization. This includes the organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the organization’s ESHS Management Policy;
- m) ORGANIZATION – Company, operation, firm enterprise, institution or association, or part thereof, whether incorporated or not, public or private, that has its own functions and administration;

-
- n) **PERFORMANCE** – Measurable results of the ESHS Management System, related to the organization's control on environment, health and safety risks, based on its ESHS Management Policy and objectives;
- o) **RISK** – Combination of the likelihood and consequences of a hazardous event occurring;
- p) **RISK ASSESSMENT** – Overall process of establishing the magnitude of risk and deciding whether the risk is tolerable;
- q) **ACCEPTABLE RISK** – Risk that has been reduced to a level that can be tolerated by the organization having regard to its legal obligations and its own ESHS Policy;
- r) **DEVIATION** – Is defined as something not in compliance with quality standard, specification or measuring requirements, or as deviations from specified procedures or way of working within production, environment, working environment (safety) or security;
- s) **CORRECTIVE ACTION** – Action taken to eliminate the causes of an existing non-conformity, defect or other undesirable situation;
- t) **PREVENTIVE ACTION** – Action taken to eliminate the causes of a potential non-conformity, defect or other undesirable situation to prevent occurrence or recurrences;
- u) **ENGINEER** – Employer's Representative
- v) **ENVIRONMENT RELATED DEFINITIONS:**
- “Waste” is unwanted surplus substance arising from the application of all construction operations and any substance or article, which is required to be disposed;
- w) **Abbreviation**
- “Suspended Particulate Matter” is abbreviated as SPM;
 - “Air Monitoring and Control Plan” is abbreviated as AMCP;
 - “Noise Monitoring and Control Plan” is abbreviated as NMCP;
 - “Ministry of Environment, Forest and Climate Change, Government of India” is abbreviated as MoEFCC;
 - “Central Pollution Control Board” is abbreviated as CPCB;
 - The use of “shall” indicates a mandatory requirement. “ESHs” means

Environment, Social, Health and Safety;

- “Haryana Rail Infrastructure Development Corporation Limited” is the Employer abbreviated as HRIDC;
- “ESHS Manager” is an officer approved by the Engineer who is overall responsible for monitoring all ESHS functions prescribed in this document on behalf of the Contractor;
- “BOCWA” Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 and amendment done thereafter;
- “BOCWR” Haryana Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Rules, 2005 and amendment done thereafter;
- “BOCWWCA” Building and Other Construction Workers’ Welfare Cess Act, 1996;
- “BOCWWCR” Building and Other Construction Workers’ Welfare Cess Rules, 1998;
- “CHIEF INSPECTOR” is the Chief Inspector of Inspection of Building and Other Constructions of Government of Haryana;
- “HIRA” is Hazard Identification and Risk Assessment; and
- “The Worker” is the Building and Other Construction Worker defined by BOCWR.

1.4. Application of This Document

1.4.1 This document applies to all aspects of the Contractor’s Scope of Work including Subcontractors and all other agencies. There shall be no activity associated to the Contract, which is exempted from the purview of this document.

1.5. Purpose of This Document

1.5.1 The objective of these guidelines is to ensure that adequate precautions are taken for incident/occupational illness free safe work execution as well as to avoid harmful effects on the environment and social during construction.

1.5.2 This document:

- a) Describes the Environment, Social, Health and Safety interfaces between the Engineer and the Contractor.
- b) Details the processes by which the Contractor shall manage Environment, Social Health and Safety issues while carrying out the work under the contract.

1.5.3 These requirements shall be read together with, ISO 45001: 2018 Occupational Health and Safety Management System and ISO 14001: 2015 Environmental Management Systems.

2. ESHS MANAGEMENT

2.1. General

2.1.1. This document defines the principal requirements to be practised at the Site at all times.

2.2. ESHS Targets and Goals

2.2.1. Following ESHS targets and goals shall be set and achieved by the Contractor/Subcontractor based on time bound work plan:

- a) Zero total recordable injuries;
- b) Zero non-conformances in respect of statutory laws related to Environment, Health and Welfare measures, living conditions and Safety regulations.
- c) Total compliance of recording and reporting of all types of incidents.
- d) 100% compliance on Safety Induction of all personnel
- e) Total compliance of conducting inspections and audits as per approved ESHS Management Plan;
- f) 100% incident recording and reporting;
- g) 100% adherence to usage of appropriate PPEs at work;
- h) Executing construction work with least disturbance to the environment, adjoining road users and traffic;
- i) Minimize waste generated at sites and maximize reuse of materials;

- j) Maintaining environment conditions of site as per statutory requirement of HPCB, NGT etc to avoid penalty;
- k) To achieve construction site as zero discharge site as far as possible.

2.3. Contractor's Obligation to Abide by Mandatory Legislations and Standards

- 2.3.1. The construction works shall be undertaken in accordance with the Employer's ESHS Management Policy and Management Systems as amended from time to time provided in ESHS Management Manual.
- 2.3.2. The construction works shall be undertaken in accordance with all updated applicable legislation listed below, but not limiting to:
 - a) Indian Electricity Act 2003 and Electricity Rules, 2005;
 - b) National Building Code, 2016;
 - c) Factories Act, 1948 and state respective factory Rules;
 - d) Motor Vehicles Act as amended in 1994 and The Central Motor Vehicles Rules, 1989;
 - e) Indian Road Congress Code IRC: SP: 55-2014 'Guidelines on Safety in Road Construction Zones';
 - f) The Petroleum Act, 1934 and Rules, 1976;
 - g) Gas Cylinder Rules, 2003;
 - h) Indian Explosives Act, 1884, along with the Explosives Substance Act, 1908 and the Explosives Rules, 1983;
 - i) Environmental and Social Legislations as listed in Clause 6.0 of this document.

2.4. Contractor's ESHS Management Policy and Plan

2.4.1. Contractor's Safety & Health Policy and Plan

- 2.4.2. The Contractor as per Rule 39 of the BOCW Central Rules shall formulate an Environment, Social, Health & Safety policy and display it at conspicuous places at work sites in English and Hindi so that the policy shall be understood by majority of the construction workers. The policy shall contain the following as minimum coverage:
 - a) The intention and commitments of the Contractor regarding Environment, Social,

Health & Safety protection of the workers;

- b) Organisational arrangement made to carry out the policy specifying the responsibilities at different levels of hierarchy;
- c) Responsibilities of the Contractors, Subcontractor, transporter or other agencies involved in the construction work ;
- d) Techniques and methods for assessment of Aspects/Impact and risk to safety and health and remedial measures;
- e) Arrangement for training of workers, supervisors or other persons engaged in the construction work;
- f) Other arrangements for making the policy more effective.

2.4.3. The Contractor shall revise the policy whenever any modification having implication on the Environment, Social, Health and Safety of the workers is made or any new construction work, substances, or technique are introduced which have implication on environment, health and safety of workers.

2.4.4. The Contractor shall revise and submit the ESHS Management Plan if at any time the ESHS Management Plan is insufficient in the Engineer's opinion. The Contractor shall within 7 days submit the revised ESHS Management Plan to the Engineer for review.

2.4.5. Any omissions, inconsistencies and errors in the ESHS Management Plan or the Engineer's acceptance or rejection of the ESHS Management Plan and/or supplements thereto shall be without prejudice to the Contractor's obligations with respect to site safety, industrial health and environment and shall not be excused for any failure by the Contractor to adopt proper and recognized safety practices throughout the execution of the Works. The Contractor shall adhere to the ESHS Management Plan and shall ensure, as far as practically possible, that all supervisors and subcontractors of all tiers each have a copy of the ESHS Management Plan on the Site and comply with its provisions.

2.4.6. The details of contents to be covered in the ESHS Management Plans are given in Attachment -1[Contents of ESHS Management Plan] of this document.

2.5. Designer's Role

2.5.1. The Designer's primary role includes to minimize the risk to environment, safety and health of those who are going to construct, maintain, clean, repair, dismantle or demolish the structures and anyone else like adjoining road users/public, who might be

affected by the work.

- 2.5.2. Every temporary structure like scaffold, temporary deck, earth retaining structures etc. shall be properly designed.

2.6. Site ESHS Organisation

- 2.6.1. The Contractor shall appoint the required ESHS Management Personnel as prescribed in the Contract.

- 2.6.2. In order to effectively implement labour welfare provisions and to interact on such provisions with the Employer and the statutory authorities enforcing the labour welfare legislations, every Contractor shall employ fulltime, qualified and experienced Labour Welfare Officer.

2.6.3. Conduct and Competency

The Contractor shall ensure that all personnel are competent to perform the job assigned to them. In the event that the Contractor is unable to demonstrate the competency of any person whose activities can directly impact the Works' Environment, Social, Health & Safety performance, the Engineer shall remove that person from the Site without any procedural formalities.

2.6.4. Approval from The Engineer

The name, address, educational qualification, work experience and health condition of each ESHS personnel deployed shall be submitted to the Engineer for approval well before the start of the Works or before deployment whichever is earlier. These personnel are authorised to work only after approval of the Engineer. In case any ESHS personnel leaves the Contractor, the same shall be intimated to the Engineer within a week. Non-informing the employer will attract penalty. The Contractor shall recruit new personnel and fill up the vacancy before relieving a person. Proper handing over of all the documents shall be ensured before relieving a person.

- 2.6.5. The Contractor shall provide all ESHS Management Personnel with such facilities, equipment and information that are necessary to enable them to discharge their duties effectively. The minimum requirements of such facilities/equipment to be provided for ESHS Management Personnel are given in Attachment-4 [General Instruction: ESHS/GI/001].

2.7. Responsibility of ESHS Personnel

2.7.1. PICOW (Person In-Charge of Work)

- a) "Person in Charge of Work" under whose supervision, the Workers operate as per approved method statement and ESHS Management Manual.
- b) PICOW shall lead/supervise and direct the Workers to undertake the work in a safe manner.
- c) Each Request for Inspection (RFI) must indicate the name of PICOW for that work.

2.7.2. Responsibility of a PICOW

PICOW should ensure that:

- a) A safe system of work is adopted;
- b) Everyone in the group is briefed and understand the system of work before work starts;
- c) The current system of work is altered whenever there is any change in conditions or circumstances make it necessary and ensure that everyone understands the new arrangements; and
- d) The work is stopped and everyone moved to a position of safety immediately, should there be any doubt whether the work may safely continue.

2.7.3. All ESHS Management Personnel are to report to the ESHS Manager who shall always report directly to the Contractor's Project Manager. Their primary role is to oversee environment, social, health and safety aspects at work site. The Engineer shall always monitor adherence to this procedure. In case of non-adherence penalty shall be levied.

2.8. ESHS Committee

2.8.1. The Contractor shall form Site ESHS Committee within 60 days of award of the Contract and notification regarding the same shall be communicated to the members.

2.8.2. The Terms of Reference for the Site ESHS Committees shall be as follows:

- a) To oversee implementation of the Contractor's Environment, Social, Health and Safety policies and practices;
- b) To monitor the adequacy of the Contractor's ESHS Management Plan and ensure its implementation;

- c) To review ESHS training;
- d) To review the Contractor's ESHS monthly reports;
- e) To identify probable causes of accident and unsafe practices in construction work and to suggest remedial measures;
- f) To stimulate interest of the Workers in environment, health and safety by organizing environment/safety week, safety competition, talks and film-shows on environment/safety, preparing posters or taking similar other measures as and when required or as necessary;
- g) To go around the Site with a view to check unsafe practices and detect unsafe conditions and to recommend remedial measures for their rectifications including first-aid medical and welfare facilities;
- h) Committee team members should perform a site inspection before every committee meeting and to monitor ESHS inspection reports;
- i) To bring to the Notice of the Engineer hazards associated with use, handling and maintenance of the equipment used during the course of construction work;
- j) To suggest measures for improving environment, social, health and safety in construction work at the Site;
- k) To investigate the health hazards associated with handling different types of explosives, chemicals and other construction materials and to suggest remedial measures including personal protective equipment; and
- l) To review the last ESHS committee meeting minutes and the remedial measures taken for Non-Compliance.

Chairman	Project Manager
Secretary	ESHS Manager (Will be nominated by Project Manager)
Members	<ul style="list-style-type: none"> i) Contractor's ESHS staff. ii) Labour Welfare Officer; iii) In -charge of Plant and Machinery & Site Electricals; iv) In-charge of Special Work Operations (e.g. bridge, viaduct, and tunnel, etc.); v) In-charge of Stores; vi) Subcontractor's representative; and vii) Workers' representatives;

Engineer's Representatives	To be nominated by the Engineer
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2.8.3. Minimum time between two monthly ESHS Committee meetings

A minimum period of 21 days shall be maintained between any two ESHS monthly committee meetings.

2.8.4. Agenda

The Secretary shall circulate the agenda of the meeting at least seven working days in advance of the scheduled date of the meeting to all members as well as to the Employer.

2.8.5. The agenda should broadly cover the following:

- a) Chairman's overview of ESHS Management Performance;
- b) Confirmation of minutes of last meeting;
- c) Previous month ESHS statistics;
- d) Incident and accident investigation/Dangerous occurrence/Near miss report;
- e) Site ESHS inspection and compliance report;
- f) The Contractors' ESHS issues;
- g) Report from the Employer and Engineer;
- h) Non-compliances raised by Engineer/Statutory Authorities;
- i) Report and compliance of GRC; and
- j) Any other concern.

2.8.6. In case of station and other contiguous areas where more than one main Contractor is working together, the Engineer shall instruct the other Contractors to join for the monthly ESHS committee meeting of the main civil Contractor, to discuss and decide about the common provision of safety, security, lighting, toilet, drinking water etc. and sharing the maintenance cost of the same etc.

2.8.7. The Minutes of the Meeting shall be prepared as per the format provided and sent to all members within 2 working days by mail. Minutes of ESHS Committee Meeting shall also be displayed on the notice board for wider publicity to all concerned.

2.8.8. The chairman shall inform the members of any outstanding issues in the meeting and in case of repeated offence/ non-compliance by some members or other Subcontractors shall impose suitable disciplinary action including provisions of monetary penalty as per Clause 7. [Financial Deduction/Withholding].

2.8.9. In addition, there shall be a Project ESHS Committee whose composition shall be as follows:

Chairman	Project Director
Secretary	ESHS Manager (Will be nominated by PD)
Members	<ul style="list-style-type: none"> i) Deputy Project Director/Civil ii) Project Manager along with ESHS manager from each Contract Package iii) ESHS experts of GC
Employer's Representatives	Chief Project Manager

2.8.10. Project ESHS Committee shall also meet once a month after the meeting of Site ESHS Committee. Project ESHS Committee shall oversee the implementation of ESHS Policy and ESHS Management Plan of the Contractor in execution of the Project. This Committee shall also redress the grievances/complaints/representations received from public, other stakeholders and employees of the Contractor and Subcontractors. The agenda of the meeting shall be circulated by the Secretary of the Committee after taking approval from the Project Director.

2.9. ID Card and Safety Induction

2.9.1. The Contractor shall ensure that all personnel working at the Site receive an induction ESHS training immediately on the first day of joining explaining the nature of the work, the hazards that may be encountered during the site work and the particular hazards attached to their own function within the operation. Personnel shall only be deployed at site once he/she has completed ESHS induction. The training shall cover the contents as given in Clause 8, Attachment-4[General Instruction: ESHS/GI/002].

2.9.2. All personnel shall be issued a photo identity card as per the format given in Clause 8, Attachment-4[General Instruction: ESHS/GI/003].

2.9.3. The Contractor shall also issue a Personnel Pocket ESHS Booklet in a language known to the Workers, which provides information on ESHS measures to be adopted during

the work activities and emergency procedures that all personnel are required to know and need to follow. The Contractor shall ensure that this booklet is distributed and its contents explained to all personnel working at the site .

2.10. Other ESHS Training

- 2.10.1. The Contractor shall organize the ESHS training to engage managers, supervisors and other personnel in behavioural change and improve safety performance. The contents of ESHS training to managers/supervisors as given in Attachment-4[General Instruction: GI/005].
- 2.10.2. The Contractor shall provide a training/workshop on ESHS to all its workers/staff/employees/subcontractors of at least 2 days. It shall be completed in various modules and each employee/worker shall have a record of completing all modules.
- 2.10.3. On-the spot practical skill development training on height safety including scaffold safety, crane safety, welding safety, electrical safety, and traffic safety for marshals shall also be conducted.
- 2.10.4. Every employee including workman shall take a safety oath followed by toolbox talk every day.
- 2.10.5. All vehicles and machine drivers including heavy work vehicle and machine operators shall be trained on defensive driving with necessary certificate or license.

2.11. ESHS Inspection

- 2.11.1. The Contractor shall evolve and administer a system of conducting ESHS inspection and other risk management analysis on a periodical basis.
- 2.11.2. The purpose of ESHS inspection is to identify any deviation in construction activities and operations, machinery, plant and equipment and processes against the ESHS Management Plan and its supplementary procedures and programs.
- 2.11.3. The Contractor shall initiate a weekly joint site ESHS Management inspection with the Engineer and report shall be generated on the same day with the corrective action and accepted target date (within a week) by the Engineer.
- 2.11.4. The Compliance of the joint inspection “Non-Conformance” shall be witnessed/accepted

by the Engineer.

2.11.5. The Contractor shall evolve and administer a system of conducting ESHS inspection and other risk management analysis on a periodical basis.

2.11.6. Following ESHS inspections program shall be adopted:

- a) Planned general inspection;
- b) Routine inspection;
- c) Specific inspection; and
- d) Other inspection.

2.11.7. Planned general inspections are performed at predetermined intervals and it usually involves the representation from both the Contractor and the Engineer.

Inspections that will be classified under this inspection program are:

- a) Monthly Contractor and subcontractor's site safety committee inspection;
- b) Weekly safety inspection by construction supervisors (the Contractor and the Subcontractor); and
- c) Daily safety inspection by the Contractor site ESHS team.

2.11.8. Routine inspections are often referring to the inspection of the Site, equipment and temporary structures performed by the Site and equipment operators and temporary structure erectors.

Inspections that will be classified under this inspection program are:

- a) Daily inspection of plant and equipment by operators;
- b) Weekly inspection of scaffold by scaffolding supervisors;
- c) Monthly Inspection of electrical hand tools by competent electrical supervisors;
- d) Quarterly inspection of temporary electrical systems by competent electrical supervisors; and
- e) Half-yearly inspection of lifting machinery, lifting appliances, equipment and gears by Govt. approved competent persons.
- f) Quarterly inspection of lifting gears, tools tackles and appliances.

- g) Quarterly colour coding of lifting gears, tools & tackles. The recommended colour coding for the 4 quarters of the years shall be as under
 - i) January – March: GREEN
 - ii) April – June: YELLOW
 - iii) July – September: BLUE
 - iv) October – December: WHITE

2.11.9. The list mentioned above is not exhaustive. The Contractor may add additional categories. The ESHS Manager will ensure that a system of routine inspections is carried out periodically to all plants, equipment, powered tools and any other temporary structures that will pose a hazard to operators and workmen.

2.11.10. Specific Inspection

Specific inspections are performed on activities without a predetermined date. Competent supervisors usually perform inspections for ensuring an activity whether it is executed in accordance to a general set of rules; Method Statement submitted or developed procedures.

The following are examples that will be commonly performed as required on the Site:

- a) Inspection performed before a heavy lifting operation;
- b) Inspection performed before and after the entry of person into a confined space;
- c) Inspection performed before and after a welding and gas cutting operation;
- d) Inspection of formwork before concreting by formwork erector.

The list mentioned above is not exhaustive. The Contractor shall ensure that a competent supervisor inspects all high-risk processes and activities.

2.11.11. Other inspections include the following:

- a) Mandatory inspections by Labour Department of Government of Haryana; and
- b) HRIDC site ESHS management team.
- c) Inspections by Central Pollution Control Board, Haryana Pollution Control Board, Ministry of Environment and Forest and Climate Change, National Green Tribunal etc.

2.11.12. The Contractor shall prepare all required safety inspection checklist for all activity

operations and equipment. Checklists will be prepared based on the Indian Safety Standards, Rules and Regulations and the Works requirements.

2.11.13. All inspection records and reports will be properly kept and filed for audit purpose. Inspection reports of planned general inspection and routine inspection will be used for discussion during safety committee meetings.

2.12. ESHS Audit

2.12.1. The purpose and scope of ESHS Audit is to assess potential risk, liabilities and the degree of compliance of the ESHS Management Plan and its supplementary procedures and programs against applicable and current ESHS legislation regulations and the Works requirements.

2.12.2. The Contactor's project manager shall hold the ultimate responsibility in ensuring implementation of ESHS audit program during the construction work.

2.12.3. Monthly Audit Rating Score (MARS)

2.12.4. Monthly Audit Rating Score (MARS) will be performed once in a month. A team consisting of the Contractor's project manager and the Engineer's representative based on the pre-designed score-rating format will conduct it.

2.12.5. This Monthly ESHS Audit Rating Score (MARS) report will enable the Engineer to evaluate the general compliance by the Contractor with the Conditions of Contract, and the ESHS Management Plan. A Minimum Compliance level to achieve 75% overall Audit Rating is essentially required. Falling this, the Engineer will take punitive action which includes non-processing of running account bills.

2.12.6. The Contractor's project manager accompanied by the Engineer's representatives shall carry out the Audit. The Contractor's senior manager and the ESHS in-charge should also be invited to attend.

2.12.7. Timing

The Monthly Audit Rating Score (MARS) should be conducted at least 7 days prior to the scheduled date of monthly ESHS Committee Meeting.

2.12.8. Evaluation

The numerical scoring has been weighed on a 1-10 scale. The audit team will use their observations noted in evaluating the points to be awarded against each of the elements of the audited section. Wherever some topics and sub-topics are not applicable the score rating need not be given. The overall audit ratings shall be achieved by:

$$\text{Overall Audit rating} = \frac{\text{Actual Score Achieved}}{\text{Maximum Possible Score}} \times 100$$

The criticality of the required actions for the respective sections of the Audit will be classified as:

S.No.	Score	Description	Action
1	< 60%	Immediate	Require the Contractor to rectify within 24 hours
2	< 75%	Improvement Necessary	The Contractor rectification within 7 days and confirmed in writing to the Engineer
3	< 90%	Improvement Desirable	The Contractor rectification within 1 month and confirmed in writing to the Engineer

2.12.9. Report

A copy of each Audit Report will be sent to the Engineer and to all subcontractors, with whom it will then be discussed in detail at the monthly ESHS Committee Meeting to ensure that any corrective actions are agreed upon.

2.12.10. External ESHS Audit

External ESHS Audit is to be conducted by the external agencies that are competent with ISO qualified auditors with the prior approval of the Engineer.

a) Areas of Competence of Audit Team

- i) The Audit team shall have practical understanding of BOCWR/A statutory requirements on health/medical and welfare of workmen, construction hazards and its prevention and control, traffic management, electrical safety, rigging, safety of construction equipment and environment and social management.
- ii) Audit shall be conducted as per the guidelines of ISO, ILO and national standards. Audit report shall also be presented as per the formats given in the standards; and
- iii) External ESHS Audit shall be conducted on a quarterly basis throughout the currency of the Contract.

b) Targets of ESHS Audit:

The contents and coverage of the audit shall include the following items:

i) ESHS Management:

- ESHS Organization;
- ESHS Policy and Plan;
- ESHS committee;
- ESHS orientation;
- ESHS training;
- ESHS communication and motivation;
- ESHS submittals to the Employer;
- ESHS promotional and awareness program;
- Incident reporting & investigation;
- Onsite/offsite emergency preparedness plan;
- Hazard identification and risk assessment;
- Implementations of work permit system.

ii) Technical:

- Work Method Statement;
- Operational control procedures/ Safe operating procedures;
- Working at height;
- Hand tools and power tools;
- Electrical safety;
- Fire prevention and control;
- Housekeeping;
- Overhead protection;
- Slipping, tripping, cutting, drowning and falling hazards;
- Lifting appliances and gear, tools and tackles;

-
- Lifting and launching operation;
 - Construction plant and machinery;
 - Machine and area guarding;
 - Material handling;
 - Hotwork;
 - Demolition;
 - Excavation and tunnelling;
 - Work permit system;
 - Traffic management;
 - Chemical handling;
 - Dangerous and harmful Environments;
 - Maintenance matrix of mechanical and electrical machines / equipment;
 - Working on or under water;
 - Working near or under high tension line;
 - Personal protective equipment;
 - Visitors at Site;
 - Occupational health and welfare measures;
 - All statutory forms, returns under various statutes;
 - First-aid and medical facilities;
 - Welfare measures; and
 - Environmental and Social management.

c) **Audit Documents:**

The Contractor shall make the below itemized documents available for review by the Audit team;

- a) ESHS Policy;
- a) ESHS Management Manual;

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- b) ESHS Rules and Regulation;
 - c) ESHS Organization chart;
 - d) Annual ESHS objectives/programs;
 - e) Accident/near miss statistics and analysis;
 - f) ESHS training program/records for all personnel;
 - g) Operating manuals and maintenance manual of all equipment;
 - h) Safe worthiness certificates of all lifting appliances and gears;
 - i) Medical fitness record for all personnel;
 - j) Risk identification, assessment and control details;
 - k) Environmental and Social management reports;
 - l) Emergency management records including mock drill;
 - m) Housekeeping inspection records;
 - n) Minutes of ESHS committee meetings;
 - o) Calibration and testing records;
 - p) Safety budgets;
 - q) Records of previous audits;
 - r) Safety inspection records;
 - s) First Aid, medical facilities and other welfares measures;
 - t) Maintenance procedure of plant & machinery;
 - u) Records of Industrial hygiene surveys (noise, ventilation, and illumination level, airborne and toxic substances, explosive gases).

d) Reporting

Audit report shall be prepared and directly sent to the Engineer within 7 days of conducting the audit.

e) Report Contents:

- a) Executing Summary - based on the finalized checklists as written the findings to the Engineer by the audit team members, the audit leader will compile a concise and accurate summary of observations and findings;

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- b) Introduction- this will contain basic information regarding the facilities or organization audited, the specific audit dates (inclusion of those for preparation and post-audit activities);
 - c) Principal Positive Findings - This will contain the summary of positive aspects as observed by the auditors. It will also contain highlights of those issue, which may warrant dissemination as best practice regarding methodology used or achievement;
 - d) Audit Findings - All audit findings as detailed in the audit checklists shall be grouped together as priority 1 and 2 as detailed below in a separate listing:
 - a) Priority 1: Actions to rectify gaps or weakness should generally be implemented within two-weeks' time if risk potential is high or unacceptable; and
 - b) Priority 2: Actions should be generally implemented or rectified with a maximum of 3- 4 weeks, if not rectified would create a likelihood of minor injury or business loss.
 - f) **Conformity Report Action to the Engineer:**
 - a) The auditor shall inspect the Site after 14 days of conducting initial audit for checking the adequacy of implementation of items maintained under priority 1 by the Contractor and shall submit a Conformity/Non-conformity Report to the Engineer;
 - b) The auditor shall again inspect after 28 days of conducting initial audit for checking the adequacy of implementation of items mentioned under priority 2 by the Contractor and shall submit a Conformity/Non-conformity Report to the Engineer; and
 - c) In case of non-conformity of items mentioned by auditor, the Engineer shall take necessary steps including stoppage of work and or imposing any penalty for getting the item implemented.
 - d) If the Contractor fails to conduct the External ESHS Audit in time, the Engineer shall get it done. All expenses related to the external ESHS audits shall be borne by the Contractor.

2.13. ESHS Communication

- 2.13.1. The Contractor shall make every effort to communicate the ESHS Management measures through posters campaigns/billboards/banners/glow signs being displayed around the Site as part of the effort to raise ESHS awareness amongst the work force. Posters should be in Hindi, English and other suitable language deemed appropriate.

Posters/billboards/ banners/glow signs should be changed at least once in a month to maintain the impact.

2.13.2. The Contractor shall also observe important days as listed in Attachment-4[General Instruction: ESHS/GI/006] and printing and displaying safety signage and posters as listed in Attachment-4[General Instruction: ESHS/GI/007].

2.14. ESHS Submittals

2.14.1. The Contractor's ESHS Management shall send the following reports to the Engineer periodically in soft copy:

- a) Daily reporting of total number of workmen;
- b) Monthly ESHS Reports;
- c) Minutes of ESHS Committee meeting;
- d) ESHS inspection and compliance reports; and
- e) ESHS audits reports;
 - Monthly Audit Rating Score (MARS) reports;
 - External ESHS audits;

2.14.2. The Contractor shall prepare a Monthly ESHS Report consisting of the following within 7th of next month to the Engineer:

- a) Monthly man-hour details as specified in the ESHS Management Plan;
- b) Monthly accident/incident details as specified in the ESHS Management Plan;
- c) ESHS committee details;
- d) ESHS inspection and compliance report;
- e) ESHS internal audit details.;
- f) ESHS communication activities undertaken in the month indicating the number of posters displayed and balance availability in stock;
- g) Monthly Environment (including air, noise, water and soil testing results) and Social Report;
- h) Graphical representation of monitored results over past four reporting periods;

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- i) Details of interactions with regulators (e.g. Pollution control Board, Forest Department etc.) including dates, subjects, outcomes (report the negative if none);
 - j) Details of Clearance/ Permission//Permit obtained;
 - k) Compliance status for conditions of all relevant clearances/permissions/consents/permits for the Work, including quarries, etc.;
 - l) Tree felling, transplanting and compensatory planation details;
 - m) Details of consumption of construction material, energy and water;
 - n) Details of different types of waste and scrap generated during the month and sold to authorised recyclers;
 - o) Summary of complaints, results of investigations and follow-up actions;
 - p) Gender: Number of female workers, percentage of female workforce, gender issue raised and dealt with;
 - q) HIV/AIDS: Provider of health services, information& training;
 - r) GBV/SEA: Details of training conducted;
 - s) Grievances: List of grievances received in the reporting period and unresolved past grievances by date received, complaint how received, to whom referred to for action, resolution and date (if completed), date of resolution of community grievances if any.
 - t) Toolbox talks details;
 - u) PPE details: Quantity purchased, issued to the workmen and stock available;
 - v) Details on IP 44 panel boards, lighting poles, welding and cutting equipment, Ladders, Hoists, Tools & Tackles;
 - w) Monthly lux meter study results;
 - x) Housekeeping;
 - y) Barricade maintenance details;
 - z) No of critical excavations;
 - aa) Health and welfare activities;
 - bb) ESHS activities planned for next month.

Formats in which information to be given for monthly Environment and Social aspects

are given in Attachment 4 [General Instruction: ESHS/GI/008]

2.15. Accident Reporting and Investigation

2.15.1. All accidents and dangerous occurrences shall immediately be informed through message to the Engineer and the Employer. This will enable the Engineer to reach to the scene of accident/dangerous occurrences to monitor/assist any rescue work and/or start conducting the investigation process so that the evidences are not lost.

2.15.2. Reports of all accidents (fatal/injury) and dangerous occurrences shall also be sent within 24 hours by the Contractor.

2.15.3. No accident/dangerous occurrences are exempted from reporting to the Employer.

2.15.4. Any wilful delay in verbal and written reporting to the Employer and Engineer shall be penalized as per Clause 7. [Financial Deduction/Withholding].

2.15.5. In addition to the above verbal and written reporting to the Employer and Engineer, as per Rule **276** of **HBOCWR**, notice of any accident to a worker at the Site that:

- a) Causes loss of life; or;
- b) Disables a worker from working for a period of 48 hours or more immediately following the accident; shall forthwith be sent by telegram, telephone, fax, or similar other means including special messenger within 4 hours in case of fatal accidents and 72 hours in case of other accidents, to:
 - i) The Assistant Director, Industrial Safety and Health having jurisdiction in the area in which the establishment in which such accident or dangerous occurrence took place is located. The Assistant Director, Industrial Safety and Health shall be the authority appointed under section 39 of the Act;
 - ii) Board with which the building worker involved in accident was registered as a beneficiary;
 - iii) Chief inspector; and
 - iv) The next of kin or other relative of the Worker involved in the accident.

2.15.6. Further, notice of any accident shall be sent in respect of an accident which:

- a) Causes loss of life; or;
- b) Disables the injured worker from work (for a period of more than 10 days) to;
 - i) The Officer-in-charge of the nearest police station;
 - ii) The District Magistrate or, if the District Magistrate by order so desires to;

iii) The Sub-Divisional Magistrate.

2.15.7. In case of an accident-causing minor injury, first-aid shall be administered, and the injured worker shall be immediately transferred to a hospital or other place for medical treatment.

2.15.8. Where any accident-causing disablement that subsequently results in death, notice in writing of such death, shall be sent to the authorities within 72 hours of such death.

2.15.9. The following classes of dangerous occurrences shall be reported to the inspector having jurisdiction, whether any disablement or death caused to the Worker, namely:

- a) Collapse or failure of lifting appliances, or hoist, or conveyors, or similar equipment for handling of building or construction material or breakage or failure of rope, chain or loose gears; or overturning of cranes used in construction work;
- b) Falling of objects from height;
- c) Collapse or subsidence of soil, tunnel, pipelines, any wall, floor, gallery, roof or any other part of any structure, launching girder, platform, staging, scaffolding or means of access including formwork;
- d) Explosion of receiver or vessel used for storage of pressure greater than atmospheric pressure of any gas or any liquid or solid used as building material;
- e) Fire and explosion causing damage to any place on the site where the Workers are employed;
- f) Spillage or leakage of any hazardous substance and damage to their container;
- g) Collapse, capsizing, toppling or collision of transport equipment; and
- h) Leakage or release of harmful toxic gases at the Site.

2.15.10. In case of failure of launching girder, lifting appliance, loose gear, hoist machinery and transport equipment at the site, such appliances, gear, hoist, machinery or equipment and the site of such occurrence shall, as far as practicable, be kept undisturbed until inspected by the authorities.

2.15.11. Every notice given for fatal accidents or dangerous occurrences shall be followed by a written report to the concerned Authorities under Section 39 of BOCWA and the Chief Inspector of Government of Haryana in the specified Form **XLVI** of the **HBOCWR**.

2.15.12. Actions to be taken post incident/accident:

- a) In case any incident/accident happens at site leading to injury to the worker, the worker/s is/are required to be taken to the nearest hospital immediately;
- b) Project Manager/ESHS Manager/Labour Welfare Officer of the Contractor needs to report the incident to the Engineer immediately without fail for all the death cases including natural deaths;
- c) In case of fatal accident, doctor from the nominated hospital is the only authorized person to declare the death of the worker. It is not to be decided suo-moto by any other person. FIR should be registered for all the fatal cases which happen at the Site/labour camp;
- d) Post Mortem of the dead body is mandatory in all the death cases i.e. whether it is natural or due to any incident / accident;
- e) Family members of the injured / deceased worker are to be informed immediately;
- f) In case of fatal accident, the dead body is to be handed over to the family members. Arrangement of sending the dead body to the native place shall be made by the contractor including cash payment for meeting out last rites expenses as per Rules;
- g) Fatal accident report is to be sent to State Labour Authority in Form EE (as per workmen's compensations act) within seven days and to the Licensing Authority in Form XLVI within 24 hours of the incident/accident;
- h) Workmen's Compensation dues are to be deposited with the Employee's Compensation Commissioner within 30 days of the death or the period of notice served by the Employee's Compensation Commissioner;
- i) Copy of all the documents deposited with any labour authority, FIR, Post Mortem, Medical Reports etc. shall be submitted to the Engineer in duly approved Labour Welfare Fund (LWF) Form;
- j) The Contractor shall be liable for getting disbursement of Provident Fund benefits, compensation under Employee compensation Act, benefits of ESI Act to the workman/dependents of the deceased workman. The Contractor shall also provide accommodation and transportation to dependents of the deceased workman or to the disabled workman who come for settlement of terminal claims.

2.15.13. Accident Investigation:

- a) Investigations shall be conducted in an open and positive atmosphere that encourages the witnesses to talk freely. The primary objective is to ascertain the

facts with a view to prevent future and possibly more serious occurrences;

- b) Accidents and dangerous occurrences which result in death, serious injury or serious damage must be investigated by the Contractor immediately to find out the cause of the accident/occurrence so that measures can be formulated to prevent any recurrence; and
- c) Near misses and minor accidents should also be investigated by the Contractor as soon as possible as they are signals that there are inadequacies in the ESHS Management System.

2.15.14. Procedure of Incident Investigation

It is important after any accident or dangerous occurrence that information relating to the incident is gathered in an organized way. The following steps shall be followed:

- a) Take photographs and make sketches;
- b) Examine involved equipment, work piece or material and the environmental conditions;
- c) Interview the injured, eye-witnesses and other involved parties;
- d) Consult expert opinion where necessary; and
- e) Identify the specific Contractor or subcontractor involved.

2.15.15. Having gathered information, it is then necessary to make an analysis of incident:

- a) Establish the chain of events leading to the accident or incident;
- b) Find out at what stage the accident took place;
- c) Considering all possible causes and the interaction of different factors that led up to the accident and identify the most probable cause, the cause of an accident should never be classified as carelessness; and
- d) The specific act or omission that caused the accident must be identified.

2.15.16. The next stage is to proceed with the follow-up action:

- a) Report on the findings and conclusions;
- b) Formulate preventive measures to avoid recurrence; and
- c) Publicize the findings and the remedial actions taken.

2.15.17. The Engineer's Independent Incident Investigation

In case of fatal/dangerous occurrence, the Engineer shall also conduct independent investigation. The Contractor and his staff shall extend necessary co-operation and

testify about the accident.

- 2.15.18. The Contractor shall take every effort to preserve the scene of accident till the Engineer completes the investigation.

All persons summoned by the Engineer in connection to witness recording shall obey the instructions without delay. Any wilful suppression of information by any person shall be removed from the site immediately and/or punished as per Clause 7. [Financial Deduction/Withholding].

2.16. Emergency Preparedness Plan

- 2.16.1. The Contractor shall prepare as required under BOCWR, an Emergency Response Plan for the Site as a part of the Contractor ESHS Management Plan. The plan shall integrate the emergency response plans of the Contractor and all other Subcontractors. The Emergency Response Plan shall detail the Contractor's procedures, including detailed communication arrangements, for dealing with all emergencies that could affect the Site. The plan shall address items such as injury, sickness, evacuation, fire, chemical spillage, severe weather and rescue.

- 2.16.2. The Contractor shall ensure that the Emergency Response Plan is prepared to deal with emergencies arising out of, but not limited to:

- a) Fire and explosion;
- b) Collapse of lifting appliances and transport equipment;
- c) Collapse of building, sheds or structure etc.;
- d) Gas leakage or spillage of dangerous goods or chemicals;
- e) Bomb threatening, Criminal or Terrorist attack;
- f) Drowning of workers; and
- g) Landslides getting workers buried, floods, earthquake, storms and other natural calamities etc.

The above list is not exhaustive and other emergencies can also be included.

- 2.16.3. Arrangement shall be made for emergency medical treatment and evacuation of the victim in the event of an accident or dangerous incident occurring, the chain of command and the responsible persons of the Contractor with their telephone numbers and addresses for quick communication shall be adequately publicized and

conspicuously displayed in the workplace.

2.16.4. The Contractor shall require to tie-up with the hospitals and fire stations located in the neighbourhood for attending to the casualties promptly and emergency vehicle kept on standby duty during the working hours for the purpose.

2.16.5. The Contractor shall conduct an onsite emergency mock drill once in every month for all his workers and his sub-Contractor's workers.

2.16.6. It shall be the responsibility of the Contractor to keep the Local Law and Order Authorities informed and seek urgent help to mitigate the consequences of an emergency. Prompt communication to the Employer and Engineer, through telephonically initially and followed by a written report, shall be made by the Contractor.

2.17. Experts/Agencies for Environment, Social, Health & Safety Services

2.17.1. The Contractors may utilise the services of experts/agencies empanelled for the purpose of training, audit and any other ESHS services with prior approval of the Engineer. This approval can be withdrawn by the Engineer at any time if the quality of output of the agency is found not satisfactory.

3. LABOUR PROTECTION

3.1. General

3.1.1. The Contractor shall comply in full of the project Workplace Policy as described in Attachment-2 [Work Place Policy on HIV/AIDS, Prevention & Control] and Attachment XX [Covid 19 policy].

3.2. Engagement of Staff and Labour

3.2.1. The Contractor shall ensure that the employees deployed by him in the premises of the Employer are physically and mentally fit and do not have any criminal record.

3.3. Payment of Minimum Wages

3.3.1. The Contractor shall ensure payment of at least the minimum wages as prescribed and applicable from time to time under the Minimum Wages Act, 1948 in the presence of an authorised representative of the Engineer and shall maintain proper records of their timely disbursement. These records shall be preserved for a period of at least 3 years and made available even after the Contract is over for any verification by the statutory

authorities.

3.4. Conditions of Labour

- 3.4.1. The Contractor shall observe conditions of labour that are no less favourable than those established for the relevant trade or industry.
- 3.4.2. During the work, the Contractor shall afford all employees all basic rights enumerated in the conventions of the International Labour Organisation, including freedom of association, right to freedom from forced labour, and right to freedom from discrimination based on race, colour, sex, religion, political opinion and social origin.
- 3.4.3. The Contractor shall ensure coverage of his employees under the Employees Provident Fund and Miscellaneous Provisions Act, 1952 and the Employees State Insurance Act, 1948 via independent code numbers allotted to them by the Central Provident Fund Organisation and Employees State Insurance Corporation respectively.
- 3.4.4. The Contractor shall insure all his employees under Group Personal Accident Insurance scheme through a recognised and registered insurance company.

3.5. Labour Laws

- 3.5.1. The Contractor shall ensure that all his employees and the Subcontractors obey applicable following laws and regulations, including those concerning safety at work.
 - a) Minimum Wages Act, 1948;
 - b) Payment of Wages Act, 1936;
 - c) Equal Remuneration Act, 1976;
 - d) Employees Provident Fund and Miscellaneous Provisions Act, 1952;
 - e) Payment of Gratuity Act, 1972;
 - f) Employees State Insurance Act, 1948;
 - g) Payment of Bonus Act, 1965;
 - h) Maternity Benefit Act, 1951;
 - i) Industrial Disputes Act, 1947;
 - j) Trade Unions Act, 1926;
 - k) Child Labour (Prohibition and Regulation) Act, 1986;
 - l) Building and Other Construction Workers (Regulation of Employment of Service) Act, 1996;
 - m) Haryana Building and Other Construction Workers (Regulation of Employment

- and Conditions of Service) Rules, 2005;
- n) Building and Other Construction Workers Welfare Cess Act, 1996;
 - o) Building and Other Construction Workers Welfare Cess Rules, 1998;
 - p) The Contract Labour (Regulation and Abolition) Act, 1970;
 - q) Inter State Migrant Workmen's (Regulation of Employment and Conditions of Service) Act, 1979;
 - r) Haryana Major Accident, Hazard Control Rules, 2009;
 - s) Workmen's Compensation Act. 1923;
 - t) Factories Act, 1948;
 - u) Mines Act, 1952; and

3.5.2. The Contractor shall comply with all other statutory requirements, rules, regulations and notifications in relation to employment of his staff and workers that may be issued from time to time by the concerned government authorities.

3.6. Working Hours

3.6.1. No work shall be carried out beyond the statutory limit given under BOCWA, 1996.

3.6.2. No work shall be carried out outside the normal working hours stated in the Contract unless otherwise:

- a) The Engineer gives his consent in writing for additional work; and
- b) The work is unavoidable or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately inform the Engineer.

4. SAFETY GENERAL

4.1. General

4.1.1. The following standards whichever is more stringent shall be applicable:

- a) The BOCW Acts 1996 and the Haryana BOCW Rules 2005 framed there under;
- b) Other relevant National Legislations & IS Codes.

4.2. Housekeeping

4.2.1. General Housekeeping shall be carried out by the Contractor and ensured always at the Site, Construction Depot, Batching Plant, Labour Camp, Stores, Offices and Toilets/Urinals.

4.2.2. Full height fence, barriers, barricades etc. shall be erected around the Site to prevent the

surrounding from excavated soil, rubbish etc., which may cause inconvenience to and endanger the public. The barricade especially those exposed to public shall be aesthetically maintained by regular cleaning and painting as directed by the Engineer. These shall be maintained in one line and level.

- 4.2.3. All stairways, passageways and gangways shall be maintained without any blockages or obstructions. All emergency exits passageways, exits fire doors break-glass alarm points, fire fighting equipment, first aid stations, and other emergency stations shall be kept clean, unobstructed and in good working order.
- 4.2.4. Lumber with protruding nails shall be bent / removed and properly stacked.
- 4.2.5. Flammable chemicals / compressed gas cylinders shall be safely stored.
- 4.2.6. Unused/surplus cables, steel items and steel scrap lying scattered at different places within the working areas shall be removed to identified locations(s).
- 4.2.7. All wooden scrap, empty wooden cable drums and other combustible packing materials, shall be removed from workplace to identified location(s).
- 4.2.8. Empty cement bags and other packaging material shall be properly stacked and removed.
- 4.2.9. The Contractor shall ensure that all his sub-Contractors maintain the site reasonably clean through provisions related to housekeeping. All surplus earth and debris are removed/disposed of from the working areas to officially designated dumpsites. Trucks carrying sand, earth and any pulverized materials etc. to avoid dust or odour impact shall be covered while moving. The tyres of the trucks leaving the site shall be cleaned with water, wherever the possibility of spillage on carriageways meant for regular road traffic exists
- 4.2.10. Water logging or bentonite/polymer spillage on roads shall not be allowed. If bentonite/polymer spillage is observed on road endangering the safety of road users, the Contractor shall be penalized as per Clause 7. [Financial Deduction/Withholding].
- 4.2.11. No parking of trucks/trolleys, cranes and trailers etc. shall be allowed on roads, which may obstruct the traffic movement.
- 4.2.12. Roads shall be kept clear and materials like pipes, steel, sand, boulders, concrete, chips and brick etc. shall not be allowed on the roads to obstruct free movement of road traffic.
- 4.2.13. Proper and safe stacking of material are of paramount importance at yards, stores and

such locations where material would be unloaded for future use. The storage area shall be well laid out with easy access and material stored/stacked in an orderly and safe manner.

4.3. Working at Height

- 4.3.1. Working at height means work in any place, including a place at or below ground level.
- 4.3.2. The Contractor shall ensure that work at height is properly planned, appropriately supervised and carried out in a safe manner and without any appreciable risk. Appropriate care shall be taken during bad weather.
- 4.3.3. Adequate protection in the form of working platform with railing, toe board, safe access, safety net, roof ladder etc. shall be provided. Where fall hazards cannot be eliminated, use fall-arrest systems while erecting, modifying, and dismantling scaffolds.
- 4.3.4. A trained and certified person shall check working platform, railing, toe board, safe access, safety net, roof ladder etc. after erection and once in a week. A certificate shall be tagged on this equipment.
- 4.3.5. Employees involved in the erection, dismantling, moving, repairing, etc., of scaffolding and also workers who perform work on a scaffold shall receive training from a competent person. The purpose of the training is to recognize any hazards associated with the work.
- 4.3.6. When the height of a scaffold exceeds three times of the smallest width of the base, secure it to the building or structure at every other lift and every 9.0 m horizontally. The scaffold and scaffold working platform with handrails approximately 1.0 m high, mid rails, and toe boards, all secured rigidly by both ties and braces to prevent movement. Working platforms should be completely decked with safety planks, manufactured scaffold decking, or metallic planks.
- 4.3.7. Only metal frame working scaffold is permitted. Steel stairs are used as a means of raising and lowering the metal frame working scaffold, , except for special cases. It is prohibited to directly raise and lower the framework with limbs or to use only ladder.
- 4.3.8. The Contractor shall ensure that following areas are clearly indicated:
 - a) where a workplace contains an area in which, owing to the nature of the work, there is a risk of any person at work;
 - b) Falling a distance; or

- c) Being struck by a falling object:

4.3.9. The Contractor shall ensure that work equipment exposed to conditions causing deterioration, which is liable to result in dangerous situations, is inspected at suitable intervals and after any exception occurrence jeopardizing the safety of work/equipment.

4.3.10. In relation to work at height involved in construction work;

- a) The top guard-rail or other similar means of protection shall be at least 1100 mm above the edge from which any person is liable to fall;
- b) Toe-boards shall be suitable and sufficient to prevent the fall of any person, or any material or object, from any place of work; and
- c) Any intermediate guardrail or similar means of protection shall be positioned so that any gap between it and other means of protection does not exceed 550 mm.

4.3.11. Requirements for all Working Platforms:

- a) Every working platform requires a firm & stable supporting structure for holding it;
- b) A working platform shall possess a suitable surface and be so constructed that the surface of the working platform has no gap through which a person/material/object could fall;
- c) A working platform and any supporting structure shall not be loaded to give rise to a risk of collapse or to any deformation, which could affect its safe use;
- d) When altered or modified, it should be so altered or modified as to ensure that it remains stable;
- e) A working platform shall be of sufficient dimension to permit the safe passage of persons and the safe use of any plant or materials required to be used and to provide a safe working area having regard to the work being carried out there;
- f) Depending on the complexity of the scaffolding selected, a responsible person shall draw up an assembly, use and dismantling plan;
- g) A copy of the plan, including any instructions it may contain, shall be kept available for the use of persons concerned in the assembly, use, dismantling or alteration of scaffolding until it has been dismantled; and
- h) While a scaffold is not available for use, including during its assembly, dismantling or alteration, it shall be marked with general warning signs in accordance with and

be suitably delineated by physical means preventing access to the danger zone.

4.3.12. Requirements for collective safeguards for arresting falls:

- a) Collective safeguard is a safety net, airbag or other collective safeguard for arresting falls;
- b) A safeguard shall be used only if:
 - i) A risk assessment has demonstrated that the work activity can (so far as is reasonably practicable) be performed safely while using it and without affecting its effectiveness;
 - ii) The use of other safer work equipment is not reasonably practicable; and
 - iii) A sufficient number of available persons have received adequate training specific to the safeguard, including rescue procedures.

4.3.13. Requirements for personal fall protection systems:

- a) A personal fall protection system shall be used only if a risk assessment has demonstrated that;
 - i) The work can (so far as be reasonably practicable) be performed safely while using that system; and
 - ii) The use of other safer work equipment is not reasonably practicable.

The user and a sufficient number of available persons have received adequate training specific to the operations envisaged, including rescue procedures; and

- b) A personal fall protection system designed for use with an anchor shall be securely attached to at least one anchor, and each anchor and the means of attachment thereto shall be suitable and of sufficient strength and stability to supporting any foreseeable loading.

4.3.14. Requirements for Ladders:

- a) Every Contractor shall ensure that a ladder is used for work at height only if a risk assessment has demonstrated that the use of more suitable work equipment is not justified because of the low risk;
- b) The short duration of use;
- c) Existing features on the Site, which he cannot alter;
- d) Only metal ladders shall be allowed. Bamboo ladders are prohibited;
- e) Any surface upon which a ladder rests shall be stable, firm, of sufficient strength

and of suitable composition safely to support the ladder so that its rungs or steps remain horizontal, and any loading intended to be placed on it;

- f) A ladder shall be so positioned as to ensure its stability during use;
- g) No interlocking or extension ladder shall be used unless its sections are prevented from moving relative to each other while in use;
- h) Where a ladder or run of ladders raises a vertical distance of 9.0 m or more above its base, there shall, where reasonably practicable, be provided at suitable intervals sufficient safe landing areas or rest platforms;

4.4. Overhead Protection

4.4.1. All Contractors shall provide overhead protections as per Rule 97 of HBOCWR. Overhead protection should be erected along the periphery of every building and other structures which shall be of fifteen meters or more in height when completed where the risk of falling objects from height exists during construction activity. Similar arrangement shall also be made during erection of OHE mast and signalling poles on public road.

4.4.2. Overhead protection shall not be less than two meters wide and shall be erected at a height not more than five meters above the base of the building and the outer edge of such overhead protection shall be one hundred fifty milli meters higher than the inner edge thereof or shall be erected at an angle of not more than twenty degrees to its horizontal sloping into the building.

4.4.3. The contractor shall ensure at the building and other construction work that any area exposed to risk of falling material, articles or objects is roped off or cordoned off or otherwise suitably guarded from inadvertent entry of persons other than building workers at work in such area.

4.5. Slipping, Tripping, Cutting, Drowning and Falling Hazards

As Per Rule 98 of HBOCWR:

- a) All places should be free from dust, debris or similar materials;
- b) Sharp projections or any protruding nails or similar objects shall be suitably guarded or shall even be avoided to make the place safe to work;
- c) Contractor shall not allow workmen to work or use platforms,

- scaffolds/passageways or any walkways, which has water, or oil or similar substances spilt and has a slipping hazard, unless it is cleaned off or covered or sanded or saw dusted or make it safe with any suitable material;
- d) Open side or opening where worker, equipment, vehicle or lifting appliance may fall at a building or outside shall be guarded suitably except in places of free access by reasons of nature of work;
 - e) Suitable safety net shall be provided at places of material / man falling is possible in accordance with national standards;
 - f) The collapse of formwork in the construction industry has the potential for severe injury and death. The four stages of the use of formwork (erection, adjustment, concrete placement and dismantling) all need to be managed in a risk assessment framework. Implementing suitable control measures can eliminate or reduce the potential for events such as the collapse of formwork;
- 4.5.1. Reinforcement of Pier and columns shall be secured from the risk of tilting through provisioning of minimum three guy wires ropes anchored to any concrete block/counter weight of sufficient capacity.
- 4.6. Lifting Appliances including Cranes**
- 4.6.1. Lifting appliances means a crane, hoist hydra, derrick, winch, gin pole, sheer legs, jack, hoist drum, slewing machinery, slewing bearing fasteners, lifting machinery sheaves, pulley blocks, hooks or other equipment used for lifting materials, objects or the
- Workers and lifting gears means ropes, chain slings, shackles, hooks, lifting lugs, wire ropes, lifting eyebolts and eye nuts and other accessories of a lifting appliance.
- 4.6.2. Each of the lifting appliances and lifting gear including all parts thereof, whether fixed or moveable shall be thoroughly tested and examined by a competent person once at least in every 6 months or after it has undergone any alterations or repairs liable to affect its strength or stability. Within the validity, if the lifting appliances are shifted to a new site, re-examination by the competent person for ensuring its safety shall also be done.
- 4.6.3. The Contractors shall utilize the services of any competent person as defined in Factories Act, 1948 with the permission of the Engineer.
- 4.6.4. No machine shall be selected to do any lifting on a specific job until its size and characteristics are considered adequate:

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- a) The weights, dimensions and lift radii of the heaviest and largest loads;
 - b) The maximum lift height, the maximum lift radius and the weight of the loads that must be handled at each;
 - c) The number and frequency of lifts to be made;
 - d) How long the crane will be required on site;
 - e) The type of lifting to be done (for example, is precision placement of loads important);
 - f) The type of carrier required (this depends on ground conditions and machine capacity In its operating quadrants: capacity is normally greatest over the rear, less over the side, and non-existent over the front);
 - g) Whether loads will have to be walked or carried;
 - h) Whether loads will have to be suspended for lengthy periods;
 - i) The site conditions, including the ground where the machine will be set up, access roads and ramps it must travel, space for erection and any obstacles that might impede access or operation.
- 4.6.5. The Contractor shall ensure that a valid certificate of fitness issued is available for all lifting appliances including synchronized mobile jacks, pre-stressing hydraulic jacks, jacks fitted with launching girders etc. and the Engineer approval is obtained before inducting to the site. Only after obtaining the approval from the Engineer any lifting appliances and gear shall be used.
- 4.6.6. The laminated photocopies of fitness certificate issued by competent person, the Engineers approval letter, the operators photo, manufactures load chart and competency certificate shall always be either kept in the operator cabin or pasted on the visible surface of the lifting appliances.
- 4.6.7. All lifting appliances and loose gears shall be clearly marked for its safe working load and identification by stamping or other suitable means.
- 4.6.8. The Contractor shall also maintain a register containing a system of identification of all tools and tackles, its date of purchase, safe working load, competent person date of examination etc.
- 4.6.9. Every lifting appliances and gears like cranes, hoist, hydras etc., if so constructed that the safe working load may be varied by raising or lowering of the jib or otherwise shall be

attached with an automatic indicator of safe working loads approved by Bureau of Indian Standard/International Certifying Body which gives a warning to the operator and arrests further movements of the lifting parts. These ASLI shall be calibrated by the manufacturer or its authorized representative every 6 months or after repair of the lifting equipment. All such lifting equipment shall match the age criteria and mechanically and electrically sound.

4.6.10. Sufficient lighting arrangement shall be ensured at all lifting operations.

4.6.11. **Qualification of operator of lifting appliances etc.:** The Contractor shall not employ any person to drive or operate a lifting machine-like crane, hydra etc. whether driven by mechanical power or otherwise or to give signals to work as an operator of a rigger or derricks unless he:

- a) Is above 21 years of age and possesses a valid heavy transport vehicle driving license as per Motor Vehicle Act and Rules;
- b) Is competent and reliable;
- c) Possesses the knowledge of the inherent risks involved in the operation of lifting appliances by undergoing a formal training at any institution of national importance acceptable to the Engineer; and
- d) Is medically examined periodically as specified in schedule VII of BOCW Rules.

4.6.12. All hydraulic piping and fittings shall be maintained leak proof.

4.6.13. Only four legged slings shall be allowed which includes master link (ring), intermediate master link (ring) if necessary, chain / wire rope sling, sling hook or other terminal fitting.

4.6.14. Hand spliced slings up to 32mm diameter shall not be used at site for any lifting purpose.

4.6.15. No load shall be slewed over public areas without stopping the road traffic first.

4.6.16. Failure to do any of the above shall attract penalty from the Employer as per Clause 7. [Financial Deduction/Withholding].

4.6.17. Automatic Safe Load Indicator (ASLI) to be provided in crane with audible and visible warning system and made functional and calibrated by the recognized authority (manufacture/authorised representative of the ASLI).

4.6.18. Automatic safe load indicators and data logger in lifting appliances

As stipulated in Rule 123 of HBOCW Rules, every lifting appliances and gears like

cranes, hydras etc, if so constructed that the safe working load may be varied by raising or lowering of the jib or otherwise, shall be attached with an automatic indicator of safe working loads approved by Bureau of Indian standards/International certifying bodies which gives a warning to the operator whenever the load being handled exceeds the safe working limit.

- a) Provision of functional data logger with alert facility through SMS and web in all cranes shall be mandatory;
- b) Cut-out shall be provided which automatically arrests the movements of the lifting parts of every crane if the load exceeds the safe working limit.

4.6.19. The crane should have a substantial/durable safe working load chart which has clearly legible characters in English and Hindi and figures displayed inside the crane and is easily visible to the crane operator.

4.6.20. General Requirements

The sweep area (work area) of the construction machinery shall be always free from obstructions. All hydraulic piping and fittings shall be maintained leak proof. The operator cab shall possess good and safe:

- a) Structure, windows and windshield wipers;
- b) Drivers chair and footrest;
- c) Control handles;
- d) Cab instrumentation;
- e) Telecommunication;
- f) Cab outfitting;
- g) Wind indicator with an adjustable set point shall be in a position representative for the wind on the crane. The indicator shall give continuous information regarding constant speeds and gusts.

4.6.21. Mandatory Rigging requirement

- a) Rigging shall be done under experienced and qualified rigger only. All Load shall be adequately and safely rigged to prevent any danger;
- b) The primary requirement in rigging shall be to assess the weight of load before attempting any lift;
- c) All hooks shall be fitted with Master Rings having certificate of fitness from the

- competent person, so that the hooks are subjected to balanced vertical loading only;
- d) Only four legged slings shall be allowed which includes master link (ring), intermediate master link (ring) if necessary, chain / wire rope sling, sling hook or other terminal fitting;
 - e) Hand spliced slings shall not be used at site for any lifting purpose;
 - f) Requirements of outriggers
 - i) All outriggers shall be fully extended and all tyres are clear of the ground;
 - ii) Heavy duty blocking having large bearing area shall be necessary to prevent sinking of floats;
 - iii) Provision of heavy steel plates/ high density interconnected wooden logs of required dimension shall be used to uniformly distribute the load;
 - iv) The crane shall be setup on fully compacted ground;
 - v) Minimum site illumination is to be ensured at all lifting operations; and
 - vi) Slings shall not be wrapped in hook while lifting of material.

4.6.22. Pick & carry operation

Prohibition on Use of “Tractor transmission type Pick and Carry Hydra Crane”: Tractor transmission type Pick and Carry-1st Generation model is prohibited at HRIDC works. Contractor shall mobilize “Truck transmission type” Pick and Carry (Hydra)Crane—minimum 2nd Generation model only.

Pick and Carry operation is prohibited at all HRIDC construction sites except for the tailing purpose for lowering of pile cage, erection of radio tower, electrical poles, exhaust structures etc. For transportation and lifting of small materials like rail sleepers, staging material, concrete blocks, shuttering material, barricade boards etc. loader cranes shall be used. Truck mounted cranes with storage facilities to be used for lifting of load and stowed in secured platform and then shifted. Pick & Cary cranes shall not be used for any lowering operation below the ground level.

4.6.23. Operation of lifting appliances

Every Contractor shall ensure that:

- a) The complete lifting operation shall be governed by signals as per established standards;

- b) Adequate measures to be taken to ensure that no worker is allowed to stand or pass under the load;
- c) No lifting appliances shall be left by the operator while power is on or load is suspended;
- d) After completion of the lifting operation, all doors of the appliances shall be closed by the operator and ignition/operation key should be handed over to competent reliever operator or site In-charge;
- e) No person shall be allowed to rides or sit on a suspended load;
- f) Every receptacle/material bucket used for hoisting bricks, tiles, or other material shall be enclosed from all side including bottom completely to prevent fall of any material. No wheel barrow shall be used to lift or lower the material. Such receptacle or bucket shall not be overloaded or the materials shall not cross the top level of the bucket;
- g) No load shall be slewed over public areas with outs topping the pedestrians and road traffic first. Measures shall be adopted to divert the traffic during lifting/lowering operation requiring long duration traffic stoppage;
- h) All loads are provided with minimum two tag lines to ensure that the load can be controlled at all times;
- i) No close working to any live over head power line is permitted without system of a 'Permit to Work' and prior permission of the engineer shall be obtained before performing such operation;
- j) Danger zone shall be identified and cordoned off for all lifting appliances during their operation;
- k) All lifting appliances, gears, tools & tackles shall be maintained in good condition at all times to avoid any damage to them. Slings shall be discarded once they get any sign of deterioration beyond permissible limit defined by OEM and authenticated by Plant &Machinery In-charge;
- l) All lifting gears & slings shall be stamped or appropriate tags for their identification no & SWL;
- m) Knotting/wrapping of chains & slings shall not be allowed at site;
- n) Lifting appliances shall not be used for any dragging or pulling purposes. Contract

- shall refer to 75% capacity load chart for ascertaining the suitability of crane for safe lifting of load;
- o) During tandem lift, available capacity of crane in respect of SWL shall be considered after reduction of 15% for 75% (DIN) load chart respectively. In addition, additional de rating as advised by third party testing and certified agency shall also apply;
 - p) During hoisting of long material, use of suitable lifting beam is recommended;
 - q) Only original equipment manufacturer (OEM) supplied/provided load chart shall be used during lifting operation;
 - r) Before performing any lifting operation, all electronic devices, control levers, hydraulic oil, wind pressure etc. shall be checked and necessary spare parts to be kept in stock to handle any breakdown during time bound lifting operation;
 - s) All underground utilities shall be identified and necessary measures shall be adopted before set up of cranes for lifting;
 - t) Lifting point shall be considered on the I-Girders/U Girder/C Girder/Steel girder/parapet etc during the casting of the same. Design load calculation for the same should be conducted;
 - u) All lifting activities shall be stopped in case of high speed wind and similar adverse whether condition or as prescribed by the crane manufacturer; and
 - v) All cranes shall be provided with fail safe devices to avoid any hoist free fall in case of brake failure.

4.7. Launching Operation

- 4.7.1. As launching operation is one of the riskiest jobs, the Contractor shall take utmost precaution at all stages like; planning, establishing casing yard, casting segments, transporting segments, fabrication and erection of launching girders, launching of segments, pre-stressing, auto launching of girders and dismantling of launching girders.
- 4.7.2. The Contractor shall prepare a comprehensive Method Statement for the launching operation, adhering to the ESHS conditions laid down in conditions of contract on the ESHS Management Manual. Reference shall be made to the provisions on working at height. As the entire process of launching must be undertaken at an elevated level the

safety of workers and the girder is paramount important. In addition to general precautions, such as trained personnel, PPE, etc. listed in earlier clauses, the following general guidelines shall be adhered to throughout the launching operation:

- a) The segments shall rigidly secure to the truck with necessary wooden wedges and necessary red indicators/safety tapes provided so that the vehicle is clearly seen by other road users both in day/night time;
- b) Every launching operation shall have a responsible engineer on duty all the time;
- c) All the time from erection to dismantling the area between the two piers wherein launching is in progress shall always be barricaded;
- d) Auto launching shall be done only after approval from the Engineer. After every auto launching the stability of launching girder shall be ensured;
- e) The vertical deflection of launching girder shall be monitored at all critical stages like with/without loads and after every auto launching;
- f) A register containing all important operational details from erection to dismantling of launching girders shall be maintained and made available to the Engineer whenever called for;
- g) Driver shall also have undergone proper medical examination as per sub-Clause-5.2 (Medical Facilities) and checked for influence of alcohol before any kind of lifting operation;
- h) Test certificate for all lifting gears including Macalloy Bars shall be maintained at a location closer to the launching girder itself so that it can be referred during all inspections;
- i) Adequate site illumination at all time shall be ensured in the entire area of operation.
- j) Proper & safe access stairways shall be maintained for safe ascending /descending of workmen /engineers to or from launchers;
- k) Adequate collective and personnel fall protection measures like provision of safety nets while working over live roads/railways, lifeline for anchoring of safety harness, safe means of access on main box girder shall be ensured;
- l) Before starting of the launching, valid third party test certificate of the launcher hoist shall be available and torquing of all the bolts shall be carried out and duly

- verified by Launching In-charge;
- m) Safe and fully deck working platform duly covered from all side shall be ensured for stressing work at front support;
 - n) Provision of lightning arrestor shall be ensured at minimum two locations at each launching girders;
 - o) Adequate earthing shall be provided as per applicable standards while crossing over any existing electric line. Monitoring of the earth resistance shall be done periodically;
 - p) Counter weights of launcher shall be as per designer recommendation and of uniform dimension and be connected with each other;
 - q) At gradient, adequate additional measures as per designer's recommendation shall be adopted while auto launching of LG;
 - r) Safety checklist for all activities of launching cycle shall be prepared, got approved & implemented;
 - s) Use of nonstandard locking pins shall attract penalty; and
 - t) Safe jointing of rails as well as Gauge of temporary rail track for movement of rear trolley/segment trolley shall always be ensured.

4.8. Construction Machinery

- 4.8.1. Construction machineries may include dumpers and dump trucks, lift trucks and telescopic handlers, piling rigs, vibration hammers, rail welding equipment, mobile elevating work platforms, cranes, tipper lorries, lorry loaders, skip wagons, 360° excavators, 180° backhoe loaders, crawler tractors, scrapers, graders, loading shovels, trenchers, side booms, pavers, planers, chippers, road rollers, locomotives, tankers and bowsers, trailers, hydraulic and mechanical breakers etc.
- 4.8.2. Every construction equipment shall be in sound mechanical working condition and certified by either competent person under Factories Act or manufacturers' warranty in case of brand new equipment or authorized persons/firms approved by the Engineer before induction to any site.
- 4.8.3. All vehicles shall be fitted with audible reverse alarms and maintained in good working condition. Reversing shall be done only when there is adequate rear-view visibility or under the directions of a banksman.

4.8.4. **General operating procedures:** Drivers entering site shall be instructed to follow the safe system of work adopted on site. These shall be verbal instructions or, preferably, written instructions showing the relevant site rules, the site layout, delivery areas, speed limits, etc.

- a) No passengers shall be carried, unless specific seating has been provided in accordance with the manufacturer's recommendations;
- b) Working on gradients beyond any equipment's capability shall not be allowed.
- c) Prevention of dumper and dump truck accidents should be managed by providing for adequate lateral clearances, wheel stops at a sufficient distance from the edges of excavations, spoil heaps, pits, markers, etc.;
- d) No construction material, other than soil shall be carried in excavator buckets;
- e) If excavators operating on a gradient which cannot be avoided, it must be ensured that the working cycle is slowed down, that the bucket is not extended too far in the downhill direction, and that travel is undertaken with extreme caution. A large excavator must never be permitted to travel in a confined area, or around people, without a banksman to guide the driver, who should have the excavator attachment close into the machine, with the bucket just clear of the ground;
- f) When the front shovel of the 1800 back hoe loaders is being employed, the back hoe attachment shall be in its "travel" position, with the safety locking device in place;
- g) The netting operation of the skip wagons should be carried out prior to lifting the skip to reduce the risks of working on the rear platform;
- h) When two or more scrapers are working on the same job, a minimum distance of at least 25m shall be kept between them;
- i) In case of hydraulic breakers, hydraulic rams and hoses shall be in good working condition;
- j) Every contractor shall ensure that Competency certificate for driver/operators shall be issued by their Plant and Machinery In-charge. The certificate shall be pasted on the machine body in such a way that drivers/operator vision is not hindered;
- k) Checklist shall be prepared for all construction machinery and be filled on daily

basis by the operator and be counter signed by plant & machinery person;

- l) Provision of helper is mandatory for each construction appliances and vehicles during their movement inside and outside of site; and
- m) All wood working machines shall be fitted with suitable guards and devices such as top guard, riving knife, push stick, guards for drive belts and chains, and emergency stop switch easily accessible by the operator.

4.8.5. Failure to do any of the above shall attract penalty as per Clause 7. [Financial Deduction/Withholding].

4.9 Machine Guarding

4.9.1. The Contractor shall ensure at the site all motors, cog wheels, chains and friction gearing, fly wheels, shafting, dangerous and moving parts of machinery are securely fenced or legged.

4.9.2. Fencing of dangerous parts of machinery shall not be removed while the machinery is in use or in motion and when removed, it shall be replaced as soon as practicable and in any case before the machinery is again brought into use.

4.10. Site Electricity

4.10.1. The Contractor shall refer to the applicable guideline "Indian Electricity Rules, 1956" and any amendment thereafter. ESHS requirements are:

- a) Graduate Electrical Engineer having Electrical Supervisory Competency Certificate;
- b) Diploma Electrical Engineer having Electrical Supervisory Competency Certificate;
- c) ITI Certificate Holder Electrician with Wiremen Permit; and
- d) Assessment of Electrical Load and properly designed power distribution system;

4.10.2. The Contractor shall assess the size and location of the electrical loads and the manner in which they vary with time during the currency of the Contract.

4.10.3. The Contractor shall elaborate as to how the total supply is to be obtained/generated. The details of the source of electricity, earthing requirement, substation/panel boards, distribution system shall be prepared and necessary approval from the Engineer obtained before proceeding of the execution of the job.

4.10.4. The main Contractor shall take consideration, the requirements of the Subcontractors'

electric power supply and arrive at the capacity of main source of power supply from diesel generators.

4.10.5. No electrical equipment shall be put into use where its strength and capability may be exceeded in such a way as may give rise to danger.

4.10.6. Adverse or Hazardous Environments:

- a) Power supply from public utility service provider is preferable;
- b) The Contractor shall provide sufficient ELCBs (maintain sensitivity 30 mA)/ Residual Current Circuit Breakers (RCCBs) for all the equipment (including Potable equipment), electrical switchboards, distribution panels etc. to prevent electrical shocks to the Workers;
- c) Lightning Protection for all structures, gantry, metal portable cabins, silos etc; Lighting ought not to introduce the risk of electric shock. Therefore, 230V supplies should be used for those fittings, which are robustly installed, and well out of reach e.g. flood lighting or high-pressure discharge lamps;
- d) No single insulation cable shall be used;
- e) Cables shall be selected after full consideration of the condition to which they shall be exposed and the duties for which they are required. Supply cable up to 3.3 kV shall be in accordance with BS 6346:1997;
- f) Cables buried directly in the ground shall be of a type incorporating Armor or metal sheath or both;
- g) Cabling passing under the walk way and across way for transport and mobile equipment shall be laid in ducts at a minimum depth of 0.6 m;
- h) The Contractor shall ensure plugs, socket-outlets, and couplers available in the Site as “splash EM proof” type. The minimum degree of Ingress Protection should be of IP44 in accordance with BS EN 60529;
- i) Only plugs and fittings of the weather proof type shall be used and they should be colour coded in accordance with the Internationally recognised standards for example as detailed as follows:
 - i) 110 volts: Yellow;
 - ii) 240 volts: Blue;
 - iii) 415 volts: Red.

- j) No loose connections or tapped joints shall be allowed anywhere in the Site, office area, stores and other areas. Penalty as per Clause 7. [Financial Deduction/Withholding] shall be put in case of observation of any tapped joints;
- k) All equipment shall have the provision for major switch/cut-off switch in the equipment itself;
- l) Precautions shall be taken, either by earthing or by suitable means, to prevent danger arising when any conductor (other than circuit conductor) which may reasonably foreseeable become charged because of either the use of a system, or a fault in a system, becomes so charged; and
- m) Isolate exposed high-voltage (over 415 Volts) equipment, such as transformer banks, open switches, and similar equipment with exposed energized parts and prevent unauthorised access;
- n) Approved perimeter markings shall be used to isolate restricted areas from designated work areas and entry ways and shall be erected before work begins and maintained for entire duration of work. Approved perimeter marking shall be installed with either red barrier tape printed with the words "DANGER—HIGH VOLTAGE" or a barrier of yellow or orange synthetic rope, approximately 1 to 1.5meter above the floor or work surface;
- o) All gantry tracks shall be suitably earth at multiple locations at regular intervals;
- p) All temporary metal structures like barricade boards, temporary metal containers/shed etc. shall be adequately earthed through suitable means;
- q) All the earth pits shall be properly numbered along with display of resistance value and inspection records of the same shall be maintained

4.10.7. Work on or near live conductors

No person shall be engaged in any work activity on or so near any live conductor (other than one suitably covered with insulating material so as to prevent danger) that danger may arise unless-

- a) It is unreasonable in all the circumstances for it to be dead;
- b) It is reasonable in all the circumstances for him to be at work on or near it while it is live; and
- c) Suitable precautions (including where necessary the provision of suitable protective

equipment) are taken to prevent injury.

4.10.8. Whenever pilling work is undertaken manually through tripod in the influence zone of live OHE, method statements shall be prepared, submitted and got approved before start of work.

4.10.9. All electrical equipment should be permanently numbered, and a record kept of the date of issue, date of last inspection and recommended inspection period.

4.10.10. Appropriate electrical protection shall be provided for all circuits, against over load, short circuit and earth fault current.

4.10.11. For supplies to mobile or transportable equipment where operating of the equipment subjects the cable to flexing, the cable shall conform to any of these codes BS 6007/BS 6500/BS 7375.

4.10.12. Flexible cords with a conductor cross sectional area smaller than 1.5 mm² shall not be used and insulated flexible cable shall conform to BS 6500 and BS 7375.

4.10.13. Power Tools:

The Contractor shall ensure that:

- a) Electric tools are properly grounded or/and double insulated;
- b) Ground Fault Circuit Interrupters (GFCIs)/Residual Current Circuit Breakers (RCCBs) shall be used with all portable electric tool operated especially outdoors or in wet condition;
- c) Only trained employees shall use explosive actuated tools and the tool shall also be unloaded when not in use;
- d) Usage of such explosive actuated tools shall be avoided in case of places where explosive/flammable vapours or gases may be present;
- e) Explosive actuated tools and their explosives shall be stored separately and be taken out and loaded only before the time of immediate use; and
- f) Misfired cartridges of explosive actuated tools must be placed in a container of water and be removed safely from the project.

4.11. Illumination

The Contractor shall provide sufficient site lighting arrangement according to the relevant national standards.

4.12. Welding and Cutting

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- 4.12.1. Gas cylinders in use shall be kept upright on a custom-built stand or trolley fitted with a bracket to accommodate the hoses and equipment or otherwise secured. The metal cap shall be kept in place to protect the valve when the cylinder is not connected for use.
 - 4.12.2. All gas cylinders shall be fixed with pressure regulator and dial gauges. clamp or clip shall be used to connect hoses firmly in both sides of cylinders and torches.
 - 4.12.3. Non-return valve and flashback arrester shall be fixed at both end of cylinder and torch.
 - 4.12.4. Domestic LPG cylinders shall not be used for gas welding and cutting purpose.
 - 4.12.5. Dry Chemical Pressure (DCP) or CO₂ type Fire Extinguisher not less than 5 kg shall be fixed at or near to welding process zone in an easily accessible location. Fire extinguisher should confirm to IS 2190:1992.
 - 4.12.6. Oxygen cylinders and flammable gas cylinders shall be stored separately, at least 6.6 m (20 feet) apart or separated by a fire proof, 1.5 m (5 feet) high partition. Flammable substances shall not be stored within 15m of cylinder storage areas.
 - 4.12.7. Welding grounds and returns should be securely attached to the work by cable lugs, by clamps in the case of stranded conductors, or by bolts for strip conductors. The ground cable will not be attached to equipment or existing installations or apparatus.
 - 4.12.8. All electrical installations shall meet the IS: 5571: 1997 and NFPA 70 for gas cylinder storage area and other hazardous areas.
 - 4.12.9. Hose clamp or clip shall be used to connect hoses firmly in both sides of cylinders and torches.
 - 4.12.10. Use firewatchers if there is a possibility of ignition unobserved by the operator (e.g. on the other side of bulkheads).
 - 4.12.11. Transformer used for electrical arc welding shall be fixed with ammeter and voltmeter and fixed with separate main power switch.
 - 4.12.12. Use a low voltage open circuit relay device if welding with alternating current in constricted or damp places.
 - 4.12.13. The current for Electric arc welding shall not exceed 300 A on a hand welding operation.
 - 4.12.14. Take precautions against the risk of increased fume hazards when welding with chrome containing fluxed consumables or high current metal inert gas (MIG) or tungsten inert gas (TIG) processes.

4.12.15. Avoid being in contact with water or wet floors when welding. Use duckboards or rubber protection.

4.13. Excavation General

4.13.1. References:

- a) The Haryana Building and other construction workers (Regulation of Employment of conditions of Service) Rules, 2005;
- b) IS: 3764 -1992 (Re-affirmed 1996): Code of Safety for Excavation Work;
- c) IS: 4756 -1978 (Reaffirmed 1996): Safety Code for Tunnelling Work;
- d) BS 6164: 2011 (Code of practice for health and safety in tunnelling in the construction industry);
- e) BS EN 16191: 2014 (Tunnelling Machinery-Safety requirements);
- f) IS 4081:2013 Blasting and related drilling operations-code of safety.

4.13.2. The Contractor shall ensure:

- a) Where any construction & building worker engaged in excavation is exposed to hazard of falling or sliding material or article from any bank or side of such excavation which is more than 1.5 m above his footing, such worker shall be protected by adequate piling and bracing against such bank or side;
- b) Where banks of an excavation are undercut, adequate shoring is provided to support the material or article overhanging such bank;
Excavated material is not stored at least 0.65 m from the edge of an open excavation or trench and banks of such excavation or trench are stripped of loose rocks and the banks of such excavation or trench are stripped of loose rocks and other materials which may slide, roll or fall upon a construction building worker working below such bank;
- c) Metal ladders and staircases or ramps are provided, as the case may be, for safe access to and egress from excavation where, the depth of such excavation exceeds 1.5 m and such ladders, staircases or ramps comply with the IS 3696 Part 1&2 and other relevant national standards;
- d) Trench and excavation is protected "against falling on a person by suitable measures if the depth of such trench or excavation exceeds 1.5m and such protection is an improved protection in accordance with the design and drawing of

a professional engineer, where such depth exceeds 4.0m;

4.13.3. Warning Signs and Notices:

The Contractor shall ensure that suitable warning signs or notices, required for the safety of workers carrying out the work of an excavation, shall be displayed or erected at conspicuous places in Hindi and in a language understood by most of such workers at such excavation work.

4.14. Tunnelling Works

4.14.1. The Contractor shall inform in writing to the Chief Inspector of Government of Haryana within 30 days, prior to the commencement of any tunnelling work.

4.14.2. The Contractor shall appoint a responsible person for safe operation for tunnelling work as per BOCWR.

4.14.3. In addition to general precaution such as display of warning sign/notices, deployment of trained staff, housekeeping, etc., the Contractor shall ensure that:

- a) All portable electrical hand tools and inspection lamp used in underground and confined space at an excavation or tunnelling work is operated at a voltage not exceeding 24V;
- b) Only flame proof equipment of appropriate type as per IS: 5571:2000 and or another relevant national standard is used inside the tunnel;
- c) Petrol or LPG or any other flammable substances are not used, stored inside the tunnel except with prior approval from the Engineer, and no oxy-acetylene gas is used in a compressed air environment in excavation or tunnelling;
- d) Adequate number of water outlets provided for fire fighting purpose, an audible fire alarm and adequate number and types of fire extinguishers are provided and maintained;
- e) Temperature in any working chamber in an excavation or tunnelling work where workers employed does not exceed 29°C as per BOCWR;
- f) All working areas in a free air tunnel are provided with ventilation system as approved by the Chief Inspector of Government of Haryana and the fresh air supplied in such tunnel is not less than 6 m³/min for each worker employed in tunnel and the free air flow movement inside such tunnel is not less than 9.0 m/min;

- g) The oxygen level shall not be less than 19.5% in the working environment;
- h) The excavated areas are made safe by use of suitably designed and installed steel sets, rock bolts or similar other means;
- i) The responsible person referred to in BOCWR examines and inspects the workplaces in a tunnel before the commencement of work in such tunnel, and at regular intervals thereafter, to ensure safety of the Workers in such tunnel;
- j) The portal areas of a tunnel with loose soil, or rock, likely to cause injury to a person are adequately protected with supports; and
- k) The Contractor shall ensure safe means of access to enter into a shaft.

4.14.4. Means of Communication

The Contractor shall ensure that: reliable and effective means of communication such as telephone or walkie-talkie is provided and are maintained in working order for arranging better and effective communication at an excavation.

4.14.5. Permissible Limit of Exposure of Chemicals

The Contractor shall ensure that the responsible person referred to in BOCWR conducts necessary test before the commencement of a tunnelling work for the day and at suitable intervals as fixed by Chief Inspector to ensure that the permissible limits of exposure are not exceeded, and a record of such test is maintained and is made available for inspection to Chief Inspector, on demand.

4.14.6. Rock Fall Prevention (NATM)

The Contractor shall:

- a) Draw up a method statement that includes preventive measure to fall of rock, tunnel face watching, evacuation methods from the face, and the construction sequence etc. to ensure that workers are informed.

4.14.7. Dust Emission Control (NATM)

Dust control plan shall be prepared and followed by the Contractor against dust emission in the tunnel

- a) Monitoring regularly every month for dusts concentration, wind velocity, air capacity of ventilation system;
- b) Direct air flow with the upper limit of dust concentration less than $3\text{mg}/\text{m}^3$;
- c) Keep monitoring record including date, method, location, condition, results, and

evaluation of results, measurer's name; and

- d) The effective and good quality respiratory protective devices should be provided for all workers and ensured constant monitoring of their usage.

4.14.8. Evacuation and Training

The Contractor shall ensure that:

- a) Implementation of the training for evacuation and fire fighting immediately before the distance reaches about 100m from the portal to the tunnel face; and
- b) Implementation of evacuation training by a responsible person appointed in terms of dealing with technical matters.

4.15. Blasting and Drilling

4.15.1. The following standards whichever is more stringent shall be applicable:

- a) Safety Code for Blasting and Drilling operation IS 4081:2013;
- b) Safety Code for tunnelling Work IS 4756-1978;
- c) Code of practice for construction of tunnels IS 5878;
- d) The Haryana BOCWR ; 2005 and Other Relevant National Legislations & IS Codes; and
- e) Code of Practice for the safe use of explosives in the construction industry BS 5607:1988.

4.15.2. The Contractor shall ensure that all blasting operations will only be permitted following consultations with the relevant authorities and subsequent issuing of the permission to blast permits. The Engineer must also give his consent in writing before any blasting operations take place.

4.15.3. The Contractor shall:

- a) appoint the manager, the deputy manager and officer in charge of handling explosives to prevent handling accidents;
- b) when doing blasting work, the Contractor shall appoint a work supervisor from among those who can take on the blasting work;
- c) All blasting shall be conducted under the direct supervision of a Licensed Shot firer.

4.15.4. Handling of explosives- as per Rule 278 HBOCWR;

The Contractor shall ensure at a construction site of a building or other construction

work that-

- a) All explosives are handled, used or stored in accordance with the instructions and the material data sheet supplied by the manufacturer of such explosives;
- b) The use of explosives is carried out in safe manner to avoid injury to any person and under the direct supervision of a responsible person;
- c) Before using any explosive, necessary warning and danger signals are erected, at conspicuous places of such use to warn the building workers and the general public of the danger involved in such use.
- d) Safety Precautions- as per Rule 279 of HBOCWR;

The Contactor shall ensure at a construction site of a building or other construction work that-

- i) Notwithstanding the provisions of rule 278, the following precautions are observed at the places of transporting, handling, storage and use of such explosives, namely-
- ii) Prohibition of smoking, naked lights and other sources of ignition in the vicinity where explosives are handled, stored and used;
- iii) To keep safe distance and to use non-sparking tools while opening packages containing explosives;
- iv) To stop the use of explosives and handling thereof while the weather conditions are not suitable for such use or handling.
- v) In addition to the provisions of this chapter, all measures and precautions required to be observed for use, handling, storing or transportation of explosives under the rule framed under the Explosives Act, 1884(4 of 1884), are observed.

4.15.5. Risk Assessment and Method Statements

The Contractor shall produce a detailed hazard and risk assessment and an in depth method statement for amongst others the following elements:

- a) Type of explosives to be used;
- b) Anticipated effects of vibration on nearby structures;
- c) Blasting patterns;
- d) Delivery of the explosives;
- e) Transportation and storage of explosives on site;
- f) Drilling and charging of holes;

- g) Warning sirens;
- h) Measurement of Vibration;
- i) Use of blast screens;
- j) Ventilation following blasting;
- k) Atmosphere monitoring;
- l) Procedure for miss-fires;

4.16. Material Transportation

- 4.16.1. The Contractor shall develop the System Procedure/Methods Statement for heavy/big material/machinery transportation such as Rolling Stock, Transformer, and Bridge Main Girder, etc.
- 4.16.2. The Contractor shall ensure that the person in charge should inspect the safety implementation like properly fixing of wire with vehicle slab bed, condition of vehicle breaks etc. before starting the job and record the accidents and records.
- 4.16.3. The Contractor shall ensure that every vehicle/moving machinery should have a signal man who has a whistle, a flag or a signal light (in the night) with striking clothes and stands at a safe visible place from a machine operator by means of the proper signal and way determined.
- 4.16.4. The induction related to moving and parking safely should be given to driver/operator like parking construction vehicles at a specified place with a parking brake and making sure to put a drag.

4.17. Foundation Works

- 4.17.1. The Contractor is required to evaluate the risk in each activity and suggest a control measures of piling works:
- a) Covering of bore holes with adequate warning signs;
 - b) Cage to be lowered by using crane;
 - c) The auxiliary hook of the rig shall not be used to pull or lower the cage in bore hole;
 - d) The tremie pipe lowering and lifting after concreting shall be done by using crane;
 - e) Control measure to arrest polymer spillage from the Site to avoid contaminating the surface drains;

- f) An entry restraining fence shall be provided around the pier excavation completion;
- g) No man suffering from any chronic disease, alcoholic excess, ear or heart troubles or having a sluggish blood circulation or who has excess of fat should be employed as a diver;

4.18. Batching Plant and Casting Yard

4.18.1. The Contractor is required to evaluate the risk in each activity and suggest Control Measures:

- a) Adequate space between the casting bed, segment storage area and the adjoining road shall be maintained so that a steel railing could be installed to segregate the gantry crane movement area from the road;
- b) All safety precautions stated in Sub-Clause 4.8 [Construction Machinery], Automatic Safe Load Indicator (ASLI) for crane and gantry shall be complied during erection of gantry crane and other equipment;
- c) The aggregate/sand storage area shall be kept under the full coverage of effective water sprinkler to avoid dust generation;
- d) The entire batching plant/aggregate storage Area shall be adequately walled of sufficient height, above which the Contractor is required to erect green dust protective net. This is a mandatory requirement to avoid dust in surrounding environment;
- e) The batching plant and casting yard required to obtain "Consent to Establish" and "Consent to Operate" certificate from State Pollution Control Board;
- f) The batching plant/casting yard shall be barricaded and made as a compulsory Personal Protective Equipment (PPE) zone;
- g) Time office, canteen, drinking water, toilet and rest place shall be suitably located for the easy access to workers. All the facilities shall be properly cleaned and maintained during the entire period of operation;
- h) Drainage shall be effectively provided, and waste water shall be disposed after proper treatment; and
- i) Manual handling of cement shall be avoided. Whenever it is necessary the workmen shall be given full body protection, hand protection and respiratory protection as a basic measure of ensuring better health.

4.19. Form Works

Ensure no attaching equipment to the formwork assembly unless specifically designed for this purpose; and not using a stripping process which may cause damage to the permanent structure.

4.20. Concrete Works

- a) Concrete pumping equipment, trucks etc. are not to be washed down on site and any waste-water, concrete slurry or other contaminants are to be contained; and
- b) These contaminants are not to be discharged into or onto roadways, footpaths, gutters, drainage systems, watercourses or any other surface area that will result in damage to the environment or contravenes environmental legislation.

4.21. Pier Casting Works

- a) using crane to hold the pier reinforcement during the time gap between de-staging and placement of shutter; and
- b) location and pier height specific securing arrangement and specific Method Statement for pier more than 9.0 m shall be submitted and approved by the Engineer.

4.22. Bridge Erection Works**4.22.1. References:**

- a) The BOCW Acts and Rules;
- b) The Haryana BOCW Rules 2005;
- c) Indian Railways Bridge Manual; and
- d) Safety Assessment with regard to Steel Bridge Erection Works 1985, Ministry of Health, Labour and Welfare;

4.22.2. General

As bridge erection works are one of the riskiest jobs, the Contractor shall take utmost precaution at all stages like; planning, establishing temporary yard, casting segments, transporting segments, fabrication and operation of erection machinery, if any, launching of segments/lifting of segments, pre-stressing, cutting and welding, auto (or manual) launching and dismantling of erection machineries. For pre-stressed concrete bridges, the Contractor shall further ensure that:

- a) a responsible person should be appointed for post-tensioning works testing and

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- inspection of tendon tensioning devices and using material;
 - b) installation of protective board behind a tensioning jack and keep out behind a jack during tensioning;
 - c) use of protective glasses, laver gloves, and masks during grouting for safety of the Workers; and
 - d) fall prevention installation of overall boarding at the bottom of a bridge and installation of funnel type boarding at the side of a bridge during construction in case of RFO (Railway Flyover) or ROB (Road over Bridge) for preventing the flying and fall of materials and tools by safety net, should be ensured.

4.22.3. The Contractors Obligation

The Contractor shall prepare a comprehensive method statement for the bridge erection works, adhering to the ESHS conditions laid down herein. Particular reference shall be made to the provisions on working at height. As the entire process of launching/lifting has to be undertaken at the Site especially during night time, the safety of workers is of paramount important. Daily inspection of scaffold structure and mechanical equipment for the traveller crane should be done.

4.22.4. Basic Consideration under Site Condition:

Erection works over or adjacent roads or highways:

- a) The work area should be demarcated properly, and route map and traffic management plan should be developed and implemented with proper signages and caution;
- b) The Contractor shall ensure the implementation of proper stop traffic and detour plan;
- c) The Contractor shall arrange the proper guide and signs to be followed while working on highway or adjacent roads, railways; and
- d) The Contractor should plan and establish all the required measures for the protection of overhead wires and buried utilities.
 - i) The regular inspection is done for all the installed protection equipment;
 - ii) The movement restriction site plan to be developed with defined operation path for safe working at site;
 - iii) watchmen should be appointed who are given training related to all type of

traffic management and all signals used for smooth traffic flow and site transportation and works;

- iv) The railway schedule is taken in consideration while planning the site works and ensures the safe management system with the details given regarding the kind of works suspended while a train is passing and clarifying the way of opening or closing railway in case of track closure works. For steel truss bridges;
- v) The Contractor must install the protective net just after erecting truss upper chord material;
- vi) The Contractor must install safety operation path to an end of erected member and a cross point of lateral bracing;

The Contractor may use any of the erection methods. However, following general points will be kept in view and ensured as applicable-

- A. The Contractor should develop and confirm the Engineer his Method Statement with details of position of bearing, jacking operation, roller passing etc.;
- B. Detailed inspection report related to the movement and condition of superstructure from the place of launching equipment and rollers should be given to the Engineer;
- C. The Contractor shall give confirmation of binding situation such as a bolting erection member;
- D. The Contractor shall give confirmation of displacement per every erection phase;
- E. The Contractor shall give confirmation of fixing situation for bearings;
- F. The Contractor must take measures to avoid a fall and lateral buckling of member; and
- G. The Contractor shall take measures of fall prevention for main superstructure.

4.23. Building and Roof Erection Works

4.23.1. The Contractor shall plan erection sequence and work procedures properly under competent and experienced personnel to ensure the safety of workers and prevent structure failure during erection:

- a) Contractor shall develop and confirm with the Engineer his method statement with details;
- b) The stability of structural members is to be ensured by means of ties, braces,

- anchor/fixing bolts, or other suitable means before releasing lifting gear, slings, chains etc;
- c) Tag lines must be attached to the ends of components/loads to maintain control during crane lifting operations;
 - d) Structure stability is to be ensured always. Unattended and incomplete buildings/structures are NOT to be left in an unsafe and hazardous condition, to pose a risk to the safety and health of site personnel or the public;
 - e) The Workers placing and securing roof battens are to be protected and are to work from an enclosed environment (e.g. scaffolding, deck guardrail or equivalent) and work up from the bottom of the truss/rafter towards and finish at the ridge /peak of the roof framing; and
 - f) When the spacing of trusses and roof battens exceed 600mm the appropriate procedures are to be considered and applied after conducting a risk assessment to provide the optimum fall protection.

4.24. Confined Space Entry

- 4.24.1. The Contractor must ensure all confined spaces are identified and managed using documented site confined space management methods.
- 4.24.2. When internal combustion engines are to be used into confined space or excavation or any other workplace where natural or artificial ventilation system is inadequate to keep carbon monoxide below 50ppm, exposure of workers shall be avoided unless suitable measures are taken and provided by the Contractor.
- 4.24.3. No worker shall be allowed into any confined space or tank or trench or excavation wherein there is given off any dust, fumes/vapours or other impurities which is likely to be injurious or offensive, explosive or poisonous or noxious or gaseous material or other harmful articles unless steps are carried out by the Contractor and certified by the responsible person to be safe.

4.25. Fire Protection

- 4.25.1. The contractor shall ensure that the construction site is provided with—
- a) Fire extinguishing equipment sufficient to extinguish any probable fire at such construction site;
 - b) An adequate water supply at ample pressure as per national standards;

- c) Number of trained persons required to operate the fire extinguishing equipment provided; and
- d) Is properly maintained and inspected at regular intervals of not less than once in a year by the responsible person and a record of such inspections is maintained.

4.25.2. The extinguishers shall be chosen as per type of fire load and surrounding location.

4.25.3. All construction machinery including crane shall carry a portable fire extinguisher in operator's cabin.

4.25.4. Emergency plan and Fire Evacuation plan in ESHS Management Plan shall be prepared and issued by the Contractor. Mock drills should be held on a monthly basis to ensure the effectiveness of the arrangements and as a part of the programme, the telephone number of the local fire brigade should be prominently displayed near each telephone on site.

4.25.5. Recharging of fire extinguishers and their proper maintenance should be ensured and as a minimum should meet Indian National Standards.

4.25.6. All drivers of vehicles, foreman, supervisors and managers shall be trained on operating the fire extinguishers and fire fighting equipment.

4.26. Corrosive Substance

As per Rule 100 of HBOCWR, The contractor shall ensure that corrosive substances, including alkalis and acids, shall be stored and used by a person dealing with such substances at a building or other construction work in such a manner that it does not endanger the building worker and suitable protective equipment shall be provided by the contractor to a building worker during handling or use of such substances at a building or other construction work and in case of spillage of such substances on the building worker, immediate remedial measures shall be taken by the contractor.

4.27. Demolition

4.27.1. All demolition works be carried out in a controlled manner under the management of experienced and competent supervision.

4.27.2. The concerned department of the Government or local authority is informed, and permission obtained wherever required. Media shall also be informed regarding this concern.

4.27.3. All glass or similar materials or articles in exterior openings are removed before

commencing any demolition work and all water, steam, electric; gas and other similar supply lines are disconnected.

4.27.4. No demolition work be performed if the adjacent structure seems to be unsafe unless and until remedial measures like sheet piling, shoring, bracing or similar means be ensured for safety and stability for adjacent structure from collapsing.

4.27.5. Debris/bricks and other materials or articles shall be removed by means of chute, bucket or other safe method.

4.27.6. No person other than the Workers or other persons essential to the operation of demolition work shall be permitted to enter a zone of demolition and the area be provided with substantial barricades.

4.28. Permit to Work

4.28.1. The Contractor shall develop work permit system, which is formal written system used to control certain types of work that are potentially hazardous. A work permit is a document, which specifies the work to be done, and the precautions to be taken.

4.28.2. Work Permits form an essential part of safe systems of work for many construction activities. They allow work to start only after safe procedures have been defined and they provide a clear record that all foreseeable hazards have been considered. Permits to Work are usually required in high-risk areas as identified by the Risk Assessments.

4.28.3. A permit is needed when construction work can only be carried out if normal safeguards are dropped or when new hazards are introduced by the work.

4.28.4. Examples of high-risk activities include but are not limited to:

- a) Entry into confined spaces;
- b) Hot work;
- c) To dig where underground services may be located;
- d) Work with heavy moving machinery;
- e) Work with radioactive isotopes;
- f) Heavy lifting operations and lifting operations closer to live electric power line;
- g) Work with using track motor vehicles etc.; and
- h) Work under electric facility and overhead electric (OHE) line energized.

4.28.5. The Contractor shall prepare operation manuals above mention and implement training course at any time based on such manuals to the Workers given completion of

certificates before the commencement of works.

4.28.6. The permit-to-work system should be fully documented, laying down:

- a) How the system works;
- b) The jobs it is to be used for;
- c) The responsibilities and training of those involved; and
- d) How to check its operation.

4.28.7. A work permit authorization form shall be completed with the maximum duration period not exceeding 12 hours or end of shift, which is earlier.

4.28.8. A copy of each permit to work shall be displayed at work place. during its validity, in a conspicuous location in close proximity to the actual works location to which it applies.

4.29. Traffic Management and Site Barricading

4.29.1. The basic objective of the following guiding principles is to lay down procedures to be adopted by the Contractor to ensure the safe and efficient movement of traffic and also to ensure the safety of workmen in the all work areas.

4.29.2. The guiding principles to be adopted for safety in construction zone are to:

- a) Warn the road user clearly and sufficiently in advance;
- b) Provide safe and clearly marked lanes for guiding road users;
- c) Provide adequate traffic marshals to regulate the movement of traffic;
- d) Provide safe and clearly marked buffer and work zones; and
- e) Provide adequate measures that control driver behaviour through construction zones.

4.29.3. In all cases, the Contractor shall employ proper precautions. Wherever operations undertaken are likely to interfere with public traffic, Specific Traffic Management Plans shall be drawn up and implemented by the Contractor in consultation with the approval of Local Police Authorities and/or the concerned politburo/Civil Authorities and followed to the IRC:SP;55- 2014 (Guidelines on Traffic Management in work zones) & IRC: 67 (Code of Practice for Road Signs).

4.30. Working near Railway

4.30.1. The details of Safe work procedure for work near Railway Track is given in **Attachment -5** of this document.

4.31. Other Works to be Scrutinized

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- 4.31.1. Other works including, but not be limited to, the works in the Site (the ROW), the works in the Borrow Pit, the works in the Quarry and Works on road shall be included to be scrutinised with respect to the accident prevention.
- 4.31.2. If blasting is anticipated in excavation in rock, preventive measures against accidents and protective measures against environmental/social impacts shall be of paramount importance.
- 4.31.3. The Contractor shall include all those items as well as work elements to formulate the preventive and protective measures considering envisaged conditions, situations, and activities of the works which may induce accidents or hazard to environment and/or society.

4.32. Personal Protective Equipment

- 4.32.1. The Contractor shall provide required PPEs to workmen to protect against safety and/or health hazards. Primarily PPEs are required for the following protection:
- a) Head protection (Safety helmet with a chin strap);
 - b) Foot protection (Safety footwear, Gumboot, etc.);
 - c) Body protection (High visibility clothing (Waistcoat/Jacket), Apron, etc.);
 - d) Personal fall protection (Full body harness, Rope-grip fall arrester, etc.);
 - e) Eye protection (Goggles, Welders Glasses, etc.);
 - f) Hand protection (Gloves, Finger coat, etc.);
 - g) Respiratory protection. (Nose mask, Self-contained breathing apparatus, etc.); and
 - h) Hearing protection (Ear plugs, Ear muffs, etc.).
- 4.32.2. The PPEs and safety appliances provided by the Contractor shall be of the standard as prescribed by Bureau of Indian Standards (BIS). If materials conforming to BIS standards are not available, the Contractor as approved by the Engineer shall procure PPE and safety appliances.
- 4.32.3. The Contractor shall provide the PPEs which the Contractor deems necessary including; but not be limited to, safety helmets, safety shoes to all the Contractor's Employees including workmen (including those of its sub-contractors). When and Where the Contractor thinks that he needs to provide the Contractor's Employees including workmen' (including those of its sub-contractors) with high visibility clothing as per the following requirement.

- a) Hi-visibility jacket covering upper body and meeting the following requirements as per BS EN 471:1994;
- b) Background in fluorescent orange-red in colour;
- c) Jackets with full-length sleeves with two bands of retro reflective material, which shall be placed at the same height on the garment as those of the torso. The upper band shall encircle the upper part of the sleeves between the elbow and the shoulder; the bottom of the lower band shall not be less than 5cm from the bottom of the sleeve;
- d) Two vertical green strips of 5cm wide on front side, covering the torso at least 500 cm²;
- e) Two diagonal strips of 5 cm wide on back in an 'X' pattern covering at least 570cm²;
- f) Horizontal strips not less than 5cm wide running around the bottom of the vertical strip in front and 'X' pattern at back;
- g) The bottom strip shall be at a distance of 5cm from the bottom of the vest; and
- h) viii) Strips shall be retro reflective and fluorescent.

Safety Helmet Colour Code (Every Helmet should have the LOGO*affixed/painted)	Person to use
Hard hat with company Logo (Employees)	Hard hat with reflective tape (Marshals)
White	Employer/Engineer
Grey	All designers, Architect, Consultants, etc.
Violet	Main Contractors (Engineers/Supervisors)
Blue	All subcontractors (Engineers/Supervisors)
Red	Electricians (Both Contractor andSubcontractor)
Green	Safety professionals (Both Contractor and Subcontractor)
Orange	Security guards/Traffic marshals
Yellow	All workmen
White (with "VISITOR" sticker)	Visitors

Safety Shoes (Anyone at the Site incl. Marshals)	
All employees of the contractor including workmen	Traffic marshals

Note: LOGO-

- i) Logo shall have its outer dimension 2"X2" and shall be conspicuous
- ii) Logo shall be either painted or affixed
- iii) No words shall come either on Top / Bottom of Logo

Logo of the corresponding main contracting company for their employees and sub-contracting company for their employees shall only be used.

4.32.4. In addition to the above any other PPEs required for any specific jobs like, welding and cutting, working at height, tunnelling etc. shall also be provided to all workmen and also ensure that all workmen use the PPEs properly while on the job.

4.32.5. The Contactor shall not pay any cash amount in lieu of PPEs to the workers/sub-contractors and expect them to buy and use during work.

4.32.6. The Contactor shall at all-time maintain a minimum of 10% spare PPEs and safety appliances and properly record and show to the Engineer during the inspections. Failing to do so shall invite penalty as per Clause 7. [Financial Deduction/Withholding].

4.32.7. It is always the duty of the Contactor to provide required PPEs for all visitors. Towards this required quantity of PPEs shall be kept always at the security post.

4.32.8. The Contractor shall ensure that safety equipment and protective clothing is available and used on the site at all material times and those measures for the effective enforcement of proper utilisation and necessary replacement of such equipment and clothing shall be incorporated into the Site ESHS Plan.

4.33. Visitor at Site

4.33.1. No visitor can enter the Site without the permission. All authorised visitors should report at the site office. The Contractor shall provide visitor's helmet (White helmet with visitor sticker) and other PPEs like Safety Shoe, reflective jacket, respiratory protection etc. as per requirement of the Site. Entry of visitors in underground shall be suitably controlled.

4.33.2. The Contractor shall be fully responsible for safety and health of all visitors within the Site.

4.34. Site Security

4.34.1. The Contractor shall be wholly responsible for security on the Site and any other areas

being used by him or the Subcontractor's for the purposes of the Contract. The Contractor shall implement and cause the Subcontractor's to implement proper security management procedures in accordance with the approved ESHS Management Plan.

4.34.2. The Contractor shall assign on the Site a security officer (adequately trained person,) and his alternate(s), who shall be primarily responsible for the Contractor's security services and fully cooperate with the Engineer's security organization throughout the Time for Completion. Necessary approval of agency shall be obtained from the Engineer.

4.34.3. The security plan covered by the ESHS Management Plan shall contain the following:

- a) Security policy statement and objectives;
- b) The Contractor's security organization;
- c) Role, responsibility and authority of each member of the security organization;
- d) Procedure for enforcement of security regulations;
- e) Daily, weekly and monthly security meeting procedures;
- f) Sample forms for security reports;
- g) Personnel security control procedures;
- h) Goods security control procedures;
- i) On-site security patrol procedures;
- j) Liaison and coordination procedure with local fire/police and other authorities;
- k) Liaison and coordination procedure with the Employer and relevant other authorities; and
- l) Liaison, coordination and joint security inspection procedure with other Contractors.

4.34.4. Where necessary, the Contractor shall install, modify, maintain and remove the temporary security fences, gates, posts, security lightings and other facilities required for proper security control, in addition to those to be constructed as part of the Works. The Contractor shall operate these facilities to properly control ingress to and egress from the areas under his control throughout the Time for Completion. This control shall apply to every person including the Employer's Personnel.

5. OCCUPATIONAL HEALTH AND WELFARE

5.1. Physical Fitness of Workmen

5.1.1. The Contractor shall ensure that his employees/workers subject themselves to such medical examination as required under the law or under the contract provision and keep a record of the same.

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- 5.1.2. The Contractor shall not permit any employee/workers to enter the work area under the influence of alcohol or any drugs.
 - 5.1.3. The Contractor shall maintain the confidential records of medical examination or the physician authorized by the Engineer.
 - 5.1.4. No worker is charged for the medical examination and the cost of such examination is borne by the Contractor employing such worker.
 - 5.1.5. If the Contractor fails to get the medical examination conducted as mentioned above, the Engineer will have the right to get the same conducted through an agency with intimation to the Contractor and deduct the cost and overhead charges from his dues.

5.2. Medical Facilities

5.2.1. Occupational Health Centre (First Aid Station)

The Contractor shall ensure at a construction site an occupational health centre, mobile or static is provided and maintained in good order. Services and facilities as per the scale lay down in **Schedule IV** of HBOCWR. A construction medical officer appointed in an occupational health centre, possess the qualification as laid down in **Schedule V** Rule no 113 of HBOCWR:

- 5.2.2. The Contractor shall appoint appropriate full-time staff including one nurse, one dresser-cum-compounder, one sweeper-cum-ward boy with each construction medical officer.
- 5.2.3. The Contractor shall communicate the complete details including name, qualification and experience of the construction medical officer, to the inspector having jurisdiction under HBOCWR.

5.2.4. Ambulance Room, Ambulance Van and Stretchers:

The Contractor shall ensure at a construction site of a building or other construction work that an ambulance van and room are provided at such construction site or an arrangement is made with a nearby hospital for providing such ambulance van for transportation of serious cases of accident or sickness of workers to hospital promptly and such ambulance van and room are maintained in good repair and is equipped with standard facilities specified in Schedule VI of Rule 114 & Schedule VII of Rule 115 of HBOCWR.

- 5.2.5. The Contractor shall provide enough stretchers at each site for use in an emergency.

5.2.6. First Aid Boxes and Emergency Care:

The Contractor shall ensure at construction site one First-aid box for 100 workers for providing first-aid to the workers. Every First-Aid box is distinctly marked "First-Aid" and is equipped with the articles specified in Schedule IX of Rule 119 of HBOCWR. Adequate no. of trained first aid persons shall be available at each work site in each shift.

5.2.7. HIV/AIDS Prevention and Control:

- a) The Contractor shall adopt the Employer's "Workplace Policy on HIV/AIDS Prevention and Control for Workers Engaged by Contractors" and implement it. A copy of the policy is given in **Attachment-2 [Workplace Policy on HIV/AIDS Prevention & Control]**; and
- b) The Contractor shall prepare and submit the Manual for HIV/AIDS Prevention and Control for his workers in terms of the aforesaid Employer's Policy within 28 days of the date of notification of the Contract.

5.2.8. COVID -19 Prevention and Control

The Contractor shall ensure that the latest guidelines issued by Ministry of Health and Family Welfare (MoHFW), local government and the district administration are strictly followed at the construction works site. The Work Place Policy on COVID-19 Prevention and Control is given in **Attachment-3 [Workplace Policy on COVID-19 Response]**.

5.2.9. Prevention of Mosquito Breeding

Measures shall be taken to prevent mosquito breeding on the Site. The measures to be taken shall include:

- a) Empty cans, oil drums, packing and other receptacles, which may retain water, shall be deposited at a central collection point and shall be removed from the site regularly;
- b) Stagnant water shall be treated at least once every week with oil to prevent mosquito breeding;
- c) The Contractor's equipment and other items on the site, which may retain water, shall be stored, covered or treated in such a manner that water could not be retained; and

d) Water storage tanks shall be provided.

5.2.10. Posters in local language, Hindi and English, which draw attention to the dangers of permitting mosquito breeding, shall be displayed prominently on the Site.

5.2.11. The Contactor at periodic interval shall arrange to prevent mosquito breeding by fumigation/spraying of insecticides, and the ideal larvicide etc.

5.2.12. Alcohol, Smoking and Drugs

The Contactor shall always ensure that no employee is working under the influence of alcohol/drugs which are punishable under BOCWR;

Smoking at public places by any employee is also prohibited as per Government Regulations. The Contractor shall comply with the legal provisions in this regard, such as; Prohibition of Smoking in Public Places Rules, 2008. He shall be solely responsible for any penalty or punitive action by the government authorities because violations of the provisions contained in these rules by him or his representatives or his employees or his Subcontractors. Requisite notice boards, posters, etc., shall be put by him, as per the Rules.

5.3. Occupational Noise

5.3.1. The Contractor shall comply with the codes, regulations and standards regarding noise pollution and control as notified and amended by Central Government and State Government from time to time on the Site including but not necessarily limited to:

- a) Chapter VII, Part -I, Schedule-I of Haryana BOCWR 2005;
- a) Noise Pollution (Regulation and Control) Rules, 2000;
- b) Environment (Protection) Act, 1986;
- c) Environment (Protection) Amendment Rules, 2000; and
- d) Central Motor Vehicles Rules, 1989;
- e) Notification on Control of Noise from DG Sets, 2002.

5.4. Welfare Measures for Workers

5.4.1. Latrine and Urinal Accommodation:

- a) Latrine and urinals shall be provided as per Chapter VI, Part – II of Rule 80 of Haryana BOCWR and shall also comply with the requirements of public health

authorities; and

- b) When women are employed, separate latrine and urinals accommodation shall be provided.

5.4.2. Moving Sites:

- a) In case of works like track laying, the zone of work is constantly moving. In such cases, mobile toilets with proper facility to drain the sludge shall be provided at reasonably accessible distance; and
- b) In case the Contactor fails to provide required number of urinals and latrines or fails to maintain it as per the requirements of Public Health Laws, the Engineer shall have the right to provide/maintain through renowned external agencies at the cost of the Contactor.

5.4.3. Canteen

In every workplace wherein not less than 250 workers are employed, the Contractor shall provide an adequate canteen conforming to Chapter VI, Part – II of Rule 81 of Haryana BOCWR

5.4.4. Drinking Water.

As per Section 32 of BOCWA, the Contractor shall make in every site, effective arrangements to provide sufficient supply of wholesome drinking water. Quality of the drinking water shall conform to the requirements of national standards on Public Health Laws. While locating these drinking water facilities due care shall be taken so that these are easily accessible from the place of work for all workers at all location of the Site. All such points shall be legible marked “Drinking Water” in a language understood by most of the workmen employed.

5.4.5. Crèche

In every workplace where in more than 50 female workers are ordinarily employed, there shall be provided and maintained a suitable room for use of children under age of 6 years, conforming to the provisions of Section 35 of BOCWA.

5.4.6. Labour Accommodation Camps

Labour camp management plan shall be prepared and approved by Engineer. Where workers are based some distance from their normal place of residence, the Contractor

shall provide them with suitable and safe accommodation free of charge and shall take all necessary precautions to protect their health and welfare. The accommodation shall conform to the requirements of Section 34 of BOCWA and include but not be limited to the further measures specified hereunder.

- 5.4.7. All accommodation camps shall be provided always with a sufficient supply of clean drinking water (of potable quality according to national legal standards), in suitable and easily accessible locations:
- 5.4.8. The quality of drinking water shall be tested once a fortnight as prescribed in IS 10500:2012 and immediate remedial action shall be taken if quality falls below the standard. Test results shall be provided to the Engineer at least monthly.
- 5.4.9. The Contractor shall provide all accommodation camps with clean and properly equipped and staffed kitchen and canteen facilities to supply meals for workers.
- 5.4.10. The Contractor shall provide sufficient toilet and bathroom facilities for the numbers of workers accommodated in each camp. Separate accommodation and toilet/bathroom facilities shall be provided for men and women and all facilities shall be kept in full working order always and cleaned and re-equipped daily.
- 5.4.11. The Contractor shall provide a laundry facility for the Workers at the Labour Accommodation Camps.

6. ENVIRONMENT AND SOCIAL MANAGEMENT

6.1. General Conduct of the Works

- 6.1.1. The purpose and objective of these guidelines is to outline how the project will avoid, minimise or mitigate effects on the environment and surrounding area. These guidelines detail the implementation of measures in accordance with environmental and social commitments of HRIDC. These guidelines will be 'live' guidelines that will be reviewed and updated at regular intervals throughout the project life cycle. These guidelines will ensure that the development is compliant with current environmental and social legislations and will guide and assist the Contractor in exploring all reasonable and feasible means for reducing construction related environmental and social impacts.
- 6.1.2. The Contractor shall comply with the Environment and Social Management Plan (ESMP) given in the Environmental and Social Impact Assessment (ESIA) report

available on HRIDC portal for information disclosure and will note and implement any requirements therein, in addition to those found in this specification.

- 6.1.3. The Contractor is required to build good public relations before the commencement of the Works particularly with the local level representatives such as the Gram Panchayat, by informing the expected impacts by the Works and their schedule and dispute resolution mechanism known as GRM set by the Employer.

6.2. Environmental Legislation

- 6.2.1. The Contractor shall always comply with all relevant national and state legislations regarding environmental protection, pollution prevention and control, waste management and other relevant environmental matters, including but not necessarily limited to, the following with their latest amendments:

- a) The Environment (Protection) Act, 1986;
- b) The Environment (Protection) Rules, 1986;
- c) The Indian Wildlife (Protection) Act, 1972;
- d) The Forest (Conservation) Act, 1980 & Rules;
- e) Punjab Land Preservation Act, 1900;
- f) The Noise Pollution (Regulation and Control) Rules, 2000;
- g) Notification on Control of Noise from Diesel Generator (DG) sets, 2002;
- h) The Air (Prevention and Control of Pollution) Act, 1981 and Rules 1981;
- i) The Water (Prevention and Control of Pollution) Act, 1974 and Rules 1974;
- j) Guidelines to control and regulate ground water extraction in India, 24th September 2020, Central Ground Water Authority;
- k) The Solid Management Rules, 2016;
- l) The Construction and Demolition Waste Management Rules, 2016;
- m) The Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016;
- n) The Bio-medical Waste Management Rules, 2016;
- o) Plastic Waste Management Rules, 2016;
- p) E-Waste (Management) Rules 2016;

- q) The Batteries (Management and Handling) Rules, 2001;
- r) Manufacture, Storage and Import of Hazardous Chemical (Amendment) Rules, 1989;
- s) Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act 2010;
- t) Fly ash utilization notification, Sept 1999;
- u) Applicable NGT Guidelines issued time to time; and
- v) Provisions of Graded Response Action Plan notified by the MoEFCC.

6.2.2. If the requirements stated in this document are in conflict or inconsistent with the requirements of applicable laws, the more stringent requirements shall apply.

6.2.3. The Contractor shall comply the Environmental and Social Framework (ESF) of Asian Infrastructure Investment Bank (AIIB) February 2016.

6.2.4. It is also the Contractor's responsibility to obtain all official approvals, consents or other authorizations as may be necessary to comply with the relevant statutes, and to pay all related fees and other costs. The Contractor shall obtain all authorizations in a timely manner and submit to the Engineer as the evidence for the regulatory obligations before commencement of any related construction activity.

6.2.5. Contractor shall apply and take various environment clearances from the concerned agencies as presented in Table below. These clearances are indicative, and Contractor is required to take any other clearance as required for its construction activities.

Clearance/ Permission//Permit	Relevant Acts/Rules	Concerned Agency
Consent to Establish and Consent to Operate batching plants and casting yards	<ul style="list-style-type: none"> • The Water (Prevention and Control of Pollution) Act, 1974, and its amendments; • The Air (Prevention and Control of Pollution) Act 1981 and its amendments 	Haryana Pollution Control Board

Clearance/ Permission//Permit	Relevant Acts/Rules	Concerned Agency
Authorization for generation, handling, storage and transportation of hazardous waste	Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016	Haryana Pollution Control Board
Permission for extraction of ground water	Central Ground Water Authority guidelines to regulate and control ground water extraction in India, 24 th September, 2020	Central Ground Water Authority
Pollution Under Control Certificate	Central Motor and Vehicle Act 1988, Vehicular Exhaust Norms, CPCB 2007	Department of Transport, Government of Haryana
Construction and Demolition Waste Management Plan	Construction & Demolition Waste Management Rules, 2016	Local Authority (Municipal Corporation)
Cutting of trees	Punjab Land Preservation Act, 1900 (PLPA, 1900)	Forest Department, Haryana

6.3. Environmental Friendly Construction Practices

6.3.1 Containment of Air Pollution

a) During Transport of Material

- i) The Contractor shall take precautions to minimise visible particulate matter from being deposited upon public roadways as a direct result of his operations. Precautions include removal of particulate matter from equipment before movement to paved streets or prompt removal of material from paved streets onto which such material has been dropped;
- ii) All construction equipment should be washed clean of visible dirt/mud before exiting the construction sites. Any deposition of material on public streets by construction equipment should be removed by manual sweeping, or by deploying electro – mechanical devices;
- iii) The Contractor shall provide a wash pit or a wheel washing and/or vehicle cleaning facility at the exits from work sites such as construction depots and batching plants. At such facility, high-pressure water jets will be directed at the wheels and the body of vehicles to remove all spoil and dirt. Water shall be pumped through an electrically operated pump set, to hydrants attached with rubber hoses, by activation of push button located at the hydrant, allowing for

up to 10 minutes of wash time;

- iv) Wheel washing facilities and/or vehicle cleaning facility will be provided with efficient drainage, incorporating silt traps to prevent any excessive build up of water. These facilities could include water re-circulation apparatus to minimise water consumption. At the wheel wash facility, water, dirt, gravel etc. shall be drained into precast trench drains with removable grated cover. This dirty water shall flow, through a piping, into solids separator and from there to oil separator before final discharge;
- v) Where wheel-washing facility is not possible, the Contractor shall ensure manual cleaning of wheels by wire brushes or similar suitable means;
- vi) The Contractor shall ensure that vehicles with an open load carrying shall not be used for moving potentially dust-producing materials. Vehicles shall have properly fitting side and tailboards. Materials having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be carried in vehicles fitted with cover lids or tarpaulin covers;

b) At Dumping Sites

- i) The Contractor shall place excavated materials in the dumping/disposal areas designated in the drawings;
- ii) The Contractor shall place material in a manner that will minimise dust production. Material shall be stabilised each day by watering or other accepted dust suppression techniques;
- iii) Materials should not be dropped from more than 1.5 m to limit fugitive dust generation;
- iv) The Contractor shall stockpile material in the designated and approved locations with suitable slopes. Access to the site shall be regulated for entry of men, material and machine.
- v) During dry weather, dust control methods such as water sprinkling must be used daily at every two hours intervals especially on windy, dry days to prevent any dust from blowing and causing nuisance. During rains, the stockpile may be covered with tarpaulin or similar material to prevent run off;
- vi) The Contractor shall provide water sprinkling at any time that it is required for dust control use;
- vii) Sufficient equipment, water, and personnel shall be available on dumping sites at all time to minimise dust formation and movements to prevent nuisance;
- viii) Dust control activities shall continue even during work stoppages.

c) At Construction Site

- i) At each construction site, the Contractor shall provide storage facilities for dust generating materials and shall be closed containers/bins or wind protected shelters or mat covering or walled or any combination of the above to the satisfaction of the Engineer. The Contractor shall spray water at construction sites as required to suppress dust, during handling of excavation soil or debris or during demolition;
- ii) Stockpiles of sand and aggregate greater than 20m³ for use in concrete manufacture shall be enclosed on three sides, with walls extending above the stockpile and two (2) metres beyond the front of the stockpile;
- iii) Effective water sprays shall be used during the delivery and handling of all raw sand and aggregate and other similar materials, when dust is likely to be created and to dampen all stored materials during dry and windy weather;
- iv) Areas within the Site such as construction depots and batching plants, where there is a regular movement of vehicles shall have an approved hard surface that is kept clear of loose surface material;
- v) Unless the Engineer has given notice otherwise, the Contractor shall restrict all motorised vehicles on the Site to a maximum speed of 15 kilometres per hour and confine haulage and delivery vehicles to the designated roadways inside the site;
- vi) At the Batching plant the following additional conditions shall be complied with:
 - A) The Contractor shall undertake at all times the prevention of dust nuisance as a result of his activities;
 - B) The Contractor shall frequently clean and water the concrete batching plant and crushing plant sites and ancillary areas to minimise any dust emission.
- vii) The Contractor shall erect hoardings as specified in Engineer requirements securely around all construction work sites during the main construction activity, to contain dust within the site area and also to reduce air turbulence caused by passing traffic. The hoarding shall be safely secured to the ground to prevent from toppling with minimum gap between the base of hoarding and ground surface.

d) During Drilling and Blasting

- i) Water spray should be used to control dust during breaking of rock/concrete;
- ii) During blasting operations, appropriate precautions should be taken to

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- minimise dust such as the use of blast nets, canvas covers and watering;
- iii) Wire mesh made of heavy-duty tyres or sand bags should be used over blast area on each shot to prevent flying rock and reduce dust;
 - iv) Blasting technique should be consistent not only with nature and quantity of rock to be blasted but also the location of blasting;
 - v) The Contractor shall give due preference to explosives with better environmental characteristics;
 - vi) Vibration shall be monitored during blasting and values shall not exceed the standards.

6.3.2 Containment of Water Pollution

- a) The Contractor shall comply with the Indian Government legislation and other State regulations in existence in Haryana insofar as they relate to water pollution control and monitoring;
- b) At construction depots and batching plants temporary drainage works should be maintained, removed and reinstated as necessary and all other necessary precautions should be taken for avoidance of damage by flooding and silt;
- c) A Drainage system should be constructed during the commencement of the works, drain off all surface water at the site into suitable drains;
- d) Sedimentation tanks or other acceptable measures, of sufficient capacity to trap silt-laden water before discharge into the outlet drain should be provided. The system should be flexible and be able to handle multiple inputs from a variety of sources;
- e) Temporary open storage of excavated materials meant for backfilling on site, should be covered with tarpaulin or similar fabric during rainy season or at any time of the year when rainstorms are likely. Washout of construction or excavated materials should be diverted to drainage system through appropriate sediment traps;
- f) All water and waste products (surface runoff and wastewater) arising on the site shall be collected and removed from the site via a suitable and designated temporary drainage and disposed off at allocation and in a manner that will leave neither pollution nor nuisance;
- g) The Contractor will not be permitted to directly discharge, to the drainage system, unused trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavation should be discharged into storm ground water obtaining from the excavation without obtaining notice of no objection from the Agency controlling the system;

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- h) The Contractor shall prevent soil particles and debris from entering the wells or water discharge points by use of filters and sedimentation basins as required;
 - i) The Contractor shall provide treatment facilities as necessary to prevent the discharge of contaminated ground water;
 - j) The Contractor shall at all times ensure that all existing stream courses and drains within, and adjacent to the site are kept safe and free from any debris and any excavated materials arising from the Works;
 - k) The Contractor shall discharge wastewater arising from site offices, canteens or toilet facilities constructed by him into sewers after obtaining prior notice of no objection of agency controlling the system. A wastewater drainage system shall be provided by the Contractor to drain wastewater into the sewerage system;
 - l) The Contractor shall take measures to prevent discharge of oil in land and water bodies. Oil separator/interceptors shall be provided at Batching Plant and construction depot location for vehicle maintenance to prevent the release of oils and grease into the drainage system. These shall be cleaned on a regular basis;
 - m) A Spill Prevention and Control Procedure shall be prepared to identify project components such as storage areas, storage tanks that could allow discharge of oil grease or hazardous materials to the drainage system or ultimately in any water body during spillage. The volume of spill should be calculated as well as storage volume to contain spill within the materials storage containment areas. The procedure shall include measures to contain and mitigate transportation of oil, grease or hazardous materials to the drainage system or any water body;
 - n) The Contractor shall ensure that earth, bentonite, chemicals and concrete agitator washings etc. are not deposited/drained in the watercourses but are suitably treated and effluents and residue disposed off in a manner approved by local Regulatory Authorities;
 - o) Construction works should be programmed to minimize soil excavation works in rainy season. If excavation in soil could not be avoided in these months or at any time of year when rains are likely, for the purpose of preventing soil erosion, temporarily exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Arrangement should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of rains;
 - p) Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms.

Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system;

- q) Wastewater from Concrete Batching & Precast Concrete Casting and that generated from the washing down of mixer trucks and drum mixers and similar equipment should wherever practicable be recycled. The discharge of wastewater should be kept to a minimum;
- r) The section of construction road between the vehicle washing bay and the public road should be paved to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains;
- s) Surface run-off should be segregated from the concrete batching plant and casting yard area as much as possible and diverted to the storm water drainage system. Surface run-off contaminated by materials in a concrete batching plant or casting yard must be treated to, within the discharge norms before disposal into storm water drains;
- t) The Contractor shall apply to the appropriate authority for installing bore wells for water supply at site;

6.3.3 Containment of Noise

- a) To the extent required to meet the noise limits, the Contractor shall use reasonable efforts to include noise reduction measures listed below to minimize construction noise emission levels. Noise reduction measures – include, but not limited to the following:
 - i) Minimize the use of impact devices, such as jackhammers, and pavement breakers. Where possible, use concrete crushers or pavement saws for tasks such as concrete deck removal and retaining wall demolition;
 - ii) Equip noise producing equipment such as jackhammers and pavement breakers with acoustically attenuating shields or shrouds recommended by the manufacturers thereof, to meet relevant noise limitations;
 - iii) Pneumatic impact tools and equipment used at the construction site shall have intake and exhaust mufflers recommended by the manufacturers thereof, to meet relevant noise limitations;
 - iv) Provide mufflers or shield panelling for other equipment, including internal combustion engines, recommended by manufacturers thereof;
 - v) Employ prefabricated structures instead of assembling on-site;
 - vi) Use electric instead of diesel-powered equipment;
 - vii) Use hydraulic tools instead of pneumatic impact tools.

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- b) Maximize physical separation, as far as practicable, between noise generators and noise receptors. Separation includes following measures:
 - i) Provide enclosures for stationary items of equipment and barriers around particularly noisy areas on site;
 - ii) Locating stationary equipment in such a way, so as to minimize noise and vibration impact on community.
 - c) To the extent feasible, configure the construction site in a manner that keeps noisier equipment and activities as far as possible away from noise sensitive locations and nearby buildings. Plant and equipment known to emit noise strongly in one direction should where possible, be oriented in a direction away from noise sensitive receptor and reduce the number of plant and equipment operating in critical areas close to noise sensitive receptors.
 - d) Scheduling truck loading, unloading, and hauling operations in such a way so as to minimize noise impact near noise sensitive locations and surrounding communities;
 - e) Minimize noise intrusive impacts during most noise sensitive hours by adopting the following:
 - i) Plan noisier operations during times of highest ambient noise levels;
 - ii) Keep noise levels relatively uniform; avoid excessive and impulse noises;
 - iii) Equipment and plant are not to be kept idling when not in use.
 - f) Use only well maintained plant/equipment at site, which should be serviced regularly;
 - g) Maintain equipment such that parts of vehicles and loads are secure against vibrations and rattling;
 - h) Grading of surface irregularities on construction sites to prevent the generation of impact noise and ground vibrations by passing vehicles;
 - i) Schedule work to avoid simultaneous activities that generate high noise levels;
 - j) The construction of temporary noise barriers;
 - k) If back-up alarms are used on construction equipment, their noise emission level near noise sensitive receptors such as residences, schools, hospitals and similar areas where calmness is essential, should be regulated, especially at night time;
 - l) Select truck routes for muck disposal so that noise from heavy-duty trucks will have minimal impact on sensitive areas (e.g., residential);
 - m) Conduct truck loading, unloading and hauling operations in a manner such that

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- noise and vibration are kept to a minimum;
- n) Avoid operating truck on streets that pass by schools during school hours;
 - o) The Contractor shall make efforts to bring down the noise levels due to the DG set, outside his premises, within the ambient noise requirements by proper setting and control measures;
 - p) Installation of a DG set must be strictly in compliance with the recommendations of the DG set manufacturer. The Contractor shall ensure that all necessary permissions/ approvals/consent is obtained from relevant authorities before installation and operation of Generator set;
 - q) A proper routine and preventive maintenance procedure for the DG set should be set and followed in consultation with the DG set manufacturer which would help prevent noise levels of the DG set from deteriorating with use;
 - r) At all times noise levels due to construction activities/DG sets etc. shall comply the standards set out by CPCB/SPCB;
 - s) If the measures to control noise pollution are found to be ineffective, the employer may issue stop work order till the time remedial measures are found to be effective to the satisfaction of employer.

6.3.4 Containment of Waste

- a) The Contractor is required to develop, institute and maintain a Waste Management Plan (WMP) during the construction of the project for his works, which may include:
 - i) Identification of disposal sites;
 - ii) Identification of quantities to be excavated and disposed off;
 - iii) Identification of split between waste and inert material;
 - iv) Identification of amounts intended to be stored temporarily on site location of such storage;
 - v) Identification of intended transport means and route;
 - vi) Obtaining permission, where required, for disposal;
- b) Such mechanism is intended to ensure that the designated area for the segregation and temporary storage of reusable and recyclable materials are incorporated in the WMP. The WMP shall be prepared and submitted to Engineer for approval.
- c) The Contractor shall handle waste in a manner that ensures they are held securely

without loss or leakage thus minimizing potential for pollution. The Contractor shall maintain and clean waste storage areas regularly;

- d) Careful design, planning and good site management can minimise waste of materials such as concrete, mortars and cement grouts. The Contractor shall ensure regular maintenance and cleaning of the waste storage areas;
- e) Construction activities are expected to generate a variety of waste such as:
 - i) General refuse;
 - ii) Construction Waste including waste from excavated material;
 - iii) Chemical waste;
 - iv) Hazardous waste; and
 - v) Biomedical waste.

Handling and disposal of such waste may cause environmental degradation and nuisance. To prevent it, such waste has to be handled and disposed properly. As such, transportation and disposal of all waste shall be strictly managed;

- f) The Contractor shall make arrangements to dispose of metal scrap and other waste to authorised vendors and make available to Employer/Employer Representative on request and records;

General Refuse

- g) Each worksite would generate general refuse including paper and food waste. There is likely to be a concentration of such waste at batching plants on major worksite. The storage of general refuse has the potential to give rise to negative environmental impacts;
- h) Burning of wastes is prohibited. The Contractor shall not burn debris or vegetation or construction waste on the site;
- i) Handling and disposal of general refuse shall cope with the peak construction workforce during the construction period. The refuse shall be stored and transported in accordance with good practice and disposed at licensed landfills;
- j) General refuse shall be stored in enclosed bins or units and has to be separated from construction and chemical wastes. An authorised waste collector shall be employed by the Contractor to remove general refuse from the site, on a daily basis to minimise odour, pest and litter impacts.

Construction and Demolition Waste

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- k) Construction Waste would mainly arise from the project construction activities and from the demolition of existing structures where necessitated. It includes unwanted materials generated during construction, rejected structures and materials, materials that have been over-ordered and materials, which have been used and discarded such as:
 - i) Material and equipment wrapping packaging material;
 - ii) Unusable/surplus concrete/grouting mixes;
 - iii) Damaged/contaminated/surplus construction materials;
 - iv) Wood from formwork and false work;
 - v) Also, demolition of buildings and houses if any, will generate concrete rubble, plastics, metal, glass, asphalt from surfaces, wood and refuse.
 - l) Construction & Demolition (C&D) waste shall be stored at a designated area;
 - m) The C&D waste shall be disposed off in a manner in compliance with the procedure given in the Construction & Demolition Waste Management Rules, 2016;
 - n) The Contractor shall be responsible for collection, segregation and storage of construction and demolition waste, as directed or notified by the concerned local authority in consonance with the Construction & Demolition Waste Management Rules, 2016;
 - o) The Contractor shall ensure that other waste does not get mixed with this waste and is stored and disposed separately;
 - p) The Contractor shall dispose C&D waste only at authorized processing facilities and ensure that there is no littering or deposition of construction and demolition waste so as to prevent obstruction to the traffic or the public or drains;
 - q) Disposal of C&D waste along the riverbed, natural drainage and wet land is strictly prohibited and the Contractor shall be fined for noncompliance of this requirement in addition to the penalty imposed by the NGT from time to time;
 - r) The requirement of concrete/RCC/PCC waste disposal, generated from the entire contract shall be either when 15 Tonnes of C&D waste which has been generated or such C&D waste has been stored for 15 days (irrespective of quantity), of the two whichever is earlier;
 - s) A proper arrangement for record keeping has to be maintained to ensure disposal of C&D waste to C&D waste recycling plant. Contractor shall submit the record of C&D waste disposal to recycling facility, in his Monthly Environment Report;

Hazardous Waste

- t) If encountered or generated as a result of Contractor's activity, then waste classified as hazardous under the "Hazardous Waste (management, handling and trans-boundary movement) rules, 2016" shall be disposed off in a manner in compliance with the procedure given in the rules under the aforesaid act;
- u) Chemicals classified as hazardous chemicals under "Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 of Environment (Protection) Act, 1986 shall be disposed off in a manner in compliance with the procedure given in the rules under the aforesaid act;
- v) Hazardous waste would mainly arise from the maintenance of equipment. These may include, but not be limited to, the following:
 - i) Used engine oils, hydraulic fluids and waste fuel;
 - ii) Spent mineral oils/cleaning fluids from mechanical machinery;
 - iii) Scrap batteries or spent acid/alkali; and
 - iv) Spent solvents/solutions, some of which may be derived, from equipment cleaning activities.
- w) The Contractor shall identify all the hazardous waste generated as a result of his activities. If such waste is generated then the Contractor shall apply to State Pollution Control Board for 'authorisation' according to Form 1 of the Hazardous Waste (Management & Handling) Rules and dispose the same only to currently authorised recyclers (a list of which can be obtained from Haryana Pollution Control Board) under intimation to the Employer's Representative;
- x) Waste oil and chemical containers shall be delivered to the Contractor's Storage yard. The Contractor is responsible for the correct storage and handling of waste oil/waste chemical containers for such a time until they are transported to the chosen disposal area or waste oil containers;
- y) For disposal of waste requiring special attention and hazardous waste the Contractor shall enter into agreement with authorised agencies dealing with the same;
- z) The hazardous waste shall be stored on an impermeable surface with containment bunding to retain leaks, spills and ruptures;
- aa) All waste collection containers shall be of appropriate size with a closed lid. Each container will be clearly labelled both with a colour code system and labelled in

local language and English. Original labels of empty containers should be completely covered and the contents of the type of waste stored in the used containers clearly indicated.

Bio medical waste

- bb) The Contractor shall not mix Biomedical Waste & General Waste. Storage time of waste shall be as less as possible so that waste storage, transportation and disposal is done within 48 hours;
- cc) All bags or containers containing segregated bio-medical waste shall be labelled (including bar code) as per Bio Medical Waste Rules before disposal;
- dd) The contractor shall ensure Adequate number of colour coded bins/containers or bags shall be available at the point of generation of bio-medical waste;
- ee) The contractor shall ensure Posters/ placards for bio-medical waste segregation shall be installed at the point of generation;
- ff) General waste should not be collected at the same time or in the same trolley in which bio-medical waste is collected;
- gg) Disposal of biomedical waste shall be through a licensed waste collector, duly authorized by MoEFCC or Haryana Pollution Control Board as the case may be. License of the waste collector shall be shown to the Employer's Representative on demand;
- hh) Bio-medical waste collected by the staff, shall be provided with PPEs.

Storage and Segregation of Waste

- ii) Collection and storage points shall be established around all construction work sites. The waste containers shall be of at least 50L/100L;
- jj) Different areas of the worksites shall be designated for such segregation and storage wherever site conditions permit;
- kk) Outside the storage area, the Contractor shall place a 'display board', which will display quantity and nature of waste;
- ll) Segregation of Waste shall be done on site. All waste shall be stored in different coloured bins as per table below:

Storage of Waste

Type of Waste	Colour
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Wet/Organic/ Bio-Degradable Waste	Green Bins with lids
Dry/Recyclable waste (excluding Bio-medical waste/ hazardous waste)	Blue
Bio-Medical waste	Red with lids
E-Waste	Black
Hazardous Waste	Brown
COVID Waste	Yellow

mm) On-site measures promoting proper segregation and disposal of construction waste shall be implemented.

6.3.5 Housekeeping

- a) The Contractor shall constitute a special group of housekeeping personnel in - charge of each work section. Site Engineer of each section or work areas shall be responsible for housekeeping at their respective sites;
- b) Each section of work site shall maintain the site reasonably clean, keep free from obstruction and properly store any construction equipment, tools, and materials. Any wreckage, rubbish shall be temporarily stored in wreckage and rubbish bins. These wreckage and rubbish bins shall be cleaned at frequent intervals. Special housekeeping group will ensure daily cleaning work at the site and its surrounding areas;
- c) General Housekeeping shall be carried out and ensured at all times at work sites, Labour Camps, Stores and Offices;
- d) Full height fence, barriers etc. will be installed at the site in order to preserve the surrounding area from excavated soil, rubbish etc which may cause inconvenience to public.
- e) The Contractor will ensure that all sub-Contractors maintain the site reasonably clean through the sub-contract's provision related to housekeeping;
- f) The Contractor's designated department through daily pre-work meeting (tool box talk), safety meeting etc. will impart the necessary introduction and education to labour on housekeeping. Other staff such as supervisors and engineers working at the site will also be educated on the necessity of good housekeeping;
- g) Every individual would be responsible for housekeeping in his area i.e.
 - i) At Work Site: All workers shall clean their work place after completion of their job. Supervisor shall ensure good housekeeping of their respective work area through their workers. Section Managers shall ensure housekeeping in their area through their supervisors. Contractor's designate department will monitor

this activity through section manager as well as site supervisor;

- ii) At Labour Camp: All workers shall be responsible to maintain good housekeeping and hygienic condition in their respective rooms/dormitories. The Contractor shall ensure the availability of dustbins at required place and regular cleaning of rooms, kitchens, toilet blocks and dustbins. Safe disposal of all waste materials shall also be ensured. Arrangement for regular fumigation shall be made by the Contractor;
- iii) At Store: Proper access and stacking shall be ensured at the Stores. A list will display daily stock of materials. All work material shall be stored in clearly marked containers or at designated storage area;
- iv) At Office: Everyone is responsible to maintain housekeeping of their work station. Disposal of waste materials (i.e. stationary, cigarette butts, tea bags etc.) must be in dustbin only.

6.3.6 Avoidance of Nuisance

- a) The Contractor shall take all precautions to avoid any nuisance arising from his operations. This shall be accomplished, wherever possible by suppression of nuisance at source rather than abatement of the nuisance once generated;
- b) Following site clearing and before construction, the Contractor shall remove all trash, debris and other weeds;
- c) The Contractor shall ensure that the work place is free of trash, garbage, debris and weeds;
- d) The Contractor shall provide at site, metal or heavy-duty plastic 'Refuse Containers' with tight fitting lids for disposal of all garbage or trash associated with food;
- e) To keep the area free of litter and garbage, specific locations shall be designated for consuming food and snacks to prevent random disposal of waste. All waste shall be deposited in the refuse containers. Suitable all weather signage shall be prominently displayed for compliance of these requirements;
- f) The refuse containers shall be kept upright with their lids shut. These containers shall be emptied at least once daily by the Contractor to maintain site sanitation. There shall be different containers for bio-degradable/recyclable and hazardous (flammable) wastes;
- g) All plants/equipment/machinery shall be well maintained by regular servicing and kept free from oil/grease dripping. Drip pans of suitable size shall be used to collect oil leakages and spills. The area shall be cleaned after completion of

maintenance/repair and generated waste disposed off in approved manner;

- h) The Contractor shall make available Material Supply Data sheet (MSDS) for material/chemicals/substances used, for which these are available to the Engineer when requested;
- i) Such material/chemicals/substances used shall be treated, handled, stored, transported and disposed off, by the Contractor, in a manner specified in the MSDS.

6.3.7 Landscape, Greenery and Aesthetics

- a) As far as is reasonably practicable, the Contractor shall maintain ecological balance by preventing deforestation and defacing of natural landscape. In respect of ecological balance, the Contractor shall observe the following instructions.
- b) The Contractor shall, so conduct his construction operations, as to prevent any avoidable destruction, scarring or defacing of natural surroundings in the vicinity of work;
- c) Where destruction, scarring, damage or defacing may occur as a result of operations relating to Permanent or Temporary works, the same shall be repaired, replanted or otherwise corrected at Contractor's expense. All work areas shall be smoothed and graded in a manner to conform to natural appearance of the landscape as directed by the Engineer;
- d) The Contractor shall be able to demonstrate evidence that the landscape and aesthetics quality during construction have been considered and appropriate actions have been taken to mitigate negative impacts due to construction;
- e) Light used for construction lighting can illuminate adjacent areas in undesired ways. Such lighting and glare shall be prevented from striking adjacent areas, where feasible, through directional shielding;
- f) The other measures include but not limited to:
 - i)Erection of decorative screen hoarding prominently displaying the logo of HRIDC;
 - ii) Minimising height of temporary buildings;
 - iii) Careful positioning of construction equipment;
 - iv) Eliminating the possibility of stockpiles of material from being visible to public;
 - v) Strategically placing hi visibility site markings at construction sites indicating facilities, offices and stores;

- vi) Adequate and properly managed parking of vehicles at construction depots and batching plants;

g) Tree Felling

- i) The Contractor shall identify the number of trees that are required to be felled as a result of construction of works and facilities related to project and inform to the Engineer;
- ii) All trees and shrubs, which are not specifically required to be cleared or removed for construction purposes, shall be preserved and shall be protected from any damage that may be caused by Contractor's construction operations and equipment. The Contractor shall not fell, remove or dispose of any tree or forest produce in any land handed over to him for the construction of works and facilities related to project except with the previous permission obtained from the Forest Department;
- iii) Special care shall be exercised where trees or shrubs are exposed to injuries by construction equipment, blasting, excavating, dumping, chemical damage or other operation and the Contractor shall adequately protect such trees by used of protective barriers or other methods approved by Engineer;
- iv) Trees shall not be used for anchorage.

6.3.8 Energy Management

- a) By using energy efficiently, the same services can be delivered with less energy, which helps protect the environment by preventing pollution;
- b) Measures to conserve energy include but not limited to the following:
 - i) Use of energy efficient motors and pumps;
 - ii) Use of energy efficient lighting, which uses energy efficient luminaries;
 - iii) Adequate and uniform illumination level at construction sites suitable for the task;
 - iv) Proper size and length of cables and wires to match the rating of equipment;
 - v) Use of energy efficient air conditioners.
- c) The Contractor shall optimize the use of tools and plants and equipment to perform tasks with correct power. Optimizing cable sizes and joints can control voltage drops;
- d) The Contractor shall use energy efficient pumps (at least 80% efficiency) and

- motors (95% efficiency or more). The efficiency shall be measured during installation and also periodically;
- e) The Contractor shall use Diesel Generating sets that have specific fuel consumption of at least 3.5 units per litre of diesel. The Contractor should rigorously follow the maintenance regime of his DG sets;
 - f) The Contractor shall maximize the use of energy efficient luminaries such as LED's, metal halide lamps and similar and ensure optimum illumination levels to save energy. The Contractor shall make provision of Earth Leakage Circuit Breakers (ELCBS) to prevent loss of excessive earth currents which are unsafe;
 - g) The Contractor shall plan in advance and select locations to receive and store material such that these are at the least distance from place of use. Such an approach will result in less energy being consumed since optimum energy will be expended for transport of material;
 - h) The Contractor shall plan works in a manner as to avoid reworking especially during meeting the interface requirements of systems Contractor;
 - i) The Contractor shall design site offices maximum daylight and minimum heat gain. The rooms shall be well insulated to enhance the efficiency of air conditioners and the use of solar films on windows may be used where feasible;
 - j) The Contractor shall use and maintain equipment so as to conserve energy and shall be able to produce demonstrable evidence of the same to the Engineer.

6.3.9 Archaeological And Historic Resources

During the construction period, Archaeological or Historic resources may potentially be affected by direct or indirect construction activity. If any such structures are likely to be affected, special measures to be initiated with the notice of no objection of the Engineer.

- a) The Contractor shall consult the Archaeological Survey of India (ASI) and other parties, on the advice of the Engineer, to identify and assess construction effects and seeks ways to avoid, minimize or mitigate adverse effects on such monuments;
- b) Adverse effects may include reasonably foreseeable effects caused by the construction that may occur later in time, be farther removed in distance or those that alter, howsoever temporarily, the significance of the structure;
- c) Prior to the initiation of construction, Engineer intends to review a resource protection plan for historic structures where it appears that they may be affected by the project. This plan will be developed by the Contractor in consultation with The Archaeological Survey of India (ASI);

- d) The plan will identify the sensitive resources as well as specify the construction monitoring requirements. These requirements may include ground vibration monitoring and recording any components inadvertently subjected to impact;
- e) The Contractor shall stop work immediately and notify the Engineer if, during construction, an archaeological or burial site is discovered. The work will not recommence until approval of the Engineer is obtained for the same.

6.3.10 Fly Ash

The Contractor shall use fly ash as a percentage substitution of cement, in concrete for certain structures and works as prescribed in the latest MoEFCC fly ash notification dated September 1999 and its subsequent amendments. The notification makes it mandatory for use of fly ash-based products in construction activities located within 300Km from coal or lignite based thermal power plants.

As per the notification, only fly ash based products shall be used for construction such as cement or concrete, fly ash bricks or blocks or tiles or clay fly ash bricks, block or tiles or cement fly ash bricks or bricks or blocks or similar products or a combination or aggregate of them. The Contractor shall provide details of usage of such products to Engineer.

In all such uses of Fly Ash, the Contractor shall maintain a detailed record of usage of Fly Ash. The Contractor shall also collect related details and provide to the Employer.

6.4. Environmental Monitoring

6.4.1 Baseline Study: Before commencement of actual construction work, all items and parameters **specified** in ESHS Management Plan shall be monitored once as the baselines of the environmental condition prior to the construction and compared with the monitored values during the construction period;

6.4.2 Qualification of Monitoring Agency: Monitoring shall be conducted by the qualified agencies (MoEFCC approved or NABL accredited) and approved by the Engineer having capabilities of conducting environmental monitoring;

6.4.3 Enforcement of the Monitoring: Monitoring plan shall be proposed in the Contractor's ESHS Management Plan and must be approved by the Engineer before commencement of the monitoring. The Contractor shall monitor the prescribed environmental parameters and confirm the compliances of the permissible standards. If the monitoring results are in excess of baseline and standards, cause analyses and necessary counter measures shall be proposed to the Engineer in the monitoring reports;

6.4.4 Location, Parameters, and Frequency of the Monitoring: Environmental Monitoring will be carried out for Air, Noise, Vibration, Water Quality (Both Ground water and surface water), Waste, Hazardous waste. Parameters, standards, location and frequency are given in following tables.

Parameters, Standards, Location and Frequency of Monitoring

Parameters	Sampling Standards	Location	Frequency
Air (PM₁₀, PM_{2.5})	CPCB (2011) Guidelines for the Measurement of Ambient Air	One representative location within each construction yard and batching plant	Monthly
	Pollutants, Manual Sampling & Analyses	Closest residential or commercial area (one location) within 100m from each active construction site or representative locations approved by the Engineer	Monthly
Noise Day Time (6 AM – 10PM)	CPCB (2015) Protocol for Ambient Level Noise Monitoring	One representative location within each construction yard and batching plant	Weekly

Parameters	Sampling Standards	Location	Frequency
<p>L_{max}, L_{min}, L_{eq}, L_{10}, L_{90}, L_{50}</p> <p>Night Time (10PM – 6AM)</p> <p>L_{max}, L_{min}, L_{eq}, L_{10}, L_{90}, L_{50}</p>		Closest residential or commercial area (one location) within 100m from each active construction site or representative locations approved by the Engineer	Weekly
Vibration (in mm/s or VdB)	IS 14884 (2000)	During complaints or as directed by employer.	
<p>Drinking/Ground Water (pH, Total Alkalinity, Electrical Conductivity, Total Dissolved Solids, Fluoride, Arsenic, Nitrate, Iron,, Lead, Cadmium, E-coli)</p>	IS 3025 (2008) & IS 10500 (2012)	Drinking water: construction yard, batching plant and labour camps	Quarterly (April, July, October, January)
		Groundwater: one representative tube/bore well in the adjacent residential area or within 100m from each active construction site	Quarterly (April, July, October, January)
<p>Surface Water pH, Total Dissolved Solids, Fluoride, Arsenic, , Iron, , Lead, , E-coli</p>	IS 3025 (2008) & IS 2296 (1982) & CPCB (2012) Guide Manual Water and Wastewater Analysis	<p>Upstream and downstream of the river/stream if any.</p> <p>Any natural water course (ex. Pond etc) located or within 100 m of each a) construction yard, b) labour camp, and c) active construction site</p>	Quarterly (April, July, October, January)

Parameters	Sampling Standards	Location	Frequency
Waste	Not available but fully complying with monitoring the quantities of wastes specified by the Solid Management Rules 2016 & the Construction and Demolition Waste Management Rules 2016	Each construction yard and construction site	Quarterly (April, July, October, January)
Hazardous waste	Not available but typed reporting (not hand writing) fully complying with monitoring the quantities of wastes specified by the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016,	Each construction yard and active construction site	Quarterly (April, July, October, January)
Complaints if any		All Works' related locations	Weekly

6.5. Complaint Response Process

- 6.5.1 Enquiries, complaints and requests for information can be expected from a wide range of individuals and organisations both private and government. The majority of complaints is likely to be received by HRIDC, although the site offices are also likely to be contacted;
- 6.5.2 The objective of complaint process is to ensure that public and agency complaints are addressed and resolved consistently and expeditiously;
- 6.5.3 The Contractor's Project Manager will be notified immediately on receipt of complaint that may relate to environmental impacts. The Project Manager will immediately inform the Engineer;
- 6.5.4 Field investigation shall determine whether the complaint has merit, and if so action shall be taken to address the impact;

- 6.5.5 The outcome of the investigation and the action taken shall be documented on a complaint Performa prepared by the Contractor and submitted for notice by the Engineer in advance of the works;
- 6.5.6 Where possible, a formal response to each complaint received shall be prepared by the Contractor within seven days in order to notify the concerned person(s) that action has been taken.

6.6. Social Legal Requirement

- 6.6.1 The Contractor shall always comply with all relevant national and state legislations regarding social safeguard including but not necessarily limited to, the following with their latest amendments
- a) National Policy for the Empowerment of Women, 2001;
 - b) The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013;
 - c) The Protection of Children from Sexual Offences Act, 2012;
 - d) The Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (Prevention and Control) Act, 2017;
 - e) Child Labour (Prohibition & Regulation) Act 1986
 - f) Some of the key International instruments for the protection of women include the following:
 - g) United Nations General Assembly, Resolution 52/86 on Crime Prevention and Criminal Justice Measures to Eliminate Violence Against Women, 2 February 1998;
 - h) United Nations Security Council Resolution 1325 on Women, Peace and Security, 31 October 2000;
 - i) Environmental and Social Framework (ESF) of Asian Infrastructure Investment Bank (AIIB) February 2016
 - j) Child Labour and Bonded Labour
 - k) The Contractor shall not hire children of less than 14 years of age and shall not engage bonded labour.

6.7. Gender equality

6.7.1 The Contractor is responsible for providing equal opportunities to both genders and end gender related discrimination, if any. The ESHS Committee will proactively identify cases of gender discrimination with key focus on the following topics:

- a) Gender based violence, including sexual harassment at the workplace;
- b) Disparity in benefits provided;
- c) Termination on account of pregnancy.

6.8. Cultural and Religious Issues

6.8.1 Disturbance from construction works to the cultural and religious sites, and Contractors lack of knowledge on cultural issues cause social disturbances. The Contractor shall

- a) Communicate to the public through community consultation, informing the peers and newspaper announcements regarding the scope and schedule of construction, as well as certain construction activities causing disruptions or access restriction;
- b) Not block access to cultural and religious sites and sites of importance for livelihood activities, wherever possible;
- c) Need to take mitigation measures while working near religious place/ educational institutions close to the construction sites;
- d) Provide freedom to construction workers to observe their cultural and religious practices;
- e) Monitor and be responsible for the behaviour of construction workers especially migrant workers towards the community. The workers must be debriefed well regarding local aspects and need to follow good behaviours, and informed regarding unexpected behaviours at the time of employing;
- f) Resolve cultural issues in consultation with local leaders and Project Manager;
- g) Establish a mechanism that allows local people to raise grievances (directly and indirectly) arising from the construction process;
- h) Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works so as to maintain effective surveillance over public health, social and security matters.

6.9. Guidelines for Addressing GBV in Projects

6.9.1 The Contractor's ESHS Plan shall include implementation of Gender Based Violence (GBV), Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) Prevention and Response Action Plan. This action plan shall describe Code of Conduct (CoC), mechanism to address such incidents, assess the project scenario and potential risks of GBV/SEA/SH, training plan for workers on GBV/SEA/SH and awareness programme amongst workers regarding socially, culturally appropriate behaviour that would ensure that the project community and women in particular are safe, secured, and not vulnerable to abuse. A sample GVB/SEA/SH action plan is given in Table below.

Table - GBV/SEA/SH Prevention Action Plan

Objective	Activity	Responsibility
Assess Potential Risk of GBV	Rapid assessment of worksite, project footprint (e.g. community structure, local self-governance, national regulations, history of incidence), type of workers (local or migrant) for possible GBV risk.	As part of the social impact assessment (to be updated at the time of construction).
Inclusive development	<ul style="list-style-type: none"> • Engage women in project planning and implementation • Incorporate women's feedback in project design and construction schedule • Organize systematic consultations with women to ensure continuous feedback on projects and identify any gender- 	

Objective	Activity	Responsibility
Training – women	sensitive adverse impacts <ul style="list-style-type: none"> • Sensitization of women on GBV and women's rights to avoid/avert such incidents • Sensitization of women on actions to be taken in case of GBV 	
Training – men	<ul style="list-style-type: none"> • Sensitization of male workers on GBV and women's rights to avoid/avert such incidents • Sensitization of male workers on actions to be taken in case of GBV • Sensitization of male workers on appropriate socially and culturally acceptable behaviour towards women • Training of managers on methods of dealing with cases of GBV 	
Awareness generation	<ul style="list-style-type: none"> • Distribution of leaflets propagating gender-appropriate behaviour • Signing of self-declaration format on commitment towards gender-sensitive behaviour 	

6.9.2 The Contractor shall constitute an appropriate Grievance Redress Mechanism (GRM) for addressing grievances at worksite. Grievances of workers will be first brought to the attention of supervisor at site. Grievances not redressed by the supervisor within 7 days will be brought to the Grievance Redress Committee (GRC). The composition of GRC will have representatives from workers, women representative, ESHS staff of the Contractor ESHS staff of GC. The main responsibilities of the GRC are to: (i) provide support to workers on problems arising at worksite, (ii) record workers grievances, categorise, prioritize grievances and resolve them, (iii) immediately inform the Engineer of serious cases and (iv) report to workers on development regarding their grievances and decisions of GRC. The panel of the GRC will function without any prejudice or fear of retaliation. The well-being of the panel members will be protected by HRIDC. A

format for record of complaints is given in General Instruction: ESHS/GI/008. The GRC will redress the grievances within 14 days.

6.9.3 This project has zero tolerance of any form of:

- a) **Gender-based violence (GBV)**, that is perpetrated against a person's will and that is based on socially ascribed gender-related differences between people.
- b) **Sexual exploitation and abuse (SEA)** which is attempted abuse of a 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.
- c) **Sexual harassment (SH)** which is unwelcome sexual advances, requests for sexual favors, and other unwanted verbal or physical conduct of a sexual nature.

6.9.4 Any incidence of GBV, SEA or SH should be reported to the Grievance Redress Committee (GRC). The panel of the GRC should take appropriate gender-sensitive actions to verify authenticity of the incident with due consideration to the safety, security, and dignity of the offended person. The investigation should be concluded within three days of receiving the report or as reasonably possible. Depending on the severity of the incident, the panel may report the case to appropriate authorities. Following the investigation, the GRC shall recommend appropriate actions to the company which may include but not limited to:

- a) Informal warning
- b) Formal warning
- c) Additional training
- d) Loss of up to one week's salary
- e) Suspension of employment (without payment of salary), for a minimum period of one month up to a maximum of six months
- f) Termination of employment

6.9.5 The affected person will be provided with appropriate support (e.g. psychological counselling, medical support and any other support as needed).

6.9.6 A self-declaration format for adherence to gender-sensitive behaviour should be signed by all contractors, subcontractors, employees, and senior managers, engaged by the Project to avoid GBV/SEA/SH at worksite. A self-declaration format is given in below:

Commitment Statement for all Project Workers

(to be translated into local language or explained in a manner that is appropriate for general understanding of the signee)

I, (name of person), acknowledge that preventing Gender-Based Violence (GBV), Sexual exploitation and abuse (SEA) and Sexual harassment (SH) is essential, and that preventing it is my responsibility. At [Company], GBV activities constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or potential termination of employment. All forms of GBV are unacceptable, be it on the worksite, the worksite surroundings, at workers' camps, or in the community. Prosecution of those who commit GBV may be pursued if appropriate.

I agree that while working on the [Project], I will:

- Cooperate with any relevant investigations.
- Treat women, children (definition of "child" shall be as specified in Child Labour (Prohibition and Regulation) Act, 1986) and men with respect regardless of race; color; language; religion; political or other opinion; national, ethnic or social origin; sexual orientation or gender identity; disability; birth or other status.
- Not use language or behaviour towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- Not request or engage in sexual favors - for instance, making promises or favorable treatment dependent on sexual acts, in or outside the work site.
- Refrain from abusive and violent behaviour, in the workplace, labor camp or surrounding communities.
- Attend and actively partake in training courses related to HIV/AIDS, GBV, SEA and SH as requested by my employer.
- Report through the grievance redress mechanism or to my manager any suspected or actual GBV by a fellow worker, whether in my company or not, or any breaches of this Code of Conduct.

[Company] recognizes that false accusations of sexual harassment can have serious effects on innocent persons. If, after the investigation, it is found that the complainant has maliciously or recklessly made a false accusation, the complainant will be subject to appropriate sanctions. In such a case, the company will also take appropriate action to restore the reputation of the accused.

I understand that it is my responsibility to use common sense and avoid actions or behaviours that could be construed as GBV or breach this Self-declaration format. I do hereby acknowledge that I have read the foregoing Self-declaration format, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV. I

understand that any action inconsistent with this Self-declaration format or failure to act, as mandated by this Self-declaration format may result in disciplinary action and may affect my ongoing employment.

I have familiarized myself with the contents of this Self-declaration format. By my signature below, I acknowledge, understand, accept and agree to comply with the information contained in the Self-declaration format provided to me.

I hereby confirm I have read and understand the Self-declaration format.

Name (Employee)

Signature

Date

7. FINANCIAL DEDUCTION/WITHHOLDING

7.1. Financial deductions from Contractor on occurrences of an incident.

- 7.1.1. Table No. 1 below indicates ESHS incidents and the corresponding deductions to be made from the Contractor under Sub-Clauses 2.5 [Employer's Claims], 14.3 (f) [Application for Interim Payment], 14.6 [Issue of Interim Payment Certificates] and 14.7 [Payment] of the General Conditions of Contract.
- 7.1.2. The affected part of the Works shall remain suspended until all necessary investigations are completed as prescribed in Clause 2. [ESHS Management], Sub-Clause 2.15 Accident Report and Investigation and as per the related local laws of the state.
- 7.1.3. Upon submission of the Contractor's Request for Inspection (RFI), a joint inspection of the affected part of the Works shall be carried out by the Engineer and the Contractor. On receipt of the Engineer's Consent (Notice of No Objection: NONO), the Contractor may resume the work.
- 7.1.4. The Contractor shall not be entitled to any extension of time or to the payment of any cost or profit due to any suspension in accordance with this Sub-Clause 7.1
- 7.1.5. The maximum amount of delay damages set out in Sub-Clause 8.7 [Delay Damages] of the General Conditions of Contract shall not be applicable where the cause of delay to completion is suspension of part of the Works due to the Contractor's non-compliance as described in this clause 7.1.

Table No. 1: Incidents

Sl. No.	Incident		Financial deductions from the Contractor in Indian Rupees	
1.	Injury and Incidence reporting	i) Fatal accidents	i)	Rs.1,000,000 for first fatality and Rs.1500,000 for every subsequent fatality.
		ii) Injury accident	ii)	Rs.300,000 for first grievously injured person and Rs.500,000 for every subsequent grievously injured person

		(iii) Abnormal delay in reporting accidents or wilful suppression of information about any accidents / dangerous occurrence as per Sub-Clause 2.15.	(Grievous Injury as defined by Workmen's Compensation Act) iii) Rs.1,00,000 for first violation and Rs.2,00,000 for subsequent violations
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7.2. Withholding and deduction of payments from Contractor

- 7.2.1. The Engineer may issue a notice to the Contractor in accordance with Sub-Clause 3.3 [Instructions of the Engineer] of the General Conditions of Contract to rectify any unsafe act or condition (including but not limited to error, default or omission) upon discovery of same on the Site by the Engineer, in a form of Nonconformity Report.
- 7.2.2. Table No. 2 below indicates Contractor's non-conformances from the ESHS requirements of the Contract and the corresponding amounts to be withheld and deducted by the Engineer from payment due to the Contractor under Sub-Clause 14.3 (f) [Application for Interim Payment], Sub-Clause 14.6 [Issue of Interim Payment Certificates] and Sub-Clause 14.7 [Payment] of the General Conditions of Contract.
- 7.2.3. The Engineer shall have the right to withhold and deduct charges for any other unsafe act and/or condition depending upon the gravity of the situation on a case-to-case basis. The charge shall be comparable to that, which is the closest to the unsafe act/condition, indicated in Table 2.
- 7.2.4. Except as may be required otherwise by the Laws of the Republic of India, upon receipt of the Engineer's notification concerning an unsafe act or condition as described in Table No. 2, the Contractor shall promptly comply with such notification, investigate the cause of the unsafe act or condition and as soon as possible (but no later than 7 days, or within such other period from receipt of the Engineer's notification as may be approved by the Engineer), submit to the Engineer for review full details of the proposed correction, prevention and any other measures (hereinafter referred to as the "measures") to be taken by the Contractor to rectify and close-out the matter and to prevent re-occurrence. Such measures shall be to the satisfaction of the Engineer.
- 7.2.5. The Engineer is entitled to withhold amounts from the Contractor's payment until the Engineer has verified the Contractor's measures, submitted to the Engineer for review as above, and accepted them after a joint inspection in response to the RFI for the same.

- 7.2.6. Should the Contractor default in implementing any measures within the time previously agreed between the Contractor and the Engineer or the Contractor makes subsequent violations as specified in Table No. 2, the Engineer shall be entitled to the deduction to be recovered from the Contractor under Sub-Clause 2.5 [Employer's Claims] of the General Conditions of Contract. Such deductions shall be made via the certification and payment process provided for in the Contract, including Sub-Clauses 14.3 (f) [Application for Interim Payment], 14.6 [Issue of Interim Payment Certificates] and 14.7 [Payment] of the General Conditions of Contract without limiting to the unsafe acts and or conditions mentioned above in Table 2.
- 7.2.7. The release or deduction of amount shall happen in the next payment process.

7.3. Suspension of work

- 7.3.1. The Engineer may issue a notice to the Contractor in accordance with Sub-Clauses 3.3 [Instructions of the Engineer] and 8.8 [Suspension of Work] of the General Conditions of Contract to suspend the progress of part of the Works in a form of Nonconformity Report, if in the Engineer's opinion such work is non-compliant with the ESHS requirements of the Contract. Such notification shall include details of the cause of the suspension. During such suspension, the Contractor shall protect, store and secure such part of the Works against any deterioration, loss or damage.
- 7.3.2. The Contractor shall not proceed with the affected Works until its measures are accepted by the Engineer.
- 7.3.3. Suspension of part of the Works as described in Sub-Clause 7.3.1 above and withholding of the amount from the Contractor's payment Sub-Clause 7.2 above shall continue together or independently until the Engineer has verified the Contractor's correction and close-out of any such non-conformity.
- 7.3.4. The Contractor shall not be entitled to any extension of time or to the payment of any cost or profit due to any suspension in accordance with the Sub-Clause 7.2.
- 7.3.5. The maximum amount of delay damages set out in Sub-Clause 8.7 [Delay Damages] of the Conditions of Contract shall not be applicable where the cause of delay to completion is suspension of part of the Works due to the Contractor's non-compliance as described in this Clause 7.

Table No. 2: Unsafe Acts/Conditions

Sl. No	Unsafe Act/Condition		Deductible amount from the Contractor in Indian Rupees
1.	ESHS Management Policy & Plan	1) ESHS Policy a) Non-compliance of Sub-Clause 2.4.1 b) (Per Month)	Rs.25,000 per month
		2) ESHS plan: a) Delay in submission (Sub-Clause 2.4.2.) b) Not updated as per employer's instruction as per Sub-Clause 2.4.4. c) Copies not provided to all required supervisors / engineers (Sub-Clause 2.4.5)	Rs.50,000 per month.
2.	ESHS Organization	i) Not filling up the vacancies created due to ESHS personnel before leaving the Contractor (Sub-Clause 2.6.4.) ii) ESHS organization not provided with required Audio-visual and other equipment as per General Instruction ESHS/GI/ 001 (Clause 8. Attachment-4)	a) Rs.200,000 per month. b) Rs.50,000 per month
3.	ESHS Committee	i) Failed to formulate or conduct ESHS Committee meeting for any month (Sub-Clause 2.8.1) ii) The Contractor and Subcontractor representatives not attending ESHS Committee meetings (Sub-Clause 2.8.6.) iii) Failed to conduct Site inspection before conducting ESHS Committee meeting (Sub-Clause 2.11.7 (a).) iii) Failed to send Agenda to Employer in time or ESHS Committee Minutes of Meeting (Sub-Clauses 2.8.4 & 2.8.7.)	Deduction of amount i) Rs.100,000 per violation ii) Rs.5,000 per member not attending the meeting c) For item iii)& iv) Rs.25,000 per violation

Sl. No	Unsafe Act/Condition		Deductible amount from the Contractor in Indian Rupees
4.	ID Card	i) Non-adherence of Sub-Clause 2.9.	Rs. 1,000/- per ID card per month
5.	ESHS Training	i) Not complying to the requirements as mentioned in Sub-Clause 2.10.1, 2.10.2, 2.10.3	Deduction of Rs.1,00,000 per violation
6.	ESHS Inspection	i) Not complying to the requirements as mentioned in Sub-Clause 2.11.	Rs.1,00,000 per violation
7.	ESHS Audit	Internal Audit, MARS & External Audit i) Not conducted as per ESHS Plan (Sub-Clauses 2.12.6) ii) Report not sent to Employer (Sub-Clause 2.12.9) Corrective action not taken for any month (Sub-Clause 2.12.9)	Rs.1,00,000 per violation
8.	ESHS Communication	i) Important days to be observed for ESHS awareness as furnished by employer not observed (Sub-Clause 2.13.2) Posters as directed by Employer not printed and displayed (Sub-Clause 2.13.2)	i) Rs.10,000 per violation and 50,000 per month
9.	ESHS Submittals	Non-compliance of Sub-Clause 2.14	Rs.1,00,000 per month
10.	Traffic Management	a) Non-compliance of Sub-Clause 4.2.9	Rs.25,000 per single violation .

Sl. No	Unsafe Act/Condition		Deductible amount from the Contractor in Indian Rupees
11.	Emergency Preparedness Plan	Non-compliance of Sub-Clause 2.16	Rs.1,00,000 per month
12.	Permit to work	Non-compliance of Sub-Clause 4.28	Rs.1,00,000 per violation.
13.	Occupational Health	Non-compliance of Sub-Clause 5.1 & 5.2	Rs. 50,000 per month.
14.	Labour Welfare Measures	Non-compliance of Sub-Clause 5.4	Rs.50,000 per month .
15.	Environmental Management	i) Containment of air pollution (Sub-Clause 6.3.1) ii) Containment of water pollution (Sub-Clause 6.3.2) iii) Containment of noise pollution (Sub-Clause 6.3.3) iv) Containment of waste pollution (Sub-Clause 6.3.4) v) Preservation of trees (Sub-Clause 6.3.7 (g)) Environment monitoring (Sub-Clause 6.4)	Rs.50,000 per violation
16	Housekeeping (Sub-Clause 4.2)	i) Surrounding areas of drinking water tanks / taps not hygienically cleaned / maintained ii) Office, stores, toilet / urinals not properly cleaned and maintained. iii) Required garbage bins at appropriate places not provided / not cleaned.	Rs.50,000 per violation.

Sl. No	Unsafe Act/Condition		Deductible amount from the Contractor in Indian Rupees
		iv) Stairways, gangways, passageways blocked. v) Lumber with protruding nails left as such vi) Openings unprotected vii) Excavated earth not removed within a reasonable time. viii) Truck carrying excavated earth not covered/tyres not cleaned. ix) After close of work Vehicles / equipment not parked at designated place x) Unused surplus cables / steel scraps lying scattered xi) Wooden scraps, empty wooden cable drums lying scattered xii) Water stagnation leading to mosquito breeding	
17.	Working at Height / Ladders and Scaffolds	Non-compliance of Sub-Clause 4.3.	Rs.50,000 per violation
18.	Lifting Appliances and Gear	Non-compliance of Sub-Clause 4.6	Rs.50,000 per violation
19.	Launching Operation	Non-compliance of Sub-Clause 4.7	Rs.50,000 per violation
20.	Site Electricity	Non-compliance of Sub-Clause 4.10	Rs.10,000 per violation.
21.	Power Tools (Sub-Clause 4.10.13)		

Sl. No	Unsafe Act/Condition		Deductible amount from the Contractor in Indian Rupees
22.	Welding and Cutting (Sub-Clause 4.12)	<ul style="list-style-type: none"> i) Wrong colour coding of cylinder. ii) Cylinders not stored in upright position. iii) Flash back arrester, non-return valve and regulator not present or not in working condition. iv) Fail to put cylinders in a cylinder trolley. v) Damaged hose and fail to use hose clamps vi) Using domestic LPG cylinders vii) Fail to store cylinder 6.6m away from fire prone materials Fire extinguisher not placed in the vicinity during operation Voltmeter and Ammeter not	Rs. 10,000 per violation.
23.	Fire Precaution (Sub-Clause 4.25)	<ul style="list-style-type: none"> i) Smoking and open flames in fire prone area ii) Using more than 24V portable electrical appliances in the fire prone area iii) Not proper ventilation in cylinder storage area. iv) Absence of fire extinguishers v) Fire extinguishers not refilled once in a year. Fire extinguisher placed in a not easily accessible location	Rs. 10,000 per violation.
24.	Excavation, Tunneling and Confined Space (Sub-Clauses 4.13, 4.14, 4.24)	Non-compliance	Rs. 10,000 per violation

25.	Batching plant and Casting yard	Non-compliance of Sub-Clause 4.18	Rs. 10,000 per violation.
26.	Personal Protection Equipment	<p>Non-compliance of Sub-Clause 4.32. Items of attention are as under –</p> <ul style="list-style-type: none"> i) Not having ii) Not wearing (or) using and kept it elsewhere iii) Using damaged one iv) Using wrong type v) Using wrong colour helmet or helmet without logo <p>Using for other operation (e.g. Using safety helmet for storing materials or carrying water from one place to other)</p>	Rs. 200 per person per violation.
27.	Working near Railway	Non-compliance of Sub-Clause 4.30.	Rs. 1,00,000 per violation

8. ATTACHMENT

Attachment -1 Contents of ESHS Management Plan

1. General

- 1.1. The Contractor shall prepare an Environment, Social, Health and Safety (ESHS) Management Plan, which provides measures to protect the Environment, Health and Safety of workers and the public.
- 1.2. The Contractor's ESHS Management Plan shall be based on Environment, Social, Health and Safety considerations submitted with the Tender and shall have the content shown in the following section [Contents of ESHS Management Plan].
- 1.3. The Contractor shall submit his ESHS Management Plan for review by the Engineer within 28 days after the Commencement Date and shall amend the ESHS Management Plan to address any comments made by the Engineer and submit a Final ESHS Management Plan within 14 days of receipt of comments.
- 1.4. The Final ESHS Management Plan shall be binding on the Contractor for the duration of the Contract.

2. Content of ESHS Management Plan

- 2.1. The Contractor's ESHS Management Plan shall cover the following aspects:

Site ESHS Management Plan	
Contract No.	
Contractor Name	
Project Name	
1	<p>Project Highlights</p> <ul style="list-style-type: none"> i) Title of the content; ii) Contract number; iii) Brief scope of work; iv) Location map/key plan; v) Period of the project;
2	ESHS Management Policy with senior management responsibility;

3	<p>Site organization chart</p> <p>Chart indicating reporting of ESHS Management personnel, appointment, duties and responsibilities</p>
4	<p>Roles & responsibility</p> <p>Individual responsibility of the</p> <ul style="list-style-type: none"> i) The Contractor's representative vi) ESHS Manager vii) Environment manager viii) Social expert ix) Chief accident prevention officer x) Construction manager xi) Construction Supervisors xii) ESHS Committee members xiii) ESHS in charge xiv) Site engineers xv) First line supervisors xvi) Subcontractors
5	<p>ESHs Site Committee</p> <ul style="list-style-type: none"> xvii) Details - Chairman, secretary, members, and employer's representative xviii) Procedures for effective conduct of meeting
6	ESHs Training
7	Subcontractor Safety and Health procedures for Subcontractors;
8	ESHs Inspection and audit
10	Accident, diseases investigation reporting procedures
11	Health, First Aid and emergencies measures
12	Staff and labour welfare measures at site
13	Policy for identifying hazards and risks with risk assessment and mitigation procedures

14	<p>Safe Work Procedures e.g.</p> <ul style="list-style-type: none"> i) Excavation ii) Structural steel erection iii) Form works iv) Concrete placement v) Work at height vi) Switch-over works vii) Floor, wall openings and stairways viii) Welding, cutting and bracing ix) Lifting appliances x) Electrical equipment xi) Mechanical equipment xii) Fire prevention xiii) Hazardous chemicals and solvent xiv) Lighting xv) Abrasive blasting
15	Work permit system
16	List of standard job specific PPEs to be used in the site
17	Maintenance of regime for construction equipment and machinery
18	Traffic management
19	Housekeeping
20	<ul style="list-style-type: none"> i) Environmental and Social Management ii) Applicable National and State legislation and regulations iii) Specific procedures for achieving environmental and social performance requirements as given in the Employer's requirements on Environment. iv) Details on air monitoring and noise monitoring control plan which details mitigation measures / corrective action / preventive action and monitoring schedule. v) The ESHS Management Plan must contain procedures on prevention and control of water pollution, storage, handling and disposal of waste, including municipal, C&D, plastic, bio-medical, chemical and hazardous wastes, reuse/recycle of waste, selling to authorised recyclers and records thereof, preservation of landscape disturbed due to construction, housekeeping/Environmental sanitation and traffic management as required under the contract.

	vi) Procedures for recording environmental complaints and response process. vii) HIV prevention plan viii) Gender Based Violence (GBV) and Sexual Exploitation and Abuse (SEA) prevention and response action plan ix) COVID -19 Response Plan
21	Visitors and Security arrangement
22	Disciplinary procedures
23	Safety and health promotion and awareness;
24	Safety and Health equipment and Safety and Health of the Contractor's construction and office equipment;

Note: -The Environment, Social, Health and Safety (ESHS) Management Plan shall be incorporated in the relevant sections.

3. Training

- 3.1. The Contractor shall describe the training program and content he will provide for workers and staff to:
- a) Raise awareness of the role and importance of Environment, Social, Health and Safety matters; the potential negative impacts of construction work in general and the ways in which impacts can be prevented; and the expected construction impacts and long-term environmental and social benefits of the applicable project;
 - b) Disseminate the philosophy and approach of the ESHS Management Plan throughout the workforce, and explain the roles of all parties in implementing the ESHS Management Plan; and
 - c) Inform all employees of the Environment, Social, Health and Safety activities they are required to comply with when conducting their work, and the penalties for non-compliance.
- 3.2. Training to raise the awareness and capacity of the Subcontractors and their employees shall also be incorporated where necessary.
- 3.3. The Contractor shall prepare the following plans to supplement the ESHS Management Plan:
- a) Emergency Response Plan; and
 - b) Fire Evacuation Plan.

Attachment -2 Work Place Policy (on HIV/AIDS Prevention & Control)

Haryana Rail Infrastructure Development Corporation Limited (HRIDC) recognizes HIV/AIDS as a developmental challenge and realizes the need to respond to it by implementing regular HIV/AIDS prevention programmes and creating a non-discriminatory work environment for HIV infected workmen engaged by Contractors. For the purpose of making conscientious, sensitive and compassionate decision in addressing the realities of HIV/AIDS, HRIDC has established these guidelines based on ILO code of practice on HIV/AIDS.

- Creating awareness through professional agency using IEC (Information, Education and Communication) package specially designed for migrant workers.
- Institutional capacity building by training the project implementation team, Safety, Health & Environment (SHE) Managers, establishing linkages for deficient diagnosis and treatment of the affected workers, effective monitoring of implementation and documentation for further learning.
- Establishing peer educators by selecting them in consultation with Contractors and training them through professional agencies so that they become focal point for any information, education and awareness campaigns among the workmen throughout the contract period.
- Promotion of social marketing of condom

Attachment -3 Work Place Policy on COVID-19 Prevention and Control

It is likely that Corona virus Disease 2019 (COVID-19) will continue to occur in the community in the foreseeable future. It is therefore necessary to have a plan/policy in place to prevent the spread of this virus within the workplace. In order to reduce the risk of infection, Haryana Rail Infrastructure Development Corporation Limited (HRIDC) recommends to the Contractor to consider the following measures:

- a) The Contractor shall ensure that the latest guidelines issued by Ministry of Health and Family Welfare (MoHFW), local government and the district administration are strictly followed at the construction works site.
- b) On day 0, before resuming the work on sites post lockdown period, mandatory medical check-up will be arranged for all workers.
- c) The workers coming from outside shall observe home-quarantine for at least 14 days as per the guidelines issued by MoHFW.
- d) Only medically fit workers will be deployed at site and medical assistance will be arranged for unfit workers.
- e) A unique photo identity card with serial number will be issued to all the workers and their family members staying at site.
- f) All the essential items will be made available to them at site only. If necessary, they can go out wearing face masks, after informing the supervisor.
- g) No outside worker will be allowed to stay at site without following proper procedure and instructions.
- h) Start time on site will be staggered to avoid congestion at the entry gates.
- i) As in most cases, workers reside at the Sites, hence no travel arrangements are required for them.
- j) The workers staying outside (which are always nearby) shall reach the site either by walking or by their individual mode of transport (bicycle, two-wheeler etc.).
- k) During attendance, training and other sessions, social distancing guidelines will be followed along with provision of no-touch attendance.
- l) All workers may be advised to take care of their own health and look out for respiratory symptoms/fever and, if feeling unwell, shall leave the workplace immediately after informing their reporting officers.
- m) They shall observe home-quarantine as per the guidelines issued by MoHFW and shall immediately inform the nearest health centre or call 011-23978046.
- n) Workers shall not shake hands when greeting others and while working on the site.
- o) Mandatorily wear face masks while working on site. While not wearing masks, cover your mouth and nose with tissues if you cough/sneeze or do so in the crook of your arm at your elbow.
- p) Avoid large gatherings or meetings. Maintain at least 1 metre (3 feet) distance from persons, especially with those having flu-like symptoms, during interaction.
- q) Not more than 2/4 persons (depending on size) shall be allowed to travel in lifts or

hoists.

- r) Use of the staircase for climbing shall be encouraged.
- s) Workers shall clean hands frequently by washing them with soap and water for at least 40 seconds.
- t) Workers shall not share their belongings like food, water bottles, utensils, mobile phones etc. with others.
- u) The utensils shall be washed properly post use at designated places.
- v) Post work, workers shall change their clothes before leaving the site and clothing shall not be shook out.
- w) Avoid touching your eyes, nose, or mouth with unwashed hands.

Attachment -4 Reference for ESHS Activities

General Instruction: ESHS/GI/001

MINIMUM REQUIREMENTS OF ESHS MONITORING AND AUDIO-VISUAL EQUIPMENT'S

- a) Every Contractor shall provide the following audio-visual aids for conducting weekly review, monthly safety committee and other post review meeting of all fatal and major incidences effectively. This audio-visual equipment is a must for conducting periodical in-house safety presentations in the training programs; and
- b) In addition to the above, portable hand held Type I or Type II digital sound level meter (SLM) and portable hand held digital Lux meter are also to be provided.
- c) The minimum requirement of the quantity to be provided in ESHS management Plan and approved by the Engineer.

Sl. No	ESHs Monitoring and Audio-Visual Equipment details
1.	Portable hand-held Type I or Type II Digital Sound Level Meter (SLM)
2.	Portable hand-held Digital Lux Meter
3.	Laptop computer with standard configuration including multimedia facilities
4.	Colour printer
5.	Computer projector with screen
6.	Overhead projector
7.	Smartphone for taking photos and recording of video
8.	Portable loudspeaker (for tool-box talk and emergency purpose)
9.	Communication facility like mobile phone, walky-talky etc.
10.	Accident investigation Kit containing the following:
a)	Chalk piece for marking
b)	Measuring tape for measuring Flexible tape – 2m length Metal Foot long scale and Metal tape – 30m
c)	Equipment tags
d)	Multipurpose Flash light
e)	Barrier tape

f)	Accident investigation Forms and checklists
g)	Enough Paper for witness recording and other noting
h)	Emergency Phone Numbers list

General Instruction: ESHS/GI/002

Topics for ESHS Orientation Trainings for Workmen for First Day at Work

1) Hazard Identification Procedure

Hazards on site:

- Falls;
- Earthing work;
- Electricity;
- Machinery;
- Handling materials;
- Transport;
- Site housekeeping;
- Fire;
- Safety of nearby located structures;
- Works close to railway tracks or roads.

2) Personal Protective Equipment

- What is available?
- How to obtain it?
- Correct use and care.

3) Health

- Site welfare facilities;
- Potential health hazards;
- First Aid/Cardiopulmonary Resuscitation (CPR). /Automated External defibrillator(AED)

4) Duties of the Contractor

- Brief outline of the responsibilities of the Contractor by law;
- Details of the Contractor's accident prevention policy;
- The Employer SHE Management Manual (if any);
- Building and other Constructions Welfare Law.

5) Employee's Duties

- Brief outline of responsibilities of employee under law
- Explanation of how new employees fit into the Contractor's plan for accident prevention (induction and orientation).

6) Environment And Social

- Contractor's Environment Policy
- Key legal requirements
- Avoidance of Nuisance
- Environmental Sanitation
- Dust Control Measures
- Water Pollution and Control
- Occupational noise mitigation
- Waste Management and Disposal
- Gender Based Violence and Sexual Exploitation and abuse (GBV/SEA)
- HIV/AIDS prevention
- Grievance Redressal Mechanism for GBV/SEA

General Instruction: ESHS/GI/003

ID CARD FORMAT (85 mm x 55mm) FRONT SIDE OF ID CARD:

The front side of the ID card template is enclosed in a rounded rectangular border. It features several fields: a 'Company Logo' box at the top left, a 'Contractor Details' box at the top right, and a central 'PROJECT NAME' field. Below the project name, there are five lines for personal information: 'Name:', 'Designation:', 'Blood Group:', 'Valid Up to:', and 'ID No:'. To the right of these fields is a square area labeled 'PHOTO'. At the bottom right, there is a line for the 'Authorized Signatory'.

The back side of the ID card template is enclosed in a rounded rectangular border. It features an 'Employee Address:' field with three lines for text. Below this is a rectangular box containing three numbered conditions: '1. This card is the property of XXXXXXXX and must be returned on demand and on transfer/cancellation of employment.', '2. A charge will be levied for replacement of this card due to loss or theft.', and '3. If found, please return it to below mentioned address.' At the bottom, there is a large rectangular box labeled 'OFFICE ADDRESS'.

General Instruction: ESHS/GI/004 [ESHs Training Matrix]

																	Types of Training		
ESHs Supervisors	ESHs Manager	Medical Officer	Clerical Staff	Security Officers	Transportation Drivers	Electrical workers	Mechanical Workers	Steel Workers	Station Building Workers	Material Handlers	Machinery Operators	Construction Foreman	Construction Supervisors	Construction Managers	Planning Engineer	Quality Manager	Sr. Construction Managers	Contractor Representative	
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	ESHs orientation
		*											*	*	*	*	*	*	ESHs leadership
*	*	*										*	*	*	*	*	*	*	ESHs plan
*	*												*	*		*	*	*	ESHs improvement plan
*	*												*	*	*	*	*	*	Management of change
*	*												*	*	*		*	*	ESHs audit and inspection
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	ESHs emergency response & preparedness
*	*	*		*									*	*	*	*	*	*	Incident/Accident investigation & reporting
*	*											*	*	*	*	*	*	*	ESHs communication
*	*													*	*		*	*	ESHs promotion & incentives
*	*			*	*					*			*	*		*	*	*	Traffic management
*	*			*				*	*	*		*	*	*	*	*	*	*	Hazard identification & risk analysis & Aspect Impact
*	*			*				*	*	*		*	*	*		*	*	*	Permit to work system
*	*													*	*	*	*	*	Confined space entry
*	*	*	*	*				*	*	*				*		*	*	*	Scaffolding
*	*	*	*	*	*	*	*	*	*		*		*	*		*	*	*	Waste management
*	*											*	*	*			*	*	Environment monitoring
*	*	*										*	*	*		*	*	*	Labour welfare measures
*	*											*	*	*		*	*	*	Behavior Based Safety Management (BBSM)
*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	Industrial First Aid and CPR
*	*		*	*	*	*	*	*	*	*	*	*	*						Fire fighting
*	*					*	*	*		*	*	*	*	*			*		Rigging
*	*											*	*	*					Wire rope inspection
*	*											*	*	*					Crane inspection
*	*											*	*	*					Electrical/Mechanical isolation
*	*											*	*						Explosive handling and control
*	*					*	*	*	*			*	*						Heavy lifting operation
*	*							*				*	*						Welding, cutting and bracing
*	*							*				*	*						Power actuated hand tool
*	*					*	*	*	*			*	*						Roofing work
*	*							*				*	*						Steelerection work
*	*					*	*	*	*			*	*						Scaffold erection/dismantling

General Instruction: ESHS/GI/005

ESHS Training Details for Managers and Supervisors

1. The Law and Safety	2. Policy and Administration
Statutory requirement Appropriate regulations Duties of employee	Effect of incentive on accident prevention ESHS Policy Industrial relations Safety Officer: duties, aims, objectives
3. Safety and the Supervisor	4. Principles of Accident Prevention
Safety and efficient production Accidents affect morale and public relations	Attitudes of management, supervision and operations Methods of achieving safe operations Accident and injury causes
5. Site Inspection	6. Human Behaviour
The role of management Hazard Identification Procedure Records results Follow-up procedures Feedback	Motivating agencies Individual behaviour Environmental effects Techniques of persuasion
7. Site housekeeping	8. Health
Site organization Relationship of site housekeeping to accident occurrence Site access Equipment storage Material stacking Materials handling	Medical examination Hazard to health on site Sanitation and welfare Protective clothing First Aid/CPR
9. Personal Protective Equipment	10. Electricity
Eye, face, hands, feet and legs Respiratory protective equipment Protection against ionizing radiation	Appreciation of electrical hazards Power tools Arc welding Low voltage system Lighting and power system on sites ELCB, RRCB, Grounding/Ground fault circuit interrupters (GFCIs)
11. Oxygen and Acetylene Equipment	12. Equipment

<p>Cylinder storage and maintenance</p> <p>Condition and maintenance of valves, regulators, and gauges</p> <p>Condition and maintenance of hoses and fittings</p> <p>Pressures</p>	<p>Accidents related to moving parts of machinery</p> <p>Appreciation of principles of guarding</p> <p>Importance of regular maintenance</p>
<p>13. Transportation</p> <p>Transport to and from site</p> <p>Hazard connected with site transport</p> <p>Competent drivers</p> <p>Dumpers</p> <p>Tipping trucks</p> <p>Movement near excavations</p>	<p>14. Excavations</p> <p>Method of shoring</p> <p>Precautions while shoring</p> <p>Precautions at edge of excavations</p> <p>Removal of shoring</p> <p>Sheet steel piling</p>
<p>15. Working platforms, Ladders, and Scaffolding</p> <p>Hazards connected with the use of ladders</p> <p>Maintenance and inspection</p> <p>Type of scaffold</p> <p>Overloading</p> <p>Work on roofs</p> <p>Fragile material</p> <p>Openings in walls and floors</p> <p>Use of Full Body Harness and nets</p>	<p>16. Cranes and other Lifting Machines</p> <p>Licensing, certification and training required for operation of cranes</p> <p>Slinging Methods</p> <p>Signalling</p> <p>Access to crane(s)</p> <p>Maintenance and examination</p> <p>Ground conditions</p> <p>Hazards and accident prevention methods connected with the use of different types of cranes/heavy equipment</p> <p>Crane Lift Plan for all lifts</p>
<p>17. Lifting Tackle</p> <p>Slings - single and multi-legged</p> <p>Safe working loads (SWLs)</p> <p>Safety hooks and eyebolts</p> <p>Cause of failure</p> <p>Maintenance and examination</p>	<p>18. Fire Prevention and Control</p> <p>Principle causes determining fire</p> <p>Understanding fire chemistry</p> <p>Firefighting equipment</p> <p>Firefighting training</p>
<p>19. Communications</p> <p>Effective methods of communication (interest to non-English speaking workers)</p> <p>Method and preparation of reports</p> <p>Safety committees</p> <p>Safety meeting</p>	

20. Environment and Social

Environment Policy

Regulatory requirements

- Central
- State
- Judicial
- Environmental requirements of funding agency

Overview of Environmental issues at construction sites and funding agency's requirements.

Avoidance of nuisance

Environmental sanitation

Dust control measures

Overview of impact of construction on Climate change

Contractual requirements to reduce construction related impacts

Monitoring of environmental parameters and their significance

Waste Management

Occupational Noise and its mitigation

Health impacts of construction industry

Resource minimization

ISO requirement (as applicable)

Gender Based Violence and Sexual Exploitation and abuse (GBV/SEA)

HIV/AIDS prevention

Grievance Redressal Mechanism for GBV/SEA

General Instruction: ESHS/GI/006**WEEK/DAYS TO BE OBSERVED FOR CREATING ESHS AWARENESS**

1 st Monday to Sunday of January	Road Safety Week (Subjected to confirmation from Ministry of Road Transport, Govt. of India every year.)
16 th February	Kyoto Protocol Day
March	Red Cross Month
4 th March	National Safety Day
22 nd March	World Water Day
7 th April	World Health Day
14 th April	Fire Safety Day
18 th to 22 nd April	Earth Week
20 th April	Earth Day
20 th April	Noise Awareness Day
28 th April	ILO World Day for Safety and Health at Work Day
1 st to 7 th May	Emergency Preparedness Week
5 th June	World Environmental Day
12 th June	World Day against Child Labours
21 st June	World Yoga Day
9 th July	Occupational Health Day
17 th October	World Trauma Day
1 st December	World AIDS Day

General Instruction: ESHS/GI/007

Minimum Requirements of ESHS Communication Posters/Signage/Video:

- d) Every Contractor shall prepare a ESHS Communication Plan as a part of site specific ESHS Management Plan and shall include the following minimum requirement of Posters/Signage/Video as applicable. In case readymade posters are available in any of the category from National Safety Council or any other safety related organizations they may procure the same and display it. In case the same is not available, then the Contractors shall make necessary arrangements to get the posters designed and printed on their own. All posters shall each be in Hindi, English and the regional language; and
- e) All the above is to be detailed in the Contractor's ESHS Management Plan and he shall obtain the Engineer's prior consent for the numbers, contents, locations, etc.

Table No.: 1 - Minimum No. of Posters

Sl. No	ESHS Poster Title	Minimum No. of concepts in each title	No. of Posters/Signage/Video
1.	Safety Culture	5	Each 10
2.	Daily Safety Oath	1English, 1 Hindi	Each 50
3.	Signage to display the messages like PPE ZONE, NO PPE ZONE, HARD HAT AREA etc.	2 types of sizes made up of metal sheet to be mounted at different locations	Each 25
a)	Helmet	5	Each 25
b)	Shoe	5	Each 25
c)	Goggles & Ear Protection	5	Each 25
d)	Full Body Harness	5	Each 25
e)	Hi-Vi Jacket	5	Each 25
f)			
4.	Emergency Management Plan	5	Each 25
5.	Working at Heights	10	Each 25
a)	Ladder, Stairway, Scaffold - Signage to display the messages like SAFE, UNSAFE, FIT FOR USE,	5 types of sizes made up of metal sheet to be mounted at different locations	Each 25

Sl. No	ESHS Poster Title	Minimum No. of concepts in each title	No. of Posters/Signage/Video
	AVOID USE etc.		
6.	Site Electricity	5	Each 25
7.	Crane Safety	5	Each 25
8.	Slings	5	Each 25
9.	Rigging Procedures	5	Each 25
10.	Excavation	5	Each 25
11.	Occupational Health (Mosquito Control, HIV/AIDS awareness, Dust Control, Noise Control, No Smoking/Spitting, etc.)	10	Each 25
12.	First – Aid	3	Each 25
13.	Labour Welfare Measures (Payment of Minimum Wages, Avoidance of Child labour, signing in the Muster Roll, in case of accidents- what to do? Etc.)	5	Each 25
14.	Importance of “Safety Handbook”	1	25
15.	Traffic Safety (Speed limit, safe crossing and working within barricaded area etc.)	5	Each 25
16.	Environmental Monitoring (Spillage of Muck, hazardous material, Improper drainage, water spray for dust containment etc.)	5	Each 25
17.	Video in Hindi on PPE usage – 15 minutes duration	1	-

Note 1: Items mentioned under 17 is video. Items under 3 (a) and 5 (a) are metal signage boards and all other items are posters.

Note 2: The above minimum numbers are for guidance only. The actual number will depend on

the project's specific requirements. The Contractor shall propose and obtain Engineer's prior consent to the final numbers, locations, etc.

Table No.: 2 – Size of Posters/Signage

Sl. No	Item	Size
1.	Posters – Standard	17"x22" –135 GSM 4 Colour Printing
2.	Posters – Special (Wherever required)	17"x22" card laminated FA Poster
3.	Posters - Mega size (Wherever required)	32"x40" Flex FA Poster
4.	First-Aid Booklet	6"x4"
5.	Safety Handbook	6"x4"
6.	Signage	Small: 12"x6" Big: 24"x12"
7.	Road Traffic Sign Boards	Strictly as per Indian Road Congress (IRC) specifications

Table No.: 3 – Safety Signage Colour (as per IS: 9457)

Sl. No	Type of signage	Colour
1	Mandatory	Blue
2	Danger	Yellow
3	Prohibitory	Red
4	Safe conditions	Green

General Instruction: ESHS/GI/008

Environment, Social Formats/Checklist

1. Weekly Environmental Inspection Summary

1.0 Major issues of non-conformity in the past week are:

Issue	Reason
I. Air (Specify)	
II. Water (Specify)	
III. Noise (Specify)	
IV. Water (Specify)	
V. Storage (Specify)	
VI. Housekeeping (Specify)	
VII. Roads (Specify)	

2.0 Over the last week have been able to implement environmental management requirement as per contract

Yes No if not yes reasons are:
 (i)
 (ii)
 (iii)

3.0 Following issues have not been resolved for more than past two weeks

- (i)
- (ii)
- (iii)

4.0 Support/Clarification from Employer's Representative required in the following:

- (i)
- (ii)
- (iii)

5.0 Complaint received in the past week:

From	Action Taken	Reasons for Delay
(i) Public		
(ii) Client		
(iii) Statutory Agency		

Auditor:

Project Manager

Contact Number:

Contractor:

Environmental Manager	Project Manager	Document No.:
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2. Weekly Environmental Inspection

Report No.:	Inspection Date:	Inspected by:
Inspection Area:		
Participants:		

S.No.	Item	Observation	Remarks	Action	
				By Date	By Whom
1.0	Air Pollution				
1.1	Dust (approach roads, adjacent road, working area, cement handling etc.)	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Site Dusty <input type="checkbox"/> Sprinkling carried out as required <input type="checkbox"/> Excavated soil removed within 2 days			
1.2	Generators	<input type="checkbox"/> Satisfactory <input type="checkbox"/> Maintenance regime followed <input type="checkbox"/> Black smoke <input type="checkbox"/> Leaking oil <input type="checkbox"/> Drip pans not available			
1.3	Vehicles	<input type="checkbox"/> Satisfactory <input type="checkbox"/> PUC certificate available <input type="checkbox"/> Black smoke <input type="checkbox"/> Wheel washed/cleaned <input type="checkbox"/> Leaking oil <input type="checkbox"/> Side of vehicle clean of mud <input type="checkbox"/> Material transported in closed manner			
1.4	Air monitoring	<input type="checkbox"/> Carried out as per contract <input type="checkbox"/> Results reported as per contract			

S.No.	Item	Observation	Remarks	Action	
				By Date	By Whom
		<input type="checkbox"/> Remedial measures in place where required			
2.0	Water Pollution				
2.1	Site Drains	<input type="checkbox"/> Drainage system functional <input type="checkbox"/> No Contamination <input type="checkbox"/> Not blocked by debris/ garbage <input type="checkbox"/> No indications of Oil spilled in drains <input type="checkbox"/> Storage of chemical waste not nearby			
2.2	Adjacent Drains	<input type="checkbox"/> Not damaged <input type="checkbox"/> No signs of pouring bentonite <input type="checkbox"/> No signs of pouring Chemicals <input type="checkbox"/> Signs of discharging Silt/ debris			
2.3	Separator Tanks	<input type="checkbox"/> Tank not full of silt <input type="checkbox"/> Tank regularly emptied			
3.0	NOISE POLLUTION				
3.1	Noise control measures	<input type="checkbox"/> All powered mechanical equipment's are sound reduced <input type="checkbox"/> Acoustic / enclosures constructed in areas of excessive noise <input type="checkbox"/> Equipment located and directed away from noise receptors			
3.2	Generators provided with acoustic enclosures	<input type="checkbox"/> Effective <input type="checkbox"/> Not effective <input type="checkbox"/> Not provide			
3.3	Noise Monitoring	<input type="checkbox"/> Carried out as per contract <input type="checkbox"/> Not exceeded baseline values <input type="checkbox"/> Remedial measures in place <input type="checkbox"/> Results evaluated statistically for inclusion in Monthly report			

S.No.	Item	Observation	Remarks	Action	
				By Date	By Whom
4.0	WASTE MANAGEMENT				
4.1	Waste Identified	<input type="checkbox"/> Chemical Flammable <input type="checkbox"/> Corrosive Construction related/ oil/ Filters/ Batteries <input type="checkbox"/> Hazardous <input type="checkbox"/> Other (Specify)			
4.2	Storage Containers & Bins	<input type="checkbox"/> Adequate number and properly place <input type="checkbox"/> Proper quality <input type="checkbox"/> Emptied regularly <input type="checkbox"/> Labelling proper <input type="checkbox"/> No spillage on container <input type="checkbox"/> surface noticed			
4.3	Storage Containers & Bins	<input type="checkbox"/> Pollutants (e.g. waste chemical), not dumped in bins <input type="checkbox"/> Recyclable (e.g. metal) not dumped in garbage bins			
4.4	Oil Waste	<input type="checkbox"/> Drip pans available <input type="checkbox"/> No oil stains on ground <input type="checkbox"/> Spill absorption material available <input type="checkbox"/> Waste oil poured in to designated waste drums <input type="checkbox"/> Used oil filters not dumped in garbage bins			
4.5	Excavated soil	<input type="checkbox"/> Storage satisfactory/ properly secured <input type="checkbox"/> Dumping in authorized areas <input type="checkbox"/> No interference with nearby drainage			
5.0	STORAGE				
5.1	Diesel Storage	<input type="checkbox"/> Extensive diesel spillage on ground not visible <input type="checkbox"/> Drip pans used when pumping diesel <input type="checkbox"/> Pipes / connectors/ pumps not leaking			

S.No.	Item	Observation	Remarks	Action	
				By Date	By Whom
		<input type="checkbox"/> Not located close to storm water drains <input type="checkbox"/> Transfer arrangement satisfactory			
6.0	AESTHETICS & CLEANLINESS				
6.1	Housekeeping & Hygiene	<input type="checkbox"/> Designated storage area for materials <input type="checkbox"/> Scraps/brickbats/rubbish scattered at site <input type="checkbox"/> Proper space for handling waste <input type="checkbox"/> Area Clean and dry <input type="checkbox"/> Stagnant water treated weekly <input type="checkbox"/> Proper stacking of drums <input type="checkbox"/> Barricades are clean, in line, firmly secured and proper earthing <input type="checkbox"/> Water not allowed to accumulate in work area for any reason			
7.0	Roads				
7.1	Access Roads	<input type="checkbox"/> Satisfactory Maintenance <input type="checkbox"/> In urgent need of Maintenance			
7.2	Public Roads used by Contractor	<input type="checkbox"/> Satisfactory maintenance <input type="checkbox"/> Repair not carried out			

3. Air and Noise Monitoring Report Format

Air Monitoring Report

Parameter:

Unit :

CPCB Standard

Value:

Location	Monitoring Date	Measured Value	Base line value if any

Noise Monitoring Report

Day Time

Location	Category of Area/Zone	National Standard (Day time) Leq dB(A)	Baseline value (Day time), Leq dB(A)	Noise levels (Day time) Leq dB(A)

Night Time

Location	Category of Area/Zone	National Standard (Night time) Leq dB(A)	Baseline value (Night time), Leq dB(A)	Noise levels (Night time) Leq dB(A)

4. Monthly Waste Management Record

S.No	Waste Type	Unit	Quantity Generated		Quantity Disposed off		Adopted/Proposed disposal method
			For the month	Till date	For the month	Till date	
1	Construction and Demolition Waste						
	a. Concrete waste	MT					
	b. Demolition Waste	MT					
	c. Bentonite/Polymer mixed soil	CUM					
	d. Good earth	CUM					
2	Hazardous Waste						
	a. Waste oil	Litres					
	b. Oil filters	Nos					
	c. Air filters,	Nos					
	d. Cartridges etc.	Nos					
	e. Other (if any)						
3	Recyclable waste						
	Paper, plastic, wood, bottles, rubber etc.	Kg					
4	Bio-degradable waste						
	Food waste, vegetable waste etc	Kg					
5	Metal Scrap	Ton					
6	E -Waste	Nos/ Ton					
7	Miscellaneous (any other)						
Prepared by:		Reviewed by: (Environment Manager)			Approved by: (Project Manager)		

5. Water Consumption Details

S. No	Source of Water	Quantity Consumed for the month (KL)	Quantity Consumed till date (KL)
1	Ground Water Extracted		
2	Municipal Supply		
3	Water Tanker		
4	Water bottles		
Total (A)			
Breakup of Raw Water Consumption Detail			
S. No.	Particular	Quantity Consumed for the month (KL)	Quantity Consumed till date (KL)
1	Raw Water		
	a. Consumed in RO Plant		
	b. Sprinkling		
	c. Wheel washing		
	d. Domestic purpose like drinking, toilets, labour camps, office cleaning		
	e. Curing		
	f. Stone cutting		
	g. TM washing		
	h. Any other use		
	Total (B)		
2	R O treated water		
	Total (C)		
3	R O Reject Water		
	Total (D)		

Prepared by:**Reviewed by:
Environment Manager****Approved by:
Project Manager**

6. Details on Fly Ash (If Applicable)

The Employer shall give his consent to the civil Contractor for using Fly Ash in concrete or brick works. The Contractor shall record all relevant details on the consumption of Fly Ash from the data of initial consumption to date of final use.

Fly Ash utilization in tonnes in Building Materials and Products for the FY-

Contract No. :

Name of Contractor :

Details regarding utilization of fly ash in road/flyover construction projects:

S. No.	Item of work	Total quantity of material used (tonnes)	Quantity of Fly ash used (tonnes)	Quantity of Soil/Earth any other material used (tonnes)	% fly ash used against total quantity of material used	Source of fly ash
Remarks:						

Prepared by:

Reviewed by:
Environment Manager

Approved by:
Project Manager

7. Material Consumption Details

S.No.	Particular	Unit	Quantity Consumed	
			For the month	Till date
1	Concrete	CUM		
2	Cement	MT		
3	Sand	MT		
4	Coarse Aggregate	MT		
5	Reinforcement	MT		
6	Admixtures	Litres		
7	Diesel	Litres		
8	Electricity	kWh		

Prepared by:	Checked by: (Environment Manager)
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Records of Complaints


S.No	Nature of Complaints	Date of Complaints Received	Impact Location	Name of Complainant	Address of Complainant	Remarks	Status		
							Solved	On going	Pending

General Instruction: ESHS/GI/009


MARS Audit Rating


Contractor No.:	Contractor:	
Audit No.:	Date:	
For the month of:		
Audit team	Contractor representatives	HRIDC/GC Representatives
Headed by:		
Assisted by:		

Contract No.:		Contractor:	
For the month of:			
Audit date:			
Sl. No.	Section	% score attained By Contractor	% Score given By HRIDC- GC
1	ESHS Administration		
2	ESHS Training and ESHS Communication		
3	ESHS Inspection and Audit		
4	Hazard Identification, Risk Assessment and Emergency Preparedness		
5	Reporting of Accidents and Dangerous Occurrences and investigations		
6	Housekeeping		
7	Working at Height		
8	Lifting Operations and Gears		
9	Construction Machinery / Hand tools and power tools		
10	Site Electricity		
11	Fire prevention		
12	Welding & Cutting		
13	Excavations and Trenching		
14	Tunnelling and Confined Space operations		
15	Traffic management		
16	Personal Protective Equipment		
17	Industrial Health & Hygiene and Lighting & Ventilation		
18	Welfare amenities		
19	Environmental management		
20	Batching Plant and Casting Yard		
Overall audited score attained			
Team Head / Contractor Name:	Designation	Signature	Date
Team Head / HRIDC/GC Name:	Designation	Signature	Date


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.												
Contract No.:				Contractor's Name:								
1.0 ESHS Administration												
1.1 ESHS Organisation				A	B	C	1.1a ESHS Organisation			A	B	C
Adequacy of ESHS personnel				10			ESHS manpower from outsourcing agency			10		
Is ESHS personal professionally qualified				10			ESHS personals reports to ESHS manager			10		
Employer's approval for each ESHS personal				10			ESHS manager reports to Project Manager			10		
Intimation of ESHS personals vacancy to Employer				10			Facilities and equipment gave to the ESHS personnel			10		
ESHS personal lies with the main contractor				10			ESHS personnel can stop any unsafe act			10		
Sub total				50			Sub total			50		
1.2 ESHS Committee				A	B	C	1.3 Construction ESHS Committee			A	B	C
Is site and construction ESHS Committee formed				10			Does construction ESHS committee meet at least weekly			10		
Does PM Chairman of ESHS Committee				10			Do all sub contractors attend			10		
Committee members under gone monthly inspection				10			Is agenda cover all the points			10		
Does site ESHS committee meet at least monthly with 21 days time gap				10			Minutes of the meeting send to all committee members			10		
Are Incident Reports discussed				10			Minutes displayed in the notice board			10		
Sub total				50			Sub total			50		
1.4 ID card and first day at work				A	B	C	1.5 Designer's role			A	B	C
Is ID card issued to all persons				10			Whether designers were informed about clause 5.0 of Conditions of Contract on ESHS			10		
Is ID card as per standard				10			Whether designers provide ESHS risk at the drawing itself.			10		
Authority signed all ID cards				10			Whether hierarchy of risk control is indicated by the designer			10		
All worker undergone orientation training				10			Participation of designer in monthly SCM			10		
ESHS hand book issued to all personnel				10			Detailed supplementary information about ESHS risk of the design given by designer.			10		
Sub total				50			Sub total			50		
1.6 ESHS submittals to Employer				A	B	C	1.6a ESHS submittals to Employer			A	B	C
Daily reporting of workmen				10			External ESHS audit report			10		
Monthly ESHS report				10			Electrical safety audit report			10		
ESHS committee meeting minutes				10			Air monitoring report			10		
ESHS inspection report				10			Noise monitoring report			10		
Monthly internal ESHS audit score report				10			Accident, Incident and dangerous occurrence reporting			10		
Sub total				50			Sub total			50		
1.7 Visitors to site				A	B	C				A	B	C
Visitor got the permission from Employer				10								
Contractor have visitor PPEs				10								


Responsible accompanied with visitor	10						
Does visitor entering hazardous area	10						
Visitor register maintain at site office	10						
Sub total	50				Sub total		
Contractor's Observations:				Employer's Observations:			
Section Scores	450			Section % Score	100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.											
Contract No.:				Contractor's Name:							
2.0 ESHS Training and ESHS Communication											
2.1 Training Policy			A	B	C	2.2 Induction Training			A	B	C
Is training policy in ESHS Plan			10			Does training take place in first week			10		
Is policy implemented			10			Induction Handout			10		
Does it includes sub contractors			10			Project related syllabus			10		
Is training policy published			10			Management participation			10		
Does PM understand training policy			10			Attendance records kept			10		
Sub total			50			Sub total			50		
2.3 Toolbox Talks			A	B	C	2.4 Supervisor Training			A	B	C
Are they held at least weekly			10			Is there a recognized programme			10		
Presented by supervisor/safety officer			10			Project related			10		
System monitored by management			10			Senior management participation			10		
Employee involvement			10			Achievement test			10		
Attendance records kept			10			Attendance records kept			10		
Sub total			50			Sub total			50		
2.5 Follow up training			A	B	C	2.6 Driver/Plant Operator Training			A	B	C
Is follow up training organized			10			Does Driver/PO training take place			10		
Does it take place after six months			10			Are all drivers undergone for defensive training at IDTR.			10		
Is syllabus project related			10			Are all Drivers and Operators certificated			10		
Attendance records kept			10			Are records kept			10		
Workers participation towards training			10			Are all Drivers Operators retained			10		
Sub total			50			Sub total			50		
2.7 Promotional activities			A	B	C	2.8 ESHS posters			A	B	C
Is there a safety promotional programme			10			Are posters adequate no's			10		
Are any incentive schemes used			10			Are posters separately numbered			10		
Are subcontractors included in promotion			10			Are posters cover all topics			10		
Had any worker rewarded so far.			10			Are safety posters visible on site			10		
Management's participation towards this			10			Are posters maintaining regularly			10		
Sub total			50			Sub total			50		
2.9 ESHS Signage			A	B	C	2.10 Important days to be observed			A	B	C
Is signage in correct colours			10								
Adequate number of signs			10								
Suitable positioning of signs			10								
Signs in Hindi and English			10								
Are signage maintaining regularly			10								
Sub total			50			Sub total					
Contractor's Observations:						Employer's Observations:					
Section Scores			450			Section % Score			100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
3.0 ESHS Inspection and Audit													
3.1 Planned General Inspection				A	B	C	3.2 Routine Inspection				A	B	C
Monthly contractor and subcontractors' site ESHS committee Inspection				10			Operator Daily Inspection of plant and equipment				10		
Weekly ESHS inspection by supervisors				10			Monthly Inspection of electrical hand tools				10		
Daily ESHS inspection by site ESHS team				10			Quarterly Inspection of temporary electrical systems				10		
Employer's and contractor's representative involved in this ESHS inspection				10			Weekly Inspection of scaffold by scaffolding supervisor				10		
Records maintenance				10			Half-yearly inspection of lifting appliances and gears by competent person				10		
Sub total				50			Sub total				50		
3.3 Specific Inspection				A	B	C	3.4 ESHS Inspection				A	B	C
Before a heavy lifting operation				10			Is Contractor prepare checklist for all activity				10		
Before & after entry into confined space				10			Checklist mentioned in contractor ESHS plan				10		
Before & after a welding & gas cutting				10			All inspection reports registered				10		
Before concreting formwork				10			Inspection reports sent to Employer				10		
All high-risk processes inspected by competent supervisor				10			Planned and Routine Inspection used for discussion in ESHS Committee Meeting				10		
Sub total				50			Sub total				50		
3.5 MARS				A	B	C	3.6 Electrical safety audit				A	B	C
Performed once in a month				10			Covered all areas				10		
Project Manager accompanied this audit				10			Performed once in a month				10		
Conducted at least 7 days prior to Monthly ESHS Committee meeting				10			Team comprising of senior ESHS (Elect) engineer				10		
Audit Report will be sent to Employer				10			Audit Report will be sent to Employer				10		
Corrective actions taken				10			Corrective actions taken				10		
Sub total				50			Sub total				50		
3.7 External Audit (General)				A	B	C	3.8 External Audit				A	B	C
Conducted by external agencies				10			Contents and coverage				10		
Auditors ISO qualified and competent				10			Available documents				10		
Approval of the Employer				10			Qualification of audit team members				10		
Audit report as per ISO/ILO standard				10			Had checklist prepared				10		
Conducted on a quarterly basis				10			Status of NCR of external audit				10		
Sub total				50			Sub total				50		
3.9 Audit Report				A	B	C					A	B	C
Audit report as per ISO/ILO standard				10									
Audit conformity / non-conformity report to the Employer				10									
Report contents and coverage				10									


Corrective action by contractors	10					
Initial audit for checking the adequacy of implementation	10					
Sub total	50			Sub total		
Contractor's Observations:				Employer's Observations:		
Section Scores	450			Section % Score	100	


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.														
Contract No.:				Contractor's Name:										
4.0 Hazard Identification, Risk Assessment and Emergency Preparedness														
4.1 Policy for Identifying Hazards				A	B	C	4.2 Risk Assessment				A	B	C	
Procedure for identifying hazards				10			Are risk assessment carried out				10			
Is there a list of significant hazards				10			Is there a formal process				10			
Procedure for Risk Assessment				10			Are worksheets used				10			
Whether any schedule or hierarchy made				10			Are records kept in site office				10			
Ranking of hazards				10			Whether control measures are planned				10			
Sub total				50			Sub total				50			
4.3 Method Statements				A	B	C	4.4 Permit to work in use				A	B	C	
Are Method Statements produced				10			Is there a procedure for Permits to work				10			
Do they contain clear instruction				10			Issued by Authorized person				10			
Are they given to work supervisors				10			Issued for defined period				10			
Is correct information given to workers				10			Workers instructed				10			
Step by step description of task				10			Are records kept of Permits issue				10			
Sub total				50			Sub total				50			
4.5 Emergency Preparedness Plan				A	B	C	4.6 Emergency control centre				A	B	C	
Is there description within Safety Plan				10			Available of first-aid box				10			
Is it up to date				10			Public addressing system				10			
Is it well published				10			Emergency phone numbers				10			
Does Project Manager have copy				10			Emergency alarm				10			
Exercise within past three months				10			Employees name list				10			
Sub total				50			Sub total				50			
4.7 Communication system				A	B	C	4.8 Plan Details				A	B	C	
Public addressing system				10			Details of emergency co-ordinator				10			
Emergency power supply				10			Designated personnel with Tel. Nos.				10			
Mobile phone in Emergency care centre				10			Are telephone numbers up to date				10			
Warning boards				10			Emergency response team identified				10			
Records maintained for usage and maintenance of communication systems				10			Functions of Team identified				10			
Sub total				50			Sub total				50			
4.9 Requirements				A	B	C	4.10 First Aid				A	B	C	
Link to Police				10			Is First Aid included in Safety Plan				10			
Link to Fire Services				10			Are adequate no. of First aiders appointed				10			
Link to Ambulance and Hospital				10			Record keep of qualification				10			
Communication to employees				10			First aid boxes supplied				10			
Displayed on Notice Boards				10			First aid boxes properly equipped				10			
Sub total				50			Sub total				50			
Contractor's Observations:						Employer's Observations:								
Section Scores						500			Section % Score			100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
5.0 Reporting of Accidents and Dangerous Occurrences and Accident Investigations													
5.1 Reporting to Employer				A	B	C	5.2 Reporting to Govt. organisation				A	B	C
Verbal information				10			Reporting to Regional Labour Commissioner				10		
Written information within 24 hrs				10			Reporting to welfare board				10		
Delay in reporting				10			Reporting to director general				10		
Are all accidents identified and recorded				10			Reporting to police station				10		
Are AFR rates calculated				10			Reporting to District Magistrate				10		
Sub total				50			Sub total				50		
5.3 Incident Reporting				A	B	C	5.4 Follow up Action				A	B	C
Is there a proper reporting procedure				10			Does Senior Manger review all reports				10		
Is the procedure communicated to all				10			Is result of investigation published				10		
Are reports available for inspection				10			Are workers advised of remedial action				10		
Do reports accurately describe incident				10			Are failure in Management recognized				10		
Is standardised form used				10			Whether statistics report prepared				10		
Sub total				50			Sub total				50		
5.5 Procedure for investigation				A	B	C	5.6 Incident Investigation				A	B	C
Made Photographs and sketches				10			Are witness statement taken				10		
Examine involved equipment				10			Is the chain of events identified				10		
Interviewed the eye-witnesses				10			Is specific sub contractor identified				10		
Consulted expert opinion				10			Investigation kit available				10		
Environmental conditions				10			Investigation report made available to Employer				10		
Sub total				50			Sub total				50		
				A	B	C					A	B	C
Sub total							Sub total						
				A	B	C					A	B	C
Sub total							Sub total						
Contractor's Observations:						Employer's Observations:							
Section Scores				300			Section % Score				100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
6.0 Housekeeping													
6.1 Procedure				A	B	C	6.2 Organisation				A	B	C
Is it mentioned in ESHS plan				10			Adequacy of housekeeping personnel				10		
Responsibility classified				10			Is housekeeping personnel trained				10		
Housekeeping round the clock				10			Employer's approval for housekeeping personnel				10		
Reporting of housekeeping personals to ESHS Manager				10			Intimation of vacancy to Employer				10		
Housekeeping persons provided no. / badge				10			Persons provided with suitable logistics / aid				10		
Sub total				50			Sub total				50		
6.3 Housekeeping squad				A	B	C	6.4 Barricades				A	B	C
Housekeeping plan				10			Dimension of the board				10		
Member list				10			HRIDC logo				10		
Job allocation and time allocation				10			Sequential Numbering				10		
Periodicity of housekeeping				10			Availability of protruding parts				10		
Documentation of housekeeping				10			Regular cleaning and painting				10		
Sub total				50			Sub total				50		
6.5 Access / Egress way				A	B	C	6.6 Dustbins				A	B	C
Free from debris				10			Lumbar with protruding nails				10		
Unprotected opening				10			Unprotected projection				10		
Free from obstructions				10			Scattered unused materials				10		
Slippery condition				10			Spill of bentonite				10		
Spillage of water or oil				10			Fencing and guarding of equipments				10		
Sub total				50			Sub total				50		
6.7 Housekeeping at worksites				A	B	C	6.8 Housekeeping at roads				A	B	C
Lumbar with protruding nails				10			Tyre cleaning of vehicles				10		
Unprotected projection				10			Parking of construction vehicles at road				10		
Scattered unused materials				10			Water logging or bentonite spill on road				10		
Fencing and guarding of equipments				10			Roads kept clean				10		
Stacking and storing of materials				10			Position of barricades lying at roads				10		
Sub total				50			Sub total				50		
6.9 Storage of cylinders				A	B	C					A	B	C
Full / empty separated				10									
Gases separated				10									
Protected from weather				10									
Contents labelled				10									
MSDS available for each gas				10									
Sub total				50			Sub total						
Contractor's Observations:							Employer's Observations:						
Section Scores				450			Section % Score				100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
7.0 Working at Height													
7.1 Organisation and planning				A	B	C	7.2 Fragile surface				A	B	C
Adequate number of trained personnel				10			Suitable working platform				10		
Supervision				10			Guard rails				10		
Planning emergency and rescue				10			Crawling boards				10		
Work permit system				10			Warning notice				10		
Refresher training				10			Work permit system to work				10		
Sub total				50			Sub total				50		
7.3a Scaffolding				A	B	C	7.3b Scaffolding				A	B	C
Is scaffolding included in ESHS Plan				10			Scaffolds constructed for correct use				10		
Are scaffolding erected and dismantled by competent workmen				10			Are scaffolds constructed of sound material without patent defect				10		
Are records kept of inspections				10			No unsuitable material				10		
Security fixed or buttressed				10			Working platforms fully boarded				10		
Working platforms free from rubbish				10			Guardrails and mid rails fitted				10		
Sub total				50			Sub total				50		
7.3c Scaffolding				A	B	C	7.4a Ladders				A	B	C
Secure ladder access provided				10			Are ladders specified in Safety Plan				10		
Toe board provided				10			Is there a system for checking ladders				10		
'Safe for Use' board erected				10			Are records kept of weekly checks				10		
Availability of base plate				10			Using of Bamboo ladders				10		
Free from rust / corrosion / debris				10			Painting of ladders				10		
Sub total				50			Sub total				50		
7.4b Ladders				A	B	C	7.5 Guardrails				A	B	C
Safety procedure followed				10			Present at all working platforms				10		
Rubber bush in aluminium ladder				10			Securely attached				10		
Landing properly				10			Sound material				10		
Climbing procedure				10			Designed as per standard				10		
Rungs at proper intervals				10			Maintained properly				10		
Sub total				50			Sub total				50		
7.6 Harnesses				A	B	C	7.7 Safety net				A	B	C
Is use of harnesses specified in ESHS Plan				10			Approved type				10		
Are harnesses of full body type				10			Good construction				10		
Are secure anchorage points used				10			Adequate number to issue				10		
Has instruction on correct use been given				10			Testing				10		
Maintenance and inspection				10			Maintenance				10		
Sub total				50			Sub total				50		
Contractor's Observations:						Employer's Observations:							
Section Scores				500			Section % Score				100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.												
Contract No.:				Contractor's Name:								
8.0 Lifting Operations and Gears												
8.1 Certification				A	B	C	8.2 ASLI / Other Indicators			A	B	C
Procedure is available in ESHS Plan				10			Free from damage			10		
Fitness / Test Certificates available				10			In operable conditions			10		
Daily inspection records maintained				10			Overload device tested			10		
Load chart for lifting appliances				10			Overload device operable			10		
Employer's approval for lifting appliances				10			Bypass key made available to I/C			10		
Sub total				50			Sub total			50		
8.3 Wire Ropes				A	B	C	8.4 Safety Hooks			A	B	C
Free from damage				10			Free from damage			10		
Lubricated				10			Safety latch fitted			10		
Correctly anchored				10			Safety latch in operable condition			10		
Splicing method				10			Other form of hook closure			10		
Inspection & Testing				10			Test certificates			10		
Sub total				50			Sub total			50		
8.5 Slings, Chains & Shackles				A	B	C	8.6 Outriggers (Mobile Cranes)			A	B	C
Properly stored when not in use				10			Outriggers locked in position			10		
In good condition without defects				10			Jacks in good condition			10		
Market with safe working load				10			Jacks firmly supported			10		
Bulldog clips correct fit/number				10			Wheels clear/not supporting load			10		
Correctly used				10			Chassis level			10		
Sub total				50			Sub total			50		
8.7 Operator and Operator cabin				A	B	C	8.8 Rigging requirement			A	B	C
Licence for HMV				10			Rigger qualification & experience			10		
Competent & skilled				10			Load assessment			10		
Medical fitness certificate				10			Type of slings to be used			10		
Portable fire extinguisher				10			Hocks & lifting assessment			10		
Defensive driving at IDTR				10			Overhead power line			10		
Sub total				50			Sub total			50		
8.9 Alarms & signals				A	B	C	8.10 Accessories & controls			A	B	C
Overload alarm				10			Side & rear-view mirror			10		
Over hoist alarm				10			Clutch & brake			10		
Reverse horn				10			Swing & Extension control			10		
Pressure indicators				10			Illumination			10		
Outrigger extension alarm				10			Maintenance			10		
Sub total				50			Sub total			50		
Contractor's Observations						Employer's Observations:						
Section Scores				500			Section % Score			100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
9.0 Construction Machinery / Hand tools and power tools													
9.1 Machinery Fencing				A	B	C	9.2 Maintenance				A	B	C
All moving parts effectively guarded				10			All maintenance properly maintained				10		
Fencing not removed				10			No maintenance whilst M/c in motion				10		
Is procedure in ESHS Plan				10			Records of maintenance kept				10		
Warning board				10			Work Permit System				10		
Emergency stop switch				10			Use of 'Lock Out and Tag Out' (LOTO)				10		
Sub total				50			Sub total				50		
9.3 Air Receivers				A	B	C	9.4 Wood working machines				A	B	C
Fitted with pressure relief valve				10			Top guard fitted				10		
Annual test carried out				10			Working space				10		
All couplers with safety chains/wired				10			Guards to protect all drive belts				10		
Condition of hoses				10			Emergency stop switch				10		
Noise level under permissible limit				10			Push stick used				10		
Sub total				50			Sub total				50		
9.5 Grinding machine				A	B	C	9.6 General				A	B	C
Appropriate guards fitted				10			Is procedure in ESHS plan				10		
Correct size wheel/disc fitted				10			All operator medically fit and above 21 yrs				10		
Spindle speed marked on M/s				10			Unauthorized riding on plant				10		
Name plate for equipment specification				10			Inspection and maintenance record				10		
Test and maintenance				10			Portable fire extinguisher				10		
Sub total				50			Sub total				50		
9.7 Safe Operating Procedure				A	B	C	9.8 Requirements				A	B	C
Available for all machines				10			Manufacturer specification				10		
Available in the working area				10			Control switch				10		
Operator trained				10			GFCI / RCCB and other safety devices				10		
Operator know the same				10			IP 44 plugs, sockets & connectors				10		
Updated regularly				10			Guarding				10		
Sub total				50			Sub total				50		
9.9 Maintenance and Inspection				A	B	C	9.10 PPE				A	B	C
Daily inspection				10			Ear protection				10		
Lubrication				10			Hand Protection				10		
Pneumatic and hydraulic pressure				10			Eye protection				10		
Record maintenance				10			Apron				10		
Label displayed in the equipment itself.				10			Nose / face mask				10		
Sub total				50			Sub total				50		
Contractor's Observations:						Employer's Observations:							
Section Scores				500			Section % Score				100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
10.0 Site Electricity													
10.1 Power assessment				A	B	C	10.2 Distribution Panels				A	B	C
Load calculation for power requirement				10			Panel secure box to IP 44				10		
Employer's approval for execution of the job				10			All cables enter box through glands				10		
Is small capacity diesel generator present				10			ELCB or RCCB/ GFCI fitted				10		
Noise from diesel generator				10			Proper earth connection and earth pit				10		
Sub-contractor's power requirement by main contractor				10			Warning signs in appropriate position				10		
Sub total				50			Sub total				50		
10.3 Cables				A	B	C	10.4 Work on site				A	B	C
All cables free from damage				10			Site electricity covered in the ESHS Plan				10		
Cables lying on the ground / water				10			Name posted on Main Distribution Board				10		
Cable joints made by IP 44 connectors				10			Single line & Schematic diagram submitted				10		
Correct storage when not in use				10			Employer's Approval for execution				10		
Colour coding				10			GFCI provided				10		
Sub total				50			Sub total				50		
10.5 Electrical professional				A	B	C	10.6 Earth Pit				A	B	C
Sufficient numbers				10			As per standard				10		
Professionally qualified				10			Wet condition				10		
Roles and responsibilities defined				10			Pouring 5 litre water per days				10		
Valid license to electrical persons				10			Earth pipe free from corrosion				10		
Training				10			Earth resistance				10		
Sub total				50			Sub total				50		
10.7 Plugs, Sockets and outlets				A	B	C	10.8 Voltage / Current				A	B	C
Are all plugs, sockets and outlets IP 44 type				10			Check voltage / current limit				10		
Colour coding of plugs and sockets				10			Rating clearly marked on all equipments				10		
All cables fitted with IP 44 Plugs				10			Monitored continuously				10		
All equipments connected with plugs				10			Mismatch of cable and equipments ratings				10		
All equipments free from defects				10			Properly earthed				10		
Sub total				50			Sub total				50		
10.9 Maintenance				A	B	C	10.10 Correct Disc. / Revolutions				A	B	C
Regular inspections carried out				10			Information plate on tool				10		
Records kept				10			Information on Disc/Cutter				10		
Suitable guards/security fenced				10			Compatibility between Tool and Disc				10		
Faults actioned				10			Operator trained/competent to fit Disc				10		
Record maintaining				10			Safety check on condition				10		
Sub total				50			Sub total				50		
Contractor's Observations:							Employer's Observations:						
Section Scores				500			Section % Score				100		


	HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.												
Contract No.:				Contractor's Name:									
11.0 Fire prevention													
11.1 Fire fighting personnel				A	B	C	11.2 Requirements				A	B	C
Adequacy of Fire fighting personnel				10			Emergency plan				10		
Professionally qualified				10			Fire excavation plan				10		
Employer's approval				10			Mock drill				10		
Intimation of vacancy to Employer				10			Nearest fire brigade phone numbers				10		
Adequate no of trained persons				10			Reporting of fire accident to Employer				10		
Sub total				50			Sub total				50		
11.3 Combustible material				A	B	C	11.4 Fire Extinguisher				A	B	C
Used in site				10			Adequate numbers				10		
Handling of combustible material				10			Appropriate type				10		
Stored in separate place				10			Easily accessible				10		
Spillage of materials				10			Frequency of recharge				10		
Location of burning site				10			Maintenance and inspection				10		
Sub total				50			Sub total				50		
11.5 Fir fighting equipments				A	B	C					A	B	C
Sufficient quantity of water supply				10									
Fire hose and nozzle				10									
Fire alarm				10									
Condition of fire hydrants				10									
Sufficient no. available				10									
Sub total				50									
				A	B	C					A	B	C
Sub total							Sub total						
				A	B	C					A	B	C
Sub total							Sub total						
Contractor's Observations:						Employer's Observations:							
Section Scores				250			Section % Score				100		

 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
12.0 Welding & Cutting													
12.1 Gas Welding / Cutting				A	B	C	12.2 storage of cylinders				A	B	C
Is procedure in ESHS Plan				10			Is procedure in ESHS Plan				10		
Are cylinders in cylinder-trolley				10			Storage in upright position				10		
Are pressure gauges fitted and operable				10			Full/empty segregated				10		
Are flashback arresters fitted				10			Different gases separated				10		
Are non return valves fitted				10			Contents labelled				10		
Sub total				50			Sub total				50		
12.3 Condition of cylinders				A	B	C	12.4 Hose				A	B	C
No damage by misuse				10			Colour coding				10		
No rust/corrosion				10			Hose clip and clamp				10		
Protected from weather				10			Is it free from leak and damage				10		
Colour coding proper				10			Hose lying on the ground				10		
MSDS available				10			Joints if any				10		
Sub total				50			Sub total				50		
12.5 Electric Arc Welding				A	B	C	12.6 Transformer				A	B	C
Are welding machines in good order				10			Presence of voltmeter and ammeter				10		
Welding leads free from defect				10			Separate main power switch				10		
Welding return free from defect				10			Ground connection				10		
Electrode holder properly insulated				10			Specification plate or board				10		
Dipping electrode in water when it is hot				10			Protected from weather				10		
Sub total				50			Sub total				50		
12.7 Electrical Cable				A	B	C	12.8 Work Area				A	B	C
Cable lying on ground / water				10			Area clear of flammable substances				10		
IP 44 cable connectors instead of insulation tape				10			Smoking inside the work area				10		
Damaged and exposed wires				10			Fire extinguisher fitted				10		
Separate earthing connection from work piece to transformer				10			Welding screens available				10		
Electrical protection devices ELCB, RCCB, etc.				10			Ventilation and fume extraction				10		
Sub total				50			Sub total				50		
12.9 PPE for welder, cutter, and helper				A	B	C					A	B	C
Face and eye protection				10									
Gauntlet gloves				10									
Safety footwear				10									
Nose mask				10									
Earmuff / plug				10									
Sub total				50			Sub total						
Contractor's Observations:						Employer's Observations:							
Section Scores				450			Section % Score				100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
13.0 Excavations and Trenching													
13.1 Planning				A	B	C	13.2 Access/Egress				A	B	C
Are excavations covered in ESHS Plan				10			Suitable ladders provided				10		
Examined by competent person				10			Ladders properly secured				10		
Records of inspection maintained				10			Alternative ladders available				10		
Underground cable and pipelines				10			Staircase for excavation more 1.5 m depth				10		
Backfilling and removal of trench				10			Guardrail for staircase.				10		
Sub total				50			Sub total				50		
13.3 Shoring				A	B	C	13.4 Barriers and Warnings				A	B	C
Shoring as soon as earth is removed				10			Rigid barrier around excavation				10		
Suitable support				10			Suitable warning notices				10		
Regular monitoring				10			Regularly checked by supervisor				10		
Proper repair undertaken				10			Warning light & signs				10		
Material stacked properly on removal				10			Emergency exit board				10		
Sub total				50			Sub total				50		
13.5 Soil				A	B	C	13.6 Underground Services				A	B	C
Not closer than 1 metre				10			Checks made with Utility providers				10		
Properly stacked				10			Safe digging procedures in use				10		
Excavator clear of personnel				10			Supervision has service plans				10		
Storage of Excavated materials				10			Dewatering procedures				10		
Logistics for excavated soil				10			Line of dewatering				10		
Sub total				50			Sub total				50		
13.7 Undermining Nearby Structures				A	B	C	13.8 Portable Electrical Equipment				A	B	C
Survey carried out				10			Are as per standard				10		
Temporary support provided if required				10			Proper repair and condition				10		
Vibration measured				10			Rating voltage more than 24 V				10		
Regular monitoring				10			Double insulation				10		
Sufficient clearance provided				10			Open bare wires				10		
Sub total				50			Sub total				50		
13.9 Ventilation and Illumination				A	B	C	13.10 Signals & Communication				A	B	C
Are as per standard				10			Audio, Video signals				10		
Exhaust fan arrangement				10			Walkie-talkie / radio /mobile phones				10		
Temperature management				10			Head protection				10		
Gas monitoring systems				10			Arm protection				10		
Lighting arrangement				10			Leg protection				10		
Sub total				50			Sub total				50		
Contractor's Observations:						Employer's Observations:							
Section Scores				500			Section % Score				100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.												
Contract No.:				Contractor's Name:								
14.0 Tunnelling and Confined Space operations												
14.1 Procedure				A	B	C	14.2 Equipments			A	B	C
Procedure in ESHS Plan				10			Gas monitoring equipment			10		
Permit Work system in use				10			Rescue BA equipment			10		
Only properly trained operatives				10			Full body harness for each worker			10		
Existing underground cables and pipelines				10			Tripod and lifeline			10		
Refresher training				10			Resuscitation Equipment			10		
Sub total				50			Sub total			50		
14.3 Access and Egress				A	B	C	14.4 Procedure			A	B	C
Proper staircase and lift				10			Inform to Director General before 30 days			10		
Guardrail for staircase				10			Emergency power generator			10		
Staircase made of sound material				10			Watertight bulkhead doors at entrance			10		
Free from defects				10			Reflective jackets for workers			10		
Emergency exit				10			Dewatering procedures			10		
Sub total				50			Sub total			50		
14.5 Warning / Communication systems				A	B	C	14.6 Electrical equipment			A	B	C
Telephone / walkie-talkie				10			Flame proof electrical equipment			10		
Emergency Alarm				10			Portable tools more than 24 V			10		
Warning for Exit way and electrical panel boards				10			Double insulation / earthing condition of portable equipment			10		
High visibility waist				10			Transformer used in without compressed air			10		
Warning lights				10			Bare conductor or semi enclosed fuse			10		
Sub total				50			Sub total			50		
14.7 Illumination and Ventilation				A	B	C	14.8 Compressed air			A	B	C
Illumination / ventilation levels				10			Adequacy of air supply			10		
Air circulation				10			Emergency power supply			10		
Level of oxygen / other toxic gas				10			Flame proof equipment			10		
Temperature level (not more than 29° C)				10			Available in man-locks and medical-locks			10		
Emergency power supply for luminaries				10			Hoses free from damage			10		
Sub total				50			Sub total			50		
14.9 Fire Prevention				A	B	C	14.10 Health and Welfare			A	B	C
Adequate water supply				10			Man-lock and medical-lock			10		
Fire alarm				10			Drinking water			10		
Flammable materials inside work areas				10			Medical officer			10		
Water outlet points				10			First-aid room			10		
Inspection and maintenance				10			Shelter room			10		
Sub total				50			Sub total			50		
Contractor's Observations:						Employer's Observations:						
Section Scores				500			Section % Score			100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
15.0 Traffic management													
15.1 Traffic marshals				A	B	C	15.2 Vehicle operators				A	B	C
Sufficient numbers				10			Driving licence				10		
Professionally qualified or trained				10			Medically fitness				10		
Medically fit				10			Defensive driving training				10		
Driving licence				10			Refresher training				10		
Familiar with traffic signs				10			Fire fighting training				10		
Sub total				50			Sub total				50		
15.3 Traffic control devices				A	B	C	15.4 Barricades				A	B	C
Cons				10			Erected around the construction site				10		
Drums				10			Free from defects and protruding parts				10		
Delineators				10			Numbered				10		
Traffic cylinders				10			Painted and maintained in good condition				10		
Traffic signs and barricades				10			Barricade register				10		
Sub total				50			Sub total				50		
15.5 Barricades				A	B	C	15.6 Regulatory Signs				A	B	C
Barricade inspector & supervisor appointed				10			Approval from police and traffic authorities				10		
Retro reflective strips shape and size				10			Warning signs				10		
Reflective strips placed at a angle at bottom				10			Red light / flag indicator				10		
Minimum gap between retro reflective strips 1000mm				10			Design as per employer's approval				10		
One red light / blinker per barricade				10			Material made of reflective type.				10		
Sub total				50			Sub total				50		
15.7a Vehicle				A	B	C	15.7b Vehicle				A	B	C
Vehicle number and company name				10			Brakes in good working order				10		
Inspection stickers & license plate				10			Are wiper blades in good condition				10		
Seat belts				10			Rear view mirrors				10		
Two reflective triangles on rear side				10			Speedometer				10		
Fog lights (front & rear)				10			Vehicle's horn and reverse alarm				10		
Sub total				50			Sub total				50		
15.8 Heavy motor vehicles				A	B	C	15.9 Operator cabin				A	B	C
Automatic safe load indicator				10			Made of fire resistance material				10		
Load chart of the vehicle				10			Protection from vibration				10		
Fitness certificate				10			Weather protection				10		
Manufacturer details				10			Adequate ventilation				10		
Marking of safe working load				10			Suitable fire extinguisher				10		
Sub total				50			Sub total				50		
Contractor's Observations:							Employer's Observations:						
Section Scores				500			Section % Score				100		


 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
16.0 Personal Protective Equipment													
16.1 Head Protection				A	B	C	16.2 Foot Protection				A	B	C
Use enforced				10			Use enforced				10		
As per standard				10			Suitable type				10		
In good condition				10			Toecaps effective				10		
Colour and company logo				10			Fair condition				10		
Available for issue				10			Available for issue				10		
Sub total				50			Sub total				50		
16.3 Eye protection				A	B	C	16.4 Hearing Protection				A	B	C
Use enforced				10			Use enforced				10		
As per standard				10			As per standard				10		
Suitable type				10			Suitable type				10		
Good condition				10			Available for issue				10		
Available for issue				10			Noise levels monitored				10		
Sub total				50			Sub total				50		
16.5 Respiratory Protection				A	B	C	16.6 Protective Gloves				A	B	C
Use enforced				10			Use enforced				10		
As per standard				10			As per standard				10		
Suitable type				10			Correct type for operation				10		
Good condition				10			Good condition				10		
Available for issue				10			Available for issue				10		
Sub total				50			Sub total				50		
16.7 High-Visible Waist				A	B	C	16.8 Fall Protection				A	B	C
Use enforced				10			Use enforced				10		
As per standard				10			As per standard				10		
In good condition				10			In good condition				10		
Warning signs displayed				10			Warning signs displayed				10		
Available for issue				10			Available for issue				10		
Sub total				50			Sub total				50		
16.9 PPE for visitors				A	B	C					A	B	C
Use enforced				10									
10% PPEs for visitors in site office				10									
In good condition				10									
Colour and company logo				10									
Available for issue				10									
Sub total				50			Sub total						
Contractor's Observations:							Employer's Observations:						

Section Scores				450			Section % Score				100		
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 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
17.0 Industrial Health & Hygiene and Lighting & Ventilation													
17.1 Medical examination				A	B	C	17.2 Occupational Health Centre				A	B	C
All worker undergone				10			Construction medical officer & qualification				10		
Covered all testes as per standard				10			Availability nurse & sweeper				10		
Conducted by qualified person				10			Floor area minimum 15 m ² with two rooms				10		
Confidential report for all workers				10			Adequate equipment				10		
Frequency of medical test maintained				10			Medical emergency equipments				10		
Sub total				50			Sub total				50		
17.3 First aid				A	B	C	17.4 Ambulance van and room				A	B	C
Equipped with all items as per standard				10			Equipped with all items as per standard				10		
Sufficient numbers				10			Availability and numbers				10		
First-aid room facility				10			Maintained in good repair				10		
First-aider & his qualification				10			Equipped with standard facilities				10		
Register for first aid				10			Record of all cases of accident & sickness				10		
Sub total				50			Sub total				50		
17.5 Mosquito breeding				A	B	C	17.6 Alcohol and drugs & HIV / AIDS prevention				A	B	C
Water retain on the site				10			Employee working under the influence of alcohol / drugs				10		
Periodic interval				10			Smoking at public worksites				10		
Still waters				10			Smoking at public worksites				10		
Posters				10			HIV / AIDS awareness training provided				10		
Usage of insecticides				10			Workers participation / co-operation				10		
Sub total				50			Sub total				50		
17.7 Noises				A	B	C	17.8 Vibration				A	B	C
Are procedures for noise evaluation in the Safety Plan				10			Monitoring method				10		
Are noise assessments carried out				10			Frequency of monitoring				10		
Are noise zones identified				10			Vibration limits				10		
Is correct PPE provided				10			Report maintenance				10		
Usage of PPE				10			Control plan				10		
Sub total				50			Sub total				50		
17.9 Radiation				A	B	C					A	B	C
Method statement				10									
Approval from Employer				10									
Use and storage of radioactive substance				10									
Disposal of radioactive substance				10									
Appropriate PPE				10									
Sub total				50			Sub total						
Contractor's Observations:						Employer's Observations:							
Section Scores				450			Section % Score				100		

 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
18.0 Welfare amenities													
18.1 Toilets / Urinals				A	B	C	18.1a Toilets / Urinals				A	B	C
Enough no available				10			Is it properly illuminated				10		
Separate for men and women				10			Is it having separate and ample water facility				10		
Access within 500m from worksite				10			Is it having proper drainage system				10		
Is it properly cleaned				10			Water leaking or spillage				10		
Is it washed regularly				10			Records kept and available				10		
Sub total				50			Sub total				50		
18.2 Drinking water				A	B	C	18.3 Canteen				A	B	C
Quantity is sufficient				10			Is canteen available				10		
Quality is good				10			Is it neat and clean				10		
Laboratory test done				10			Is the flooring dust free				10		
Access within 200m from worksite				10			Is the cost 'no loss and no gain' basis				10		
Is it 6m away from toilets and urinals				10			Lighting, ventilation and water facility				10		
Sub total				50			Sub total				50		
18.4 Labour Accommodation				A	B	C	18.5 Creches				A	B	C
Cooking, bathing, washing and lavatory facilities				10			Is it free from mosquito and other biological agent				10		
Is it free from mosquito and biological agent				10			In-charge to keep the children.				10		
Is it properly illuminated and ventilated				10			Is it properly illuminated and ventilated				10		
Is it adequate for all				10			Is it adequate for all				10		
Is it neat, clean and hygiene				10			Is it neat, clean and hygiene				10		
Sub total				50			Sub total				50		
18.6 Shelter				A	B	C	18.7 Illumination				A	B	C
Adequate to all workers				10			Minimum illumination requirement				10		
Is it properly illuminated and ventilated				10			Minimum 50 lux at work place				10		
Is it neat, clean and hygiene				10			Minimum 30 lux on trolley tracks				10		
Is it free from mosquito and biological agent				10			Minimum 10 lux elsewhere				10		
Drinking water and Toilet facilities				10			Adequate Emergency lighting provided				10		
Sub total				50			Sub total				50		
18.8 Ventilation				A	B	C					A	B	C
Oxygen level less than 19.5				10									
Air circulation of 6m ³ /min for each building				10									
Worker employed underground				10									
Free air flow movement in workplace				10									
Ventilation system in operation				10									
Maintenance records kept and available				10									
Sub total				50			Sub total						
Contractor's Observations:							Employer's Observations:						
Section Scores				450			Section % Score				100		

 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.													
Contract No.:				Contractor's Name:									
19.0 Environmental management													
19.1 Air quality				A	B	C	19.2 Water quality				A	B	C
Monitoring by competent person				10			Monitoring by competent person				10		
Monitoring equipment as per standard				10			Monitoring equipment as per standard				10		
Monitoring method				10			Monitoring method				10		
Report to Employer				10			Report to Employer				10		
Control plan				10			Control plan				10		
Sub total				50			Sub total				50		
19.3 Noise monitoring				A	B	C	19.4 Illumination monitoring				A	B	C
Monitoring by competent person				10			Monitoring by competent person				10		
Monitoring equipment as per standard				10			Monitoring equipment as per standard				10		
Monitoring method				10			Monitoring method				10		
Report to Employer				10			Report to Employer				10		
Control plan				10			Control plan				10		
Sub total				50			Sub total				50		
19.5 Temperature monitoring				A	B	C	19.6 Dust control				A	B	C
Monitoring by competent person				10			Water sprinkler arrangement				10		
Monitoring equipment as per standard				10			Frequency water sprinkler inside the site				10		
Monitoring method				10			Dust screens				10		
Report to Employer				10			Dust level under permissible limit				10		
Control plan				10			Environmental monitoring				10		
Sub total				50			Sub total				50		
19.7 Waste Management				A	B	C	19.8 Felling of Trees				A	B	C
Dustbin in construction site				10			Approval from forest department				10		
Temporary dumping area				10			Trees used for anchorage.				10		
Separate dumping pit for disposable and non-disposable wastes				10			Trees exposed or injured by construction equipment				10		
Frequency of removal of waste				10			Protective barriers around tree				10		
Burning of waste				10									
Sub total				50			Sub total				40		
19.10 Energy Management				A	B	C					A	B	C
Uniform illumination				10									
Size and length of cable and wires				10									
Efficient luminaries				10									
Efficient motors and pumps				10									
Efficient air-conditions				10									
Sub total				50			Sub total						
Contractor's Observations:							Employer's Observations:						
Section Scores				440			Section % Score				100		

 HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LTD.												
Contract No.:				Contractor's Name:								
20.0 Batching Plant and Casting Yard												
20.1 General				A	B	C	20.2 Layout			A	B	C
Is procedure in ESHS Plan				10			Plan of layout			10		
All operators medically fit/over 21				10			Drainage system			10		
No unauthorized riding on plant				10			Welfare amenities			10		
Daily inspections / recorded				10			Plan for vehicle moving area			10		
Equipped with all				10			Barrication			10		
Sub total				50			Sub total			50		
20.3 Material Handling & dust protection				A	B	C	20.4 PPE			A	B	C
Handling of cement bag				10			Hand protection			10		
Loading and unloading cement				10			Respiratory protection			10		
Handling of launching segments				10			Head protection			10		
Is dust level under permissible limit				10			Foot protection			10		
Environmental monitoring				10			Ear protection			10		
Sub total				50			Sub total			50		
20.5 Traffic management				A	B	C	20.6 Welfare facilities			A	B	C
Barricades				10			Toilet			10		
Warning boards				10			Drinking water			10		
Traffic marshals				10			Canteen			10		
Delineators				10			Shelter			10		
Lane warning				10			Labour accommodation			10		
Sub total				50			Sub total			50		
20.7 Fitness certificate				A	B	C				A	B	C
Crane				10								
Hydra and all equipment				10								
Ropes and chains				10								
Hooks and shackles				10								
Rigger & Operator				10								
Sub total				50			Sub total					
				A	B	C				A	B	C
Sub total							Sub total					
Contractor's Observations:						Employer's Observations:						
Section Scores				350			Section % Score			100		

Attachment -5 Safe Work Procedure for Work Near Railway Track

1.0 Safety precautions and measures to be observed during execution of ROB/ RUB/ Viaduct/ any other works in Railway and adjoining areas:

1.1 The Contractor(s) shall not allow any road vehicle belonging to him or his suppliers, etc. to ply in HRIDC/railway land next to the running line. If for execution of certain works viz. earthwork for parallel railway line and supply of ballast for new or existing rail line gauge conversion, etc. road vehicles are necessary to be used in railway/HRIDC land next to the railway line, the Contractor(s) shall apply to the Engineer-in-Charge for permission giving the type and number of individual vehicles, names and license particulars of the drivers, location, duration and timings for such work/movement. The Engineer-in-Charge or his authorized representative will personally counsel, examine and certify the road vehicle drivers, Contractor(s)' flagmen and supervisors and will give written permission giving names of road vehicle drivers, Contractor(s)' flagmen and supervisors to be deployed on the work, location, period and timing of the work. This permission will be subject to be following obligatory conditions:

1.2 Construction Activities and Safety:

- (a) The 'Methodology of Working' shall be incorporated in GAD and Temporary Arrangement Drawings.
- (b) The activities of work to be taken up during the railway traffic block/under speed restriction, etc. should be clearly mentioned in such drawings. If at any stage of execution, any discrepancy is found in the drawing with respect to the site condition affecting safety or some new activity of work is required to be done, the same should be brought to the notice of Railway & HRIDC Engineers and such works should be done only after approval by Railways & HRIDC representative. In such cases, scheme may be modified and, if required, fresh CRS sanction shall have to be obtained.

1.2.1 The works required to be done under traffic block protection, are to be carried out only in the presence of Railway & HRIDC Engineering Officials. The Railway's and HRIDC's Supervisor has to certify safe conditions for passage of trains before resumption of traffic. The works to be done under traffic shall be carried out under the provision of banner flag and protection by Engineering Flagman.

1.2.2 Following important activities of works shall be carried out under supervision of Railway/HRIDC Engineer or his nominated Supervisor:

- (a) Excavation at foundation/ground level near to railway track
- (b) Concrete casting and/or masonry work very close to railway track
- (c) Erection of temporary structures near to running lines.

- (e) Casting of structures like girder/slab over railway track
- (e) Stage-prestressing of girders when placed across railway tracks properly supported
- (f) Launching of precast/pre-assembled girders across railway tracks
- (g) Any work of lifting, side shifting and slewing of girders over the railway track
- (h) Dismantling of temporary structures, shuttering, scaffolding, etc. adjacent to and above the railway track. For carrying out activities of casting, erection, launching, handling and dismantling as listed above, the Contractor's Engineer shall furnish the Construction Programme in advance to HRIDC Supervising Engineer & Engineer representative. No such work should be taken up in absence of the HRIDC Supervising Engineer & Engineer representative. For the activities which are to be done in presence of the HRIDC Engineer and prior intimation shall be given in writing and acknowledgement obtained from HRIDC's representative.

1.2.3 To ensure 'Safety' during construction activities, HRIDC Site Engineer & Engineer representative may direct the Contractor's Supervisor/Engineer or their nominated representative for safe working procedures/ instructions, notwithstanding the contractual or MOU conditions prevailing between/ among Railways/other Departments like NHAI/Contractors/ Concessionaire.

1.2.4 All the records of Quality Assurance/Quality Control, testing of the materials and satisfactory completion of an activity shall be maintained at site by the Contractor's Engineer and Supervisor. On the basis of these records, HRIDC Site Engineer shall do stage-wise clearance of the works at following stages:

- (i) Completion of foundation
- (ii) Completion of substructure
- (iii) Completion of superstructure

Without such stage clearance, the work in next stage of construction shall not be allowed by the HRIDC Supervisor, unless proper system of check and exercise is followed at the site.

1.2.5 Normally, the high beam PSC girders are designed with wider top flange and shorter bottom flange with very high beam which makes the girder unsuitable during lowering, slewing and launching time.

1.2.5 During launching of girders and subsequent adjustments for placement of bearing, special attention and precautions are required at site to be followed rigorously without resorting to shortcut practice or leaving the work at site to untrained or inexperienced Engineers. Normally, end diaphragms are not cast for the extreme both side girders. These shall be cast minimum 300mm on both sides for all 'I' beam girders to provide temporary supports for ensuring stability.

"OR"

For side adjustments and bearing placements below 'I' section girders, end brackets made

of steel angles should be provided for all 'I' beams sequentially to avoid side titling of individual girders. End brackets shall be removed only after placing girders on bearing and casting of diaphragms.

- 1.2.6 During lowering, the jacks shall be operated duly keeping wooden packing of various thicknesses fixing the amount of lowering to the barest minimum, so that even if the jack fails, the wooden packing will take load and further stability of girder is not endangered.
- 1.2.7 Temporary crib support staging shall be interlaced with clamps and angles. Adequate base width shall be maintained proportionate to the height of stage, which is very essential for avoiding the oblong effect during launching of girders. During launching by RH girder method, the movement of the PSC girders shall be controlled both from front and rear with sync mechanism having simultaneous operation, so that the speed of the launching is always under the control. Spare hydraulic jacks shall always be kept at site. Lowering of girder shall always be carried out at one end only. Further, other end should be adequately secured by wire ropes, end brackets, etc. Thereafter, the process shall be continued alternately.
- 1.2.8 As far as possible, launching of girders by temporary staging shall be avoided and launching by heavy capacity cranes, wherever feasible, shall be adopted.
- 1.2.9 Steel girder launcher if used for launching of PSC girders should be pre-tested for the critical loading (likely to be encountered during actual launching) before deployment on the approaches regarding its strength as well as amount of permissible deflection using actual test PSC girder as a testing load. Connections at supports shall be inspected and certified prior to actual launching. It shall be adequately secured to the base support system on the pier cap.

1.3 General Construction Safety:

- 1.3.1 General safety precautions as applicable for civil works shall be adopted in field.
- 1.3.2 Working near running line: Safe practices at site and at all times non-infringement to moving trains shall be ensured. Road vehicles, material trolleys, dollies with any tendency to roll off towards the running lines to be checked by providing chains, locking arrangements, blocks, etc. shall be ensured and the Site-in-Charge of the Contractor shall be primarily responsible, secondary responsibility being of Contractor's Consultant.
- 1.3.3 Testing of cranes, lifting jacks and other equipment: All equipment like cranes, lifting jacks shall be tested, duly calibrated and certified prior to the use at construction site.
- 1.3.4 Routine safety checks, validity of test certificates for load bearing equipment especially for

cranes outsourced from third party shall be ensured prior to deployment.

- 1.3.5 Construction workers at site shall be provided with personal safety gear like reflective vest, helmet, Safety shoes, gloves & eyewear approved as per construction industry standards. For persons working at pier top/girder level, temporary supports, hand railing, protection with help of ropes, slings and temporary railings shall be provided.

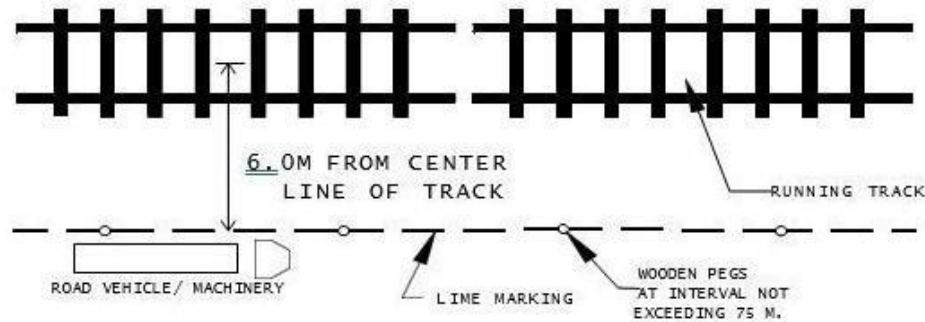
2.0 Safety Guidelines and Precautions for working close to Railway tracks

- 2.1 A large number of men and machinery are deployed by the contractors for track renewals, gauge conversions, doublings, bridge rebuilding etc. It is therefore essential that adequate safety measures are taken for safety of the trains as well as the work force. The following measures should invariably be adopted.

- A. The contractor shall not start any work without the presence of HRIDC Engineer at site.
- B. Wherever the road vehicles and/or machinery are required to work in the close vicinity of railway line, the work shall be so carried out that there is no infringement to the Railway's schedule of dimensions. For this purpose, the area where road vehicles and/or machinery are required to ply, shall be demarcated and acknowledged by the contractor. Special care shall be taken for turning/ reversal of road vehicles/machinery without infringing the running track. Barricading shall be provided wherever justified and feasible as per site conditions.
- C. The look out and whistle caution orders shall be issued to the trains and speed restrictions imposed where considered necessary. Suitable flagmen/detonators shall be provided where necessary for protection of trains.
- D. The supervisor/workmen should be counseled about safety measures. A competency certificate to the contractor's supervisor as per Performa annexed shall be issued by DGM/HRIDC, which will be valid only for the work for which it has been issued.
- E. The unloaded ballast/rails/sleepers/other P-Way materials after unloading along track should be kept clear off moving dimensions and stacked as per the specified heights and distance from the running track.
- F. Supplementary site-specific instructions, wherever considered necessary shall be issued by the HRIDC's representative.

2.2 PLYING OF ROAD VEHICLES AND WORKING OF MACHINERIES CLOSE TO RUNNING TRACKS

- A.** Normally, the road vehicles shall be run, or machinery shall be worked so as not to come closer than 6.0m from centre line of nearest running track.
- B.** The land strip adjacent to running tracks, where road vehicle is to ply or machinery is to work, shall be demarcated by lime in advance in consultation with the Railway's & HRIDC's Engineer. Wooden pegs at interval not exceeding 75mtr. shall be provided along the line marking as permanent marks. The road vehicles shall ply or machinery shall work so as not to infringe the line of demarcation.



- C. If a road vehicle or machinery is to work closer to 6.0m due to site conditions or requirement of work, following precautions shall be observed:**
- In no case the road vehicle shall run or machinery shall work at distance less than 3.5m from centre line of track.
 - Demarcation of land shall be done by bright colored ribbon/nylon cord suspended on 120 cm high wooden/bamboo posts at distance of 3.5 m from centre line of nearest running track.
 - Presence of an authorized HRIDC's representative shall be ensured before plying of vehicle or working of machinery.
 - Railway's Supervisor shall issue suitable caution order to Drivers of approaching train about road vehicles plying or machineries working close to running tracks. The train drivers shall be advised to whistle freely to warn about the approaching train. Whistle boards shall be provided wherever considered necessary.
 - Lookout men shall be posted along the track at a distance of 800m from such locations who will carry red flag and whistles to warn the road vehicle/machinery users about the approaching trains.
 - On curves where visibility is poor, additional lookout men shall be posted.
- D. If vehicle/machinery is to be worked closer to 3.5m from running track -** Under unavoidable conditions, if road vehicles is to ply or machinery is to work closer to 3.5m due to site conditions or requirement of work, following precautions shall be observed:
- Plying of vehicles or working of machinery closer to 3.5m of running track shall be

done only under protection of track. Traffic block shall be imposed wherever considered necessary. The site shall be protected as per provisions of Para No. 806 & 807 of P-Way Manual as case may be.

- b) Presence of a Railway's/, HRIDC's Supervisor shall be ensured at worksite.
- c) Railway's& HRIDC's Supervisor shall issue suitable caution order to Drivers of approaching train about road vehicles plying or machineries working close to running tracks. The train drivers shall be advised to whistle freely to warn about the approaching train.

E. Precaution to be taken while reversing road vehicle alongside the track

The location where vehicle will take a turn shall be demarcated duly approved by Railway's/HRIDC's representative. The road vehicle driver shall always face the Railway track during the course of turning/reversing his vehicle. Presence of an authorized Railway/HRIDC representative shall be ensured at such location.

- F.** Road vehicle shall not be allowed to run along the track during night hours generally. In unavoidable situations, however, vehicles shall be allowed to work during night hours only in the presence of an authorized Railway's/HRIDC's representative and where adequate lighting arrangements are made and where adequate precautions as mentioned earlier have been ensured.

- G.** Road vehicles/machinery/plant etc. when stabled near running tracks shall be properly secured against any possible roll off and always be manned even during off hours.

2.3 EXECUTION OF WORKS CLOSE TO OR ON RUNNING LINES

- A.** Any work close to or on running tracks shall be executed under the presence of a HRIDC's Supervisor only.

B. Precaution to be taken to ensure safety of trains while execution of work close to the running line or on running lines.

- a) Such works shall be planned and necessary drawings particularly with regard to infringement to moving dimensions shall be finalized duly approved by competent authority before execution of work. The work shall be executed only as per approved procedure and drawings.
- b) All temporary arrangements required to be made during execution of work shall be made in such a manner that moving dimension do not infringe.
- c) Suitable speed restriction shall be imposed, or Traffic block shall be ensured as required.
- d) Necessary equipment for safety of trains during emergency shall be kept ready at site.

C. Precaution to be taken to ensure safety of electrical/signal/ telephone cables while excavating near tracks.

- a) Particular care shall be taken to mark the locations of buried electrical/signal/telephone cables on the plans jointly with S & T/Electric supervisor and also at site so that these are not damaged during excavation.
- b) Copy of the cable plan should be given to the contractor's authorized representative before handing over the site to start the work.
- c) Due care shall be taken to ensure that any part of the equipment or machinery or temporary arrangement does not come close to cables while working.
- d) Joint procedure order No. 17/2013 issued by Railway Board vide letter No.2003/Tele/RCIL/1 PtIX dated 24.06.2013 shall be followed for undertaking digging work in the vicinity of underground signaling, electrical and telecommunication cables.

D. Precaution to be taken during execution of works requiring traffic blocks.

- a) Any work, which infringes the moving dimensions, shall be started only after the traffic block has been imposed.
- b) Before closing the work, the track shall be left with the proper track geometry so that the trains run safely.
- c) After completion of work the released sleeper and fittings should be properly stacked away from the track to be kept clear of moving dimensions.
- d) Block shall be removed only when all the temporary arrangement, machineries, tools, plants etc. have been kept clear of moving dimensions.

E. Precaution to be taken during execution of works during night:

The work close to running line, generally, shall be carried out only during day hours. At locations, however, where night working is unavoidable, proper lighting arrangement should be made. The engineering indicator boards shall be lighted during night hours as per the provisions of IRPWM. The staff deputed for night working should have taken adequate rest before deploying them in night shift. We can specify duration of night shift from 20.00 hrs to 04.00 hrs. All other safety precautions applicable for daytime work should be strictly observed during night working.

F. Precautions to be taken to ensure safety of workers while working close to running lines:

- a) Necessary lookout men with red flags and whistles shall be provided to warn the workmen about the approaching train.
- b) Railway's/HRIDC's supervisor shall issue suitable caution order to Drivers of approaching train for whistling to warn the workers about the approaching train. Whistle boards shall be provided wherever considered necessary.

- c) A "First aid kit" shall always be kept ready at site

G. Precaution shall be taken for safety of public or passengers, while executing works at locations, used by passengers and public

The worksite shall be suitably demarcated to keep public and passengers away from work area. Necessary signage boards such as "Work in progress. Inconvenience is regretted" etc. shall be provided at appropriate locations to warn the public/ passengers. Adequate lighting arrangement of worksite wherever required shall be done to ensure safety of public/passengers during night.

H. Precaution to be taken before stacking materials alongside the track to ensure that safety of trains is not affected - The following precautions shall be taken before stacking the materials along the track for stacking of ballast, rails, sleepers etc.

- a) The sites for material stacking should be selected in advance in such a manner as to ensure that no part of the material to be stacked is infringing the Standard Moving Dimensions. A plan of proposed stacking locations be made and signed jointly by an authorized HRIDC's/Railway's representative and contractor's representative.
- b) The selected locations shall be marked by lime in advance.
- c) Presence of an authorized HRIDC's/Railway's representative while unloading and stacking shall be ensured.
- d) The material shall be stacked in such a height so as to not to infringe SOD in case of accidental roll off.

I. Precaution for handling of departmental material trains - Instructions for working of material trains are contained in Chapter VIII of IRPWM which should be brought to the notice of the supervisors and other staff working on the material trains. In addition to this, following precautions should be taken:

- a) Issue of 'fit to run' certificate:
As per Para 848 before a material train is allowed to work, the complete rake should be examined by the Carriage and Wagon staff and a 'fit to run' certificate issued to the Guard.
- b) As per Para 849 of IRPWM, a qualified Engineering official should be deputed on the train to ensure working of the material train as the Guard is not qualified to carry out such duties like Supervising of loading and unloading of materials.
- c) As per Para 845 of IRPWM, the material train should not be permitted to work during the period of poor visibility due to fog, storm or any other cause except with the permission of the ADEN/DEN. Working of the material trains carrying labour should not be permitted between sunset and sunrise except in an emergency.
- d) While unloading rail panels by the side of the running track, placement of the panels, clear of the maximum moving dimensions should be ensured.
- e) Unloading of rail panels should be done by a team of trained staff under the active

supervision of competent Supervisor/Officer.

- f) Before unloading of rail panels, site should be prepared by way of leveling/removing extra ballast, if any, from the crib and shoulder with the objective to ensure requisite lateral and vertical clearances so as to prevent slippage of rail panels due to vibration during the passage of trains.
- g) Reasonably adequate block should be asked and provided for unloading of the material and the work should be done preferably in day light to avoid shortcut in haste which may infringe the safety requirements.

J. Safety aspects to be observed while working in OHE area

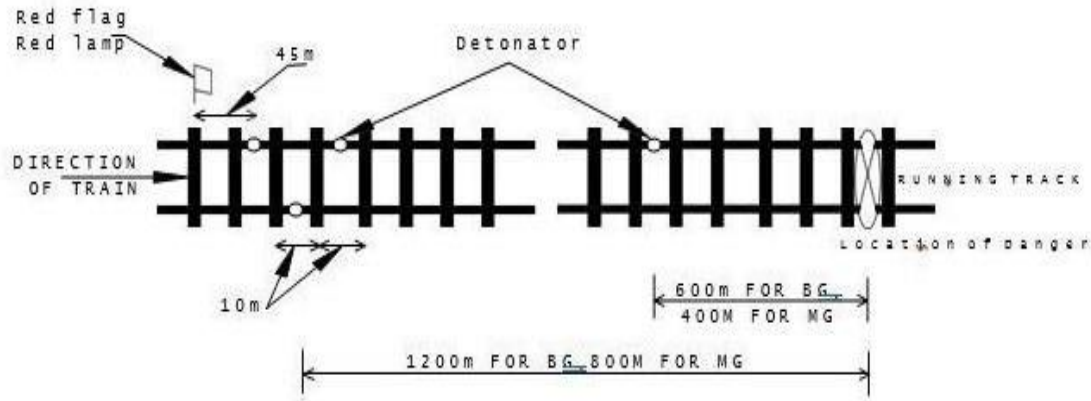
- a) No electrical work close to running track shall be carried out without permission of HRIDC representative.
- b) A minimum distance of 2m has to be maintained between live OHE wire and body part of worker or tools or metallic supports etc.
- c) No electric connection etc. can be tapped from OHE.
- d) Authorized OHE staff should invariably be present when the relaying work or any major work is carried out.
- e) Power block is correctly taken and 'permit to work' is issued.
- f) The structure bonds, track bonds, cross bonds, longitudinal rail bonds are not disturbed and if disconnected for the work, they are reconnected properly when the work is completed.
- g) The track level is not raised beyond the permissible limit during the work

2.4 PROTECTION OF TRACK DURING EMERGENCY

A. Action to be taken when a contractor's supervisor or vehicle operator apprehends any unusual circumstances likely to infringe the track and endanger safe running of trains.

- a) At any time if a contractor's supervisor or vehicle operator observes any unusual circumstances likely to infringe the track and apprehend danger to safe running of track, he shall take immediate steps to advise a HRIDC official of such danger and assist him in protection of track.
- b) The track shall be protected as under. One person shall immediately plant a red flag (red lamp during night) at the spot and proceed with all haste in the direction of approaching train with a red flag in hand (red lamp during night) and plant a detonator on rail at a distance of 600m from the place of obstruction of BG track (400m for MG track) after which he shall further proceed for not less than 1200m from the place of obstruction from BG track (800m for MG track) and plant three detonators at 10m apart on rails. After this he shall display the red flag (red lamp during night) at a distance of 45m from the detonators.

- c) Attempts shall also be made to send an advice to nearest Railway/HRIDC station about the incident immediately.



B. Action to be taken if train is seen approaching to site of danger and there is no time to protect the track as per guidelines mentioned above.

In such a case the detonators shall be planted on rails immediately at distance away from place of danger as far as possible and attention of driver of approaching train shall be invited by whistling, waving the red flag vigorously, gesticulating and shouting.

C. What action shall be taken if more than one track is obstructed.

- In case of single line protection as above shall be done in both the directions from place of danger.
- In case of double line or multiple lines, if other tracks are also obstructed, the protection as above shall be done for other track also.
- The protection shall be done in that direction and on that track first on which train is likely to arrive first.
- The Contractor's Supervisors, Operators and lookout men shall be properly explained about the direction of trains on running tracks.

D. Equipment required for protection of track.

Minimum compliment of protection equipment i.e. 10 detonators, 4 red hand flags, 4 red hand lamps, 4 banner flags and whistles etc. shall always be kept ready at worksites for use in case of emergency. HRIDC will arrange to provide detonators, whereas Contractor shall arrange other equipment at his own cost.

E. Arrangement of lookout men and competency required for lookout man to warn labour about approaching train.

- Contractor will provide lookout men.
- The lookout men shall be properly trained in warning to staff at worksite about approaching train.

- c) Only those lookout men shall be provided at site who have been issued with a competency certificate by the Railway's/HRIDC's Supervisor.
- d) In case, it is felt necessary to provide lookout men by HRIDC, the charges for the same as fixed by HRIDC Administration shall be recovered from Contractor.

2.5 Training to Supervisors and Operators of Contractor

The Supervisors and Operators of the contractor proposed to be deployed at work site, which is close to the running track, shall be imparted mandatory training by the HRIDC at site free of cost about the safety measures to be adopted while working in the vicinity of running track. HRIDC's Engineer-in charge of the work shall decide the scale, extent & adequacy of training. In case training is imparted at a recognized Railway training institute, the charges for the same, as decided by HRIDC, shall be recovered from the Contractor. A competency certificate to this effect to the individual Supervisor/Operator shall be issued as given below, by a HRIDC Officer not below the rank of DGM/HRIDC. No Supervisor/Operator of the Contractor shall work or allowed to work in the vicinity of running track that is not in possession of valid competency certificate.

All the labour, materials, tools, plants etc. except detonators, required for ensuring safe running of trains shall be provided by Contractor at his own cost. Wherever lookout men are provided by HRIDC, charges at the rate of Rs. 1000/- per man day shall be recovered from Contractor.

A sample of training competency certificate is provided below for reference:

Competency Certificate
<p>Certified that Shri Supervisor/Operator of M/s.has been trained and examined in safety measures to be followed while working in the vicinity of running railway track for the work. His knowledge has been found satisfactory and he is capable of supervising the work safely.</p> <p>This certificate is valid only for the work mentioned in this certificate only.</p> <p style="text-align: right;">Signature and designation of the officer</p>

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TECHNICAL SPECIFICATIONS

1 General

1.1 Scope of Specifications

This specification shall be applicable for carrying out item of works given in BOQ.

1.2 Applicable Standards

The applicable standards shall be given below. All the codes, standards and manuals shall be with latest alterations/correction slips up to 28 days prior to deadline of submission of Tender documents.

Indian Railway Standard Codes and Specifications (IRS) can be obtained from the office of the Employer on any working day. Other codes and specifications are available online on websites of respective organisations.

1.2.1 Indian Railway Standard Codes and Specifications (IRS)

- i. Bridge Rules
- ii. Concrete Bridge Code
- iii. Steel Bridge Code
- iv. Fabrication Specification No. B1-2001
- v. Specification No. B-2 for Steel Structures (other than Girder Bridges)- Part 3.
- vi. Welded Bridge Code
- vii. Specification No.M-28, Classification, testing and approval of metal arc welding electrodes for use-Indian Railway
- viii. Specification No.M-29, Classification, testing and approval of submerged arc welding with flame combination
- ix. NWR Unified Standard Schedule of Rates - 2019
- x. Indian Railways Unified Standard Specification (Formation Works, Bridge Works & P.Way Works) - 2019
- xi. Indian Railways Permanent Way Manual (IRPWM)
- xii. Indian Railways Works Manual (IRWM)
- xiii. Indian Railways Bridge Manual (IRBM)
- xiv. Indian Railways Engineering Code
- xv. Indian Railways Schedule of Dimensions (BG)
- xvi. IRS Seismic code for Earthquake Resistant Design of Railway bridges.

1.2.2 RDSO Guidelines

- i. BS-110 Guidelines on Fabrication of Steel Girders for Construction/Field Engineers
 - ii. BS-111: Guidelines for use of High Strength Friction Grip (HSFG) bolts on bridges on Indian Railways
 - iii. BS-113 Guidelines for providing Arrangements for Bridge Inspection
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- iv. Report No. GE: R-50: Transitional System on approaches of bridges

1.2.3 Indian Standards Codes and Specifications (IS)

- i. IS: 800 Code of practice for General Construction Steel
- ii. IS: 1367 Technical Supply Conditions for Threaded Steel Fasteners
- iii. IS: 2062 Specifications for weldable Structural steel
- iv. IS: 4923 Hollow steel sections for structural use -specification
- v. IS: 1161 Steel Tubes for Structural Purposes- specifications
- vi. IS: 9595 Metal arc welding of carbon and carbon manganese steels
- vii. IS: 813 Welding and Allied Processes
- viii. IS: 2004 Carbon steel forgings for general engineering purposes

1.2.4 Any other Standards and Codes as applicable for the proposed Work

1.3 Submittals

Before commencement of the Works the Contractor shall submit following documents for approval of the Engineer. No work shall be started by the contractor unless a Notice of No Objection (NONO) from the Engineer is received by him.

1.3.1 Method Statement

The Contractor shall submit Method Statement for each major item of work to the Engineer for his approval before commencement of work at the Site. The Method Statement shall include all calculations, drawings & information as may be relevant and shall consist of, but not limited to, the following:

- a. Main Material
 - b. Execution/Working Method
 - c. Inspection and test method including its frequency as per standards
 - d. Any other details that may be considered necessary and/or required by the Engineer.
-

1.3.2 Resources Report

The Contractor shall submit to the Engineer a detailed list by trade classification, of manpower to be employed, list of all major construction plant and equipment to be deployed at site to ensure efficient and timely execution of the Works.

1.3.3 Quality Assurance and Quality Control Administration/Measures/Records

The Contractor shall submit list and a proforma of QA & QC records which he intends to use for ensuring quality of the Works in accordance with Division 7000 of the General Specifications.

1.4 Training

The Contractor shall arrange the following training for all his concerned persons and 15 persons of the Engineer and the Employer together 4 days training for fabrication of welded steel girders for railway including one day for practical demonstration at site.

The Contractor shall bear all the expenditure for training including boarding, lodging, airfare, transport and remuneration of trainers. The Contractor shall also bear the expenditure for arranging training place with all facilities, refreshments and meals for all the participants during the training period. The syllabus of training and the names of the trainers shall be submitted to the Engineer for approval. Training shall be imparted only by those trainers who are approved by the Engineer.

2 Specifications for Items of work based on North Western Railway Unified Standard Schedule of Rates -2019 (NWRUSSOR): Bill Nos. 1 to 3

The scope of work, specifications, method of measurement and payment for items included in Bill Nos. 1 to 3 are based on NWRUSSOR. These shall be governed by Indian Railways Unified Standard Specification (Formation Works, Bridge Works & P. Way Works) 2019, a copy of which can be obtained from the office of HRIDC on payment of cost of document/s.

3 Non-Schedule (NS) Items: Bill No. 4 & 5

3.1 NS Item No. 1: H- beam sleeper

Supplying, fabricating, transportation and fixing galvanized H-Beam sleepers as per RDSO drawing-RDSO/B/1636/4/R & RDSO/B/1636/5 with latest alterations/ correction slips up to 28 days prior to deadline of submission of tender documents and specifications thereto complete with all fittings and fixtures including the cost of all steel sections, all fittings and fixtures ,elastomeric pad, galvanized bolts, nuts, washer, split pin, fish plates 1m and 0.6m long along with fish bolts and nuts for 60Kg running rail and 52Kg guard rail respectively, track fittings and fastenings (Zero Toe Load Fastening) for 60 kg running rail and 52 Kg guard rail as per RDSO drg -RDSO/T-8759 to RDSO/T-8765 with latest alterations/ correction slips up to 28 days prior to deadline of submission of tender documents. Labour, lead, lift, plants and equipments including galvanized work of full steel components complete in all respects as per approved drawing and technical specifications & as per direction of Engineer on Open Web Girder(OWG) bridges .The rate is also inclusive of the cost of supply of approved quality of epoxy/adhesive and fixing of elastomeric pads with different components of steel sleepers & girder in accordance with approved drawings. The steel to be supplied by the contractor for fabrication of steel H-Beam sleepers shall conform to IS-2062-2006, Grade B0 only. The rate is also inclusive of inspection charges of components of sleepers including all fixtures & fastening, galvanization etc. from the reputed laboratory/organization. Elastomeric pad plate and other track fittings shall be procured from RDSO approved source.

3.1.1 Method Statement

The Contractor shall submit Method Statement for fabrication and inspection/testing of steel-H-beam sleeper and its fittings/fixtures to the Engineer for approval.

3.1.2 Execution

- a. Steel used for fabrication of H-beam sleepers shall be of grade E-250 B0 quality (conforming to IS 2062) as mentioned in para 8.2 of IRS B 1-2001.
- b. H-beam sleepers shall be fabricated as per RDSO Drg. RDSO/B-1636/4/R, RDSO/B-1636/5 & RDSO specification No. BS: 45 and other relevant specifications.
- c. Tie angle on H-beam sleepers can be dispensed with.
- d. All track fittings shall be procured from RDSO approved sources. H- beam sleeper and fittings shall be inspected and passed by agency approved by the Engineer at the fabricator's/ manufacturer's works before supply.

3.1.3 Measurement

Measurement of H-beam sleepers shall be done in number. Payment under this item shall be made in following manner ;

- a. 75% of the rate shall be paid after fabrication, galvanization and transportation of H-beam sleepers to the site and submission of material test certificate of manufacturer and inspection certificate of the agency nominated by the Engineer.
- b. 15% of the rate shall be paid after supply of fittings to the site and submission of inspection certificate of the agency nominated by the Engineer.
- c. 10% of the rate will be paid after fixing H-Beam sleepers to the girder in satisfactory manner.
- d. In case fixing is not required, then balance payment will be released on handing over of the sleepers after making recovery as per the rate mentioned in Bill No. 4. .

3.2 NS Item No. 2: Linking of Track on H- beam sleeper

Linking of track on H- beam sleepers on Open Web Girder (OWG) bridges with 60 Kg running rail and 52 kg guard rail with track fittings/fastenings including leading of running and guard rails from bridge approach and fixing of running rails & guard rails, bending of guard rails, notching, drilling of holes, cutting of rails etc., as directed and making track structure fit for sectional speed. (Rails will be supplied by the Employer free of cost)

3.2.1 Method Statement

The Contractor shall submit Method Statement for linking of track, to the Engineer, for approval.

3.2.2 Execution

- a. Running rail and guard rail shall be fixed on H- beam sleeper as per assembly drawings (No. RDSO/T-8759 to RDSO/T-8765 with latest alterations/ correction slips up to 28 days prior to deadline of submission of tender documents) and provisions of IRPWM.
 - b. Holes in the flange of guard rail shall be drilled after fixing the sleeper and running rail in position.
 - c. Track shall be fit for sectional speed and tolerances shall be as per permissible limits specified in IRPWM.
-

3.2.3 Method of Measurement

Measurement for payment of linking of track shall be done in running track metre.

3.3 NS Item No.3: Pathway and inspection arrangements on Open Web Girder Bridges

Supplying, fabrication and fixing pathway and inspection arrangements on Open Web Girder bridges with hollow steel, rolled section and chequered plate including welding / bolting, priming painting with one coat ready mix Zinc Chromate conforming to IS:104 with DFT of 25-30Microns, followed by one coat of Zinc Chrome red oxide conforming to IS:2074 with DFT of 25 Microns with all material, labour, T&P as a complete job as per RDSO Drawing No. CBS 0045.

3.3.1 Method Statement

The Contractor shall submit Method Statement for carrying out the work of Pathway in OWG bridges to the Engineer for approval. The work shall be carried out strictly in accordance with the approved Method Statement, the Specifications and the Drawings. Hollow steel sections shall conform to IS: 4923, steel tube sections to IS:1161, chequered plate to IS:3502 and rolled sections to IS:2062.

3.3.2 Execution

The work shall comply with the provisions of Appendix- A of these Technical Specifications.

3.3.3 Method of Measurement

Measurement for payment of this item shall be the weight of metal in the fabricated structure worked out/computed on the basis of nominal weight of materials and exact cut size of the member used in the structure as per the Drawings in MT. No additional payment shall be made for welds, bolt & nuts etc. Payment will be made at the Unit Price per MT entered in the Priced Bill of Quantities.

Appendix-A

FABRICATION AND ERECTION OF STEEL BRIDGE GIRDER

1 General

Fabrication of all Steel Bridge Girders shall be performed within the plants and by fabricators having the experience, knowledge, trained manpower, quality controls, equipment and other facilities required to produce the steel work to desired quality. The plants where fabrication works are proposed to be performed shall be duly approved by RDSO. The tenderer shall submit complete details of the plants along with his tender for the approval of the Engineer. Inspection and passing of fabricated elements/girder shall be done by the RDSO/Employer as per codal provisions and specifications.

Fabrication and erection of steel girder bridges shall be in accordance with IRS fabrication specifications (B1).

2 Material

- a. Steel: Mild steel for welded/riveted bridge girders subjected to railway loading shall conform to IS: 2062, Quality "B0" Grade Designation E250, fully killed and with normalizing/ normalizing rolling/ controlled rolling. Plates less than 12mm thick need not be with normalizing/ normalizing rolling/ controlled rolling.
- b. In case Rolled Steel Standard Sections conforming to IS:2062 Quality "B0" are not available in market, Engineer may permit use of steel conforming to IS:2062 Quality "BR"/"A" on case to case basis.
- c. Steel shall have smooth and uniform finish and shall be free from rolling defects such as cracks, flaws, seams, laps, imperfect edges etc. and other defects such as loose mill scale, rust, pitting, or other defects affecting its strength and durability.
- d. High Strength Friction Grip (HSFG) bolt assembly including Direct Tension Indicator (DTI) washers shall conform to EN: 14399 series.
- e. All the steel sections used in the fabrication must have mill test certificate clearly indicating the specification to which the steel conforms and whether steel is killed and normalized.
- f. The materials, on receipt, shall be carefully unloaded, examined for defects, checked, sorted and stacked securely on a level bed, out of danger from flood or tide and out of contact with water or ground moisture. They will be supported on timber or concrete plinths so that they do not touch the ground.

3 Fabrication of steel work

- a. The records of fabrication shall be maintained in the registers as per the formats given in the Appendix I of IRS: B1-2001.
 - b. The greatest accuracy shall be observed in the design, fabrication and erection of every part of the work to ensure that all parts will fit accurately together on erection. Components of all the spans shall be fully interchangeable. Same jigs and assembly fixtures duly approved shall be used. The tolerances in manufacture shall be in accordance with as shown in Appendix II of IRS: B1-2001.
 - c. There should be level, finished concrete floor of sufficient dimensions in the fabrication yard, on which the fabricator will precisely set out the outline of the structure (to full scale) as per drawings for the purpose of preparing templates. Only steel tapes shall be used for all measurements and they will be held tight and level on the floor while measuring or marking.
 - d. Steel tapes used for marking out the work shall be calibrated at a temperature of 20° C.
 - e. The templates throughout the work shall be of steel bushed.
-

f. Flattening and straightening

All steel materials, plates, bars and structural's shall have straight edges, flat surfaces and be free from twist. If necessary, they shall be cold straightened or flattened by pressure before being worked or assembled unless they are required to be of curvilinear form.

g. Cutting of Steel

Cutting of steel for fabrication may be done by shearing, sawing, or by gas using mechanically controlled torch/torches. All flame cut edges shall be ground to obtain reasonably clean square and true edges. Plasma-arc cutting method may also be employed. This process offers less heat input causing less distortion.

h. Making of Holes

Marking and drilling of holes in members shall preferably be done with the use of templates/jigs. All bolt and rivet holes in members built up by welding shall be drilled after welding.

Holes for turned bolts, should be 1mm under drilled in shop and should be reamed at site to suit the diameter of turned bolt. Jigs shall be periodically checked for tolerances from master plates.

i. Welding

Welded construction work shall be carried out generally in accordance with the provisions of Indian Railway Standard Welded Bridge Code and subject to further specifications as given below:

- i. All welds shall be done by submerged arc welding process in shop. Site welding should not be undertaken except in special circumstances with the approval of the Engineer. Site welding should be confined to connections having low stresses, secondary members, bracings etc.
- ii. Suitable jigs and fixtures shall be used to avoid distortion during welding. Components which are mass fabricated in the shop should be proved in master templates.
- iii. Class and size of electrode for welding shall conform to IRS Specification M-28. For fabrication of steel bridge girder following class of electrode shall be used-

Class of Electrode as per IRS Specification No. M.28.66	Type of work to be welded	I.S. Specification No.	Code (as per IS:815-66)
Class B2 (Moderately high ductility)	For welding of mild steel to IS:2062-1962 (Fusion welding quality) or equivalent, for service conditions where the weldment is rigid and subjected to relatively high dynamic stresses	814-63	M 110 to M 997-H, J, K or P.

Brand and make of electrode on approved list of M&C wing of RDSO should be used.

- iv. No welding operator shall be employed on the work until he has, in the presence of the Engineer, passed the appropriate tests laid down in relevant codes.
- v. All main butt welds shall have complete penetration and shall comply with the requirements of IRS Welded Bridge Code. They shall be made between prepared fusion faces. Where possible they shall be welded from both sides. The ends of the welds shall have full throat thickness. This shall be obtained on all main welds by the use of extension pieces adequately secured on either side of the main plates. Additional metal remaining after the removal of the extension pieces shall be removed by machining, or by other approved means and the ends and surfaces of the welds shall be smoothly finished.
- vi. In the fabrication of built-up assemblies all butt welds in the component parts shall be complete before the final assembly.
- vii. A record of butt welds shall be kept to enable it to be identified with the welders responsible for the work but material shall not be marked by hard stamping for this purpose.

The welding techniques and sequence, quality, size of electrodes, voltage and current required shall be as prescribed by manufacturers of the material and welding equipment. The Contractor shall submit full details of welding procedure in proforma given at Appendix V of IRS: B1-2001 for approval of the Engineer.

j. Making of Joints

- i. Permanent contact surfaces shall be thoroughly cleaned to bare metal, clean and dried and immediately a coating of zinc chrome red oxide priming to IS:2074 shall be applied before the members are assembled.
- ii. Joints shall normally be made by filling not less than 50 per cent of holes with service bolts and barrel drifts in the ratio 4:1. Only barrel drifts shall be used in erection. Drifts may be used for drawing light members in position; but their use on heavy members shall be restricted to securing them in their correct position. Any error in the shop fabrication or deformation resulting from handling and transportation which prevents proper assembling and fitting up of parts shall be reported immediately to the Engineer. No reaming shall be undertaken without the written authority of the Engineer.
- iii. The erection of OWG shall be done in accordance with Appendix III of IRS: B1-2001. However, if the Contractor desires to adopt any other method of erection, they shall submit the scheme and obtain the approval of the Engineer. It shall be ensured that when in position, the girder has the camber as per drawing.

k. High Strength Friction Grip (HSFG) bolting assembly

The HSFG bolting assembly shall conform to EN 14399 Series (High strength structural bolting assemblies for preloading):

- EN 14399-1:2015- General requirements.
 - EN 14399-2:2015- Suitability for preloading.
 - EN 14399-3:2015- System HR- Hexagonal bolt and nut assemblies.
 - EN 14399-5:2015- Plain washers.
 - EN 14399-6:2015- Plain chamfered washers.
 - EN 14399-9:2009- Direct Tension Indicator for bolt and nut assembly.
-

HSFG bolting assemblies are very sensitive to differences in manufacture and lubrication. Therefore, complete HSFG bolting assembly (i.e. bolt, nut, washers & DTI) including galvanizing shall be procured from single manufacturer. Use of Direct Tension Indicator (DTI) washers shall be mandatory in the HSFG bolting assemblies.

Grade of bolts shall be as per the Drawings. The surface preparation, tightening procedures and other details for HSFG bolts shall be as per RDSO standard Drawing No. RDSO/B-11760/R1.

Table: Composition of high strength structural bolting assembly and its component marking

Type of bolting assembly		System HR	
General requirements		EN 14399-1	
Suitability for preloading		EN 14399-2 and, if any, additional testing specified in the product standard	
Bolt & Nut		EN 14399-3	
Marking	Bolt	HR8.8	HR10.9
	Nut	HR8 or HR10	HR10
Washers		EN 14399-5 ^a or EN 14399-6	
Marking		H or HR ^b	
Direct tension indicator and nut face washer or bolt face washer		EN 14399-9	
Marking	Direct Tension Indicator	H8	H10
	Nut Face Washer	HN	
	Bolt Face Washer	HB	
^a EN 14399-5 can only be used under the nut.			
^b At the choice of the manufacturer.			

The bolt length shall be chosen such that after tightening the following requirements are met for bolt end protrusion beyond the nut face and the thread length:

- (a) the length of protrusion shall be at least the length of one thread pitch measured from the outer face of the nut to the end of bolt
- (b) at least four full threads (in addition to the thread run out) shall remain clear between the bearing surface of the nut and unthreaded part of the shank.

Bolt, nut & washers shall be coated with Zink flakes as per ISO: 10683 to provide salt spray resistance.

Holes for HSFG bolts- The actual diameter of hole shall be 1.5 mm more than the bolt diameter for less than 25mm diameter bolts and 2mm more than nominal diameters of HSFG bolts for diameters 25mm and above.

Surface preparation of steel interface before providing HSFG bolts-The interface between the plies which are connected together by the HSFG bolts shall be 'Aluminum metalized without any overcoating'.

Installation of HSFG bolting assembly- Installation /tightening of preloaded bolting assemblies shall be carried out as per clause 8.3 & 8.5 of EN 1090-2 and clause 5.2 of EN 14399-9. The following steps shall be followed for tightening of bolts:

- i. The holes shall be brought in alignment by using drifts etc. such that bolt threads are not damaged/enlarged during insertion of bolts.

- ii. The members being joined shall be held in position by insertion of few HSFG bolts (tightened to first stage only i.e. snug tight condition).
- iii. After the alignment/geometry of members is verified to be correct as per drawings, balance bolts shall be inserted and tightened upto first stage of tightening. The drifts inserted as above shall also be replaced by HSFG bolts one by one.
- iv. After first stage of tightening, the joint shall be checked to see if the plies are in close contact and clearances are not exceeded.
- v. Second stage tightening shall be done with torque wrench. Bolts shall be tightened until indentation on the DTI indicate full tightening. In order to minimize loosening of already tight bolts, tightening in both the stages shall be done starting from the stiffest part to free edges.
- vi. 100% bolts shall be checked for proper tightening using feeler gauge of 0.4/0.25 mm.
- vii. Fully tensioned bolt, opened for any reason whatsoever, shall be rejected and removed from the site of work along with washers, nut and DTI.

4 Bearing and Expansion Gear

All bearings and expansion gears shall be procured from a reputed and experienced manufacturer qualified to undertake precision fabrication of this type and shall be approved by the Engineer.

5 Trial Shop erection

Trial shop erection shall be done in accordance with Cl.614 of IRBM.

6 Field erection

Field erection shall be done in accordance with Cl.616 of IRBM.

7 Erection in contractor's Works

The whole of the work shall be completely interchangeable. First span (of each type) shall be temporarily erected complete at the Contractor's Works for inspection by the Inspecting Officer to test the accuracy of the templates. Further spans or part span assemblies built from parts selected at random by the Inspecting Officer shall be erected from time to time to check the accuracy of the work as the Inspecting Officer may require.

8 Track work for OWG:

Track work for open web girder bridge on H-beam sleepers shall be done as per IRPWW, relevant RDSO drawings and codal provisions.

9 Camber

In order to eliminate secondary stresses in a span under loaded condition, the nominal length (i.e. the lengths which will give no camber) of member shall be increased or decreased by the amount shown on the camber diagram supplied by the Employer. Frequent checks shall be made of the camber of girders during erection and care taken to see that the camber as per drawing is obtained when the girder is completely assembled. When span is supported on ends and intermediate supports are removed the dead load camber shall be recorded and entered in bridge register. This will provide the reference to compare the camber checked during technical inspection to ascertain the loss of camber.

10 Test certificates & testing

All materials for the work shall pass Mechanical test, Charpy test, Chemical Analysis, etc. prescribed by the relevant IS specifications or such other equivalent specifications.

For all materials including HSFG bolts, the contractor shall furnish copies of test certificates from the manufacturers including proof sheets, mill test certificates, etc. showing that the materials have been tested in accordance with the requirements of various specifications and codal provisions.

If any further testing of materials is required by Engineer in respect of these and other items, it shall be arranged for by the contractor at a reputed laboratory/National test house as approved by Engineer. For this, nothing extra shall be payable and accepted rates in the schedule of items shall be deemed to include this.

Even satisfactory outcome of such tests or analysis shall in no way limit, dilute or interfere with the absolute right of the Engineer to reject the whole or part of such materials supplied, which in the judgement of the inspecting authority does not comply with the conditions of the contract. The decision of the Engineer in this regard shall be final, binding and conclusive for all purposes.

The Engineer shall be empowered, at his/her discretion to make or have made under the supervision, any of the tests specified in the specifications mentioned herein in addition to such other tests as he/she may consider necessary, at any time up to the completion of the contract and to such an extent as he/she may think necessary to determine the quality of all materials used therein. In doing so, he/she shall be at liberty under any reasonable procedure, he/she may think fit to select, identify, have cut-off and take possession of test pieces from the material either before, during or after its being worked up into the finished product.

The Engineer shall also be empowered to call for a duly authenticated series of mechanical tests to be obtained from the maker for this materials used in the work and to accept the same in lieu of other tests to the extent he/she deems fit. The Contractor shall supply the material for the test pieces and shall also prepare the test pieces necessary.

The test shall be carried out by the Contractor, for which Contractor shall provide all facilities including supply of labour and plant. Engineer may at his/her discretion direct the Contractor to despatch such tests pieces as he/she may require to the National Test House or elsewhere as he/she may think fit for such testing purposes. The Engineer may at his/her discretion, check test results obtained at Contractor's work by independent tests at National Test House.

The Engineer shall at all times be empowered to examine and check the working of the Contractor's plant before and after using it. Should the Contractor's plant be found, in the Engineer's opinion, unreliable, he/she is empowered to cancel any tests already carried out in this contract and have these tests carried out at any National Test House or elsewhere, as he/she may think fit.

11 Fabrication drawings

The contractor shall prepare detailed shop drawings including drawing office dispatch lists (DODL's) on the basis of design drawings supplied by Engineer in such size and in such details as may be specified by Engineer. The shop drawings shall be submitted to Engineer in triplicate.

No work of fabrication will be started without such approval being obtained. Contractor has to arrange the proof checking of the working fabrication drawings from the nominated Institution / Consultant. The cost will be borne by the contractor.

12 Painting

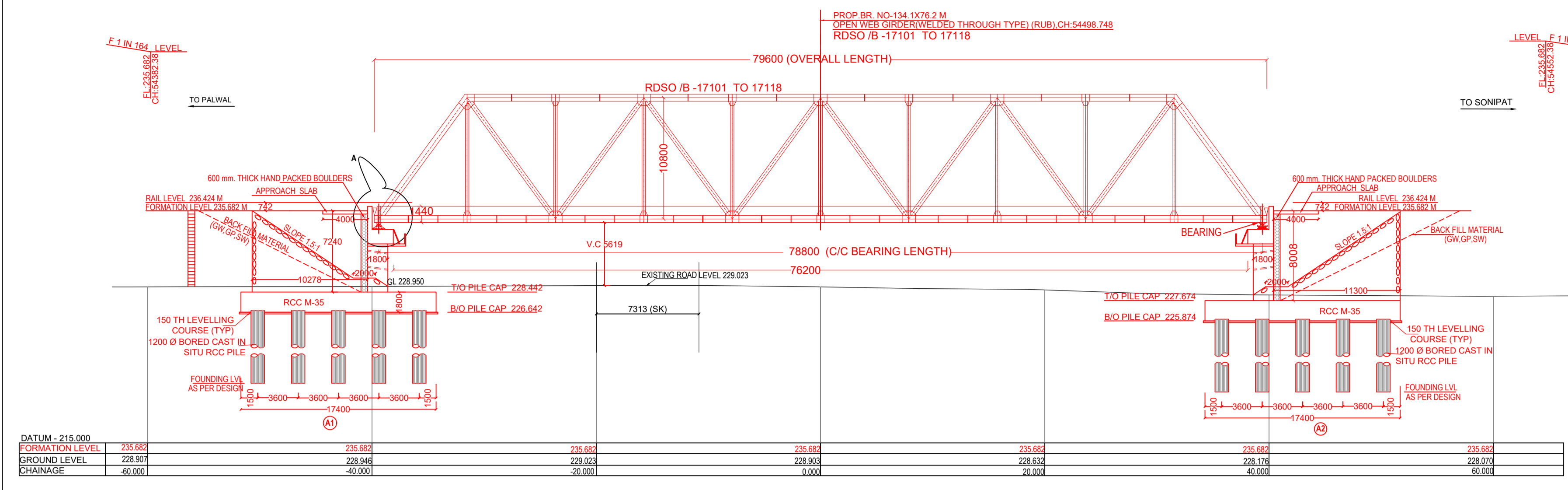
- a. Fabricated steel work shall not be painted over except to the extent specified in para 3.9.1 above until it has been inspected and passed by the Engineer or his representative and any defect, pointed out by him has been rectified. Till then, all rivet heads and weld metal shall be protected by coating with clean boiled linseed oil.
- b. Steel girders (including all components) shall be provided with protective coating by metalizing with sprayed aluminum as given in the Appendix-VII of IRS: B1-2001, followed by painting as per painting schedule given below-
 - i. One coat of etch primer to IS:5666
 - ii. One coat of zinc chrome primer to IS: 104 with the additional proviso that zinc chrome to be used in the manufacture of primer shall conform to type 2 of IS:51.
 - iii. Two coats of aluminum paint to IS: 2339 brushing or spraying as required. One coat shall be applied before the fabricated steel work leaves the shop. After the steel work is erected at site, the second finishing coat shall be applied after touching up the primer and the finishing coat if damaged in transit.

13 Weight of Steel Work for Payment

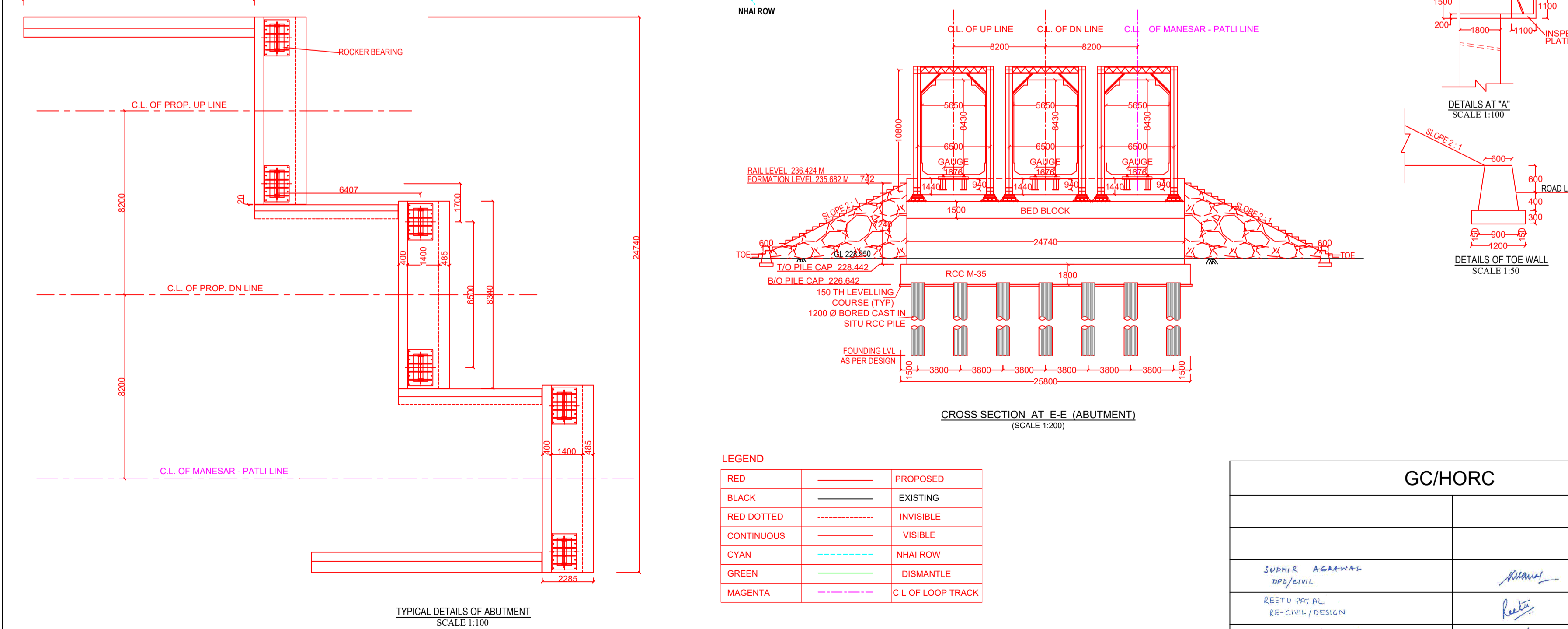
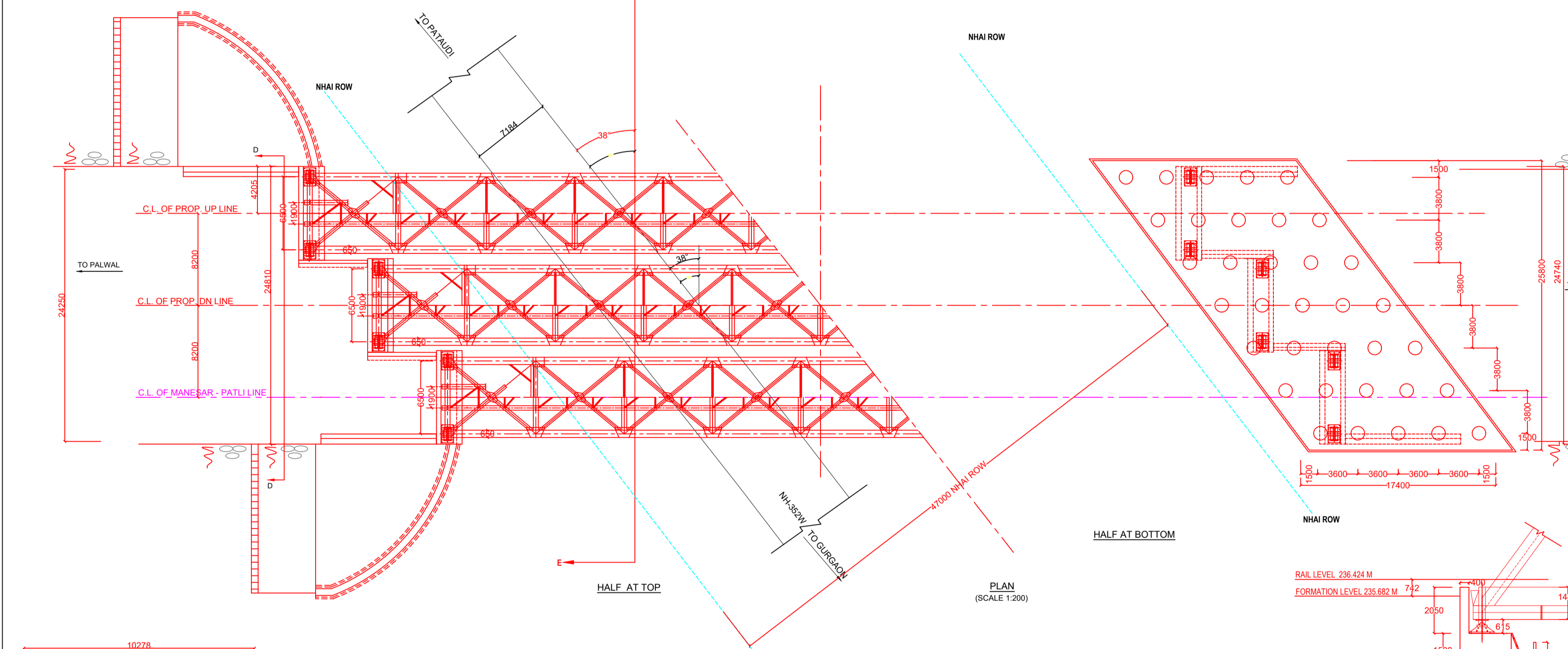
Weight of fabricated structure for payment shall be computed based on the exact cut sizes of members used in structure and nominal weight of the sections as specified in the drawings. Additional weight of 1% shall be considered for payment of welding and HSFG bolts shall be paid separately under relevant item.

SECTION VII-3

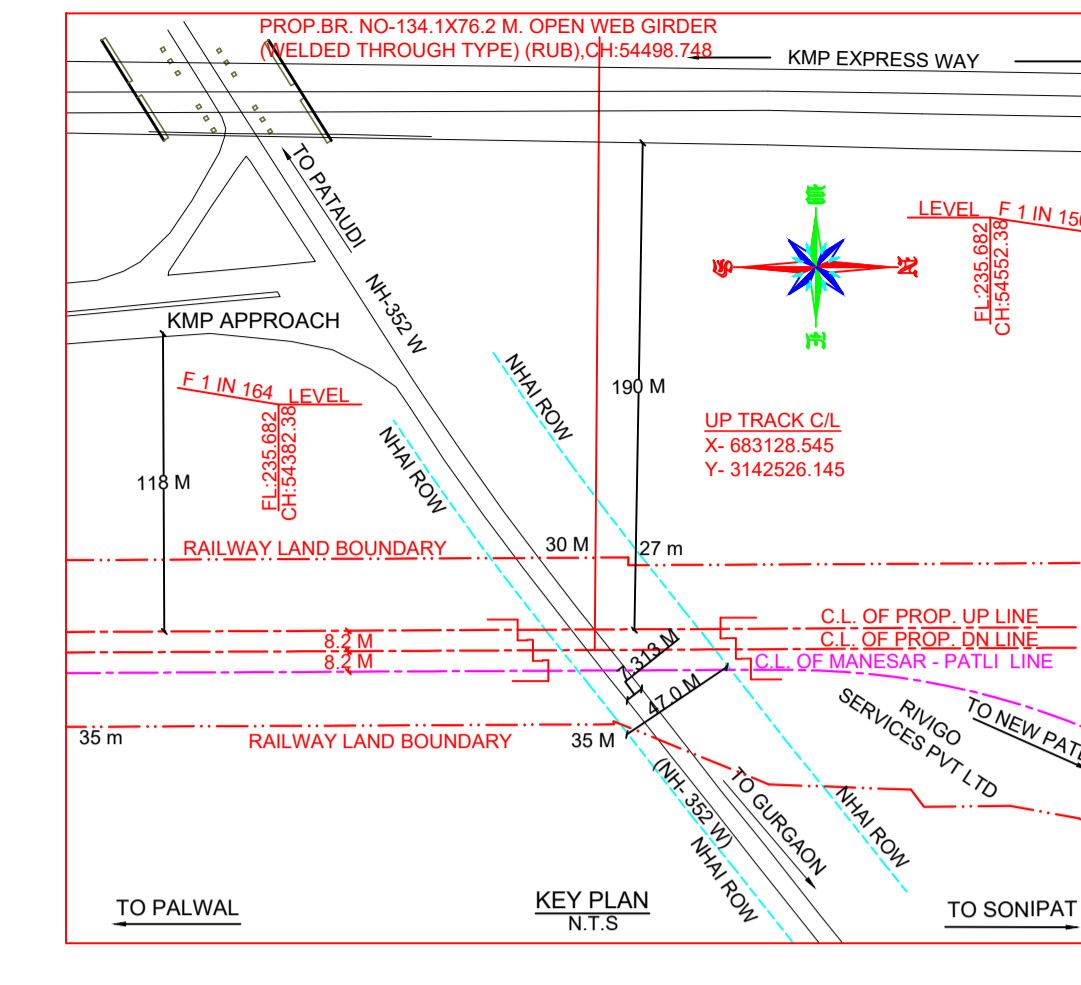
DRAWINGS



DATUM	215.000								
FORMATION LEVEL	235.682	235.682	235.682	235.682	235.682	235.682	235.682	235.682	235.682
GROUND LEVEL	228.907	228.946	229.023	228.932	228.176	228.076	228.076	228.076	228.076
CHAINAGE	60.000	40.000	20.000	0.000	20.000	40.000	60.000		



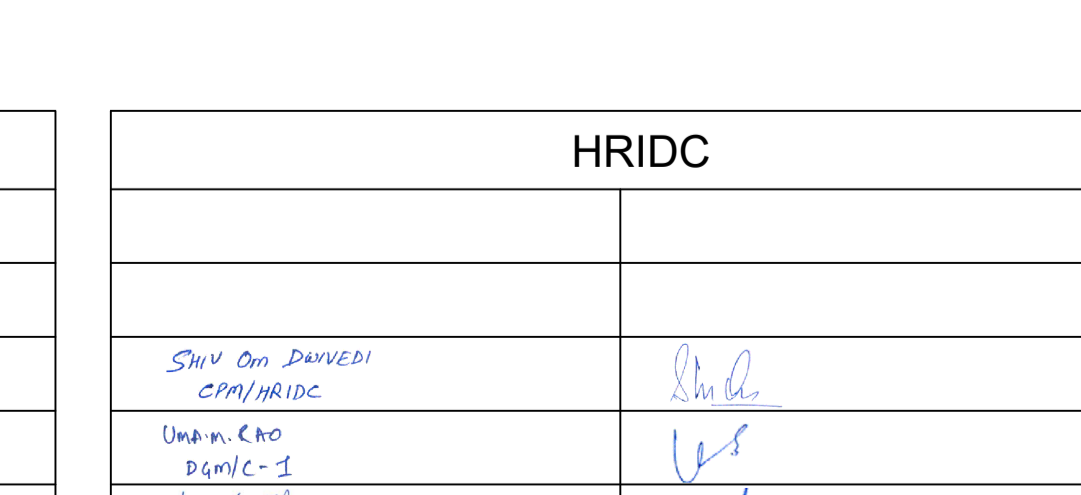
LEGEND	PROPOSED	EXISTING	INVISIBLE	VISIBLE	NHAI ROW	DISMANTLE	C L OF LOOP TRACK
RED	—	—	—	—	—	—	—
BLACK	—	—	—	—	—	—	—
RED DOTTED	—	—	—	—	—	—	—
CONTINUOUS	—	—	—	—	—	—	—
CYAN	—	—	—	—	—	—	—
GREEN	—	—	—	—	—	—	—
MAGENTA	—	—	—	—	—	—	—



DESCRIPTION OF BRIDGE	VALUE
1. CHAINAGE	51328
2. RAIL LEVEL	236.424 M
3. FORMATION LEVEL	235.682 M
4. VERTICAL ALIGNMENT	LEVEL
5. HORIZONTAL ALIGNMENT	STRAIGHT
6. SOFFIT LEVEL	234.642 M
7. ROAD LEVEL	229.023 M
8. OVERALL SPAN	79600 MM
9. EFFECTIVE SPAN	78600 MM
10. CLEAR SPAN	76200 MM
11. TYPE OF CROSSING	ROAD
12. VERTICAL CLEARANCE	5619 MM

CONSTRUCTION DEPTH	VALUE
1) RAIL (60kg)	172 mm
2) RUBBER PAD	10 mm
3) H-BEAM SLEEPER	200 mm
4) BEARING PAD BELOW SLEEPER	25 mm
5) STRINGER BEAM AS PER RDSO	1365 mm
6) BATTEN PLATE	10 mm
TOTAL	1782 mm

Br. No. 134 (A-1)	GL-229.010
0.00 G.L.	15 SP
1.00 G.L.	15 SM
2.50 G.L.	52 SP
4.00 G.L.	58 SM
5.50 G.L.	58 SM
7.00 G.L.	>100 SP-SM
8.50 G.L.	>100 SP-SM
10.00 G.L.	>100 SM
11.50 G.L.	>100 SP-SM
13.00 G.L.	>100 SP-SM
14.50 G.L.	78 SM
16.00 G.L.	83 SM
17.50 G.L.	85 SP-SM
19.00 G.L.	97 SP-SM
20.50 G.L.	37 SM
22.00 G.L.	38 SM
23.50 G.L.	>100 SM
25.00 G.L.	>100 SM
26.50 G.L.	>100 SM
28.00 G.L.	>100 SM
35.00 G.L.	>100 SM



- NOTES:**
- A) GENERAL NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETERS EXCEPT LEVELS WHICH ARE IN METER. DIMENSION SHOWN ARE GENERALLY SKEW DIMENSIONS, WHERE REQUIRED SQUARE DIMENSIONS ARE PROVIDED.
 - THE CHAINAGES SHOWN ARE RECKONED FROM DPR REFERRED CHAINAGE.
 - FOR RAIL LEVELS, FORMATION LEVEL, GRADES ETC. REFER L-SECTION.
 - SUB-STRUCTURE IS TO BE DESIGNED FOR 32.5 T AXLE LOADING.
 - SUPER STRUCTURE REFER RDSO DRG. NO. RDSO/B-17101 TO 17118.
 - ENGINEER IN CHARGE/SITE ENGINEER SHOULD VERIFY THE RAIL LEVEL, FORMATION LEVEL, BED LEVEL & TRACK CENTER AT SITE BEFORE COMMENCEMENT OF WORK.
 - ENGINEER IN CHARGE/SITE ENGINEER SHALL ENSURE THE SAFETY OF TRACK/ROAD AT ALL THE TIME AND SHALL TAKE NECESSARY PRECAUTION TO PREVENT DAMAGE OF S&T CABLE IOFC DURING EXECUTION OF WORK CONCERNED DEPT. SUCH AS BSNL/ARTEL/S&S/IGAD/STC ETC. SHALL BE INFORMED WELL IN ADVANCE BEFORE EXECUTION OF WORK.
 - THIS DRAWING IS THE PROPERTY OF HRIDC AND FOR EXCLUSIVE USE OF HORC.
- B) TECHNICAL:**
- DIMENSIONS AND SIZES OF SUBSTRUCTURE AND FOUNDATION ARE TENTATIVE AND MAY CHANGE AS PER STRUCTURAL DESIGN.
 - R.C.C. WORK & MASS CONCRETE WORK TO BE CARRIED OUT AS PER IRS CONC. BRIDGE CODE 1987 WITH UPDATED CORRECTION SLIPS.
 - WESP HOLES SHALL BE OF 75/100 DIA. PVC/AC PIPES STAGGERED @ 1000 C/C IN ABUTMENT/ FACE/ WING/ RETURN WALL.
 - DEPTH OF FOUNDATION SHALL BE DECIDED BY THE ENGINEER-IN-CHARGE AS PER SITE CONDITION & APPROVED DESIGN.
 - ISO/TMT BARS OF MIN. Fe 500D REINFORCEMENT CONFORMING TO IS-1786 OF 2008 SHALL BE USED AS REINFORCEMENT.
 - STANDARD OF LOADING FOR PROPOSED BRIDGE IS 32.5 T DFC LOADING STANDARD.
 - SAFE WORKING SHOULD BE ENSURED AS PER PARA 826 OF IRPMM WITH UPDATED CORRECTION SLIP.
 - SAFETY PRECAUTION AT WORK SITE SHOULD BE ENSURED AS PER NR.H.Q's. LETTER NO.324- W/11/NCR/PT/PT-X DATED 30.05.2013.
 - INSPECTION PLATFORM WITH LADDER SHALL BE PROVIDED ON EACH ABUTMENT/ PIER AS PER RDSO DRAWING NO. CBS-0016.
 - ALL CONCRETE IS TO BE MECHANICALLY VIBRATED AND MIX DESIGN WILL BE APPROVED BY ENGINEER IN-CHARGE.
 - SAFE WORKING SHALL BE ENSURED BY ENGINEER IN CHARGE BY USE OF BARRICADING AS DIRECTED BY ENGINEER IN-CHARGE.
 - UNDERGROUND CABLES ETC SHALL BE SHIFTED/REALIGNED AS PER REQUIREMENT BEFORE TAKING UP THE WORK IN HAND.
 - BACK FILL MATERIAL SHOULD BE AS PER CLAUSE 7.5 OF I.R.S BRIDGE SUB STRUCTURE & FOUNDATION CODE WITH UPDATED CORRECTION SLIP.
 - ALL RCC SURFACES COMING IN CONTACT WITH SOIL SHOULD BE PAINTED WITH BITUMEN COAL-TAR OF APPROVED QUALITY.
 - INSPECTION PLATFORM & PEDESTAL FOR BEARING SHALL BE PROVIDED AS PER RDSO DRAWING NO. CBS-0016.
 - DESIGN CRITERIA: EXPOSURE CONDITION: MODERATE SEISMIC ZONE - IV IRS BRIDGE SUBSTRUCTURE AND FOUNDATION CODE 2013 IRS CONCRETE BRIDGE CODE 2014 IRS BRIDGE RULE 2014.
 - SIDE PATHWAY SHALL BE PROVIDED, AS PER RDSO DRAWING NO. CBS-0045 FOR OPEN WEB GIRDER.
 - HEIGHT GAUGE SHALL BE PROVIDED AS PER RDSO DRAWING NO. RDSO/M0001.

DFC LOADING (32.5 T AXLE LOAD)



HARYANA ORBITAL RAIL CORRIDOR (HORC)

GENERAL ARRANGEMENT DRAWING FOR ROAD UNDER BRIDGE NO.- 134, (RUB) 1X76.2 M. OPEN WEB GIRDER(WELDED THROUGH TYPE), AT CH: 54498.748 M

SCALE: AS SHOWN DRAWING NO- SMC/HRIDC/PS/GAD- 08

S.M.C. S.M. CONSULTANTS
An ISO 9001 Company
Bhubaneswar / Balasore / Secunderabad / South Andaman
Web : www.smcindia.com , E-Mail : support@smcindia.com

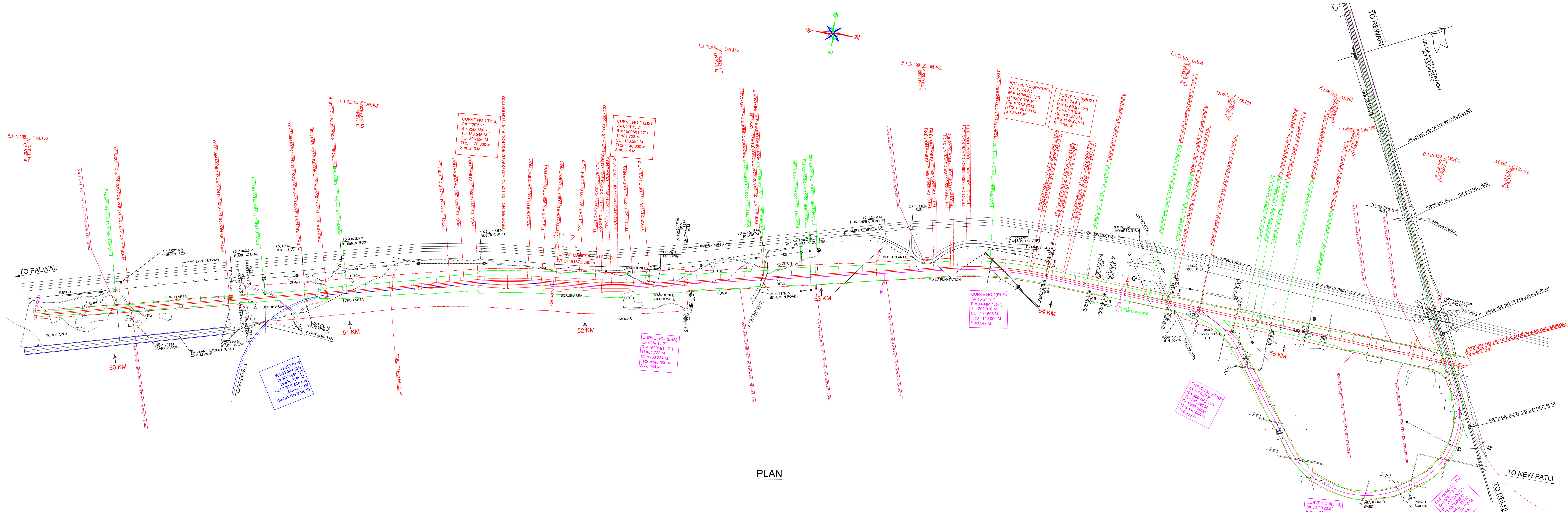
R.K. DAS	M. NAYAK	A. A. SAMANT	PROJECT INCHARGE
DRAWN BY	CHECKED BY	2020	1
RELEASED FOR	PRELIMINARY FOR APPROVAL	TENDER	CONSTRUCTION

GC/HORC	HRIDC
SUDHIR AGRAWAL DPR/HRIDC	SHY AM DAVEDI DPR/HRIDC
RETO PRITAL RB-CIVIL/DESIGN	UMA N. CHO DPR/HRIDC
PUNJENDRA KUMAR SINGH RB-CIVIL/DESIGN	VIKRAM KUMAR ENCLAVE/HRIDC

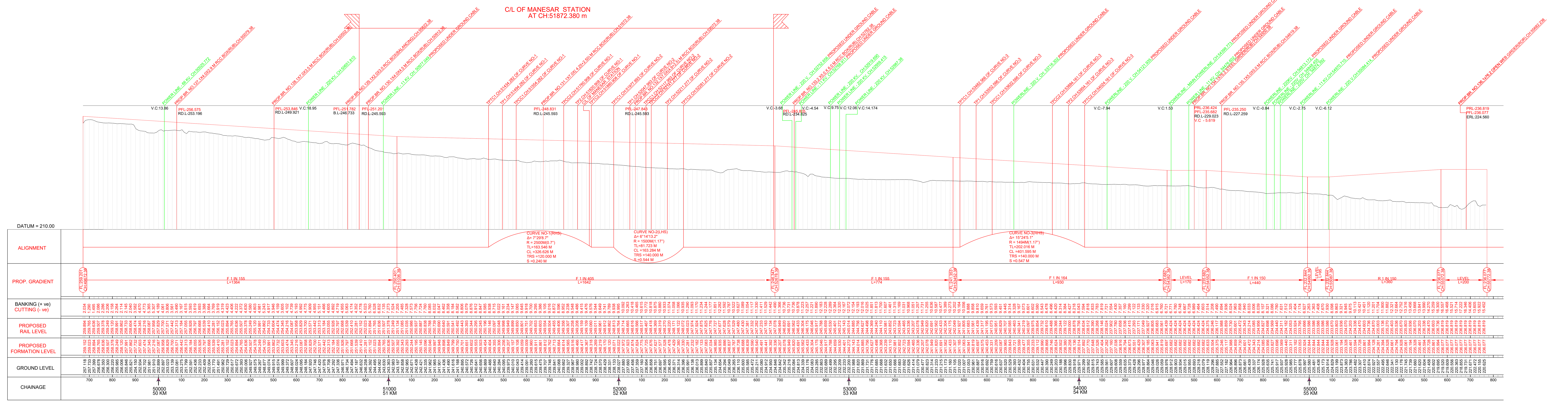
GC/HORC	HRIDC
SUDHIR AGRAWAL DPR/HRIDC	SHY AM DAVEDI DPR/HRIDC
RETO PRITAL RB-CIVIL/DESIGN	UMA N. CHO DPR/HRIDC
PUNJENDRA KUMAR SINGH RB-CIVIL/DESIGN	VIKRAM KUMAR ENCLAVE/HRIDC

SECTION VII-4

REFERENCE INFORMATION/REPORTS



PLAN



SECTION

- NOTES :-
- EXISTING WORK SHOWN IN BLACK.
 - PROPOSED WORK SHOWN IN RED.
 - ALL DIMENSIONS ARE IN METER UNLESS OTHERWISE SPECIFIED.
 - CHAINAGE IS RECKONED 0.00 FROM C.L. OF NEW PRETHILA STATION BUILDING.
 - RAIL LEVEL SHOULD BE 0.742m ABOVE FORMATION LEVEL FOR TRACK STRUCTURE 0600 NEW RAIL ON PSC SLEEPER (1660K/M) WITH 350mm BALLAST CUSHION.
 - RULLING GRADIENT IS 1 IN 150 OF THIS SECTION (COMPENSATED).
 - VERTICAL CURVE WILL BE PROVIDED AS PER IRPWPM PARA 419.
 - CROSS / LONGITUDINAL DRAINAGE ARRANGEMENT BET TRACK SHOULD BE PROVIDED WHEREVER REQUIRED.
 - TROILLY RESIDUE IN BANK CUTTING SHALL BE PROVIDED AS PER PROVISION OF IRPWPM.
 - C&S SANCTION WILL BE OBTAINED BEFORE EXECUTION OF WORK FALLING UNDER PARA PROVS OF IRPWPM.
 - STANDARD OF LOADING (FOR PROP. LINES)- 32.5 T (LOADING-2008 & HIGH RISE CTR).
 - TELEPHONE CABLE TO BE LAID FOR TELECOMMUNICATION.

RETAINING WALL					
MAIN LINE					
From Ch.	To Ch.	Height of Retaining Wall (m)	From Ch.	To Ch.	Height of Retaining Wall (m)
S5483	S5503	1.5	S5502	S5502	5
S5483	S5509	1.5	S5502	S5502	5
S5492	S5502	1.5	S5502	S5502	1
S5492	S5502	3	S5502	S5502	1
Total Length		435	S5502	S5502	250
			S5492	S5502	130
			S5492	S5502	130
			Total Length		
			1300		

LEGEND	
EXISTING CENTRE LINE	---
PROPOSED WORK	---
DISMENTAL WORK	---
EXISTING TPTC	---
PROPOSED TPTC	---
TBM	⊙
MASONRY	⊙
RAILWAY BOUNDARY	---
EXISTING BRIDGE	---
PROPOSED BRIDGE	---
NALA/CANAL DRAIN	---
PERMANENT STRUCTURE	---
TEMPORARY STRUCTURE	---
PROPOSED GATE LODGE	---
LAND ACQUISITION	---
ROAD	---
POWER LINE WITH POLE	---
PILEWALL	---
EMBANKMENT / BUND	---
ROCKY AREA	---
COMPOUND QUARRY	---
DITCH / QUARRY	---
BARBED WIRE FENCING	---
GROUND LEVEL	---
RETAINING WALL	---

GC/HORC SIGNATURE

SUNIL K. AGARWAL
 CHIEF ENGINEER
 DPR EXPERT

Signature

HORDC SIGNATURE

SUNIL K. AGARWAL
 CHIEF ENGINEER
 DPR EXPERT

Signature

HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION

HARYANA ORBITAL RAIL CORRIDOR

GAUGE 676 mm LENGTH 8 KM
 YEAR OF SURVEY 2020
 STANDARD OF CONSTRUCTION GROUP-A

DETAILED PLAN AND LONGITUDINAL SECTION FROM CHAINAGE 49672.38 TO CHAINAGE 55772.38 (MAIN LINE)

HORIZONTAL 1:3000 VERTICAL 1:800
 SCALE

CONVEYANCE: DRAWING NO. HIRDC/SP/LS-1

DATE: 2020

PREPARED BY: S.M. CONSULTANTS

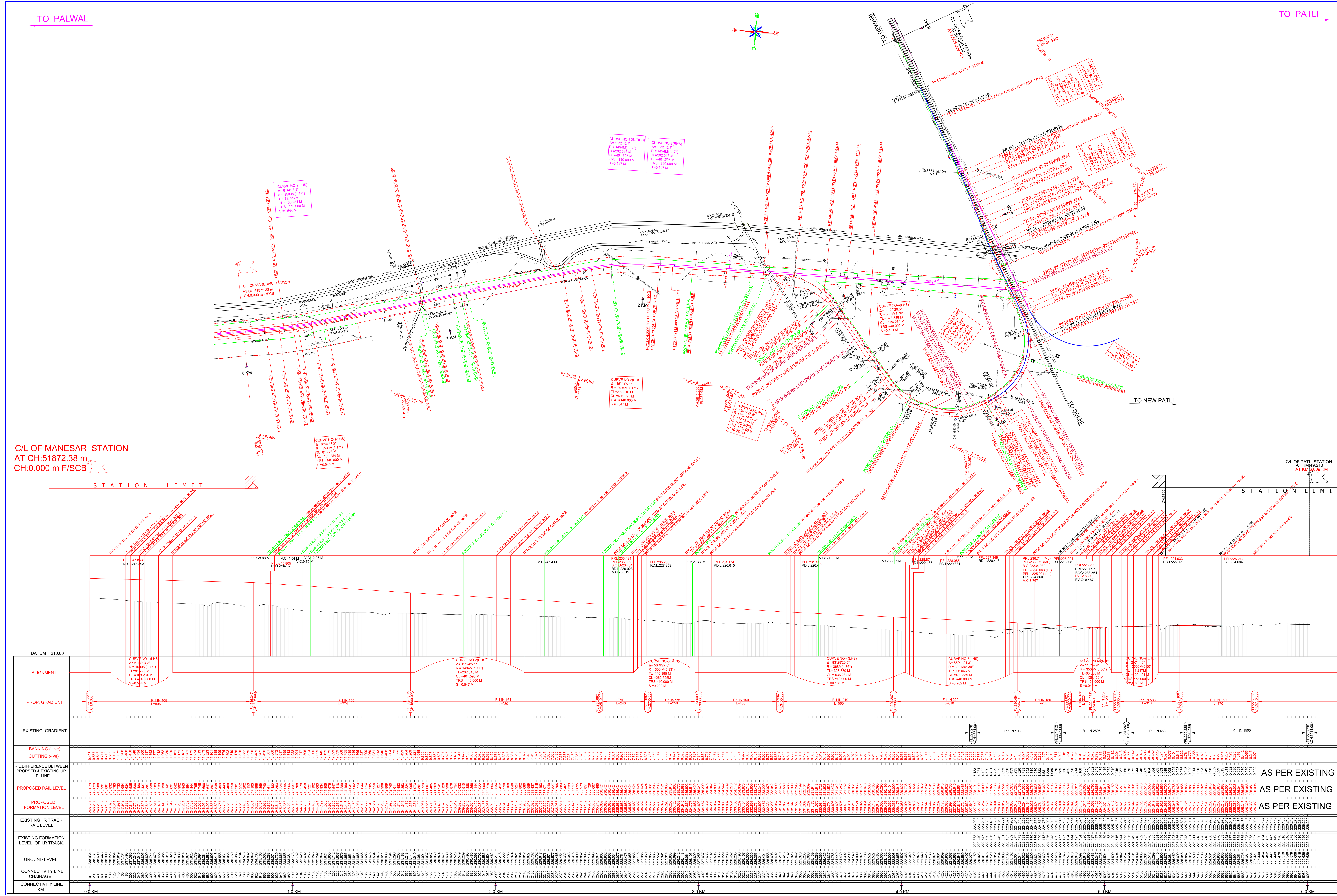
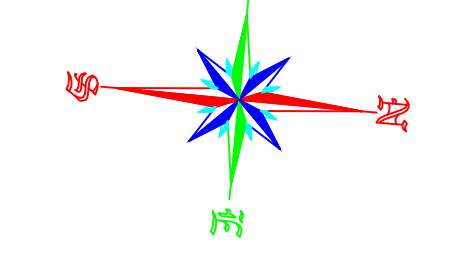
CHECKED BY: S.M. CONSULTANTS

APPROVED BY: S.M. CONSULTANTS

FOR: TENDER

TO PALWAL

TO PATLI



- NOTES :-
- EXISTING WORK SHOWN IN BLACK.
 - PROPOSED WORK SHOWN IN RED.
 - ALL DIMENSIONS ARE IN METER UNLESS OTHERWISE SPECIFIED.
 - CHAINAGE IS RECKONED 0.00 FROM C.L. OF NEW PRITHLA STATION BUILDING.
 - RAIL LEVEL SHOULD BE 0.742m ABOVE FORMATION LEVEL FOR TRACK STRUCTURE.
 - 60KG NEW RAIL ON PSC SLEEPER (1660MM) WITH 350mm BALLAST CUSHION.
 - RULLING GRADIENT IS 1 IN 150 OF THIS SECTION (COMPENSATED).
 - VERTICAL CURVE WILL BE PROVIDED AS PER IRPWPM PARA 419.
 - CROSS / LONGITUDINAL DRAINAGE ARRANGEMENT BET TRACK SHOULD BE PROVIDED WHEREVER REQUIRED.
 - TROLLEY REFUGE IN BANK / CUTTING SHALL BE PROVIDED AS PER PROVISION OF IRPWPM.
 - CRS SANCTION WILL BE OBTAINED BEFORE EXECUTION OF WORK FALLING UNDER PARA 130(2) OF IRPWPM.
 - STANDARD OF LOADING (FOR PROP. LINE) - 32.5 T LOADING-2008 & HIGH RISE OHE.
 - TELEPHONE CABLE TO BE LAID FOR TELECOMMUNICATION.

RETAINING WALL		CONNECTING LINE		
From Ch	To Ch	From Ch	To Ch	
2884	2934	6	40	
2934	3034	6	218	
3034	3134	6	218	
3134	3234	6	218	
3234	3334	6	218	
3334	3434	6	218	
3434	3534	6	218	
3534	3634	6	218	
3634	3734	6	218	
3734	3834	6	218	
3834	3934	6	218	
3934	4034	6	218	
4034	4134	6	218	
4134	4234	6	218	
4234	4334	6	218	
4334	4434	6	218	
4434	4534	6	218	
4534	4634	6	218	
4634	4734	6	218	
4734	4834	6	218	
4834	4934	6	218	
4934	5034	6	218	
5034	5134	6	218	
5134	5234	6	218	
5234	5334	6	218	
5334	5434	6	218	
5434	5534	6	218	
5534	5634	6	218	
5634	5734	6	218	
5734	5834	6	218	
5834	5934	6	218	
5934	6034	6	218	
6034	6134	6	218	
6134	6234	6	218	
6234	6334	6	218	
6334	6434	6	218	
6434	6534	6	218	
6534	6634	6	218	
6634	6734	6	218	
6734	6834	6	218	
6834	6934	6	218	
6934	7034	6	218	
7034	7134	6	218	
7134	7234	6	218	
7234	7334	6	218	
7334	7434	6	218	
7434	7534	6	218	
7534	7634	6	218	
7634	7734	6	218	
7734	7834	6	218	
7834	7934	6	218	
7934	8034	6	218	
8034	8134	6	218	
8134	8234	6	218	
8234	8334	6	218	
8334	8434	6	218	
8434	8534	6	218	
8534	8634	6	218	
8634	8734	6	218	
8734	8834	6	218	
8834	8934	6	218	
8934	9034	6	218	
9034	9134	6	218	
9134	9234	6	218	
9234	9334	6	218	
9334	9434	6	218	
9434	9534	6	218	
9534	9634	6	218	
9634	9734	6	218	
9734	9834	6	218	
9834	9934	6	218	
9934	10034	6	218	
Total Length		1495	Total Length	1075

LEGEND	
EXISTING CENTRE LINE	—
PROPOSED CENTRE LINE	—
EXISTING TPTIC	—
PROPOSED TPTIC	—
TBM	—
KM-STONE	—
RAILWAY BOUNDARY	—
EXISTING BRIDGE	—
PROPOSED BRIDGE	—
NALA/CANAL/DRAIN	—
PERMANENT STRUCTURE	—
TEMPORARY STRUCTURE	—
PROPOSED GATE LOCK	—
LAND ACQUISITION	—
ROAD	—
POWER LINE WITH POLE	—
PYLON	—
EMBANKMENT / BUND	—
ROCKY AREA	—
COMPOUND WALL	—
DITCH / QUARRY	—
BARBED WIRE FENCING	—
GROUND LEVEL	—

HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION

HARYANA ORBITAL RAIL CORRIDOR

GAUGE 1676 mm LENGTH 6 KM
YEAR OF SURVEY 2020
STANDARD OF CONSTRUCTION GROUP-A

DETAILED PLAN AND LONGITUDINAL SECTION FROM CHAINAGE 0 TO CHAINAGE 5720 M (CONNECTIVITY LINE)

DATE 15.08.2023

SCALE 1:5000

CONVEYORS: S.M. CONSULTANTS AN ISO 9001 Company

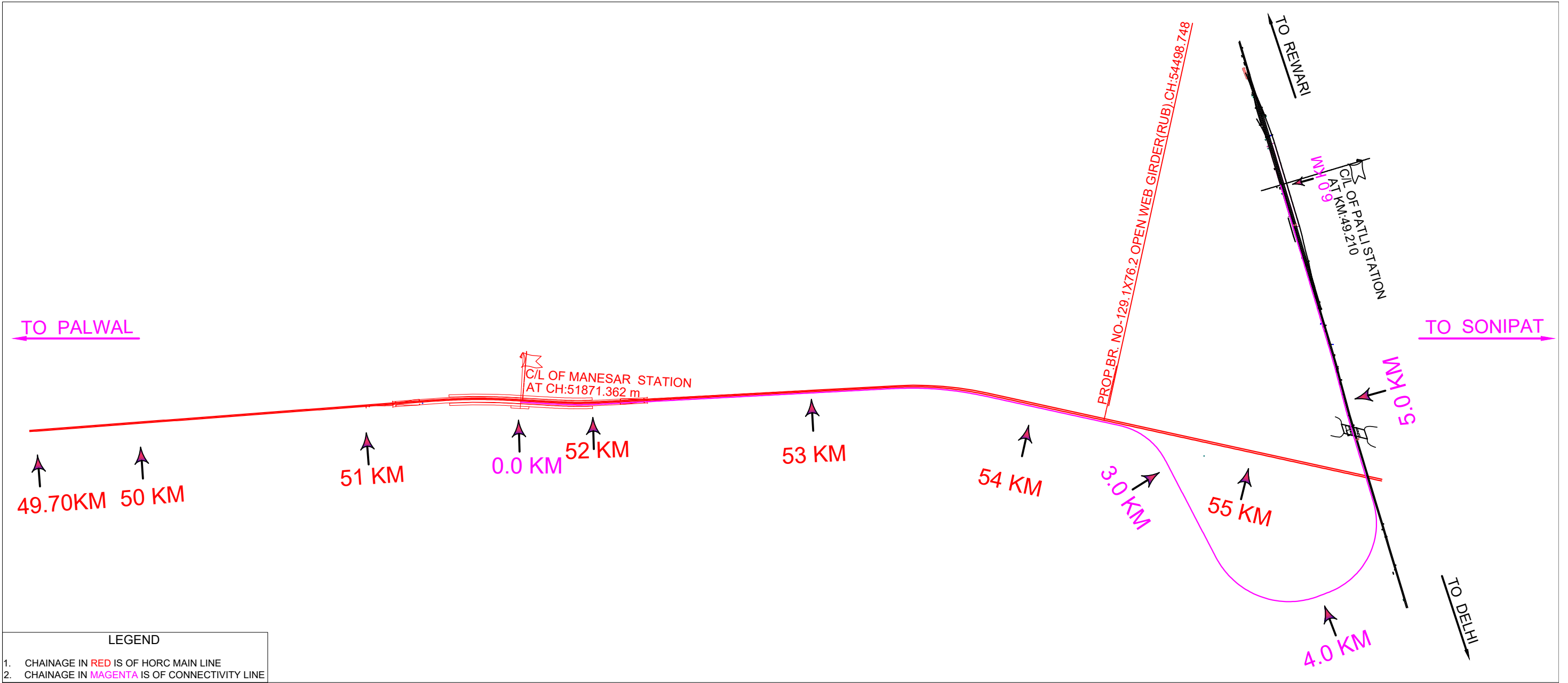
PROJECT: HARYANA ORBITAL RAIL CORRIDOR

DESIGNED BY: [Signature]

CHECKED BY: [Signature]

APPROVED BY: [Signature]

RELEASED FOR: PRELIMINARY FOR APPROVAL [] TENDER [] CONSTRUCTION []



Tender Document for Works

(Two-Envelope Tendering Process Without Prequalification)

Procurement of:

Br-1: Fabrication, assembly & launching of 1X76.2 m span Open Web Girder (OWG) each over three lines on NH-352 W (Pataudi Road) between Manesar and Patli stations including supplying & fixing of H-beam sleepers in connection with laying of New BG Double Railway Line of HORC project at Km 54.498.

Summary

Specific Procurement Notice (SPN)

PART 1 – TENDERING PROCEDURES

- Section I - Instructions to Tenderers (ITT)
- Section II - Tender Data Sheet (TDS)
- Section III - Evaluation and Qualification Criteria
- Section IV - Tender Forms
- Section V - Eligible Countries
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PART 2 – WORKS’ REQUIREMENTS AND REFERENCE INFORMATION/REPORTS

- Section VII - Works’ Requirements and Reference Information/Reports

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PART 3 – Conditions of Contract and Contract Forms

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Section VIII - General Conditions of Contract (GCC)

The General Conditions of Contract governing this Contract shall be the “Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer (“Red book”), Second Edition 2017”, published by the Federation Internationale Des Ingenieurs – Conseils (FIDIC).

An original copy of the above FIDIC publication i.e. “*Conditions of Contract for Building and Engineering Works Designed by the Employer*” must be obtained from the following address of FIDIC:

International Federation of Consulting Engineers (FIDIC)

FIDIC Bookshop – Box- 311 – CH – 1215 Geneva 15 Switzerland

Fax: +41 22 799 49 054

Telephone: +41 22 799 49 01

E-mail: fidic@fidic.org

www.fidic.org

FIDIC code: ISBN13: 978-2-88432-084-9

Section IX - Particular Conditions of Contract (PCC)

The following Particular Conditions of Contract (PCC) shall supplement the GCC. Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

The PCC consists of three parts:

- Part A – Contract Data
- Part B – Specific Provisions
- Part C – Prohibited Practices

The references to Clauses and Sub-clauses provided in the PCC given below are applicable to the General Conditions of Contract i.e. “Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer (“Red book”), Second Edition 2017” published by the Federation Internationale Des Ingenieurs – Conseils (FIDIC).

Particular Conditions of Contract (PCC)

Part A - Contract Data

Conditions	Sub-Clause	Data
Defects Notification Period	1.1.27	365 days calculated from the date of issue of Taking-Over Certificate for the works.
Employer's name and address	1.1.31	Haryana Rail Infrastructure Development Corporation Limited (HRIDC), Plot No 143, 5th Floor, Railtel Tower, Sector-44, Gurugram, Haryana-122003 E-mail: cpmhrdc@gmail.com
Engineer's name and address	1.1.35	RITES Limited in Consortium with SMEC International Pty Ltd, 4th Floor, Plot No.144, RITES Limited, Sector-44, Gurugram, Haryana-122003
Sections	1.1.73	Nil
Time for Completion	1.1.84	365 days
Bank's name	1.1.89	Asian Infrastructure Investment Bank (AIIB)
Borrower/Recipient's name	1.1.90	Haryana Orbital Rail Corporation Limited (HORCL) through Government of Haryana
Electronic transmission system	1.3 (a) (ii)	By e-mail
Address of Employer for communications:	1.3(d)	Haryana Rail Infrastructure Development Corporation Limited (HRIDC), Plot No 143, 5th Floor, Railtel Tower, Sector-44, Gurugram, Haryana-122003 E-mail: cpmhrdc@gmail.com
Address of Engineer for communications:	1.3(d)	RITES Limited in Consortium with SMEC International Pty Ltd, 4th Floor, Plot No.144, RITES Limited, Sector-44, Gurugram, Haryana-122003
Address of Contractor for communications:	1.3(d)	To be filled in at the time of preparation of Contract Agreement
Governing Law	1.4	The laws of Republic of India
Ruling language	1.4	English
Language for communications	1.4	English
Time for the Parties to sign a Contract Agreement	1.6	35 days after receipt of the Letter of Acceptance

Conditions	Sub-Clause	Data
Number of additional paper copies of Contractor's Documents	1.8	One (1)
Total liability of the Contractor to the Employer under or in connection with the Contract	1.15	Equal to the Accepted Contract Amount (Amount to be filled in at the time of preparation of contract agreement)
Time for access to the Site	2.1	(i) The Contractor can start fabrication of the Open Web Girders (OWG) in RDSO approved workshop immediately after the Commencement Date. (ii) Access to the Site for launching of OWG will be provided as follows: (a) For Manesar-Patli single line connectivity- 120 days after the Commencement Date (b) For Main line – 240 days after the Commencement Date.
Engineer's Duties and Authority	3.2	Variations resulting in an increase of the Accepted Contract Amount in excess of 5% shall require written consent of the Employer.
Performance Security	4.2	The Performance Security will be in the form of a "demand guarantee" in the amount(s) of 5% of the Accepted Contract Amount and in the same currency (ies) of the Accepted Contract Amount.
Period for notification of errors in the items of reference	4.7.2 (a)	28 Days
Number of additional paper copies of progress reports	4.20	One (1)
Maximum allowable accumulated value of work subcontracted (as a percentage of the Accepted Contract Amount)	5.1(a)	Nil
Parts of the Works for which subcontracting is not permitted	5.1(b)	Subcontracting is not permitted for any part of the Works.
Normal working hours	6.5	From 8:00 AM to 5:00 PM
Number of additional paper copies of program	8.3	One (1)

Conditions	Sub-Clause	Data
Delay Damages payable for each day of delay	8.8	0.05% of the Accepted Contract Amount less Provisional Sum in the currencies and proportions in which the Contract Price is payable. For Delay Damages of Milestones, refer Table: Summary of Milestones given after Part A.
Maximum amount of Delay Damages	8.8	5% of the Accepted Contract Amount, less Provisional Sum.
Percentage rate to be applied to Provisional Sums for overhead charges and profit	13.4(b)(ii)	5%
Total advance payment	14.2	10% of the Accepted Contract Amount less Provisional Sum payable in the currencies and proportions in which the Accepted Contract Amount is payable. The advance payment shall be released in two equal instalments, each of five percent (5%), of the Accepted Contract Amount. The first instalment shall be paid against an Advance Payment Certificate, under Sub-Clause 14.2.2. Upon satisfactory utilization of first instalment, the second instalment shall be paid after the Engineer's approval of the Programme (GCC Subclause 8.3). The Contractor shall submit utilization statement supported or endorsed by certified Chartered Accountant under their seal and stamp. It shall be paid against an Advance Payment Certificate, under Sub-Clause 14.2.2.
Number of additional paper copies of Statements	14.3(b)	One (1)
Percentage of retention	14.3(iii)	10%
Limit of Retention Money (as a percentage of Accepted Contract Amount less Provisional Sum)	14.3(iii)	5%

Conditions	Sub-Clause	Data
Plant and Materials	14.5(b)(i)	If Sub-Clause 14.5 applies: Plant and Materials for payment when shipped - NIL
Minimum Amount of Interim Payment Certificates	14.6.2	NIL
Period of payment of Advance Payment to the Contractor	14.7(a)	28 days
Delayed Payment	14.8	The financing charges shall be calculated at an interest rate equal to “State Bank of India’s (SBI) Marginal Cost of fund-based Lending Rate (MCLR)” applicable for the tenure of 01 year prevailing on the due date plus three percent for INR portion. In case of foreign currency component, recovery shall be made at an interest rate equal to LIBOR for tenure of six months plus three percent.
Number of additional paper copies of draft Final Statement	14.11.1(b)	Two (2)
Forces of nature, the risks of which are allocated to the Contractor	17.2(d)	Floods, rain, wind/storm
Periods for submission of evidence(s) and relevant policy (ies) of insurance (s)	19.2	Evidence(s): Within twenty-eight (28) days from the date of receipt of Letter of Acceptance. Policy(ies): Within forty-five (45) days from the date of receipt of the Letter of Acceptance.
List of Exceptional Risks which shall not be excluded from the insurance cover for the Works	19.2.1(iv)	Earthquake, Flood, Rain
Amount of insurance required for injury to persons and damage to property	19.2.4	INR 2,000,000/ (Two million) per occurrence
Insurance required for injury to employees	19.2.5	INR 10,000,000/- (Ten million)
Time for appointment of DAAB	21.1	90 days after signature by both parties of the Contract Agreement
The DAAB shall be comprised of	21.1	One Sole Member

Conditions	Sub-Clause	Data
List of proposed members of DAAB	21.1	Nil
Appointment (if not agreed) to be made by	21.2	President of Indian Council of Arbitration, New Delhi, India
Rules of arbitration	21.6 (a)	Sub-Clause 21.6 (a) of PART B – Specific Provisions shall not apply.
	21.6 (b)	Sub-Clause 21.6 (b) of PART B – Specific Provisions shall apply.

Table: Summary of Milestones

Milestone	Milestone Name/Description (Sub-Clause 1.1.94)	Time for Completion from the Commencement Date (in days) (Sub-Clause 1.1.84)	Delay Damages for not achieving Milestone (amount per day of delay) (Sub-Clause 8.8)
MS1	Trial assembly of 1 st Open Web Girder (OWG)	120	*INR 10,000.00
MS2	Launching/erection of 1 st OWG on Manesar-Patli connectivity	180	INR 25,000.00
MS3	Completion of track Works on Manesar-Patli connectivity	195	INR 10,000.00

Note:

*If MS2 is achieved as per Milestones given above, any penalty levied for MS1 shall be refunded.

Particular Conditions of Contract (PCC)

Part B - Specific Provisions

Sub-Clause 1.1.10 Contract	“the Contractor’s Proposal” is deleted.
Sub-Clause 1.1.49 Laws	The Sub-Clause is replaced with: “ Laws ” means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.”
Sub-Clause 1.1.74 Site	The Sub-Clause is replaced with: “ Site ” means the places where the Permanent Works are to be executed, including storage and working area, and to which Plant and Materials are to be delivered, and any other places specified in the Contract as forming part of the Site.”
Sub-Clause 1.1.77 Statement	On the second line after “Payment Certificate under...”, add “Sub-Clause 14.2.1 [Advance Payment Guarantee] (if applicable),”.
Sub-Clause 1.1.81 Tender	“the Contractor’s Proposal” is deleted.
Sub-Clause 1.1.84 Tender	Replace the entire Sub-Clause 1.1.84 with the following: “ Time for Completion ” means the time for completing the Works, a Section (as the case may be) or a Milestone (as the case may be) under Sub-Clause 8.2 [Time for Completion], as stated in the Contract Data (with any extension under Sub-Clause 8.5 [Extension of Time for Completion]), calculated from the Commencement Date
Sub-Clause 1.1.89 to 1.1.95 are added after Sub-Clause 1.1.88	
Sub-Clause 1.1.89 Bank	“ Bank ” means the financing institution (if any) named in the Contract Data.
Sub-Clause 1.1.90 Borrower	“ Borrower ” or “ Recipient ” means the person (if any) named as the borrower/recipient in the Contract Data.
Sub-Clause 1.1.91 ESHS	“ ESHS ” means Environmental, Social, Health and Safety.

<p>Sub-Clause 1.1.92</p> <p>Sexual Exploitation and Assault (SEA)</p>	<p>“Sexual Exploitation and Assault” “(SEA)” stands for the following:</p> <p>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/projects, 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.</p> <p>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.</p>
<p>Sub-Clause 1.1.93</p> <p>Milestone Certificate</p>	<p>“Milestone Certificate” means the certificate issued by the Engineer under Sub-Clause 4.26 [Milestone].</p>
<p>Sub-Clause 1.1.94</p> <p>Milestone</p>	<p>“Milestone” means the date to achieve for a part of the Plant and/or a part of the Works stated in the Contract Data (if any), and described in detail in the Specification as a Milestone, which is to be completed by the time for completion stated in Sub-Clause 4.26 [Milestone] but is not to be taken over by the Employer after completion. If a Milestone is included within a Section, such Milestone shall not be included within other Sections.</p>
<p>Sub-Clause 1.1.95</p> <p>Control</p>	<p>“Control” in respect of a person shall mean the beneficial ownership directly or indirectly of 50% or more of the voting shares or securities of an entity or the power to control the majority of the composition of the Board of Directors of such entity or the power to direct the management or policies of such entity by contract or otherwise.</p>
<p>Sub-Clause 1.1.96</p> <p>Principal Employer</p>	<p>Principal Employer means ‘Haryana Rail Infrastructure Development Corporation Limited (HRIDC)’.</p>
<p>Sub-Clause 1.2</p> <p>Interpretation</p>	<p>Sub-paragraph (a) is replaced with the following:</p> <p>(a) “Words indicating one gender include all genders; “he/she” is replaced with “it”;</p>

	<p>“him/her” is replaced with “it”;</p> <p>“his” and “his/her” are replaced with “its”;</p> <p>“himself/herself” are replaced with “itself”.</p> <p>Further, “and” is deleted from the end of sub-paragraph (i) and added at the end of sub-paragraph (j).</p> <p>sub-paragraph (k) is added:</p> <p>(k) “The word “tender” is synonymous with “bid” or “proposal”, the word tenderer with “bidder” or “proposer” and the words “tender documents” with “bidding documents” or “request for bids documents” or “request for proposal documents”, as applicable.”</p>
<p>Sub-Clause 1.5 Priority of Documents</p>	<p>Replace subparagraphs from (a) to (k) with the following:</p> <p>(a) the Contract Agreement, (b) the Letter of Acceptance, (c) the Record of Meeting on Contract Negotiation, (d) the Addenda (the items of the Addenda shall have priority over the respective items of the related section of the Contract Documents), (e) the Financial Part, (f) the Technical Part, excluding the Contractor’s Technical Proposal, (g) the Particular Conditions -Part A, (h) the Particular Conditions -Part B, (i) the Particular Conditions Part C- Prohibited Practices (j) these General Conditions, (k) the Specification - Technical Specifications, (l) the Specification - General Specifications, (m)the Drawings, (n) the Contractor’s Technical Proposal, (o) the Reference Information/ Report, and Any other documents forming part of the Contract.</p>

<p>Sub-Clause 1.12 Confidentiality</p>	<p>The following is added at the end of the second paragraph: “The Contractor shall be permitted to disclose information required to establish its qualifications to compete for other projects.”</p> <p>“or” at the end of (b) is deleted.</p> <p>“or” at the end of (c) is added.</p> <p>The following is then added as (d): “is being provided to the Bank .”</p>
<p>Sub-Clauses 1.17 and 1.18 are added after Sub-Clause 1.16</p>	
<p>Sub-Clause 1.17 Inspections & Audit by the Bank</p>	<p>“The Contractor shall permit and shall cause its agents (whether declared or not), subcontractors, subconsultants, service providers, suppliers, and their personnel, to permit the Bank and/or persons appointed by the Bank to inspect the site and/or the accounts, records and other documents relating to the procurement process, tender submission, proposal submission, and contract execution, and to have such accounts, records and other documents audited by auditors appointed by the Bank.”</p>
<p>Sub-Clause 1.18 Change in Control</p>	<p>The Contractor or its constituents shall inform the Employer about any change in “Control” during the execution of the Contract.</p>
<p>Sub-Clause 2.4 Employer’s Financial Arrangements</p>	<p>The first paragraph is replaced with:</p> <p>“The Employer shall submit, before the Commencement Date, reasonable evidence that financial arrangements have been made for financing the Employer’s obligations under the Contract.”</p> <p>The following sub-paragraph is added at the end of Sub-Clause 2.4:</p> <p>“In addition, if the Bank has notified to the Recipient that the Bank has suspended disbursements under its loan, which finances in whole or in part the execution of the Works, the Employer shall give notice of such suspension to the Contractor with detailed particulars, including the date of such notification, with a copy to the Engineer, within 7 days of the Recipient having received the suspension notification from the Bank. If alternative funds will be available in appropriate currencies to the Employer to continue making payments to the</p>

	Contractor beyond a date 60 days after the date of Bank notification of the suspension, the Employer shall provide reasonable evidence in its notice of the extent to which such funds will be available.”
2.6 Employer-Supplied Materials and Employer’s Equipment	<p>Add new Sub-Clause 2.6.1 at the end of Sub-Clause 2.6</p> <p>2.6.1 The Contractor shall submit a Bank guarantee for the materials to be supplied by the Employer to the contractor for the Works. The Bank Guarantee shall be for an amount equal to 10% of the cost of the materials in terms of equivalent Indian Rupees.</p> <p>The said Bank guarantee will be required to be submitted 28 days prior to scheduled installation of material. The value of the materials (to be supplied by Employer) will be taken as follows:</p> <p>60kg / 52 Kg Rails (Approximate Weight 64MT)-. INR 3.00 million (INR 30.00 Lacs)</p> <p>This Bank Guarantee shall cover the Contractor’s responsibility towards safe transportation, safe custody, and protection against all kinds of damage /loss /theft of materials, supplied by the Employer. The cost of any such loss/damage to the materials, irrespective of the reason thereof, shall be recoverable from the said Bank Guarantee furnished by the Contractor.</p> <p>The Bank guarantees shall be released after the materials are installed satisfactorily, the spare materials have been returned by the contractor satisfactorily and “Taking Over Certificate” is issued by the Engineer.</p>
Sub-Clause 3.1 The Engineer	<p>The following is added at the end of the first sub-paragraph:</p> <p>“The Engineer’s staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.”</p>

<p>Sub-Clause 3.2 Engineer's Duties and Authority</p>	<p>The third paragraph of Sub-Clause 3.2 is replaced with:</p> <p>The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract. However, the Engineer shall obtain the consent in writing of the Employer before taking action under the following Sub-Clauses of these Conditions:</p> <ul style="list-style-type: none"> (a) Sub-Clause 4.12 [Unforeseeable Physical Conditions]: agreeing or determining an extension of time and/or additional cost. (b) Sub-Clause 8.5 [Extension of Time for Completion]: agreeing or determining extension of time. (c) Sub-Clause 11.9 [Performance Certificate]: issue of Performance Certificate. (d) Clause 20.1: [Claims]: agreeing or determining extension of time and/or additional payment. <p>Notwithstanding anything to the contrary contained in this Sub-Clause 3.2, as set out above, if in the opinion of the Engineer, an emergency occurs which adversely affects safety of, (a) life, (b) Works, or (c) any adjoining property, the Engineer may, without obtaining prior approval of the Employer and without relieving the Contractor of any of its duties and responsibilities under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the aforesaid risk(s). The Contractor shall forthwith comply with such directions of the Engineer despite the absence of Employer's specific approval in this regard. The Engineer shall determine an addition to the Contract Price, in respect of such instruction(s), in accordance with Clause 13 [Variations and Adjustments], and shall notify the Contractor accordingly, with a copy to the Employer.</p> <p>However, in case the concerned emergency as specified in the above para occurs on account of any failure by the Contractor to comply with the terms and conditions of the Contract, including but not limited to, (a) not adhering to the approved scheme of work (b) not taking adequate safety precautions, or (c) by any other reason attributable to the Contractor, no</p>
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	additional amounts shall be paid to the Contractor for attending to such emergencies and the Contractor shall be liable for Employer’s claims in this regard”.
Sub-Clause 3.3 Engineer’s Representative	The following is added at the end of Sub-Clause 3.3: “The Engineer shall obtain the consent of the Employer before appointing or replacing an Engineer’s Representative.”
Sub-Clause 3.4 Delegation by the Engineer	The following is added at the end of the second paragraph: “If any assistants are not fluent in this language, the Engineer shall make competent interpreters available during all working hours, in a number sufficient for those assistants to properly perform their assigned duties and/or exercise their delegated authority.”
Sub-Clause 3.6 Replacement of the Engineer	In the first paragraph, “42 days” is replaced with “21 days”; In the third para, “shall” is replaced with “should”.
Sub-Clause 4.1 Contractor’s General Obligations	The following is inserted after the second paragraph “The Contractor shall provide the Plant (and spare parts, if any)”: “All equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible source country as defined by the Bank.” The following is inserted after the fourth paragraph “The Contractor shall, whenever required by the Engineer...”: The Contractor shall not carry out mobilization to Site (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 Engineer gives consent, a consent that shall not be unreasonably delayed, that appropriate measures are in place to address environmental and social risks and impacts, which

	<p>at 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 Tender and agreed as part of the Contract.</p> <p>The Contractor shall submit, to the Engineer for Review any additional MSIPs as are necessary to manage the ESHS risks and impacts of ongoing Works (e.g. excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). These MSIPs shall be included in e the Contractor’s Environmental and Social Management Plan (C-ESMP). The Contractor shall review the C-ESMP, periodically (but not less than every six (6) months), and update it as required to ensure that it contains measures appropriate to the Works. The updated C-ESMP shall be submitted to the Engineer for Review.</p> <p>The C-ESMP shall be part of the Contractor’s Documents. The procedures for Review of the C-ESMP and its updates shall be as described in Sub-Clause 4.4.1 [<i>Preparation and Review</i>].</p> <p>The following is added as (g); (g) and (h) of the Sub-Clause are then renumbered as (h) and (i) respectively.</p> <p>(a) if so, stated in the Specification, the Contractor shall:</p> <ul style="list-style-type: none"> (i) design structural elements of the Works taking into account climate change considerations; and (ii) apply the concept of universal access (the concept of universal access means unimpeded access for people of all ages and abilities in different situations and under various circumstances. <p>The following is added at the end of the Sub-Clause:</p> <p>“The Contractor shall provide relevant contract- related information, as the Employer and/or Engineer may reasonably request to conduct Stakeholder engagements. “Stakeholder” refers to individuals or groups who:</p> <ul style="list-style-type: none"> (i) are affected or likely to be affected by the Contract; and (ii) may have an interest in the Contract. <p>The Contractor may also directly participate in Stakeholder engagements, as the Employer and/or Engineer may reasonably request.”</p>
<p>Sub-Clause 4.2 Performance Security</p>	<p>Replace Sub-Clause 4.2.1 with the following::</p>

	<p>The Contractor shall, within 28 days of the date of receiving the Letter of Acceptance, provide to the Employer, the Performance Security in a sum equal to the amount specified in the Contract Data, for the due observance and performance by the Contractor of the Contract. In the event the Contractor fails to provide the Performance Security within 28 days from the date of issue of the LOA, it may seek an extension of time for providing the performance security for a period not exceeding a further 14 days on payment of damages for such extended period in a sum calculated at the rate of 0.005% of the Accepted Contract Amount for each day until the Performance Security is provided. The Contractor shall maintain the said Performance Security at its own expense, so that it shall remain in full force and effect until the date set out in the Contract Data. In the event of a revision of the Contract Price, the value of the Performance Security shall be increased proportionately by the Contractor, if required by the Employer. The cost of obtaining the Performance Security shall be at the expense of the Contractor. The Contractor shall submit the Performance Security in any of the following forms:</p> <p>(a) Unconditional and irrevocable Bank Guarantee from the specified banks in the form appearing in Section 9 [Contract Forms] as under:</p> <p style="padding-left: 40px;">(i) a scheduled bank (excluding co-operative banks) in India, or</p> <p style="padding-left: 40px;">(ii) a Foreign Bank having arrangement with a nationalized bank or scheduled banks (excluding co-operative banks) in India;</p> <p>(b) Banker's Cheque or Demand Draft drawn on a scheduled bank (excluding co-operative banks) or nationalized bank in India.</p> <p>The scheduled bank issuing the bank guarantee shall be on “Structure Financial Messaging System (SFMS)” platform. A separate advice of the bank guarantee shall invariably be sent by the issuing bank to Employer’s Bank through SFMS and only of the same by the Employer’s Bank, the bank</p>
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	<p>guarantee shall become operative and acceptable to the Employer. Further, the bank guarantees in original form along with a copy of “MT760COV (in case of bank guarantee message)/ MT767COV (in case of bank guarantee amendment message) Report” sent by the concerned issuing bank sealed in an envelope shall be submitted to the Employer.</p> <p>The Issuing Bank shall send the SFMS to:</p> <p>Beneficiary: Haryana Orbital Rail Corporation Limited ”</p> <p>Bank Name:</p> <p>Account No.</p> <p>IFSC Code:</p> <p>Note: All the instruments mentioned in (a) & (b) above should be in favour of Chief Project Manager, Haryana Rail Infrastructure Development Corporation Limited, Plot No 143, 5th Floor, Railtel Tower, Sector-44, Gurugram.</p> <p>The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied defects, if any. If, (a) the Contractor does not complete the Works for any reasons whatsoever, and (b) the Contractor has not become entitled to receive the Performance Certificate by 28 days prior to the expiry date of the Performance Security, the Contractor shall be bound to extend the validity of the Performance Security until the Works have been completed and the defects have been remedied. If the Performance Security is or becomes invalid or unenforceable for any reason whatsoever, or if such security is withdrawn or expires, the Contractor must immediately notify the Employer and obtain within 3 days a replacement guarantee in the form appearing in Section X [Contract Forms] and which is acceptable to the Employer in its absolute discretion.</p> <p>The provision, maintenance and renewal by the Contractor of the Performance Security in accordance with this Sub-Clause 4.2 [Performance Security] shall be a condition</p>
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	<p>precedent to any payment by the Employer to the Contractor under the Contract.</p> <p>If the Contractor fails to provide, maintain and renew the Performance Security in accordance with the Contract, the Employer shall, without prejudice to any other rights and remedies to which it may be entitled, shall have the right to invoke the Performance Security for the value equal to the damages to the Employer as a result of the Contractor's failure and/or by written notice terminate the Contract in accordance with Clause 15.</p>
Sub-Clause 4.3 Contractor's Representative	The following is added at the end of the last paragraph: "If any of these persons is not fluent in this language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer."
Sub-Clause 4.6 Co-operation	<p>On the second-last line of the first paragraph before "Contractor's", add "of the".</p> <p>The following is added after the first paragraph:</p> <p>"The Contractor shall also, as stated in the Specification or as instructed by the Engineer, cooperate with and allow appropriate opportunities for the Employer's Personnel to conduct any environmental and social assessment.</p>
Sub-Clause 4.7 Setting out	<p>In the second bullet-point of sub-paragraph (b) of Sub-Clause 4.7.3:</p> <p>before "if the items of reference", add: "when examining the items of reference within the period stated in sub-paragraph (a) of Sub-Clause 4.7.2" on the second and third lines, delete "and the contractor's Notice is given after the period stated in sub-paragraph (a) of Sub-Clause 4.7.2".</p>
Sub-Clause 4.8 Health and Safety Obligations	<p>The following are included after deleting "and" at the end of (f) and replacing "." with ";" at the end of (g):</p> <p>"</p> <ul style="list-style-type: none"> (i) provide health and safety training of Contractor's Personnel as appropriate and maintain training records; (ii) actively engage the Contractor's Personnel in promoting understanding, and methods for, implementation of health and safety requirements, as well as in providing information to Contractor's Personnel, training on occupational safety and health,

	<p>and provision of personal protective equipment without expense to the Contractor's Personnel;</p> <p>(iii) put in place workplace processes for Contractor's Personnel to report work situations that they believe are not safe or healthy, and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health.</p> <p>(iv) Contractor's Personnel who remove themselves from such work situations shall not be required to return to work until necessary remedial action to correct the situation has been taken. Contractor's Personnel shall not be retaliated against or otherwise subject to reprisal or negative action for such reporting or removal;</p> <p>(v) subject to Sub-Clause 4.6, where the Employer's Personnel, any other contractors employed by the Employer, and/or personnel of any legally constituted public authorities and private utility companies are employed in carrying out, on or near the site, of any work not included in the Contract, collaborate in applying the health and safety requirements, without prejudice to the responsibility of the relevant entities for the health and safety of their own personnel; and</p> <p>(vi) establish and implement a system for regular (not less than six-monthly) review of health and safety performance and the working environment.”</p> <p>The second and third paragraphs are replaced with the following:</p> <p>“Within 21 days of the Commencement Date and before commencing any construction on the Site, the Contractor shall submit to the Engineer for Review a health and safety manual which has been specifically prepared for the Works, the Site and other places (if any) where the Contractor intends to execute the Works. The procedures for Review of the health and safety manual and its updates shall be as described in Sub-Clause 4.4.1 [<i>Preparation and Review</i>].</p> <p>The health and safety manual shall be in addition to any other similar document required under applicable health and safety regulations and Laws.</p> <p>The health and safety manual shall set out all the health and safety requirements under the Contract,</p>
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	<p>a) which shall include at a minimum:</p> <ul style="list-style-type: none"> (i) the procedures to establish and maintain a safe working environment without risk to health at all workplaces, machinery, equipment and processes under the control of the Contractor, including control measures for chemical, physical and biological substances and agents; (ii) details of the training to be provided, records to be kept; (iii) the procedures for prevention, preparedness and response activities to be implemented in the case of an emergency event (i.e. an unanticipated incident, arising from both natural and man-made hazards, typically in the form of fire, explosions, leaks or spills, which may occur for a variety of different reasons including failure to implement operating procedures that are designed to prevent their occurrence, extreme weather or lack of early warning); (iv) remedies for adverse impacts such as occupational injuries, deaths, disability and disease; (v) the measures to be taken to avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases, (vi) the measures to be implemented to avoid or minimize the spread of communicable diseases (including transfer of Sexually Transmitted Diseases or Infections (STDs), such as HIV virus) and non-communicable diseases associated with the execution of the Works, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups. This includes taking measures to avoid or minimize the transmission of communicable diseases that may be associated with the influx of temporary or permanent Contract-related labour;
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	<p>(vii) the policies and procedures on the management and quality of accommodation and welfare facilities if such accommodation and welfare facilities are provided by the Contractor in accordance with Sub-Clause 6.6; and</p> <p>b) any other requirements stated in the Specification.</p> <p>The paragraph starting with: “In addition to the reporting requirement of...” is replaced with the following:</p> <p>“In addition to the reporting requirement of sub-paragraph (g) of Sub-Clause 4.20 [<i>Progress Reports</i>] the Contractor shall inform the Engineer immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer’s Personnel or Contractor’s Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA. In case of SEA, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, or sexual assault), gender and age of the person who experienced the alleged incident should be included in the information.</p> <p>The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Engineer of any such incident or accident on the Subcontractors’ or suppliers’ premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer’s Personnel or Contractor’s, its Subcontractors’ and suppliers’ personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Engineer within the timeframe agreed with the Engineer.</p> <p>The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the Contractor of any incidents or accidents referred to in this Sub-clause.”</p>
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<p>Sub-Clause 4.10 Site Data</p>	<p>Add following (f) after existing Sub-Clause 4.10 (e) as under:</p> <p>“(f) damage to property adjacent to the Site and the risk of injury to the occupiers of such property due to execution of the Works.”</p>
<p>Sub-Clause 4.15 Access Route</p>	<p>The following is added at the end of Sub-Clause 4.15:</p> <p>“The Contractor shall take all necessary safety measures to avoid the occurrence of incidents and injuries to any third party associated with the use of Contractor’s Equipment on public roads or other public infrastructure.</p> <p>The Contractor shall monitor road safety incidents and accidents to identify negative safety issues and establish and implement necessary measures to resolve them.</p>
<p>Sub-Clause 4.18 Protection of the Environment</p>	<p>Sub-Clause 4.18 Protection of the Environment is replaced with:</p> <p>“The Contractor shall take all necessary measures to:</p> <ul style="list-style-type: none"> (a) protect the environment (both on and off the Site); and (b) limit damage and nuisance to people and property resulting from pollution, noise and other results of the Contractor’s operations and/ or activities. <p>The Contractor shall ensure that emissions, surface discharges, effluent and any other pollutants from the Contractor’s activities shall exceed neither the values indicated in the Specification, nor those prescribed by applicable Laws.</p> <p>In the event of damage to the environment, property and/or nuisance to people, on or off Site as a result of the Contractor’s operations, the Contractor shall agree with the Engineer the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Contractor shall implement such remedies at its cost to the satisfaction of the Engineer.</p> <p>The Contractor shall comply with the Environmental and Social Management Plan, the Code of Conduct, and the Guidelines on Gender Based Violence as given in Appendix 1 to Division 8000 (ESHS Manual) of the General Specifications, Part 2, Works’ Requirements.”</p>
<p>Sub-Clause 4.20 Progress Reports</p>	<p>Replace “4.20 (g) with: “the Environmental, Social, Health and Safety (ESHS) metrics set out in Appendix 1 to Division 8000 (ESHS Manual) of the General Specifications, Part 2, Works’ Requirements”</p>

<p>Sub-Clause 4.21 Security of the Site</p>	<p>Sub-Clause 4.21 Security of the Site is replaced with:</p> <p>“The Contractor shall be responsible for the security of the Site, and:</p> <p>(a) for keeping unauthorized persons off the Site;</p> <p>(b) authorized persons shall be limited to the Contractor’s Personnel, the Employer’s Personnel, and to any other personnel identified as authorized personnel (including the Employer’s other contractors on the Site), by a Notice from the Employer or the Engineer to the Contractor.</p> <p>The Contractor shall, within 21 days of the Commencement Date, submit for the Engineer’s No-objection a security management plan that sets out the security arrangements for the Site.</p> <p>The Contractor shall (i) conduct appropriate background checks on any personnel retained to provide security; (ii) train the security personnel adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct towards Contractor’s Personnel, Employer’s Personnel and affected communities; and (iii) require the security personnel to act within the applicable Laws and any requirements set out in the Specification.</p> <p>The Contractor shall not permit any use of force by security personnel in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.</p> <p>In making security arrangements, the Contractor shall also comply with any additional requirements stated in the Specification.”</p>
<p>Sub-Clause 4.22 Contractor’s Operations on Site</p>	<p>On the third line of the second paragraph before “4.17”, “Sub- Clause” is added.</p>
<p>Sub-Clause 4.23 Archaeological and Geological Findings</p>	<p>The first paragraph is replaced with the following:</p> <p>“All fossils, coins, articles of value or antiquity, structures, groups of structures, and other remains or items of geological,</p>

	<p>archaeological, paleontological, historical, architectural or religious interest found on the Site shall be placed under the care and custody of the Employer. The Contractor shall:</p> <ul style="list-style-type: none"> (a) take all reasonable precautions, including fencing-off the area or site of the finding, to avoid further disturbance and prevent Contractor's Personnel or other persons from removing or damaging any of these findings; (b) train relevant Contractor's Personnel on appropriate actions to be taken in the event of such findings; and (c) implement any other action consistent with the requirements of the Specification and relevant Laws.”
<p>Sub-Clause 4.24 to 4.26 are added after Sub-Clause 4.23</p>	
<p>Sub-Clause 4.24 Suppliers (other than Subcontractors)</p>	<p>4.24.1 Forced Labour</p> <p>The Contractor shall take measures to require its suppliers (other than Subcontractors) not to employ or engage forced labour including trafficked persons as described in Sub-Clause 6.21. If forced labour/trafficking cases are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.</p> <p>4.24.2 Child labour</p> <p>The Contractor shall take measures to require its suppliers (other than Subcontractors) not to employ or engage child labour as described in Sub-Clause 6.22. If child labour cases are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.</p> <p>4.24.3 Serious Safety Issues</p> <p>The Contractor, including its Subcontractors (if any), shall comply with all applicable safety obligations, including as stated in Sub-Clauses 4.8, 5.1 and 6.7. The Contractor shall also take measures to require its suppliers (other than Subcontractors) to introduce procedures and mitigation measures to address safety issues related to their personnel. If serious safety issues are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the</p>

	<p>situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.</p> <p>4.24.4 Obtaining natural resource materials in relation to supplier</p> <p>The Contractor shall obtain natural resource materials from suppliers that can demonstrate, through compliance with the applicable verification and/ or certification requirements, that obtaining such materials is not contributing to the risk of significant conversion or significant degradation of natural or critical habitats such as unsustainably harvested wood products, gravel or sand extraction from river beds or beaches.</p> <p>If a supplier cannot continue to demonstrate that obtaining such materials is not contributing to the risk of significant conversion or significant degradation of natural or critical habitats, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to demonstrate that they are not significantly adversely impacting the habitats.</p>
<p>Sub-Clause 4.25 Code of Conduct</p>	<p>The Contractor shall have a Code of Conduct for the Contractor's Personnel.</p> <p>The Contractor shall ensure that each Contractor's Personnel is provided a copy of this Code of Conduct, written in a language comprehensible to that person, and shall seek to obtain that person's signature acknowledging receipt of the same.</p> <p>The Contractor shall also ensure that the Code of Conduct is visibly displayed in multiple locations on the Site and any other place where the Works will be carried out, as well as in areas outside the Site accessible to the local community and project affected people. The posted Code of Conduct shall be provided in languages comprehensible to Contractor's Personnel, Employer's Personnel and the local community.</p>

<p>Sub-Clause 4.26</p> <p>Milestone</p>	<p>Sub-Clause 4.26 Milestone</p> <p>If no Milestones are specified in the Contract Data, this Sub-Clause shall not apply.</p> <p>The Contractor shall complete the works of each Milestone (including all work which is stated in the Specification as being required for the Milestone to be considered complete) within the time for completion of the Milestone as stated in the Contract Data, calculated from the Commencement Date.</p> <p>The Contractor shall include, in the detailed time programme and each revised programme, under Sub-Clause 8.3 [Programme], the time for completion for each Milestone.</p> <p>The Contractor shall apply, by notice to the Engineer, for a Milestone Certificate not earlier than 14 days before the works of a Milestone will, in the Contractor’s opinion, be complete. The Engineer shall within 28 days after receiving the Contractor’s notice:</p> <ul style="list-style-type: none"> (a) issue the Milestone Certificate to the Contractor, stating the date on which the works of the Milestone were completed in accordance with the Contract, except for any minor outstanding work and defects (as shall be listed in the Milestone Certificate); or (b) reject the application, giving reasons and specifying the work required to be done and defects required to be remedied by the Contractor to enable the Milestone Certificate to be issued. <p>The Contractor shall then complete the work referred to in sub-paragraph (b) of this Sub-Clause before issuing a further notice of application under this Sub-Clause.</p> <p>If the Engineer fails either to issue the Milestone Certificate or to reject the Contractor’s application within the above period of 28 days, and if the works of a Milestone are complete in accordance with the Contract, the Milestone Certificate shall be deemed to have been issued on the date which is 14 days after the date stated in the Contractor’s notice of application.</p>
<p>Sub-Clause 6.1</p> <p>Engagement of Staff and Labour</p>	<p>The following paragraphs are added at the end of the Sub-Clause:</p>

	<p>The Contractor shall provide the Contractor’s Personnel information and documentation that are clear and understandable regarding their terms and conditions of employment. The information and documentation shall set out their rights under relevant labour Laws applicable to the Contractor’s Personnel (which will include any applicable collective agreements), including their rights related to hours of work, wages, overtime, compensation and benefits, as well as those arising from any requirements in the Specification; and shall also include the Code of Conduct for Contractor’s Personnel as set forth in Sub-Clause 4.25. The Contractor’s Personnel shall be informed when any material changes to their terms or conditions of employment occur.</p> <p>“The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour with appropriate qualifications and experience from sources within the Country.”</p>
<p>Sub-Clause 6.2 Rates of Wages and Conditions of Labour</p>	<p>The following paragraphs are added at the end of the Sub-Clause:</p> <p>“The Contractor shall inform the Contractor’s Personnel about:</p> <ul style="list-style-type: none"> (a) any deduction to their payment and the conditions of such deductions in accordance with the applicable Laws or as stated in the Specification; and (b) their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of the Country for the time being in force. <p>The Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws. Where required by applicable Laws or as stated in the Specification, the Contractor shall provide the Contractor’s Personnel written notice of termination of employment and details of severance payments in a timely manner. The Contractor shall have paid the Contractor’s Personnel (either directly or where appropriate for their benefit) all due wages and entitlements including, as applicable, social security benefits and pension contributions, on or before the end of their engagement/ employment.</p> <p>If any amenity required to be provided under any Section of Contract Labour (Regulation and Abolition) Act of 1970 for the benefit of the contract labour employed in an</p>

	<p>establishment, is not provided by the Contractor within the time prescribed therein, such amenity shall be provided by the Principal Employer within such time as may be prescribed. All expenses incurred by the Principal Employer in providing the amenities will be recovered from the amount payable under the Contract.</p> <p>In case the Contractor fails to make payment of wages within the prescribed period or makes short payment, then the Principal Employer will make payment of wages in full or the unpaid balance due, as the case may be, to the contract labour employed by the Contractor and recover the amount so paid from the amount payable under the Contract.</p> <p>The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of applicable Laws. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/Regulations including amendments, if any, on the part of the Contractor, the Employer shall have the right to deduct any money due to the Contractor including his amount of Performance Security. The Employer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.</p> <p>For the avoidance of any doubt, the Contractor shall be responsible for payment of applicable cess and making timely filings under the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996.”</p>
<p>Sub-Clause 6.5 Working Hours</p>	<p>The following paras are inserted at the end of the Sub-Clause:</p> <p>The Contractor shall provide the Contractor’s Personnel annual holiday and sick, maternity and family leave, as required by applicable Laws or as stated in the Specification.”</p> <p>The Contractor, if required, shall take approval of Engineer for carrying out work during night hours or in shifts subject to compliance with applicable Laws and shall be responsible for all necessary safety arrangements with respect to the work being undertaken. However, the Contractor shall not be entitled to any claim for increase in rates or any additional cost</p>

	and the same shall be deemed to be included in the Contract Price.
Sub-Clause 6.7 Health and Safety of Personnel	In the second paragraph, “The Contractor” is replaced with: “Except as otherwise stated in the Specification, the Contractor...”
Sub-Clause 6.9 Contractor’s Personnel	<p>The Sub-Clause is replaced with:</p> <p>“The Contractor’s Personnel (including Key Personnel, if any) shall be appropriately qualified, skilled, experienced and competent in their respective trades or occupations.</p> <p>The Engineer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor’s Representative and Key Personnel (if any), who:</p> <ul style="list-style-type: none"> (a) persists in any misconduct or lack of care; (b) carries out duties incompetently or negligently; (c) fails to comply with any provision of the Contract; (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment; (e) based on reasonable evidence, is determined to have engaged in Prohibited Practice during the execution of the Works; (f) has been recruited from the Employer’s Personnel in breach of Sub-Clause 6.3 [Recruitment of Persons]; (g) undertakes behaviour which breaches the Code of Conduct for Contractor’s Personnel (ESHS). <p>If appropriate, the Contractor shall then promptly appoint (or cause to be appointed) a suitable replacement with equivalent skills and experience. In the case of replacement of the Contractor’s Representative, Sub-Clause 4.3 [<i>Contractor’s Representative</i>] shall apply. In the case of replacement of Key Personnel (if any), Sub-Clause 6.12 [<i>Key Personnel</i>] shall apply</p> <p>Subject to the requirements in Sub-Clause 4.3 [<i>Contractor’s Representative</i>] and 6.12 [<i>Key Personnel</i>], and notwithstanding any requirement from the Engineer to remove or cause to remove any person, the Contractor shall take immediate action as appropriate in response to any violation of (a) through (g) above. Such immediate action shall include removing (or causing to be removed) from the Site or other places where the Works are being carried out, any Contractor’s</p>

	Personnel who engages in (a), (b), (c), (d), (e) or (g) above or has been recruited as stated in (f) above.”
Sub-Clause 6.12 Key Personnel	The following is inserted at the end of the last paragraph: “If any of the Key Personnel are not fluent in this language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.”
The following Sub-Clauses 6.13 to 6.27 are added after sub-clause 6.12	
Sub-Clause 6.13 Foreign Personnel	The Contractor may bring into the Country any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, if requested by the Contractor, use its best endeavors in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government permission required for bringing in the Contractor’s personnel. The Contractor shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in the Country of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.
Sub-Clause 6.14 Supply of Foodstuffs	The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor’s Personnel for the purposes of or in connection with the Contract.
Sub-Clause 6.15 Supply of Water	The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor’s Personnel.
Sub-Clause 6.16 Measures against Insect and Pest Nuisance	The Contractor shall at all times take the necessary precautions to protect the Contractor’s Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.
Sub-Clause 6.17 Alcoholic Liquor or Drugs	The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give, barter or otherwise

	dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereto by Contractor's Personnel.
Sub-Clause 6.18 Arms and Ammunition	The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.
Sub-Clause 6.19 Festivals and Religious Customs	The Contractor shall respect the Country's recognized festivals, days of rest and religious or other customs.
Sub-Clause 6.20 Funeral Arrangements	The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of its local employees who may die while engaged upon the Works.
Sub-Clause 6.21 Forced Labour	<p>The Contractor, including its Subcontractors, shall not employ or engage forced labour. Forced labour consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labour, such as indentured labour, bonded labour or similar labour-contracting arrangements.</p> <p>No persons shall be employed or engaged who have been subject to trafficking. Trafficking in persons is defined as the recruitment, transportation, transfer, harbouring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation.</p>
Sub-Clause 6.22 Child Labour	<p>The Contractor, including its Subcontractors, shall not employ or engage a child (as defined in Child Labour (Prohibition & Regulation) Act, 1986).</p> <p>The Contractor, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.</p> <p>The Contractor including its Subcontractors, shall only employ or engage children between the minimum age and the age of 18 after an appropriate risk assessment has been conducted by the Contractor with the Engineer's consent. The Contractor</p>

	<p>shall be subject to regular monitoring by the Engineer that includes monitoring of health, working conditions and hours of work.</p> <p>Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work:</p> <ul style="list-style-type: none"> (a) with exposure to physical, psychological or sexual abuse; (b) underground, underwater, working at heights or in confined spaces; (c) with dangerous machinery, equipment or tools, or involving handling or transport of heavy loads; (d) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to temperatures, noise or vibration damaging to health; <p>or</p> <p>under difficult conditions such as work for long hours, during the night or in confinement on the premises of the employer.</p>
<p>Sub-Clause 6.23 Employment Records of Workers</p>	<p>The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked, and wages paid to all workers. These records shall be summarised on a monthly basis and submitted to the Engineer. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Records of Contractor’s Personnel and Equipment].</p>
<p>Sub-Clause 6.24 Workers’ Organisations</p>	<p>In countries where the relevant labour laws recognise workers’ rights to form and to join workers’ organisations of their choosing and to bargain collectively without interference, the Contractor shall comply with such laws. In such circumstances, the role of legally established workers’ organizations and legitimate workers’ representatives will be respected, and they will be provided with information needed for meaningful negotiation in a timely manner. Where the relevant labour laws substantially restrict workers’ organisations, the Contractor shall enable alternative means for the Contractor’s Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. The Contractor shall not seek to influence or control these alternative means. The Contractor shall not discriminate or retaliate against the Contractor’s Personnel who participate, or seek to participate, in such organisations</p>

	<p>and collective bargaining or alternative mechanisms. Workers' organisations are expected to fairly represent the workers in the workforce.</p>
<p>Sub-Clause 6.25 Non-Discrimination and Equal Opportunity</p>	<p>The Contractor shall not make decisions relating to the employment or treatment of Contractor's Personnel on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment of Contractor's Personnel on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to any aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices.</p> <p>Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination. The Contractor shall provide protection and assistance as necessary to ensure non-discrimination and equal opportunity, including for specific groups such as women, people with disabilities, migrant workers and children (of working age in accordance with Sub-Clause 6.22).</p>
<p>Sub-Clause 6.26 Contractor's Personnel Grievance Mechanism</p>	<p>The Contractor shall have a grievance mechanism for Contractor's Personnel, and where relevant the workers' organizations stated in Sub-Clause 6.24, to raise workplace concerns. The grievance mechanism shall be proportionate to the nature, scale, risks and impacts of the Contract. The mechanism shall address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned in a language they understand, without any retribution, and shall operate in an independent and objective manner.</p> <p>The Contractor's Personnel shall be informed of the grievance mechanism at the time of engagement for the Contract, and the measures put in place to protect them against any reprisal for its use. Measures will be put in place to make the grievance mechanism easily accessible to all Contractor's Personnel.</p> <p>The grievance mechanism shall not impede access to other judicial or administrative remedies that might be available, or substitute for grievance mechanisms provided through collective agreements.</p>

	<p>The grievance mechanism may utilize existing grievance mechanisms, providing that they are properly designed and implemented, address concerns promptly, and are readily accessible to such project workers. Existing grievance mechanisms may be supplemented as needed with Contract-specific arrangements.</p>
<p>Sub-Clause 6.27 Training of Contractor’s Personnel</p>	<p>The Contractor shall provide appropriate training to relevant Contractor’s Personnel on ESHS aspects of the Contract, including appropriate sensitization on prohibition of SEA, Gender Based Violence (GBV) and health & safety training referred to in Sub-Clause 4.8</p> <p>As stated in the Specification or as instructed by the Engineer, the Contractor shall also allow appropriate opportunities for the relevant Contractor’s Personnel to be trained on ESHS aspects of the Contract by the Employer’s Personnel.</p> <p>The Contractor shall provide training on SEA, GBV including its prevention, to any of its personnel who has a role to supervise other Contractor’s Personnel.</p>
<p>Sub-Clause 7.3 Inspection</p>	<p>The following is added in the first paragraph after “Employer’s Personnel” “(including the Bank staff or consultants acting on the Bank’s behalf, stakeholders and third parties, such as independent experts, local communities, or non-governmental organizations)”</p> <p>The following is added as (b) (iv):</p> <p>“(iv) carryout environmental and social audit, and”</p>
<p>Sub-Clause 7.7 Ownership of Plant and Materials</p>	<p>The following is added before the first paragraph:</p> <p>“Except as otherwise provided in the Contract,”</p>

<p>Sub-Clause 8.1 Commencement of Work</p>	<p>The Sub- Clause is replaced in its entirety with the following:</p> <p>“The Engineer shall give a Notice to the Contractor stating the Commencement Date, not less than 14 days before the Commencement Date.</p> <p>The Notice shall be issued promptly after the Engineer determines the fulfilment of the following conditions:</p> <ul style="list-style-type: none"> (a) signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities of the Country; (b) delivery to the Contractor of reasonable evidence of the Employer’s financial arrangements (under Sub-Clause 2.4 [Employer’s Financial Arrangements]); (c) except if otherwise specified in the Contract Data, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works; (d) receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor within 28 days from the date of signing of the Contract Agreement. If the Contractor fails to deliver the guarantee within such 28 days, this sub-paragraph (d) shall not be applied. <p>Subject to Sub-Clause 4.1 on the Management Strategies and Implementation Plans and the C-ESMP and Sub-Clause 4.8 on the health and safety manual, the Contractor, shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date, and shall then proceed with the Works with due expedition and without delay.”</p>
<p>Sub-Clause 8.2 Time for Completion</p>	<p>The following paragraph shall be added at the end of Sub-Clause 8.2:</p> <p>The Contractor shall complete each Milestone (if any) within the Time for Completion for the Milestone (as the case may be), including completing all work which is stated in the Contract as being required for the Milestone to be considered to be completed for the issuance of Milestone Certificate under Sub-Clause 4.26 [Milestone].</p>

<p>Sub-Clause 8.5 Extension of Time for Completion</p>	<p>Replace the entire first paragraph of Sub-Clause 8.5 with the following:</p> <p>The Contractor shall be entitled subject to Sub-Clause 20.1 [Claims] to an extension of the Time for Completion if and to the extent that completion for the purpose of Sub-Clause 10.1 [Taking Over of the Works and Sections] or for the issuance of Milestone Certificate under Sub-Clause 4.26 [Milestone] is or will be delayed by any of the following causes:"</p>
<p>Sub-Clause 8.8 Delay Damages</p>	<p>Replace the entire first paragraph of Sub-Clause 8.8 with the following:</p> <p>If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 20.2 [Claims for Payment and/or EOT] pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Contract Data, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate or the Milestone Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Contract Data.</p>
<p>Sub-Clause 11.7 Right of Access after Taking Over</p>	<p>In the second paragraph, "Whenever the Contractor intends to access any part of the Works during the relevant DNP:" is replaced with:</p> <p>"Whenever, until the date 28 days after issue of the Performance Certificate, the Contractor intends to access any part of the Works:"</p>

<p>Sub-Clause 12.3 Valuation of Works</p>	<p>Replace the entire Sub-Clause 12.3 with the following:</p> <p>Except as otherwise stated in the Contract, the Engineer shall proceed in accordance with Sub-Clause 3.7 (Agreement or Determinations) to agree or determine the Contract Price by evaluating each item of work, applying the measurement agreed or determined in accordance with the above Sub-Clause 12.1 and 12.2 and the appropriate rate or price for the item.</p> <p>For each item of work, the appropriate rate or price for the item shall be the rate or price specified for such item in the contract or, if there is no such item, the appropriate rate or price specified for similar work.</p> <p>However, a new rate or price shall be appropriate for an item of work (For the purpose of deciding new rate or price of an item, cost of all the items based on North Western Railway Unified Standard Schedule of Rates 2019 (NWRUSSOR-2019) in Bill Unit No. 1, Bill Unit No. 2 and Bill Unit No. 3 of BOQ shall be treated as one item) if:</p> <p>(A)</p> <p>(i) the measured quantity of the item is changed by more than 25% from the quantity of this item in the Bill of Quantities or the Schedule, and</p> <p>(ii) this change in quantity multiplied by such specified rate for this item exceeds 0.1% of the Accepted Contract Amount,</p> <p>OR</p> <p>(B)</p> <p>(i) the work is instructed under Clause 13 [Variations and Adjustments],</p> <p>(ii) no rate or price is specified in the Contract for this item, and</p> <p>(iii) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.</p> <p>In this case, the rate may be decided on the following basis:</p>
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	<p>(a) Cost of Materials at current market price, as actually utilised in the final finished Permanent Works, including a reasonable percentage for wastage and transportation,</p> <p>(b) Cost of enabling works if any (unless provided for separately) worked out on the above basis but with less stringent quality specifications minus salvage value of serviceable material released after completion of work and cost of material released as scrap.</p> <p>(c) Cost of labour actually used at the site of work at rates under Payment of Minimum Wages Act for the area of work for each category of worker, further enhanced by a percentage of 10% of the aforesaid rates to account for labour not directly utilised at the Site and other ancillary and incidental expenses on labour.</p> <p>(d) Hire charges for Plant & Machinery, scaffolding, shuttering, forms, etc., required to be used at the site of the work. The tools used by the various trades shall not be counted as Plant & Machinery for this purpose.</p> <p>(e) An amount of 15% of items (a), (b), (c) and (d) above to allow for Contractor's overheads, profits and corporate taxes.</p> <p>(f) In all cases where extra items of work are involved, for which there are no rates and not deemed to be included within the accepted Bill of Quantities, the Contractor shall give a notice to the Engineer, of at least 7 days before the need for their execution arises.</p>
Sub-Clause 13.2 Value Engineering	Not applicable
Sub-Clause 13.3.1 Variation by Instruction	Subparagraph 13.3.1 (a) is replaced with: "a description of the varied work performed or to be performed, including details of the resources and methods adopted or to be adopted by the Contractor, and sufficient ESHS information to enable an evaluation of ESHS risks and impacts;"
Sub-Clause 13.4 Provisional Sums	<p>The following is inserted as the penultimate paragraph:</p> <p>"The Provisional Sum shall be used to cover the Employer's share of the DAAB members' fees and expenses, in accordance with Clause 21. No prior instruction of the Engineer shall be required with respect to the work of the DAAB. The Contractor shall submit the DAAB members' invoices and satisfactory evidence of having paid 100% of such invoices as part of the</p>

	substantiation of those Statements submitted under Sub-Clause 14.3.
Sub-Clause 13.6 Adjustments for Changes in Laws	The following paragraph is added at the end of the Sub-Clause: “Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the Table of Adjustment Data in accordance with the provisions of Sub-Clause 13.7 [Adjustments for Changes in Cost].”
Sub-Clause 14.2.1 Advance Payment Guarantee	<p>Replace the Sub-Clause 14.2.1 with the following:</p> <p>The Contractor shall obtain (at the Contractor’s cost) an Advance Payment Guarantee or Security in amounts and currencies equal to the advance payment and shall submit it to the Employer with a copy to the Engineer. The Guarantee in accordance to the form attached to the Contract can be split up in four (4) Guarantees to be released on repayment. The Contractor shall submit the Advance Payment Guarantee in any of the following forms:</p> <p>(a) Unconditional and irrevocable Bank Guarantee from the specified banks in the form appearing in Section 9 [Contract Forms] as under:</p> <ul style="list-style-type: none"> (i) a scheduled bank (excluding co-operative banks) in India, or (ii) a Foreign Bank having arrangement with a nationalized bank or scheduled banks (excluding co-operative banks) in India; <p>(b) Banker's Cheque or Demand Draft drawn on a scheduled bank (excluding co-operative banks) or nationalized bank in India.</p> <p>The scheduled bank issuing the bank guarantee shall be on “Structure Financial Messaging System (SFMS)” platform. A separate advice of the bank guarantee shall invariably be sent</p>

	<p>by the issuing bank to Employer’s Bank through SFMS at the address given below and only after receipt of the same by the Employer’s Bank, the bank guarantee shall become operative and acceptable to the Employer. Further, the bank guarantees in original form along with a copy of “MT760COV (in case of bank guarantee message)/ MT767COV (in case of bank guarantee amendment message) Report” sent by the concerned issuing bank sealed in an envelope shall be submitted to the Employer.</p> <p>The Issuing Bank shall send the SFMS to:</p> <p>Beneficiary: Haryana Orbital Rail Corporation Limited</p> <p>Bank Name:</p> <p>Account No.</p> <p>IFSC Code:</p> <p>Note: All the instruments mentioned in (a) & (b) above should be in favour of Chief Project Manager, Haryana Rail Infrastructure Development Corporation Limited, Plot No 143, 5th Floor, Railtel Tower, Sector-44, Gurugram.</p> <p>Such Advance Payment guarantee shall remain effective until the Advance Payment has been repaid pursuant to provision of this Sub-Clause 14.2, but the amount thereof shall be progressively reduced by the amount repaid by the Contractor as indicated in the Interim Payment Certificate issued in accordance with this Clause 14.</p> <p>In case, the Contractor is a Joint Venture/Consortium, the Advance Payment Guarantees shall be either in the name of Joint Venture/Consortium or in the name of Lead Partner of Joint Venture/Consortium.</p>
<p>Sub-Clause 14.3 Application for Interim Payment</p>	<p>The following is inserted at the end of (vi) after: <i>[Agreement or Determination]</i>: “any reimbursement due to the Contractor under the Dispute Avoidance/ Adjudication Agreement. (Appendix General Conditions of Dispute Avoidance/ Adjudication Agreement).”</p>

<p>Sub-Clause 14.3 Application for Interim Payment</p>	<p>Add the following at the end, below Sub paragraph ‘(x)’</p> <p>(xi) an amount to be deducted for the payments demanded by relevant competent authorities of the Central Government and/or State Government and/or local bodies from the Employer as due payments/ liability of the Contractor as mandated by relevant laws.</p>
<p>Sub-Clause 14.6.2 Withholding (amounts in) an IPC</p>	<p>“and/or” from subparagraph (b) is deleted.</p> <p>The following is then added as subparagraph (c) and subparagraph (c) of the Sub-Clause is renumbered as (d):</p> <p>“(c) if the Contractor was, or is, failing to perform any ESHS obligations or work under the Contract, the value of this work or obligation, as determined by the Engineer, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Engineer, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following:</p> <ul style="list-style-type: none"> (i) failure to comply with any ESHS obligations or work described in the Works’ Requirements which may include: working outside site boundaries, excessive dust, 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 C-ESMP and/or update it in a timely manner to address emerging ESHS issues, or anticipated risks or impacts; (iii) failure to implement the C-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 ESHS report/s (as described in general specifications, or failure to submit such reports in a timely manner;

	<p>(vi) failure to implement remediation as instructed by the Engineer within the specified timeframe (e.g. remediation addressing non-compliance/s).”</p>
<p>Sub-Clause 14.7 Payment</p>	<p>At the end of sub-paragraph (b): “and” is replaced with “or” and the following inserted as (iii):</p> <p>“(iii) at a time when the Bank’s loan (from which part of the payments to the Contractor is being made) is suspended, the amount shown on any statement submitted by the Contractor within 14 days after such statement is submitted, any discrepancy being rectified in the next payment to the Contractor; and”</p> <p>At the end of sub-paragraph (c): “.” is replaced with “;” and the following inserted:</p> <p>“or, at a time when the Bank’s loan (from which part of the payments to the Contractor is being made) is suspended the undisputed amount shown in the Final Statement within 56 days after the date of notification of the suspension in accordance with Sub-Clause 16.2 [Termination by Contractor].”</p>

<p>Sub-Clause 14.7 Payment</p>	<p>After the sub-paragraphs (c), add (d) with the following:</p> <p>(d) Provisional amount against the Statement specified in Sub-Clause 14.3:</p> <p>i) The Employer shall pay 90% of such amount as provisional payment within 7 days from the receipt of evaluated statement from the Engineer.</p> <p>ii) It shall be the responsibility of the Contractor to claim an amount for the performed services as admissible as per the Contract. If at any time it is observed by the Engineer that the amount claimed in the Statement are higher than the actual admissible performance, the facility of provisional payment will be withheld until such time the excess payment paid is adjusted in the subsequent Interim Payment Certificate. In such a case, warning letter will be issued to the Contractor.</p> <p>(e) Payment of GST:</p> <p>The Contractor is responsible for paying all the taxes [including Goods and Service Tax (GST)], duties, cess, etc. as per the Statutory requirements. However, GST levied on the invoices raised by the Contractor will be temporarily withheld at the time of making payment for the invoice.</p> <p>GST withheld will be released by HRIDC/ HORCL on submission of proof, i.e. copy of Form GSTR-1 (reflecting the particular invoice) after due verification from the GST portal by the Employer.</p>
<p>Sub-Clause 14.9 Release of Retention Money</p>	<p>The following is added at the end of Sub-Clause 14.9:</p> <p>“Unless otherwise stated in the Contract, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a guarantee, in the form annexed to the Particular Conditions of Contract or in another form approved by the Employer for the second half of the Retention Money. The Contractor shall submit unconditional and irrevocable Bank Guarantee from the specified banks in the form appearing in Section X [Contract Forms] as under:</p>

	<p>(i) a scheduled bank (excluding co-operative banks) in India, or</p> <p>(ii) a Foreign Bank having arrangement with a nationalized bank or scheduled banks (excluding co-operative banks) in India;</p> <p>The scheduled bank issuing the bank guarantee shall be on “Structure Financial Messaging System (SFMS)” platform. A separate advice of the bank guarantee shall invariably be sent by the issuing bank to Employer’s Bank through SFMS at the address given below and only after receipt of the same by the Employer’s Bank, the bank guarantee shall become operative and acceptable to the Employer. Further, the bank guarantees in original form along with a copy of “MT760COV (in case of bank guarantee message)/ MT767COV (in case of bank guarantee amendment message) Report” sent by the concerned issuing bank sealed in an envelope shall be submitted to the Employer.</p> <p>The Issuing Bank shall send the SFMS to:</p> <p>Beneficiary: Haryana Orbital Rail Corporation Limited</p> <p>Bank Name:</p> <p>Account No.</p> <p>IFSC Code:</p> <p>Note: Bank Guarantee should be in favour of Chief Project Manager, Haryana Rail Infrastructure Development Corporation Limited, Plot No 143, 5th Floor, Railtel Tower, Sector-44, Gurugram.</p> <p>The Contractor shall ensure that the guarantee is in the amounts and currencies of the second half of the Retention Money and is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Security in Sub-Clause 4.2. On receipt by the Employer of the required guarantee, the Engineer shall certify, and the Employer shall pay the second half of the Retention Money. The release of the second half of the Retention Money against a guarantee shall then be in lieu of</p>
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	<p>the release after the latest of the expiry dates of the Defects Notification Periods. The Employer shall return the guarantee to the Contractor within 21 days after receiving a copy of the Performance Certificate.</p> <p>If the Performance Security required under Sub-Clause 4.2 is in the form of a demand guarantee, and the amount guaranteed under it when the Taking-Over Certificate is issued is more than half of the Retention Money, then the Retention Money guarantee will not be required. If the amount guaranteed under the Performance Security when the Taking-Over Certificate is issued is less than half of the Retention Money, the Retention Money guarantee will only be required for the difference between half of the Retention Money and the amount guaranteed under the Performance Security.”</p>
<p>Sub-Clause 14.12 Discharge</p>	<p>On the seventh line of the first paragraph, “Sub-Clause 21.6 [Arbitration]” is replaced with: “Clause 21 [Disputes and Arbitration]’.</p>
<p>Sub-Clause 14.15 Currencies of Payment</p>	<p>Throughout Sub-Clause 14.15, “Contract Data” is replaced with: “Schedule of Payment Currencies”.</p>
<p>Sub-Clause 14.16 Payment to Joint Venture/Consortium</p>	<p>Add new Sub-Clause 14.16 after Sub-Clause 14.15 as follows:</p> <p>Sub-Clause 14.16 Payment to Joint Venture/Consortium</p> <p>The payment shall be made to the Joint Venture/Consortium. However, in case of Consortium, the direct payment to individual members of consortium can be made; on joint certification by the Representative of the Consortium and authorized representative of individual members of the Consortium, after making requisite recoveries/deductions from the gross payment. In this case, a notarized agreement jointly signed by authorized representatives of all the members of the consortium to this effect need to be submitted to the Employer on Commencement of the Works.</p>
<p>Sub-Clause 15.1 Notice to Correct</p>	<p>“and” is deleted from (b) and</p> <p>“.” is replaced by: “; and” in (c).</p> <p>The following is then added as (d)</p>

	<p>“(d) specify the time within which the Contractor shall respond to the Notice to Correct.”</p> <p>In the third para., “shall immediately respond” is replaced with: “shall respond within the time specified in (d)”. Further, in the third para., “to comply with the time specified in the Notice to Correct.” is replaced with: “to comply with the time specified in (c).”</p>
Sub-Clause 15.2.1 Notice	<p>Sub-paragraph (h) is replaced with:</p> <p>“based on reasonable evidence, has engaged in Prohibited Practice as defined in paragraph 2 of the Particular Conditions - Part C –Prohibited Practices, in competing for or in executing the Contract.”</p>
Sub-Clause 15.8 Prohibited Practices	<p>Add New Sub-Clause 15.8 “Prohibited Practices” after Sub-Clause 15.7;</p> <p>“</p> <p>15.8.1 The Bank requires compliance with the Bank’s Policy on Prohibited Practices as set forth in Particular Conditions - Part C- Prohibited Practices.</p> <p>15.8.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the tendering process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.”</p>
Sub-Clause 16.1 Suspension by Contractor	<p>The following paragraph is inserted after the first paragraph:</p> <p>“Notwithstanding the above, if the Bank has suspended disbursements under the loan from which payments to the Contractor are being made, in whole or in part, for the execution of the Works, and no alternative funds are available as provided for in Sub-Clause 2.4 [Employer’s Financial Arrangements], the Contractor may by notice suspend work or reduce the rate of work at any time, but not less than 7 days after the Recipient having received the suspension notification from the Bank.”</p>
Sub-Clause 16.2.1 Notice	<p>Sub-paragraph (j) is deleted in its entirety.</p> <p>At the end of sub-paragraph (i): “; or” is replaced with: “.”</p>

	<p>sub-paragraph (f) is replaced with:</p> <p>“(f) the Contractor does not receive a Notice of the Commencement Date under Sub-Clause 8.1 [<i>Commencement of Works</i>] within 180 days after receiving the Letter of Acceptance, for reasons not attributable to the Contractor.”</p>
Sub-Clause 16.2.2 Termination	<p>The following is added at the end of Sub-Clause 16.2.2:</p> <p>“In the event the Bank suspends the loan from which part or whole of the payments to the Contractor are being made, if the Contractor has not received the sums due to him upon expiration of the 14 days referred to in Sub-Clause 14.7 [Payment] for payments under Interim Payment Certificates, the Contractor may, without prejudice to the Contractor's entitlement to financing charges under Sub-Clause 14.8 [Delayed Payment], take one of the following actions, namely (i) suspend work or reduce the rate of work under Sub-Clause 16.1 above, or (ii) terminate the Contract by giving notice to the Employer, with a copy to the Engineer, such termination to take effect 14 days after the giving of the notice.”</p>
Sub-Clause 17.1 Responsibility for Care of the Works	<p>On the fourth and fifth lines of the first paragraph, replace “Date of Completion of the Works” with “issue of the Taking-Over Certificate for the Works”.</p>
Sub-Clause 17.3 Intellectual and Industrial Property Rights	<p>On the first line of the second paragraph, replace “notice” is replaced with “a Notice”.</p>
Sub-Clause 17.7 Use of Employer's Accommodation/Facilities	<p>The following Sub-Clause is added as 17.7:</p> <p>“The Contractor shall take full responsibility for the care of the Employer-provided accommodation and facilities, if any, as detailed in the Specification, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works)</p> <p>If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Employer is liable, the Contractor shall, at its own cost, rectify the loss or damage to the satisfaction of the Engineer.”</p>

<p>Sub-Clause 18.1</p> <p>Exceptional Events</p>	<p>Sub-paragraph (c) is substituted with:</p> <p>“(c) riot, commotion, disorder or sabotage by persons other than the Contractor’s Personnel and other employees of the Contractor and Subcontractors;”</p>
<p>Sub-Clause 18.4</p> <p>Consequences of an Exceptional Event</p>	<p>The following is added at the end of sub-paragraph (b) after deleting the “.”:</p> <p>“, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Exceptional Events, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 19.2 [Insurance to be provided by the Contractor].”</p>
<p>Sub-Clause 18.5</p> <p>Optional Termination</p>	<p>In sub-paragraph (c), “and necessarily” is inserted after ““was reasonably”.</p>
<p>Sub-Clause 19.1</p> <p>General Requirements</p>	<p>The following paragraphs are added after the first:</p> <p>“Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with terms (if any) agreed by both Parties before the date of the Letter of Acceptance.</p> <p>This agreement of terms shall take precedence over the provisions of this Clause.”</p>
<p>Sub-Clause 19.2</p> <p>Insurance to be provided by the Contractor</p>	<p>The following is inserted as the first sentence in Sub-Clause 19.2:</p> <p>“The Contractor shall be entitled to place all insurances relating to the Contract (including, but not limited to the insurance referred to Clause 19) with insurers from any eligible source country through an insurance provider that is authorized to provide such insurance coverage in India.”</p> <p>The Contractor shall submit all evidence(s) of insurances and policies within the period stated in the Contract Data.</p>
<p>Sub-Clause 19.2.1</p> <p>The Works</p>	<p>On the last line of the second paragraph, “Clause 12 [<i>Tests after completion</i>]” is deleted.</p>
<p>Sub-Clause 19.2.5</p> <p>Injury to employees</p>	<p>The second paragraph is replaced with:</p> <p>“The Employer and the Engineer shall also be indemnified under the policy of insurance, against liability for claims,</p>

	damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel."
Sub-Clause 20.1 Claims	In a): "any additional payment" is replaced with "payment".
Sub-Clause 20.2 Claims for Payment and/or EOT	The first paragraph is replaced with: "If either Party considers that it is entitled to claim under 20.1 (a) or (b), the following claim procedure shall apply:"
Sub-Clause 21.1 Constitution of the DAAB	Replace the entire first paragraph of Sub-Clause-21.1 with the following: Dispute shall be referred to a DAAB for decision in accordance with Sub-Clause 21.4 [Obtaining DAAB's Decision]. The Parties shall appoint a DAAB by the date stated in the Contract Data. The date may be changed if both the Parties agree, in writing, to change the date, up to one hundred eighty (180) days after the Commencement Date. In the second paragraph, at the end of the first sentence after deleting: ".", the following is added: ", each of whom shall meet the criteria set forth in Sub-Clause 3.3 of Appendix-General Conditions of Dispute Avoidance/ Adjudication Agreement." After the second paragraph insert the following paragraph: "If the Contract is with a foreign Contractor, the DAAB members shall not have the same nationality as the Employer or the Contractor."
Sub-Clause 21.2 Failure to Appoint DAAB Member(s)	For both (a) and (b): "by the date stated in the first paragraph of Sub-Clause 21.1 [<i>Constitution of the DAAB</i>]" is replaced with: "within 42 days from the date the Contract is signed by both Parties"

<p>Sub-Clause 21.6 Arbitration</p>	<p>This clause stands amended and restated in its entirety as follows:</p> <p>21.6.1 Disputes shall be settled by arbitration in accordance with the following provisions:</p> <p>(A) In case of the Contractor or the Lead member of the Contractor (in the case of a Joint Venture or Consortium) being of foreign origin</p> <p>If the efforts to resolve all or any of the disputes through amicable settlement fails, then such disputes or differences, whatsoever arising between the parties, arising out of the Contract or relating to effect of the Contract or the breach thereof shall be referred to Arbitration in accordance with the following provisions:</p> <p>1. Selection of Arbitrators -Each dispute submitted by a Party to arbitration shall be heard by a sole arbitrator or an arbitration panel comprising three (3) arbitrators, in accordance with the following provisions:</p> <p>(a) Where the Parties agree that the dispute concerns a technical matter, they may agree to appoint a sole arbitrator or, failing agreement on the identity of such sole arbitrator within thirty (30) days after receipt by the other Party of the proposal of a name for such an appointment by the Party who initiated the proceedings, either Party may apply to Singapore International Arbitration Centre (SIAC) for a list of not fewer than five (5) nominees and, on receipt of such list, the Parties shall alternately strike names therefrom, and the last remaining nominee on the list shall be the sole arbitrator for the matter in dispute. If the last remaining nominee has not been determined in this manner within sixty (60) days of the date of receipt of the list by the Parties, SIAC shall appoint, upon the request of either Party and from such list or otherwise, a sole arbitrator for the matter in dispute.</p> <p>(b) Where the Parties do not agree that the dispute concerns a technical matter, the Client and the Contractor shall each appoint one (1) arbitrator, and these two arbitrators shall jointly appoint a third arbitrator, who shall chair the arbitration panel. If the arbitrators named by the Parties do not succeed in appointing a third arbitrator within thirty (30) days after the</p>
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	<p>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 SIAC.</p> <p>(c) If, in a dispute subject to paragraph (b) 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 SIAC to appoint a sole arbitrator for the matter in dispute, and the arbitrator appointed pursuant to such application shall be the sole arbitrator for that dispute.</p> <p>2. Rules of Procedure - Except as otherwise stated herein, arbitration proceedings shall be conducted in accordance with the rules of procedure for arbitration of the United Nations Commission on International Trade Law (UNCITRAL) as in force on the date of this Contract.</p> <p>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.</p> <p>4. Nationality and Qualifications of Arbitrators - The sole arbitrator or the third arbitrator appointed pursuant to paragraphs 1(a) through 1(c) above shall be an internationally recognized legal or technical expert with extensive experience in relation to the matter in dispute and shall not be a national of the Contractor's home country or of the home country of any of their members or Parties or of the Government's country. For the purposes of this Clause, "home country" means any of:</p> <p>(a) the country of incorporation of the Contractor or of any of their members or Parties; or</p> <p>(b) the country in which the Contractor's or any of their members' or Parties' principal place of business is located; or</p> <p>(c) the country of nationality of a majority of the Contractor's or of any members' or Parties' shareholders; or</p> <p>(d) the country of nationality of the Sub-Contractor concerned, where the dispute involves a subcontract.</p>
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	<p>5. Miscellaneous - In any arbitration proceeding hereunder:</p> <p>(a) proceedings shall, unless otherwise agreed by the Parties, be held at Gurugram, India or such place as mutually agreed by both parties. The cost of Arbitration including the fees of the Arbitrator shall be borne equally by both the parties.</p> <p>(b) the English language shall be the official language for all purposes; and</p> <p>(c) the decision of the sole arbitrator or of a majority of the arbitrators (or of the third arbitrator if there is no such majority) 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.</p> <p>(B) In case of the Contractor or the Lead member of the Contractor (in the case of a Joint Venture or Consortium) being of Indian origin</p> <p>If the efforts to resolve all or any of the disputes through amicable settlement fail, then such disputes or differences, whatsoever arising between the parties, arising out of the Contract or relating to effect of the Contract or the breach thereof shall be referred to Arbitration in accordance with the following provisions:</p> <p>(a) The Arbitration proceedings shall be assumed to have commenced from the day, a written and valid demand for arbitration is received by Managing Director of the Employer (MD/HRIDC).</p> <p>(b) The disputes so referred to arbitration shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996 and amended by the Arbitration and Conciliation (Amendment) Act, 2015 and any statutory modification or re-enactment thereof. Further, it is agreed between the parties as under:</p> <p>Number of Arbitrators - The Arbitral tribunal shall consist of:</p> <p>(i) Sole Arbitrator (or)</p> <p>(ii) 3 (three) arbitrators</p>
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1. Procedure for Appointment of Arbitrators

The arbitrators shall be appointed as per following procedure:

(i) In case of Sole Arbitrator:

Within 30 days from the day when a written and valid demand for Arbitration is received by MD/HRIDC, the Employer will forward a panel of 03(three) names to the Contractor. The Contractor shall have to choose one Arbitrator from the panel of three, to be appointed as Sole Arbitrator within 30 days of dispatch of the request by the Employer. In case the Contractor fails to choose one Arbitrator within 30 days of dispatch of the request by the Employer, then MD/HRIDC shall appoint any one Arbitrator from the panel of Arbitrators as sole Arbitrator.

(ii) In case of 03 Arbitrators:

a) Within 30 days from the day when a written and valid demand for Arbitration is received by MD/HRIDC, the Employer will forward a panel of not fewer than five nominees to the Contractor. The Contractor will then give his consent for any one name out of the panel to be appointed as one of the arbitrators within 30 days of dispatch of the request by the Employer.

b) The Employer will decide the second Arbitrator. MD/HRIDC shall appoint the two Arbitrators, including the name of one Arbitrator for whom consent was given by the Contractor, within 30 days from the receipt of the consent for one name of the Arbitrator from the Contractor. In case the Contractor fails to give his consent within 30 days of the request of the Employer, MD/HRIDC shall nominate both the Arbitrators from the panel. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the parties out of the panel of Arbitrators provided to the Contractor or from the larger panel of Arbitrators to be provided to them by the Employer at the request of two appointed Arbitrators (if so desired by them) and who shall act as presiding Arbitrator. In case of failure of the two appointed Arbitrators to reach upon consensus within a period of 30 days from their appointment, then, upon the request of either or both parties, the presiding Arbitrator shall be appointed by the MD/HRIDC within 14 days of receipt of request from either party or both parties.

c) If one or more of the Arbitrators appointed as above refuses to act as Arbitrator, withdraws from his office as Arbitrator, or vacates his/their office/offices or is/are unable or unwilling to

	<p>perform his functions as Arbitrator for any reason whatsoever or dies or in the opinion of the MD/HRIDC fails to act without undue delay, the MD/HRIDC shall appoint new Arbitrator/Arbitrators to act in his/their place except in case of new presiding Arbitrator who shall be chosen following the same procedure as mentioned in para (b) above. Such reconstituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous Arbitrator(s).</p> <p>d) The Employer at the time of offering the panel of Arbitrator(s) to be appointed as Arbitrator shall also supply the information with regard to the qualifications of the said Arbitrators nominated in the panel along with their professional experience, phone nos. and addresses to the Contractor. The minimum qualification and experience of the arbitrators which may be appointed by the Parties in accordance with the contract is set out below:</p> <p>(i) A working/retired officer (not below E-8 grade in a central public sector undertaking in India, with which the Employer has no direct business relationship), of engineering or accounts/finance discipline, having experience in management of construction contracts; or</p> <p>(ii) A retired officer (not below the SAG level in Indian Railways) of any Engineering Services of Indian Railways or Indian Railway Accounts Service, having experience in management of construction contracts;</p> <p>2. Miscellaneous: In any arbitration proceeding hereunder:</p> <p>(a) The language of arbitration shall be English. This arbitration shall be governed in accordance with the laws of India.</p> <p>(b) The venue of the arbitration shall be Gurugram, India. The cost of Arbitration including the fees of the Arbitrator shall be borne equally by both the parties.</p> <p>(c) The decision of the sole arbitrator or of a majority of the arbitrators (or of the third arbitrator if there is no such majority) shall be final and binding and shall be enforceable in High court at Chandigarh, and the Parties hereby waive any objections to or claims of immunity in respect of such enforcement.</p>
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	<p>21.6.2 In the event that the Contractor wishes to refer a dispute to arbitration in accordance with this Sub-Clause, it shall be required to serve a notice in this regard to the Managing Director, of the Employer for commencement of arbitration.</p> <p>21.6.3 Pending the submission of and/or decision on a dispute and until the arbitral award is published, the Parties shall continue to perform their respective obligations under the contract without prejudice to a final adjustment in accordance with such award.</p> <p>21.6.4 The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, and any decision of the DB, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Engineer from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute. However, Conciliator cannot be present as a witness by either party in the arbitral proceedings.</p> <p>21.6.5 Neither Party shall be limited in the proceedings before the arbitrators to the evidence or arguments previously put before the DB to obtain its decision, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.</p> <p>21.6.6 Neither party shall be limited in the proceedings before such arbitrators to the evidence or arguments put before the Engineer to obtain his decision. No decision given by the Engineer in accordance with the contract shall disqualify him from being called as a witness and giving evidence before the arbitrators on any matter, whatsoever, relevant to dispute referred to arbitration.</p> <p>21.6.7 Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Engineer and the DB shall not be altered by reason of any arbitration being conducted during the progress of the Works.</p>
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Appendix- General Conditions of Dispute Avoidance/Adjudication Agreement

- Title** “General Conditions of Dispute Avoidance/Adjudication Agreement” is replaced with “General Conditions of DAAB Agreement”.
- 1. Definitions**
- Sub-Clause 1.2: In both the first and third lines, “DAA Agreement” is replaced with “DAAB Agreement”.
- Sub-Clause 1.3:
 -In the first line, “Dispute Avoidance/Adjudication Agreement” or “DAA Agreement” means” is replaced with: “DAAB Agreement” is as defined under the Contract and is”.
- In the first line of sub-paragraph (c), “DAA Agreement” is replaced with “DAAB Agreement”.
- In sub-paragraph (c)(ii), “chairman” is replaced with “chairperson”.
- Sub-Clause 1.3 “DAAB Activities” is replaced with Sub-Clause 1.4 “DAAB Activities” and the subsequent Sub-Clauses under Clause 1 “Definitions” renumbered:
- Sub-Clause 1.7 to 12: Replace all instances of “DAA Agreement” with “DAAB Agreement”.
- In Sub-Clause 1.8 a(i):” authorised representative of the contractor or of the Employer” is replaced with: “Contractor’s Representative or authorised representative of the Employer”.
- 3. Warranties**
- Sub-Clause 3.3 is deleted and replaced with the following:
- “When appointing the DAAB Member, each Party relies on the DAAB Member’s representations, that he/she;
- a) has at least a bachelor’s degree in relevant disciplines such as law, engineering, construction management or contract management;
 - b) has at least ten years of experience in contract administration/management and dispute resolution, out

of which at least five years of experience as an arbitrator or adjudicator in construction-related disputes;

- c) has received formal training as an adjudicator from an internationally recognized organization;
- d) has experience and/or is knowledgeable in the type of work which the Contractor is to carry out under the Contract;
- e) has experience in the interpretation of construction and/or engineering contract documents;
- f) has familiarity with the forms of contract published by FIDIC since 1999, and an understanding of the dispute resolution procedures contained therein; and
- g) is fluent in the language for communications stated in the Contract Data (or the language as agreed between the Parties and the DAAB).”

7. Confidentiality

In Sub-Clause 7.3: “or” is deleted after sub-paragraph (b), and the following added:

“or (d) is being provided to the Bank.”

9. Fees and Expenses

In Sub-Clause 9.1 (c): “business class or equivalent” is replaced with: “in less than first class”.

In Sub-Clause 9.4: “and air fares” and “other” are deleted from the first and second sentences respectively.

10. Resignation and Termination

In Sub-Clause 10.3: “the DAA Agreement” is replaced with: “a DAAB member’s DAAB Agreement”.

Annex- DAAB Procedural Rules

Rule 4.2 On the fourth line, “chairman” is replaced with “chairperson”.

Rule 8.3 On the sixth line, “chairman” is replaced with “chairperson”.

Form of Dispute Avoidance/Adjudication Agreement

All instances of “DAA Agreement” are replaced with: “DAAB Agreement”.

In C (b): “chairman” is replaced with “chairperson”.

Particular Conditions of Contract (PCC)

Part C – Prohibited Practices

1. The Bank requires that the Recipient (and all other beneficiaries of the Bank financing), as well as tenderers, suppliers, contractors, concessionaires and consultants under Bank-financed contracts for the Project, observe the highest standard of transparency and integrity during the procurement, execution and implementation of such contracts.
2. Definitions. In pursuance of this policy, the Bank defines the terms set forth below as Prohibited Practices:
 - (a) “**coercive practice**” means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of a party to influence improperly the actions of a party;
 - (b) “**collusive practice**” means an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - (c) “**corrupt practice**” means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - (d) “**fraudulent practice**” means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation.
 - (e) “**misuse of resources**” means improper use of the Bank’s resources, carried out either intentionally or through reckless disregard;
 - (f) “**obstructive practice**” means any of the following practices: (i) deliberately destroying, falsifying, altering or concealing of evidence material to a Bank investigation; (ii) making false statements to investigators in order to materially impede a Bank investigation into allegations of a Prohibited Practice; (iii) failing to comply with requests to provide information, documents or records in connection with a Bank investigation; (iv) threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to a Bank investigation or from pursuing the investigation; or (v) materially impeding the exercise of the Bank’s contractual rights of audit or inspection or access to information; and
 - (g) “**theft**” means the misappropriation of property belonging to another party.
3. Any occurrence, or suspected occurrence, of a Prohibited Practice in the procurement, award, or implementation of a Bank-financed contract is dealt with in accordance with the provisions of the Bank’s Policy on Prohibited Practices. Suppliers, contractors, service providers and consultants selected pursuant to the provisions of Section II and concessionaires selected pursuant to paragraph 14.3 of the Bank’s Procurement Instructions for Recipients, as well as the Recipient shall fully cooperate with the Bank (or a cofinancier undertaking an investigation

pursuant to paragraph 6.1 of the Bank's Procurement Instructions for Recipients) in any investigation into an alleged Prohibited Practice to be carried out pursuant to the Policy on Prohibited Practices, and permit the Bank or its representative (including such co-financier) to inspect such of their accounts and records as may be relevant for such investigation and to have such records and accounts audited by the auditors appointed by the Bank.

4. Provisions to this effect are included in the Legal Agreements and the procurement contracts with such entities.
5. If the Project is financed by a sovereign-backed loan, the Bank (or, where relevant, a co-financier having undertaken an investigation pursuant to paragraph 6.1 of the Bank's Procurement Instructions for Recipients):
 - (a) may take any of the following additional actions in connection with a Prohibited Practice under the Project:
 - (i) reject a proposal for award if it determines that the tenderer recommended for award, or any of its personnel, or its agents, or its sub-consultants, subcontractors, service providers, suppliers or their employees, has, directly or indirectly, engaged in a prohibited practice in competing for the contract in question; and
 - (ii) cancel the undisbursed portion of the loan allocated to a contract (and require reimbursement of the disbursed portion of the loan allocated to the contract) if it determines at any time that representatives of the Recipient or of a recipient of any part of the proceeds of the loan engaged in a prohibited practice during the procurement, administration or implementation of the contract in question; and
 - (b) requires that a clause be included in tender documents and in contracts financed by the Bank loan, requiring tenderers, suppliers and contractors, and their subcontractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank (and a co-financier undertaking an investigation pursuant to paragraph 6.1 of the Bank's Procurement Instructions for Recipients) to inspect all accounts, records, and other documents relating to the submission of tenders and contract performance, and to have them audited by auditors appointed by the Bank.

Section X - Contract Forms

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Notification of Intention to Award

[This Notification of Intention to Award shall be sent to each Tenderer that submitted a Tender.]

[Send this Notification to the Tenderer's Authorized Representative named in the Tenderer Information Form]

For the attention of Tenderer's Authorized Representative

Name: *[insert Authorized Representative's name]*

Address: *[insert Authorized Representative's Address]*

Telephone/Fax numbers: *[insert Authorized Representative's telephone/fax numbers]*

Email Address: *[insert Authorized Representative's email address]*

[IMPORTANT: insert below the date that this Notification is transmitted to Tenderers. The Notification must be sent to all Tenderers simultaneously. This means on the same date and as close to the same time as possible.]

DATE OF TRANSMISSION: This Notification is sent by: *[email/fax]* on *[date]* (local time)

Notification of Intention to Award

Employer: *[insert the name of the Employer]*

Project: *[insert name of project]*

Country: *[insert country where Tender is issued]*

Loan No.: *[insert reference number for loan]*

Tender No.: *[insert Tender reference number from Procurement Plan]*

Contract Title: *[insert the name of the contract]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period you may:

- a) request a debriefing in relation to the evaluation of your Tender, and/or
- b) submit a Procurement-related Complaint in relation to the decision to award the contract.

1. The successful Tenderer

Name:	<i>[insert name of successful Tenderer]</i>
Address:	<i>[insert address of the successful Tenderer]</i>
Contract Price:	<i>[insert contract price of the successful Tender]</i>

- 2. List of all Tenderers** *[INSTRUCTIONS: insert names of all Tenderers that submitted a Tender including the successful Tenderer, together with the corresponding Tender price as read out at tender opening and the evaluated Tender price (when rated criteria are not used).]*

Name of Tenderer	Tender Price	Evaluated Tender Price (if applicable)
[insert name]	[insert Tender price]	[insert evaluated price]
[insert name]	[insert Tender price]	[insert evaluated price]
[insert name]	[insert Tender price]	[insert evaluated price]
[insert name]	[insert Tender price]	[insert evaluated price]
[insert name]	[insert Tender price]	[insert evaluated price]

Or

- List of all Tenderers** *[INSTRUCTIONS: insert names of all Tenderers that submitted a Tender including the successful Tenderer, together with the corresponding Tender price as read out at tender opening and the evaluated Tender price, respective technical and financial scores, combined technical and financial score (when rated criteria are used).]*

Name of Tenderer	Tender Price	Evaluated Tender Price	Technical Score	Financial Score	Combined Score
[insert name]	[insert Tender price]	[insert evaluated price]			
[insert name]	[insert Tender price]	[insert evaluated price]			
[insert name]	[insert Tender price]	[insert evaluated price]			
[insert name]	[insert Tender price]	[insert evaluated price]			
[insert name]	[insert Tender price]	[insert evaluated price]			

3. Reason/s why your Tender was unsuccessful

[INSTRUCTIONS: State the reason/s why this Tenderer's Tender was unsuccessful. Do NOT include: (a) a point by point comparison with another Tenderer's Tender, or (b) information that is marked confidential by the Tenderer in its Tender.]

4. How to request a debriefing

DEADLINE: The deadline to request a debriefing expires at midnight on [insert date] (local time).

You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within three (3) Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:

Attention: [insert full name of person, if applicable]

Title/position: [insert title/position]

Agency: [insert name of Employer]

Email address: [insert email address]

Fax number: [insert fax number] *delete if not used*

If your request for a debriefing is received within the 3 Business Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Business Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of the Contract Award Notice.

5. How to make a complaint

Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [insert date] (local time).

Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:

Attention: [insert full name of person, if applicable]

Title/position: [insert title/position]

Agency: [insert name of Employer]

Email address: *[insert email address]*

Fax number: *[insert fax number] delete if not used*

At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

For more information see the [Procurement Instructions for Recipients](#) (Annex IV, Complaint Monitoring).

6. Standstill Period

DEADLINE: The Standstill Period is due to end at midnight on *[insert date]* (local time).

The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended as stated in Section 4 above.

If you have any questions regarding this Notification, please do not hesitate to contact us.

For and on behalf of the Employer:

Signature: _____

Name: _____

Title/Position: _____

Telephone: _____

Email: _____

Beneficial Ownership Disclosure Form

DELETED

Letter of Acceptance

[letterhead paper of the Employer]

[date]

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

This is to notify you that your Tender dated *[date]* for execution of the “**Br-1** : Fabrication, assembly & launching of 1X76.2 m span Open Web Girder (OWG) each over three lines on NH-352 W (Pataudi Road) between Manesar and Patli stations including supplying & fixing of H-beam sleepers in connection with laying of New BG Double Railway Line of HORC project at Km 54.498” for the Accepted Contract Amount *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Tenderers, is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance with the Conditions of Contract, using, for that purpose, the Performance Security Form, included in Section X, Contract Forms, of the Tender Document.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made the _____ day of _____, _____, between _____ of _____ [insert complete name of Employer and full business address] (hereinafter “the Employer”), of the one part, and _____ of _____ [insert complete name and nationality of Contractor as well as full business address] (hereinafter “the Contractor”), of the other part:

WHEREAS the Employer invited tenders for the execution of the Works, described as “**Br-1:** Fabrication, assembly & launching of 1X76.2 m span Open Web Girder (OWG) each over three lines on NH-352 W (Pataudi Road) between Manesar and Patli stations including supplying & fixing of H-beam sleepers in connection with laying of New BG Double Railway Line of HORC project at Km 54.498” and has accepted a Tender by the Contractor for the execution and completion of these Works and the remedying of any defects therein.

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - (a) the Letter of Acceptance;
 - (b) the Letter of Tender-Financial Part;
 - (c) the Letter of Tender-Technical Part;
 - (d) the record of Meeting on Contract Negotiation, (if any);
 - (e) the addenda Nos _____ (if any);
 - (f) the Particular Conditions of Contract;
 - (g) the General Conditions of Contract;
 - (h) the Specification;
 - (i) the Drawings
 - (j) the Contractor’s Technical Proposal;
 - (k) the Reference Information/ Report, and

- (1) the completed Schedules and any other documents forming part of the contract, including, but not limited to:
 - i. the ESHS Management Strategies and Implementation Plans; and
 - ii. Code of Conduct (ESHS).

3. In consideration of the payments to be made by the Employer to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of _____ *[insert the name of the Contract governing law country]* on the day, month and year specified above.

For and on behalf of the Employer

Signed: *[insert signature]*
in the capacity of *[insert title or other appropriate designation]*
In the presence of *[insert identification of official witness]*

For and on behalf of the Contractor

Signed: *[insert signature of authorized representative(s) of the Contractor]*
in the capacity of *[insert title or other appropriate designation]*
in the presence of *[insert identification of official witness]*

Performance Security

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: Chief Project Manager,
Haryana Rail Infrastructure Development Corporation Limited,
Plot No 143, 5th Floor, Railtel Tower,
Sector-44, Gurugram,
Haryana-122003

Date: _____ *[Insert date of issue]*

PERFORMANCE GUARANTEE No.: _____

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ (hereinafter called "the Applicant") has entered into Contract No. _____ dated _____ with the Beneficiary, for the execution of "Br-1: Fabrication, assembly & launching of 1X76.2 m span Open Web Girder (OWG) each over three lines on NH-352 W (Pataudi Road) between Manesar and Patli stations including supplying & fixing of H-beam sleepers in connection with laying of New BG Double Railway Line of HORC project at Km 54.498 " (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (),¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

¹ The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency(cies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

This guarantee shall expire, no later than the Day of, 2...², and any demand for payment under it must be received by us at this office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

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

² *Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: “The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary’s written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.”*

Advance Payment Security

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: Chief Project Manager,
Haryana Rail Infrastructure Development Corporation Limited,
Plot No 143, 5th Floor, Railtel Tower,
Sector-44, Gurugram,
Haryana-122003

Date: _____ *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: _____ *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ (hereinafter called “the Applicant”) has entered into Contract No. _____ dated _____ with the Beneficiary, for the execution of “Br-1: Fabrication, assembly & launching of 1X76.2 m span Open Web Girder (OWG) each over three lines on NH-352 W (Pataudi Road) between Manesar and Patli stations including supplying & fixing of H-beam sleepers in connection with laying of New BG Double Railway Line of HOCR project at Km 54.498.. ” (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____ () is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ ()¹ upon receipt by us of the Beneficiary’s complying demand supported by the Beneficiary’s statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

¹ *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Employer.*

- (a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
- (b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number _____ at _____..

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the ___ day of ____, 2___,² whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

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

² *Insert the expected expiration date of the Time for Completion. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

Retention Money Security

Demand Guarantee

_____ *[Guarantor letterhead or SWIFT identifier code]*

Beneficiary: Chief Project Manager,
Haryana Rail Infrastructure Development Corporation Limited,
Plot No 143, 5th Floor, Railtel Tower,
Sector-44, Gurugram,
Haryana-122003

Date: _____ *[Insert date of issue]*

RETENTION MONEY GUARANTEE No.: _____ *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. _____ *[insert reference number of the contract]* dated _____ with the Beneficiary, for the execution of "Br-1: Fabrication, assembly & launching of 1X76.2 m span Open Web Girder (OWG) each over three lines on NH-352 W (Pataudi Road) between Manesar and Patli stations including supplying & fixing of H-beam sleepers in connection with laying of New BG Double Railway Line of HARC project at Km 54.498 " (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, payment of *[insert the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security is to be made against a Retention Money guarantee.*

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ *[insert amount in*

*figures)() [amount in words]*¹ upon receipt by us of the Beneficiary’s complying demand supported by the Beneficiary’s statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified therein.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary’s bank stating that the second half of the Retention Money as referred to above has been credited to the Applicant on its account number _____ at _____ *[insert name and address of Applicant’s bank]*.

This guarantee shall expire no later than the Day of, 2...², and any demand for payment under it must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

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

¹ *The Guarantor shall insert an amount representing the amount of the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security and denominated either in the currency(ies) of the second half of the Retention Money as specified in the Contract, or in a freely convertible currency acceptable to the Beneficiary.*

² *Insert the same expiry date as set forth in the performance security, representing the date twenty-eight days after the completion date described in GCC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: “The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary’s written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.”*