

STANDARD BIDDING DOCUMENT

Procurement of Works

- Single-Stage: Two-Envelope Bidding Procedure -

Procurement of Works

BIDDING DOCUMENT for Procurement of

Construction Works for Rural Livelihood Center at Nalagarh

Issued on: 24 January 2022

Invitation for Bids No.: RLC/01/2021-22

NCB No.: PWD/07R3 (2021-22)

Employer: Public Works Department, Govt. of Himachal Pradesh

Country: India

Himachal Pradesh Skill Development Project.

Loan No: 3573 IND

Procurement of Works

Single-Stage: Two-Envelope Bidding Procedure

Bidding Document for Procurement of

Detailed Design and Construction of. Rural livelihood Centre Building at Karpalpur, Nalagarh Distt. Solan under Asian Development Bank assisted HPSPDP. (SH: C/O Main building shall be pre-engineered, Site Development, Site Development i.e. retaining structure, WS & SI, EI, septic tank, rain water harvesting tank & underground water recharging tank/ pit, boundary wall and gate, Air conditioning in selected area as, CCTV, indoor/ outdoor transformer, HT & LT panels, Cabling, DG Set, Solar system, Fire-fighting and yard lighting system, fire alarm system, Land scaping, environment management, safety measures and other miscellaneous item etc. as per scope of work.

Volume 1 (Technical Bid)

Issued on: 24 January 2022

Invitation for Bids No.: RLC/01/2021-22

NCB No PWD/07R3 (2021-22)

Employer: Public Works Department, Government of Himachal Pradesh, represented by Chief Engineer, Shimla Zone, Shimla (HP)

Country: India

Preface

This Bidding Document for the Procurement of Works has been prepared by **Public Works Depart, Government of Himachal Pradesh** and is based on the Standard Bidding Document for the Procurement of Works–Small Contracts (*SBD Works-Small*) issued by the Asian Development Bank dated **December 2015**.

ADB's *SBD Works-Small* has the structure and the provisions of the Master Procurement Document entitled "Bidding Documents for the Procurement of Works–Small Contracts", prepared by multilateral development banks and other public international financial institutions except where ADB-specific considerations have required a change.

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This Section consists of provisions that are specific to each procurement and supplement the information or requirements included in Section 1 - Instructions to Bidders.

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Section 1 - Instructions to Bidders

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Section 1 - Instructions to Bidders

A. General

1. **Scope of Bid**
 - 1.1 In connection with the Invitation for Bids (IFB) indicated in the Bid Data Sheet (BDS), the Employer, as indicated in the BDS, issues this Bidding Document for the procurement of the Works as specified in Section 6 (Employer's Requirements). The name, identification, and number of contracts of this bidding are provided in the BDS.
 - 1.2 Throughout this Bidding Document,
 - (a) the term "in writing" means communicated in written form and delivered against receipt;
 - (b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and
 - (c) "day" means calendar day.
2. **Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called "Borrower") indicated in the BDS has applied for or received financing (hereinafter called "funds") from the Asian Development Bank (hereinafter called "ADB") toward the cost of the project named in the BDS. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this Bidding Document is issued.
 - 2.2 Payments by ADB will be made only at the request of the Borrower and upon approval by ADB in accordance with the terms and conditions of the Financing Agreement between the Borrower and ADB (hereinafter called "Financing Agreement"), and will be subject in all respects to the terms and conditions of that Financing Agreement. No party other than the Borrower shall derive any rights from the Financing Agreement or have any claim to the funds.
3. **Fraud and Corruption**
 - 3.1 ADB's Anticorruption Policy requires Borrowers (including beneficiaries of ADB-financed activity), as well as Bidders, Suppliers, and Contractors under ADB-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, ADB
 - (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;
 - (ii) "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;
 - (iii) "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the

- actions of a party;
- (iv) "collusive practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;
 - (v) "obstructive practice" means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an ADB investigation; (b) making false statements to investigators in order to materially impede an ADB investigation; (c) failing to comply with requests to provide information, documents or records in connection with an Office of Anticorruption and Integrity (OAI) investigation; (d) threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or (e) materially impeding ADB's contractual rights of audit or access to information; and
 - (vi) "integrity violation" is any act which violates ADB's Anticorruption Policy, including (i) to (v) above and the following: abuse, conflict of interest, violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB's Anticorruption Policy, including failure to adhere to the highest ethical standard.
- (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;
 - (c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of ADB financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation;
 - (d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB's Anticorruption Policy and Integrity Principles and Guidelines (both as amended from time to time), including declaring ineligible, either indefinitely or for a stated period of time, to participate¹ in ADB-financed, administered, or supported activities or to benefit from an ADB-financed, administered, or supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations; and

¹ Whether as a Contractor, Nominated Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document). A Nominated Subcontractor is one that either has been: (i) included by the Bidder in its prequalification application or bid because it brings specific and critical experience and know-how that are accounted for in the evaluation of the bidder's prequalification application or the bid; or (ii) appointed by the Employer.

- (e) will have the right to require that a provision be included in bidding documents and in contracts financed by ADB, requiring Bidders, suppliers, and contractors to permit ADB or its representative to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB.

3.2 Furthermore, Bidders shall be aware of the provisions of GCC 28.3 and 73.2 (i).

4. Eligible Bidders

4.1 A Bidder may be a natural person, private entity, or government-owned enterprises subject to ITB 4.5 – or any combination of them with a formal intent to enter into an agreement or under an existing agreement in the form of a Joint Venture. In the case of a Joint Venture:

- (a) all partners shall be jointly and severally liable; and
- (b) the Joint Venture shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the parties of the Joint Venture during the bidding process and, in the event the Joint Venture is awarded the Contract, during contract execution.

4.2 A Bidder, and all parties constituting the Bidder, shall have the nationality of an eligible country, in accordance with Section 5 (Eligible Countries). A Bidder shall be deemed to have the nationality of a country if the Bidder is a citizen or is constituted, or incorporated, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including related services.

4.3 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in this bidding process if any of, including but not limited to, the following apply:

- (a) they have controlling shareholders in common; or
- (b) they receive or have received any direct or indirect subsidy from any of them; or
- (c) they have the same legal representative for purposes of this bid; or
- (d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to material information about or improperly influence the Bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
- (e) a Bidder participates in more than one bid in this bidding process, either individually or as a partner in a joint venture, except for alternative offers permitted under ITB 13 of the Bidding Document. This will result in the disqualification of all Bids in which it is involved. However, subject to any finding of a conflict of interest in terms of 4.3 (a) - (d) above, this does not limit the participation of a Bidder as a Subcontractor in another Bid or of a firm as a Subcontractor in more than one Bid; or

- (f) a Bidder or any affiliated entity participated as a Consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid; or
- (g) a Bidder was affiliated with a firm or entity that has been hired (or is proposed to be hired) by the Employer or Borrower as Engineer for the contract.

- 4.4 A firm shall not be eligible to participate in any procurement activities under an ADB-financed, administered, or supported project while under temporary suspension or debarment by ADB pursuant to its Anticorruption Policy (see ITB 3), whether such debarment was directly imposed by ADB, or enforced by ADB pursuant to the Agreement for Mutual Enforcement of Debarment Decisions. A bid from a temporary suspended or debarred firm will be rejected.
- 4.5 Government-owned enterprises in the Employer's country shall be eligible only if they can establish that they (i) are legally and financially autonomous, (ii) operate under commercial law, and (iii) are not a dependent agency of the Employer.
- 4.6 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 4.7 Firms shall be excluded if by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country or any payments to persons or entities in that country.
- 4.8 In case a prequalification process has been conducted prior to the bidding process, this bidding is open only to prequalified Bidders.

5. Eligible Materials, Equipment and Services

- 5.1 The materials, equipment, and services to be supplied under the Contract shall have their origin in eligible source countries as defined in ITB 4.2 above and all expenditures under the Contract will be limited to such materials, equipment, and services. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment, and services.
- 5.2 For purposes of ITB 5.1 above, "origin" means the place where the materials and equipment are mined, grown, produced, or manufactured, and from which the services are provided. Materials and equipment are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that differs substantially in its basic characteristics or in purpose or utility from its components.

B. Contents of Bidding Document

6. Sections of Bidding Document

- 6.1 The Bidding Document consist of Parts I, II, and III, which include all the sections indicated below, and should be read in conjunction with any addenda issued in accordance with ITB 8.

PART I Bidding Procedures

Section 1 - Instructions to Bidders (ITB)
 Section 2 - Bid Data Sheet (BDS)
 Section 3 - Evaluation and Qualification Criteria (EQC)
 Section 4 - Bidding Forms (BDF)
 Section 5 - Eligible Countries (ELC)

PART II Requirements

Section 6 –Employer’s Requirements (ERQ)

PART III Conditions of Contract and Contract Forms

Section 7 - General Conditions of Contract (GCC)
 Section 8 - Particular Conditions of Contract (PCC)
 Section 9 - Contract Forms (COF)

- 6.2 The Invitation for Bids (IFB) issued by the Employer is not part of the Bidding Document.
- 6.3 The Employer is not responsible for the completeness of the Bidding Document and their Addenda, if they were not obtained directly from the source stated by the Employer in the IFB.
- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Document. Failure to furnish all information or documentation required by the Bidding Document may result in the rejection of the bid.
- 7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting**
- 7.1 A prospective Bidder requiring any clarification on the Bidding Document shall contact the Employer in writing at the Employer’s address indicated in the BDS or raise his inquiries during the pre-bid meeting if provided for in accordance with ITB 7.4. The Employer will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of bids, within a period given in the BDS. The Employer shall forward copies of its response to all Bidders who have acquired the Bidding Document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. Should the Employer deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so following the procedure under ITB 8 and ITB 22.2.
- 7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself, on its own risk and responsibility, all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder’s own expense.
- 7.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the 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 The Bidder's designated representative is invited to attend a pre-bid meeting, if provided for in the BDS. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 7.5 The Bidder is requested to submit any questions in writing, to reach the Employer not later than 1 week before the meeting.
- 7.6 Minutes of the pre-bid 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 transmitted promptly to all Bidders who have acquired the Bidding Document in accordance with ITB 6.3. Any modification to the Bidding Document that may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting.
- 7.7 Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.

8. Amendment of Bidding Document

- 8.1 At any time prior to the deadline for submission of Bids, the Employer may amend the Bidding Document by issuing addenda.
- 8.2 Any addendum issued shall be part of the Bidding Document and shall be communicated in writing to all who have obtained the Bidding Document from the Employer in accordance with ITB 6.3.
- 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer may, at its discretion, extend the deadline for the submission of Bids, pursuant to ITB 22.2.

C. Preparation of Bids

9. Cost of Bidding

- 9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

10. Language of Bid

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

11. Documents Comprising the Bid

- 11.1 The Bid shall comprise two envelopes submitted simultaneously, one called the Technical Bid containing the documents listed in ITB 11.2 and the other the Price Bid containing the documents listed in ITB 11.3, both envelopes enclosed together in an outer single envelope.

11.2 The Technical Bid shall comprise the following:

- (a) Letter of Technical Bid;
- (b) Bid Security or Bid-Securing Declaration, in accordance with ITB 19;
- (c) alternative Bids, at Bidder's option and if permissible, in accordance with ITB 13;
- (d) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;
- (e) documentary evidence in accordance with ITB 17, establishing the Bidder's qualifications to perform the contract;
- (f) Technical Proposal in accordance with ITB 16;
- (g) Any other document required in the BDS.

11.3 The Price Bid shall comprise the following:

- (a) Letter of Price Bid;
- (b) completed Price Schedules, in accordance with ITB 12 and ITB 14, or as stipulated in the BDS;
- (c) alternative price Bids, at Bidder's option and if permissible, in accordance with ITB 13;
- (d) Any other document required in the BDS.

11.4 In addition to the requirements under ITB 11.2, Bids submitted by a Joint Venture shall include a copy of the Joint Venture Agreement entered into by all partners. Alternatively, a Letter of Intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all partners and submitted with the Bid, together with a copy of the proposed agreement.

12. Letters of Bid and Schedules

12.1 The Letters of Technical Bid and Price Bid, and the Schedules, and all documents listed under Clause 11, shall be prepared using the relevant forms furnished in Section 4 (Bidding Forms). The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested and as required in the BDS.

13. Alternative Bids

13.1 Unless otherwise indicated in the BDS, alternative Bids shall not be considered.

13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the BDS, as will the method of evaluating different times for completion.

13.3 When specified in the BDS pursuant to ITB 13.1, and subject to ITB 13.4 below, Bidders wishing to offer technical alternatives to the requirements of the Bidding Document must first price the Employer's design as described in the Bidding Document and shall further provide all information necessary for a complete evaluation of the alternative by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the lowest evaluated Bidder conforming to the basic technical

requirements shall be considered by the Employer.

- 13.4 When specified in the BDS, Bidders are permitted to submit alternative technical solutions for specified parts of the Works. Such parts will be identified in the BDS and described in Section 6 (Employer's Requirements). The method for their evaluation will be stipulated in Section 3 (Evaluation and Qualification Criteria).

14. Bid Prices and Discounts

- 14.1 The prices and discounts quoted by the Bidder in the Letter of Price Bid and in the Schedules shall conform to the requirements specified below.
- 14.2 The Bidder shall submit a bid for the whole of the works described in ITB 1.1 by filling in prices for all items of the Works, as identified in Section 4 (Bidding Forms). In case of admeasurement contracts, the Bidder 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 Bidder will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bill of Quantities.
- 14.3 The price to be quoted in the Letter of Price Bid shall be the total price of the Bid, excluding any discounts offered. Absence of the total bid price in the Letter of Price Bid may result in the rejection of the Bid.
- 14.4 The Bidder shall quote any discounts and the methodology for their application in the Letter of Price Bid, in accordance with ITB 12.1.
- 14.5 Unless otherwise provided in the BDS and the Conditions of Contract, the prices quoted by the Bidder shall be fixed. If the prices quoted by the Bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, the Bidder shall furnish the indexes and weightings for the price adjustment formulas in the Table(s) of Adjustment Data in Section 4 (Bidding Forms) and the Employer may require the Bidder to justify its proposed indexes and weightings.
- 14.6 If so indicated in ITB 1.1, bids are being invited for individual contracts or for any combination of contracts (packages). Bidders wishing to offer any price reduction for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Price reductions or discounts shall be submitted in accordance with ITB 14.4, provided the Bids for all contracts are submitted and opened at the same time.
- 14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of bids, shall be included in the rates and prices and the total Bid Price submitted by the Bidder.

15. Currencies of Bid and Payment

- 15.1 The currency(ies) of the Bid and payment shall be as specified in the BDS.

- 15.2 Bidders 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 prices shown in the appropriate form(s) of Section 4, in which case a detailed breakdown of the foreign currency requirements shall be provided by Bidders.
- 16. Documents Comprising the Technical Proposal**
- 16.1 The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule, and any other information as stipulated in Section 4 (Bidding Forms), in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.
- 17. Documents Establishing the Qualifications of the Bidder**
- 17.1 To establish its qualifications to perform the Contract in accordance with Section 3 (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding information sheets included in Section 4 (Bidding Forms).
- 17.2 Domestic Bidders, individually or in joint ventures, applying for eligibility for domestic preference shall supply all information required to satisfy the criteria for eligibility in accordance with ITB 35.
- 18. Period of Validity of Bids**
- 18.1 Bids shall remain valid for the period specified in the BDS after the bid submission deadline date prescribed by the Employer. A bid valid for a shorter period shall be rejected by the Employer as nonresponsive.
- 18.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Employer may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 19, it shall also be extended 28 days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its Bid.
- 19. Bid Security/Bid-Securing Declaration**
- 19.1 Unless otherwise specified in the BDS, the Bidder shall furnish as part of its Bid, in original form, either a Bid-Securing Declaration or a bid security as specified in the BDS. In the case of a bid security, the amount and currency shall be as specified in the BDS.
- 19.2 If a Bid-Securing Declaration is required pursuant to ITB 19.1, it shall use the form included in Section 4 (Bidding Forms). The Employer will declare a Bidder ineligible to be awarded a Contract for a specified period of time, as indicated in the BDS, if the Bid-Securing Declaration is executed.
- 19.3 If a bid security is specified pursuant to ITB 19.1, the bid security shall be, at the Bidder's option, in any of the following forms:
- (a) an unconditional bank guarantee,
 - (b) an irrevocable letter of credit, or
 - (c) a cashier's or certified check,
- all from a reputable bank from an eligible country as described in Section 5 (Eligible Countries). In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included

in Section 4 (Bidding Forms) or another form acceptable to the Employer. The form must include the complete name of the Bidder. The bid security shall be valid for 28 days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.

- 19.4 Unless otherwise specified in the BDS, any Bid not accompanied by a substantially compliant bid security or Bid-Securing Declaration, if one is required in accordance with ITB 19.1, shall be rejected by the Employer as nonresponsive.
- 19.5 If a bid security is specified pursuant to ITB 19.1, the bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the performance security pursuant to ITB 42.
- 19.6 If a bid security is specified pursuant to ITB 19.1, the bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security.
- 19.7 The bid security may be forfeited or the Bid-Securing Declaration executed
 - (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letters of Technical Bid and Price Bid, except as provided in ITB 18.2; or
 - (b) if the successful Bidder fails to
 - (i) sign the Contract in accordance with ITB 41;
 - (ii) furnish a performance security in accordance with ITB 42;
 - (iii) accept arithmetical corrections in accordance with ITB 33; or
 - (iv) furnish a domestic preference security, if applicable, in accordance with ITB 42.
- 19.8 The bid security or the Bid-Securing Declaration of a Joint Venture shall be in the name of the Joint Venture that submits the Bid. If the Joint Venture has not been legally constituted at the time of bidding, the bid security or the Bid-Securing Declaration shall be in the names of all future partners as named in the letter of intent mentioned in ITB 4.1.

20. Format and Signing of Bid

- 20.1 The Bidder shall prepare one original set of the Technical Bid and one original of the Price Bid comprising the Bid as described in ITB 11 and clearly mark it "ORIGINAL - TECHNICAL BID" and "ORIGINAL - PRICE BID." Alternative Bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE." In addition, the Bidder shall submit copies of the Bid in the number specified in the BDS, and clearly mark each of them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.
- 20.2 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written

confirmation as specified in the BDS and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid, except for unamended printed literature, shall be signed or initialed by the person signing the bid. If a Bidder submits a deficient authorization, the Bid shall not be rejected in the first instance. The Employer shall request the Bidder to submit an acceptable authorization within the number of days as specified in the BDS. Failure to provide an acceptable authorization within the prescribed period of receiving such a request shall cause the rejection of the Bid.

- 20.3 Any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

D. Submission and Opening of Bids

21. Sealing and Marking of Bids

- 21.1 Bidders may always submit their Bids by mail or by hand. When so specified in the BDS, Bidders shall have the option of submitting their Bids electronically. Procedures for submission, sealing, and marking are as follows:
- (a) Bidders submitting Bids by mail or by hand shall enclose the original of the Technical Bid, the original of the Price Bid, and each copy of the Technical Bid and each copy of the Price Bid, in separate sealed envelopes, duly marking the envelopes as "ORIGINAL - TECHNICAL BID," "ORIGINAL - PRICE BID," and "COPY NO... - TECHNICAL BID," and "COPY NO.... - PRICE BID." These envelopes, the first containing the originals and the others containing copies, shall then be enclosed in one single envelope per set. If permitted in accordance with ITB 13, alternative Bids shall be similarly sealed, marked and included in the sets. The rest of the procedure shall be in accordance with ITB 21.2 and ITB 21.3.
 - (b) Bidders submitting Bids electronically shall follow the electronic bid submission procedures specified in the BDS.
- 21.2 The inner and outer envelopes shall
- (a) bear the name and address of the Bidder;
 - (b) be addressed to the Employer as provided in BDS 22.1; and
 - (c) bear the specific identification of this bidding process indicated in the BDS 1.1.
- 21.3 The outer envelopes and the inner envelopes containing the Technical Bid shall bear a warning not to open before the time and date for the opening of Technical Bid, in accordance with ITB 25.1.
- 21.4 The inner envelopes containing the Price Bid shall bear a warning not to open until advised by the Employer in accordance with ITB 25.7.
- 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 Bid.

22. Deadline for Submission of Bids

22.1 Bids must be received by the Employer at the address and no later than the date and time indicated in the BDS.

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

23. Late Bids

23.1 The Employer shall not consider any Bid that arrives after the deadline for submission of bids, in accordance with ITB 22. Any Bid received by the Employer after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.

24. Withdrawal, Substitution, and Modification of Bids

24.1 A Bidder may withdraw, substitute, or modify its Bid – Technical or Price – 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 ITB 20.2, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Bid must accompany the respective written notice. All notices must be

(a) prepared and submitted in accordance with ITB 20 and ITB 21 (except that withdrawal 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 Bids, in accordance with ITB 22.

24.2 Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.

24.3 No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the expiration of the period of bid validity specified by the Bidder on the Letters of Technical Bid and Price Bid or any extension thereof.

25. Bid Opening

25.1 The Employer shall open the Technical Bids in public at the address, on the date, and time specified in the BDS in the presence of Bidders’ designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 21.1, shall be as specified in the BDS. The Price Bids will remain unopened and will be held in custody of the Employer until the specified time of their opening. If the Technical Bid and Price Bid are submitted together in one envelope, the Employer may reject the entire Bid. Alternatively, the Price Bid may be immediately resealed for later evaluation.

25.2 First, envelopes marked “WITHDRAWAL” shall be opened and read out and the envelope with the corresponding Bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening.

- 25.3 Second, outer envelopes marked "SUBSTITUTION" shall be opened. The inner envelopes containing the Substitution Technical Bid and/or Substitution Price Bid shall be exchanged for the corresponding envelopes being substituted, which are to be returned to the Bidder unopened. Only the Substitution Technical Bid, if any, shall be opened, read out, and recorded. Substitution Price Bid will remain unopened in accordance with ITB 25.1. No envelope shall be substituted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out and recorded at bid opening.
- 25.4 Next, outer envelopes marked "MODIFICATION" shall be opened. No Technical Bid and/or Price Bid shall be modified unless the corresponding modification notice contains a valid authorization to request the modification and is read out and recorded at the opening of Technical Bids. Only the Technical Bids, both Original as well as Modification, are to be opened, read out, and recorded at the opening. Price Bids, both Original and Modification, will remain unopened in accordance with ITB 25.1.
- 25.5 All other envelopes holding the Technical Bids shall be opened one at a time, and the following read out and recorded:
- (a) the name of the Bidder;
 - (b) whether there is a modification or substitution;
 - (c) the presence of a bid security or a Bid-Securing Declaration, if required; and
 - (d) any other details as the Employer may consider appropriate.
- Only Technical Bids and alternative Technical Bids read out and recorded at bid opening shall be considered for evaluation. Unless otherwise specified in the BDS, all pages of the Letter of Technical Bid are to be initialed by at least three representatives of the Employer attending the bid opening. No Bid shall be rejected at the opening of Technical Bids except for late bids, in accordance with ITB 23.1.
- 25.6 The Employer shall prepare a record of the opening of Technical Bids that shall include, as a minimum, the name of the Bidder and whether there is a withdrawal, substitution, or modification; alternative proposals; and the presence or absence of a bid security or a Bid-Securing Declaration, if one was required. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder'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 Bidders who submitted Bids on time, and posted online when electronic bidding is permitted.
- 25.7 At the end of the evaluation of the Technical Bids, the Employer will invite bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified for award to attend the opening of the Price Bids. The date, time, and location of the opening of Price Bids will be advised in writing by the Employer. Bidders shall be given reasonable notice for the opening of Price Bids.

25.8 The Employer will notify Bidders in writing who have been rejected on the grounds of their Technical Bids being substantially nonresponsive to the requirements of the Bidding Document and return their Price Bids unopened.

25.9 The Employer shall conduct the opening of Price Bids of all Bidders who submitted substantially responsive Technical Bids, in the presence of Bidders' representatives who choose to attend at the address, on the date, and time specified by the Employer. The Bidder's representatives who are present shall be requested to sign a register evidencing their attendance.

25.10 All envelopes containing Price Bids shall be opened one at a time and the following read out and recorded:

- (a) the name of the Bidder;
- (b) whether there is a modification or substitution;
- (c) the Bid Prices, including any discounts and alternative offers; and
- (d) any other details as the Employer may consider appropriate.

Only Price Bids, discounts, and alternative offers read out and recorded during the opening of Price Bids shall be considered for evaluation. Unless otherwise specified in the BDS, all pages of the Letter of Price Bid and Schedules are to be initialed by at least three representatives of the Employer attending the bid opening. No Bid shall be rejected at the opening of Price Bids.

25.11 The Employer shall prepare a record of the opening of Price Bids that shall include, as a minimum, the name of the Bidder, the Bid Price (per lot if applicable), any discounts, and alternative offers. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder'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 Bidders who submitted Bids on time, and posted online when electronic bidding is permitted.

E. Evaluation and Comparison of Bids

26. Confidentiality

26.1 Information relating to the examination, evaluation, comparison, and postqualification of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on Contract award is communicated to all Bidders.

26.2 Any attempt by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid.

26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact the Employer on any matter related to the bidding process, it may do so in writing.

27. Clarification of Bids

27.1 To assist in the examination, evaluation, and comparison of the Technical and Price Bids, the Employer may, at its discretion, ask any

Bidder for a clarification of its Bid. Any clarification submitted by a Bidder 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 in the substance of the Technical Bid or prices in the Price Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Price Bids, in accordance with ITB 33.

27.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Employer's request for clarification, its Bid may be rejected.

28. Deviations, Reservations, and Omissions

28.1 During the evaluation of bids, the following definitions apply:

- (a) "Deviation" is a departure from the requirements specified in the Bidding Document;
- (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and
- (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.

29. Examination of Technical Bids

29.1 The Employer shall examine the Technical Bid to confirm that all documents and technical documentation requested in ITB 11.2 have been provided, and to determine the completeness of each document submitted.

29.2 The Employer shall confirm that the following documents and information have been provided in the Technical Bid. If any of these documents or information is missing, the offer shall be rejected.

- (a) Letter of Technical Bid;
- (b) written confirmation of authorization to commit the Bidder;
- (c) Bid Security or Bid-Securing Declaration, if applicable; and
- (d) Technical Proposal in accordance with ITB 16.

30. Responsiveness of Technical Bid

30.1 The Employer's determination of a Bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11.

30.2 A substantially responsive Technical Bid is one that meets the requirements of the Bidding 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 Bidding Document, the Employer's rights or the Bidder's obligations under the proposed Contract; or
- (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.

- 30.3 The Employer shall examine the technical aspects of the Bid submitted in accordance with ITB 16, Technical Proposal, in particular, to confirm that all requirements of Section 6 (Employer's Requirements) have been met without any material deviation, reservation, or omission.
- 30.4 If a Bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
- 31. Nonmaterial Nonconformities**
- 31.1 Provided that a Bid is substantially responsive, the Employer may waive any nonconformities in the Bid that do not constitute a material deviation, reservation, or omission.
- 31.2 Provided that a Technical Bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Technical Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the Price Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
- 31.3 Provided that a Technical Bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component. The adjustment shall be made using the method indicated in Section 3 (Evaluation and Qualification Criteria).
- 32. Qualification of the Bidder**
- 32.1 The Employer shall determine to its satisfaction during the evaluation of Technical Bids whether Bidders meet the qualifying criteria specified in Section 3 (Evaluation and Qualification Criteria).
- 32.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17.1.
- 32.3 An affirmative determination shall be a prerequisite for the opening and evaluation of a Bidder's Price Bid. A negative determination shall result into the disqualification of the Bid, in which event the Employer shall return the unopened Price Bid to the Bidder.
- 33. Correction of Arithmetical Errors**
- 33.1 During the evaluation of Price Bids, the Employer shall correct arithmetical errors on the following basis:
- (a) Only for unit price contracts, 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.

(c) If there is a discrepancy between the bid price in the Summary of Bill of Quantities and the bid amount in item (c) of the Letter of Price Bid, the bid price in the Summary of Bill of Quantities will prevail and the bid amount in item (c) of the Letter of Price Bid will be corrected.

(d) 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), (b) and (c) above.

33.2 If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its Bid shall be disqualified and its bid security may be forfeited or its Bid-Securing Declaration executed.

34. Conversion to Single Currency

34.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted into a single currency as specified in the BDS.

35. Margin of Preference

35.1 Unless otherwise specified in the BDS, a margin of preference shall not apply.

36. Evaluation of Price Bids

36.1 The Employer shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.

36.2 To evaluate the Price Bid, the Employer shall consider the following:

- (a) the bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities for admeasurement contracts, or Schedule of Prices for lump sum contracts, but including Daywork items, where priced competitively;
- (b) price adjustment for correction of arithmetic errors in accordance with ITB 33.1;
- (c) price adjustment due to discounts offered in accordance with ITB 14.4;
- (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 34;
- (e) adjustment for nonconformities in accordance with ITB 31.3; and
- (f) application of all the evaluation factors indicated in Section 3 (Evaluation and Qualification Criteria).

36.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.

36.4 If this Bidding Document allows Bidders to quote separate prices for different contracts, and to award multiple contracts to a single Bidder, the methodology to determine the lowest evaluated price of the contract combinations, including any discounts offered in the Letter of Price Bid, is specified in Section 3 (Evaluation and Qualification Criteria).

36.5 If the Bid for an admeasurement contract, which results in the lowest Evaluated Bid Price, is seriously unbalanced, front loaded or substantially below updated estimates in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated Contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

37. Comparison of Bids

37.1 The Employer shall compare all substantially responsive Bids to determine the lowest evaluated Bid, in accordance with ITB 36.2.

38. Employer's Right to Accept Any Bid, and to Reject Any or All Bids

38.1 The Employer reserves the right to accept or reject any Bid, and to annul the bidding process and reject all Bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

F. Award of Contract

39. Award Criteria

39.1 The Employer shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated Bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

40. Notification of Award

40.1 Prior to the expiration of the period of bid validity, the Employer shall notify the successful Bidder, in writing, that its Bid has been accepted.

40.2 At the same time, the Employer shall also notify all other Bidders of the results of the bidding. The Employer will publish in an English language newspaper or well-known freely accessible website the results identifying the bid and lot numbers and the following information: (i) name of each Bidder who submitted a Bid; (ii) bid prices as read out at bid opening; (iii) name and evaluated prices of each Bid that was evaluated; (iv) name of bidders whose bids were rejected and the reasons for their rejection; and (v) name of the winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. After publication of the award, unsuccessful Bidders may request in writing to the Employer for a debriefing seeking explanations on the grounds on which their Bids were not selected. The Employer shall promptly respond in writing to any unsuccessful Bidder who, after publication of contract award, requests a debriefing.

40.3 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.

41. Signing of Contract

41.1 Promptly after notification, the Employer shall send the successful Bidder the Contract Agreement.

41.2 Within 28 days of receipt of the Contract Agreement, the successful

Bidder shall sign, date, and return it to the Employer.

42. Performance Security

- 42.1 Within 28 days of the receipt of notification of award from the Employer, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, subject to ITB 36.5, using for that purpose the Performance Security Form included in Section 9 (Contract Forms), or another form acceptable to the Employer.
- 42.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security or execution of the Bid-Securing Declaration. In that event the Employer may award the Contract to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the Employer to be qualified to perform the Contract satisfactorily.
- 42.3 The above provision shall also apply to the furnishing of a domestic preference security, if so required.

Section 2 - Bid Data Sheet

A. General

ITB 1.1	The number of the Invitation for Bids (IFB) is : RLC/01/2021-22
ITB 1.1	The Employer is: Public Works Department, Government of Himachal Pradesh, represented by Chief Engineer, Shimla Zone.
ITB 1.1	<p>The name of the bidding process is: Detailed Design and Construction of. Rural livelihood Centre Building at Karpalpur, Nalagarh Distt. Solan under Asian Development Bank assisted HPSPD. (SH: C/O Main building shall be pre-engineered, Site Development, Site Development i.e. retaining structure, WS & SI, EI, septic tank, rain water harvesting tank & underground water recharging tank/ pit, boundary wall and gate, Air conditioning in selected area as, CCTV, indoor/ outdoor transformer, HT & LT panels, Cabling, DG Set, Solar system, Fire-fighting and yard lighting system, fire alarm system, Land scaping, environment management, safety measures and other miscellaneous item etc. as per scope of work.</p> <p>The identification number of the bidding process is: PWD/07R3 (2021-22)</p> <p>The number and identification of lots comprising this bidding process is: One</p>
ITB 2.1	The Borrower is: India
ITB 2.1	<p>The name of the Project is: Himachal Pradesh Skill Development Project.</p> <p>Loan No: 3573 IND</p>

B. Contents of Bidding Documents

ITB 7.1	<p>For <u>clarification purposes</u> only, the Employer's address is:</p> <p>Attention – Er. Ajay Kumar Sharma, E.E Nalagarh Himachal Pradesh Public Works Department (HPPWD) District Solan – 174101 Himachal Pradesh India Telephone/Fax: 01795– 222199 E-mail address: ee-nal-hp@nic.in</p> <p>Requests for clarification should be received by the Employer no later than: 15 days prior to the deadline for submission of bids.</p> <p>Notwithstanding the provisions of ITB 7.1, the Employer shall only upload the Clarifications on the bidding document on the freely accessible domain of web portal www.hppwd.gov.in instead of forwarding the copies to the bidders. Bidders are requested to keep themselves updated by regular checking.</p>
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ITB 7.4	<p>A Pre-Bid meeting <u>shall</u> take place.</p> <p>Date: 07 February 2022</p> <p>Time: 11:00 hrs (IST)</p> <p>Place: Office of Executive Engineer</p> <p>E.E Nalagarh</p> <p>Himachal Pradesh Public Works Department (HPPWD)</p> <p>District Solan – 174101</p> <p>Himachal Pradesh, India</p> <p>A site visit will be facilitated by the Employer on the same day.</p>
ITB 8.2	<p>Notwithstanding the provisions of ITB 8.2, the Employer will promptly upload the addendum on the bidding document on the freely accessible domain of web portal www.hppwd.gov.in instead of communication in writing to the bidders; Bidders are requested to keep themselves updated by regular checking.</p>

C. Preparation of Bids

ITB 10.1	The language of the Bid is: English
ITB 11.2 (g)	<p>The Bidder shall submit with its Technical Bid the following additional documents:</p> <ol style="list-style-type: none"> 1. The bidder or each member of Joint Venture/ Intended Joint Venture as the case may be, shall submit their PAN No. (Permanent Account Number) issued by the Department of Income Tax, Government of India with the photocopy of the PAN card; <p>Should the bidder or each/any member of Joint Venture/ Intended Joint Venture has not been issued with such PAN No., the same shall be submitted before signing the Contract;</p> <ol style="list-style-type: none"> 2. If the bid or the Joint Venture Agreement/ Intent to enter into Joint Venture as the case may be, is signed by a person who is retired or relieved from the Government organization as a Gazetted or Non-Gazetted Officer within a period of two years preceding the deadline for the Bid submission, the bidder shall also submit a permission obtained from the organization last served by such person, allowing the person to do so.
ITB 11.3 (d)	The Bidder shall submit with its Price Bid the following additional documents: <i>NIL</i>
ITB 12.1	The unit rates and figures entered into the Activity Schedule should be typewritten or if written by hand, must be in print form. Activity Schedule not presented accordingly may be considered nonresponsive.
ITB 13.1	Alternative bids <u>shall not be</u> permitted.
ITB 13.2	Alternative times for completion <u>shall not be</u> permitted.
ITB 13.4	Alternative technical solutions shall be permitted for the following parts of the Works: <u>Not applicable</u>

ITB 14.5	The prices quoted by the Bidder <u>shall be</u> subject to adjustment during the performance of the Contract.
ITB 15.1	The prices shall be quoted by the bidder and shall be paid in: <u>Indian National Rupee (INR)</u>
ITB 18.1	The bid validity period shall be <u>120</u> days.
ITB 19.1	The Bidder shall furnish a bid security in the amount of <u>Indian Rupees 19,65,000</u> only.
ITB 19.2	Not Applicable.
ITB 19.4	Provision in ITB 19.4 shall prevail.
ITB 20.1	In addition to the original Bid, the number of copies is: <u>One</u>
ITB 20.2	<p>The written confirmation of authorization to sign on behalf of the Bidder shall consist of:</p> <p>A Power of Attorney (in original or duly notarized) stating the name, position held and signature of each person giving the authority, and the name, position and signature of the person authorized to sign the bid or Joint Venture Agreement/ Intent to Joint Venture as the case may be; or</p> <p>A Board resolution (original or duly notarized) in favour of the duly authorized representative of the bidder (or the member of the Joint Venture/ Intended Joint Venture) allowing him to sign the bid or Joint Venture Agreement/ Intent to Joint Venture as the case may be.</p>
ITB 20.2	The bidder shall submit and acceptable authorization within <u>14 days</u> .

D. Submission and Opening of Bids

ITB 21.1	Bidders <u>do not</u> have the option of submitting their Bids electronically.
ITB 21.1 (b)	If bidders shall have the option of submitting their Bids electronically, the electronic bidding submission procedures shall be: <u>Not Applicable</u> .
ITB 22.1	<p>For bid submission purposes only, the Employer's address is:</p> <p>Place: Office of Executive Engineer Attention – Er. Ajay Kumar Sharma, E.E Nalagarh Himachal Pradesh Public Works Department (HPPWD) District Solan – 174101 Himachal Pradesh India Telephone/Fax: 01795– 222199 E-mail address: ee-nal-hp@nic.in</p>

	<p>The deadline for bid submission is:</p> <p>Date: 23 February 2022</p> <p>Time: 11:00 hrs (IST)</p>
ITB 25.1	<p>The opening of the Technical Bid shall take place at:</p> <p>Place: Office of the Executive Engineer (Nalagarh)</p> <p>Himachal Pradesh Public Works Department (HPPWD)</p> <p>District-Solan</p> <p>Himachal Pradesh- 174101</p> <p>India</p> <p>Date: 23 February 2022</p> <p>Time: 11:30 hrs (IST)</p>
ITB 25.1	If electronic bid submission is permitted in accordance with ITB 21.1, the specific bid opening procedures shall be: <u>Not Applicable</u>
ITB 25.5	The Letter of Technical Bid shall be initialed by <u>three (3)</u> representatives of the Employer attending the Bid opening.
ITB 25.10	The Letter of Price Bid and Schedules shall be initialed by <u>three (3)</u> representatives of the Employer attending the Bid opening.
ITB 29.2	<p>Insert the following items after (d):</p> <p>(e) Affidavit of true and correct information in original on a non-judicial stamp paper of INR 10/- and attested by Magistrate/ Sub-Judge/ Notary Public.</p>

E. Evaluation and Comparison of Bids

ITB 34.1	Not applicable.
ITB 35.1	A margin of preference <u>shall not</u> apply.

Section 3 - Evaluation and Qualification Criteria

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1. Evaluation

In addition to the criteria listed in ITB 36.2 (a) – (e), other relevant factors are as follows:

1.1 Adequacy of Technical Proposal

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section 6 (Employer's Requirements).

Non-compliance with equipment and personnel requirements described in Section 6 (Employer's Requirements) shall not normally be a ground for bid rejection, and such noncompliance will be subject to clarification during bid evaluation and rectification prior to contract award.

1.2 Completion Time

An alternative Completion Time, if permitted under ITB 13.2, will be evaluated as follows: *An alternative Completion Time shall not be permitted.*

1.3 Technical Alternatives

Technical alternatives, if permitted under ITB 13.4, will be evaluated as follows: *Technical alternatives shall not be permitted.*

1.4 Quantifiable Nonconformities and Omissions

Subject to ITB 14.2 and ITB 36.2, the evaluated cost of quantifiable nonconformities including omissions, is determined as follows:

Pursuant to ITB 31.3, the cost of all quantifiable nonmaterial nonconformities shall be evaluated, but excluding omission of prices in the Bill of Quantities. The Employer will make its own assessment of the cost of any nonmaterial nonconformities and omissions for the purpose of ensuring fair comparison of bids.

1.5 Margin of Preference

If a margin of preference shall apply under ITB 35.1, the procedure will be as follows as: *a margin of preference shall not be allowed.*

1.6 Multiple Contracts

If the Works are grouped in multiple contracts and pursuant to ITB 36.4, the Employer shall evaluate and compare Bids on the basis of a contract, or a combination of contracts, or as a total of contracts in order to arrive at the least-cost combination for the Employer by taking into account discounts offered by Bidders in case of award of multiple contracts: *Not Applicable.*

2. Qualification

It is the legal entity or entities comprising the Bidder, and not the Bidder's parent companies, subsidiaries, or affiliates, that must satisfy the qualification criteria described below.

2.1 Eligibility

Criteria	Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture		Submission Requirements
		All Partners Combined	Each Partner	

2.1.1 Nationality

Nationality in accordance with ITB Subclause 4.2.	must meet requirement	must meet requirement	must meet requirement	not applicable	Forms ELI –1; ELI –2 with attachments
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2.1.2 Conflict of Interest

No conflicts of interest in accordance with ITB Subclause 4.3.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
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2.1.3 ADB Eligibility

Not having been declared ineligible by ADB, as described in ITB Subclause 4.4.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
--	-----------------------	-----------------------	-----------------------	----------------	-------------------------

2.1.4 Government-Owned Enterprise

Bidder required to meet conditions of ITB Subclause 4.5.	must meet requirement	must meet requirement	must meet requirement	not applicable	Forms ELI -1, ELI - 2 with attachments
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2.1.5 United Nations Eligibility

Not having been excluded by an act of compliance with a UN Security Council resolution in accordance with ITB Subclause 4.7.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
--	-----------------------	-----------------------	-----------------------	----------------	-------------------------

2.2 Pending Litigation

Pending litigation and arbitration criterion shall not apply.

2.3 Financial Situation

2.3.1 Historical Financial Performance

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Submission of audited financial statements or, if not required by the law of the Bidder's country, other financial statements acceptable to the Employer, for the last three (3) years to demonstrate the current soundness of the Bidder's financial position. As a minimum, the Bidder's net worth for the last year, calculated as the difference between total assets and total liabilities should be positive.	must meet requirement	not applicable	must meet requirement	not applicable	Form FIN - 1 with attachments

2.3.2 Average Annual Construction Turnover

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Minimum average annual construction turnover of INR 157 million , calculated as total certified (by Chartered Accountant) payments received for contracts in progress or completed, within the last five (5) years.	must meet requirement	must meet requirement	must meet 25% of the requirement	must meet 40% of the requirement	Form FIN - 2

2.3.3 Financial Resources

If the bid evaluation process and the decision for the award of the Contract takes more than one (1) year from the date of bid submission, Bidders shall be asked to resubmit their current contract commitments and latest information on financial resources supported by latest audited accounts/audited financial statements, or if not required by the law of the Bidder's country, other financial statements acceptable to the Employer, and the Bidders' financial capacity shall be reassessed on this basis.

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
The Bidder must demonstrate that it has the financial resources to meet					
(a) its current contract commitments, as defined in FIN-4 (Total Financial Requirements for Current Contract Commitments), plus	must meet requirement	not applicable	must meet requirement for its own contractual commitments	not applicable	Form FIN - 4
(b) the requirements for the Subject Contract of INR 10 Million	must meet requirement	must meet requirement	must meet 25%	must meet 40%	Form FIN – 3 and Form FIN - 4

2.4 Construction Experience

2.4.1 Contracts of Similar Size and Nature

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Participation in at least one contract that has been successfully or substantially completed within the last five years and include pre-engineered material, Design and Construction of building work similar to the proposed works, where the value of the Bidder's participation exceeds INR 49 million . The similarity of the Bidder's participation shall be based on the physical size, nature of works, complexity, methods, technology or other characteristics as described in Section 6 (Employer's Requirements).	must meet requirement	not applicable	not applicable	must meet requirement	Form EXP -1

2.4.2 Construction Experience in Key Activities

(May be complied with by Specialist Subcontractors. Employer shall require evidence of subcontracting agreement from the Bidder. Specialist Subcontractor is a specialist enterprise engaged for highly specialized processes which cannot be provided by the main Contractor.)

Table A – Design Experience

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
For the above or other contracts executed during the period stipulated in 2.4.1 above, a minimum construction experience in the following key activities:	must meet requirements	must meet requirements	not applicable	not applicable	Form EXP-2 A
Participation as contractor in at least 1 contract within in the last five years, that has	must meet requirements	must meet requirements			

been successfully or are substantially completed, and that include Detailed Design and Construction of Building Works, where the value of the Bidder's participation exceeds INR 32.0 million. The contractor should have design experience for designing of a building a similar nature of atleast 600 Sq. Mtr.					
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Table B – Construction Experience

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
For the above or other contracts executed during the period stipulated in 2.4.1 above, a minimum construction experience in the following key activities:	must meet requirements	must meet requirements	not applicable	not applicable	Form EXP-2
Participation as contractor in at least 1 contract within in the last five years, that has been successfully or are substantially completed, and that include pre-engineered material, where the value of the Bidder's participation exceeds INR 15 million.	must meet requirements	must meet requirements			

Section 4 - Bidding Forms

Volume 1 (Technical Bid)

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Letter of Technical Bid

-Note-

The bidder must accomplish the Letter of Technical Bid on its letterhead clearly showing the bidder's complete name and address.

Date:

ICB/NCB No.:

Invitation for Bid No.:

To:.....

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) 8.
- (b) We offer to execute in conformity with the Bidding Documents the following Works: _____

- (c) Our Bid consisting of the Technical Bid and the Price Bid shall be valid for a period of days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (d) Our firm, including any Subcontractors or Suppliers for any part of the Contract, have nationalities from eligible countries in accordance with ITB 4.2.
- (e) We, including any Subcontractors or Suppliers for any part of the contract, do not have any conflict of interest in accordance with ITB 4.3.
- (f) We are not participating, as a Bidder in more than one Bid in this bidding process in accordance with ITB 4.3(e), other than alternative offers submitted in accordance with ITB 13.
- (g) Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible by ADB, under the Employer's country laws or official regulations or by an act of compliance with a decision of the United Nations Security Council.

- (h) [We are not a government-owned enterprise] / [We are a government-owned enterprise but meet the requirements of ITB4.5].¹
- (i) We agree to permit ADB or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by ADB.
- (j) If our Bid is accepted, we commit to mobilizing key equipment and personnel in accordance with the requirements set forth in Section 6 (Employer's Requirements) and our technical proposal, or as otherwise agreed with the Employer.

Name

In the capacity of

Signed

Duly authorized to sign the Bid for and on behalf of

Date.....

¹ Use one of the two options as appropriate.

Affidavit of true and correct information

To be submitted in original

(NOTE: This affidavit should be on a non-judicial stamp paper of INR 10/- and shall be attested by Magistrate/ Sub-Judge/ Notary Public)

I, (name of the authorised representative of the bidder) son/daughter of resident of (full address), aforesaid solemnly affirm and state as under:

1. I hereby certify that all the information furnished with the bid submitted in response to notice inviting bid number date issued by (authority inviting bids) for (name and identification of work) are true and correct.

2. *I hereby certify that I have been authorised by (the bidder) to sign on their behalf, the bid mentioned in paragraph 1 above.

Deponent

Place:

Date:

** not applicable if the bidder is an individual and is signing the bid on his own behalf.*

Bid Security

Bank Guarantee

Bank's name, and address of issuing branch or office¹

Beneficiary: *Name and address of employer*

Date:

Bid Security No.:

We have been informed that *name of the bidder* (hereinafter called "the Bidder") has submitted to you its bid dated (hereinafter called "the Bid") for the execution of *name of contract* under Invitation for Bids No. ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we *name of bank* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *amount in figures* (..... *amount in words*) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Letter of Technical Bid and Letter of Price Bid; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB"); or
- (c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Agreement, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB, or (iii) fails or refuses to furnish the domestic preference security, if required.

This guarantee will expire (a) if the Bidder is the successful Bidder, upon our receipt of copies of the Contract Agreement signed by the Bidder and the Performance Security issued to you upon the instruction of the Bidder; and (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy your notification to the Bidder of the name of the successful Bidder, or (ii) 28 days after the expiration of the Bidder's bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.

..... *Bank's seal and authorized signature(s)*

-- Note --

In case of a joint venture, the bid security must be in the name of all partners to the joint venture that submits the bid.

¹ All italicized text is for use in preparing this form and shall be deleted from the final document.

Technical Proposal

Personnel

Form PER – 1: Proposed Personnel

Bidder should provide the details of the proposed personnel and their experience record in the relevant Information Forms below for each candidate:

1.	Title of position*
	Name
2.	Title of position*
	Name
3.	Title of position*
	Name
4.	Title of position*
	Name
etc.	Title of position*
	Name

-- Note --

* As listed in Section 6 (Employer's Requirements).

Form PER – 2: Resume of Proposed Personnel

The Bidder shall provide all the information requested below. Use one form for each position.

Position		
Personnel information	Name	Date of birth
	Professional qualifications	
Present employment	Name of employer	
	Address of employer	
	Telephone	Contact (manager / personnel officer)
	Fax	E-mail
	Job title	Years with present employer

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

From	To	Company / Project / Position / Relevant Technical and Management Experience

Equipment

Form EQU: Equipment

The Bidder shall provide adequate information and details to demonstrate clearly that it has the capability to meet the equipment requirements indicated in Section 6 (Employer's Requirements), using the Forms below. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Item of Equipment		
Equipment Information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current Status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

Omit the following information for equipment owned by the Bidder.

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

Site Organization

Method Statement

Each bidder should also submit samples of the materials (along with their test results) to be used for the work along with the methodology proposed in their technical proposal. All the material to be used on work shall be in conformity with the specifications referred to in the contract failing which the technical bid of the bidder will be cancelled/rejected and made technically non-responsive. Further, the bidder shall not be eligible for any claim or compensation on this account.

Mobilization Schedule

Construction Schedule

Construction Schedule should be in form of MS project with resource loaded and cash flow projection.

COVID-19 specific Site Health and Safety Management Plan

Bidders Qualification

To establish its qualifications to perform the contract in accordance with Section 3 (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.

Form ELI - 1: Bidder's Information Sheet

Bidder's Information	
Bidder's legal name	
In case of Joint Venture, legal name of each partner	
Bidder's country of constitution	
Bidder's year of constitution	
Bidder's legal address in country of constitution	
Bidder's authorized representative (name, address, telephone numbers, fax numbers, e-mail address)	
<p>Attached are copies of the following documents.</p> <p><input type="checkbox"/> 1. In case of single entity, articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and ITB 4.2.</p> <p><input type="checkbox"/> 2. Authorization to represent the firm or Joint Venture named above, in accordance with ITB 20.2.</p> <p><input type="checkbox"/> 3. In case of Joint Venture, letter of intent to form Joint Venture or Joint Venture agreement, in accordance with ITB 4.1.</p> <p><input type="checkbox"/> 4. In case of a government-owned enterprise, any additional documents not covered under 1 above required to comply with ITB 4.5.</p>	

Form ELI - 2: Joint Venture Information Sheet

Each member of the Joint Venture and Specialist Subcontractor must fill out this form separately.

Joint Venture / Specialist Subcontractor Information	
Bidder's legal name	
Joint Venture Partner's or Specialist Subcontractor's legal name	
Joint Venture Partner's or Specialist Subcontractor's country of constitution	
Joint Venture Partner's or Specialist Subcontractor's year of constitution	
Joint Venture Partner's or Specialist Subcontractor's legal address in country of constitution	
Joint Venture Partner's or Specialist Subcontractor's authorized representative information (name, address, telephone numbers, fax numbers, e-mail address)	
Attached are copies of the following documents. <input type="checkbox"/> 1. Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and ITB 4.2. <input type="checkbox"/> 2. Authorization to represent the firm named above, in accordance with ITB 20.2. <input type="checkbox"/> 3. In the case of government-owned enterprise, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB 4.5.	

Specialist Subcontractor is a specialist enterprise engaged for highly specialized processes that cannot be provided by the main Contractor.

Form FIN - 1: Historical Financial Performance

Each Bidder must fill out this form.

In case of joint ventures, each Joint Venture Partner must fill out this form separately, and provide the Joint Venture Partner name below:

Joint Venture Partner: _____

Financial Data for Previous <u>three (3)</u> Years [INR]		
Year 1:	Year 2:	Year ____:

Information from Balance Sheet

Total Assets (TA)			
Total Liabilities (TL)			
NetWorth = TA – TL			
Current Assets (CA)			
Current Liabilities (CL)			
Working Capital = CA - CL			

Most Recent Working Capital		To be obtained for most recent year and carried forward to FIN-3 Line 1; in case of Joint Ventures, to the corresponding Joint Venture Partner's FIN-3.
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Information from Income Statement

Total Revenues			
Profits Before Taxes			
Profits After Taxes			

- ☐ Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the last three (3) years, as indicated above, complying with the following conditions.
- Unless otherwise required by Section 3 of the Bidding Document, all such documents reflect the financial situation of legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries, or affiliates.
 - Historical financial statements must be audited by a certified accountant.
 - Historical financial statements must be complete, including all notes to the financial statements.
 - Historical financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Form FIN - 2: Average Annual Construction Turnover

Each Bidder must fill out this form.

The information supplied should be the Annual Construction Turnover of the Bidder or each member of a Joint Venture in terms of the amounts billed to clients for each year for work in progress or completed, converted to INR at the specified exchange rate.

In case of joint ventures, each Joint Venture Partner must fill out this form separately, and provide the Joint Venture Partner name below:

Joint Venture Partner: _____

Annual Turnover Data for the Last <u>three (3)</u> Years (Construction only)			
Year	Amount Currency	Exchange Rate	INR Equivalent
Average Annual Construction Turnover			

Form FIN – 3: Availability of Financial Resources

Bidder must demonstrate sufficient financial resources, usually comprising of Working Capital supplemented by unutilized cash credit statements or overdraft facilities and others to meet the Bidder's financial requirements for

- (a) its current contract commitments, and
- (b) the subject contract.

In case of joint ventures, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner name below:

Joint Venture Partner: _____

Financial Resources		
No.	Source of financing	Amount (INR)
1	Working Capital (to be taken from FIN-1)	
2	Unutilized Cash Credit/ Over draft facility ^a	
3	Other Financial Resources	
	Total Available Financial Resources	

^a To be substantiated by a letter from the bank issuing the Cash Credit or Over draft facility.

Form FIN- 4: Financial Resources Requirement

Bidders (or each Joint Venture partner) 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.

In case of joint ventures, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner name below:

Joint Venture Partner: _____

Current Contract Commitments						
No.	Name of Contract	Employer's Contact (Address, Tel, Fax)	Contract Completion Date	Outstanding Contract Value (X)	Remaining Contract Period in months (Y)	Monthly Financial Resources Requirement (X / Y)
1						
2						
3						
4						
Total Monthly Financial Requirements for Current Contract Commitments						INR

Form FIN - 5: Compliance Check of Financial Resources (Criterion 2.3.3 of Section 3)**Form FIN-5A: For Single Entities**

For Single Entities:	Total Available Financial Resources from FIN-3 (C)	Total Monthly Financial Requirement for Current Contract Commitments (CCC) from FIN-4 (D)	Available Financial Resources net of CCC (C-D)	≥	Requirement
_____	_____	_____	_____	≥	100% of Requirement from Section 3 - 2.3.3(b)
(Name of Bidder)					

Form FIN-5B: For Joint Ventures

For Joint Ventures:	Total Available Financial Resources from FIN-3 (C)	Total Monthly Financial Requirement for Current Contract Commitments (CCC) from FIN-4 (D)	Available Financial Resources net of CCC (C-D)	≥	Requirement
One Partner:					
_____	_____	_____		≥	B(%) of Requirement
(Name of Partner)					
Each (Other) Partner:					
_____	_____	_____		≥	A(%) of Requirement
(Name of Partner 1)					
_____	_____	_____		≥	A(%) of Requirement
(Name of Partner 2)					
_____	_____	_____		≥	A(%) of Requirement
(Name of Partner 3)					
All partners combined			$\Sigma (C-D)^b =$	≥	100% of Requirement from Section 3 - 2.3.3(b)

Form FIN - 5 is made available for use by the bidder as a self-assessment tool, and by the employer as evaluation work sheet, to determine compliance with financial resources.

^a Requirement for the subject contract is defined in Criterion 2.3.3(b) of Section 3. Value A is the required percentage of the subject contract, which each partner must meet; and value B is the required percentage of the subject contract, which one partner must meet. A and B values are defined in Criterion 2.3.3 of Section 3 (Evaluation and Qualification Criteria).

^b $\Sigma (C - D)$ = sum of available financial resources net of current contract commitments (CCC) for all partners.

Form EXP – 1: Contracts of Similar Size and Nature

Fill up one (1) form per contract.

Contract of Similar Size and Nature		
Contract No of	Contract Identification	
Award Date		Completion Date
Total Contract Amount	US\$	
If partner in a Joint Venture or subcontractor, specify participation of total contract amount	Percent of Total	Amount
Employer's Name Address Telephone/Fax Number E-mail		
Description of the similarity in accordance with Criterion 2.4.1 of Section 3		

Form EXP - 2: Construction Experience in Key Activities

Fill up one (1) form per contract.

Contract with Similar Key Activities		
Contract No of	Contract Identification	
Award Date		Completion Date
Total Contract Amount	US\$	
If partner in a Joint Venture or subcontractor, specify participation of total contract amount	Percent of Total	Amount
Employer's Name Address Telephone Number Fax Number E-mail		
Description of the key activities in accordance with Criterion 2.4.2 of Section 3		

Schedules

Table(s) of Adjustment Data

Not Applicable

Activity Schedule

[Schedules of Prices – Lump Sum Contract]

The Employer has indicated below the list of major activities comprising the works consistent with the description of works, drawings and specifications in Section 6 (Employer's Requirements). Each work has been described in sufficient details to provide a clear guidance to Bidders with respect to the type of works, their scope and complexity and compliance with the required standards.

Bidders are required to enter the prices against each work item on a lump sum basis. Work items against which no lump sum price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed covered by other work items against which the lump sum prices were entered. The sum of prices entered against each work item will represent the total bid price.

The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the Activity Schedule, and where no Items are provided, the cost shall be deemed to be distributed among the Amounts for the related Items of Work. It should be noted that the cost of work shall include compliance with the Environmental Management Plan (EMP), as well as the Environmental Monitoring Plan for all items of works including related provisions mentioned elsewhere in the contract and mainly consist of jobs as details below –

- i. Detailed survey of site of work and to make detailed contour plan, cross section of site including clearances of site from all hindrances for the purpose of surveying work. The survey sheet to be get approved from the employer.
- ii. Preparation of concept drawings along with 3 D presentation of project as per scope of work mentioned in the bid document for approval from the client department and user department (HPKVN and DoLE). The proposed type of construction for the building of this project is pre-engineered type structures consists of RCC Sub-base/sub structure with super-structure construction having structural steel/MS Tubular/ MS Hollow section members in main structure components and LGSF member construction in partition wall, roof truss, floor base, etc having RCC slab on each floor.
- iii. Check the feasibility of concept drawings at site dully get approved from the employer.
- iv. Preparation of detailed working drawings including all trade coordination drawings showing details specification of all material along with 3 D Presentation on the basis of approved concept drawings for execution of work to get approved from the Employer, client department & HPKVN and finally from local body concerned of the area. The detailed working drawings shall elaborate all provisions such as internal furniture layout, temporary barricading along with safety signages, approach road including pedestrian paths, car parking, water drainage system, road marking and signages, site development, structural member detail, walls, floors, roof, water supply & sanitary installation, fix furniture such as internal almirahs/ cup-boards/wardrobes, kitchen cabinets etc, rain water harvesting system & recharge wells including tanks of required capacity, external main water supply lines, sewerage lines, septic tank, overhead and underground tanks of required capacity, minimum 1 number borewells, boundary wall, landscaping of complete campus along with vegetation, plantation and providing sitting benches etc, solar water heater and solar panels, transformer including supply of power, HT and LT panels, caballing, DG sets, external lighting, fire detection/fire alarm, fire-fighting system including water tanks of required capacity, air conditioning in selected areas, CCTV, LAN and networking, Online time lapse camera with internet based live monitoring during entire project duration, audio visual & sound reinforcement system along with all other Miscellaneous Items required for the successful completion of project.
- v. Soil Investigation of site of work by boring method by drilling bores as approved by the employer and report to be get approved from any Indian Institute of Technology and final approval from the employer.
- vi. Detailed structural design, drawings along with soft copy of calculations on the basis of approved working drawings to be get approved from any Indian Institute of Technology and final approval from the employer.

- vii. Temporary barricading of site on all its boundary as per approved working drawings before starting of construction of work in such a manner that client approved advertisements can be displayed.
- viii. Fix signages and to adopt all safety measures at site of work before start of execution and during the execution of work till completion of project.
- ix. Execution of point as per approved Architectural working drawings and structural drawings and scope of work mentioned in the bid document to the entire satisfaction of employer.
- x. Approval of work from the employer, client department and HPKVN after completion of work.
- xi. Submission of project closure dossier including as Built Drawings of each and every component of work, Operation and Maintenance Manuals, Quality Records etc. after completion of work. This condition will be essential for releasing the performance security.

The following table mentions broad scope stages of the work; however, these can be further broken down by the project manager for certification of payments due to the contractor.

Heads and Sub Heads	Item of Work	Area (sq.m)	Rate in Rs. Per sqm	Cost in Rupees
1.0	Model Career Center			
	Total Built-up area in sq m including circulation area	1776		
	Amount in words			

Signature of the Bidder

Stage wise percentage of Payment

The contractor is bound to carry out each and every component of the project as depicted in the bidding document however he will quote lump-sum rate in per sq. meter of built-up area of the structures to be constructed in the project. The quoted rates shall include internal furniture layout, temporary barricading along with safety signages, approach road including pedestrian paths, car parking, water drainage system, road marking and signages, site development, structural member detail, walls, floors, roof, water supply & sanitary installation, fix furniture such as internal almirahs/ cup-boards/wardrobes, kitchen cabinets etc, rain water harvesting system & recharge wells including tanks of required capacity, external main water supply lines, sewerage lines, septic tank, overhead and underground tanks of required capacity, minimum 1 number borewells, boundary wall, landscaping of complete campus along with vegetation, plantation and providing sitting benches etc, solar water heater and solar panels, transformer including supply of power, HT and LT panels, caballing, DG sets, external lighting, fire detection/fire alarm, fire-fighting system including water tanks of required capacity, air conditioning in selected areas,, CCTV, LAN and networking, Online time lapse camera with internet based live monitoring during entire project duration, audio visual & sound reinforcement system along with all other Miscellaneous Items required for the successful completion of project according to section 6 and nothing shall be paid extra for any activity mentioned in the bidding document. The contractor should consider all the factors in his financial bid including the terrain and cold weather conditions in a manner that work is completed in stipulated period of 15 months.

The payment schedule shall remain as under: -

Sr. No.	Activity	Percentage of Payment	Remarks
1.	Final Approval of Architectural and Structural design and drawings including from local bodies etc.	5% of total project cost	The working drawings for detailing of component of building shall be issued by the concerned architect with the progress of work as defined in baseline program.
2.	Work Completed upto plinth level	12% of total cost	
3.	Structural work of ground floor completed	7.5% of total cost	
4.	Structural work of First floor completed	7.5% of total cost	
5.	Structural work of Second floor completed	7.5% of total cost	
6.	Structural work of Third floor completed	7.5% of total cost	
7.	Structural work completed upto Roof Level	10% of total cost	
8.	Completion of walls including plaster/approved treatment and flooring	7.50% of total cost	

Sr. No.	Activity	Percentage of Payment	Remarks
9.	Completion of fix furniture such as internal almirahs/ cup-boards/wardrobes, kitchen cabinets external/internal wall and ceiling finishes	12% of total cost	
10.	Completion of all provisions in addition to the structures / Building as per scope of work mentioned in the bidding document	20% of total project cost	
11.	Completion of project to the satisfaction of Engineer-in-Charge and Authorized committee	5% of total project cost	
	Total	100%	

Himachal Pradesh Skill Development Project.

Loan No: 3573 IND

Procurement of Works

Single-Stage: Two-Envelope Bidding Procedure

Bidding Document for Procurement of

Detailed Design and Construction of. Rural livelihood Centre Building at Karpalpur, Nalagarh Distt. Solan under Asian Development Bank assisted HPSPD. (SH: C/O Main building shall be pre-engineered, Site Development, Site Development i.e. retaining structure, WS & SI, EI, septic tank, rain water harvesting tank & underground water recharging tank/ pit, boundary wall and gate, Air conditioning in selected area as, CCTV, indoor/ outdoor transformer, HT & LT panels, Cabling, DG Set, Solar system, Fire-fighting and yard lighting system, fire alarm system, Land scaping, environment management, safety measures and other miscellaneous item etc. as per scope of work.

Volume 2 (Price Bid)

Issued on: 24 January 2022

Invitation for Bids No.: RLC/01/2021-22

NCB No: PWD/07R3 (RLC Nalagarh)

**Employer: Public Works Department, Government of Himachal Pradesh,
represented by Chief Engineer, Shimla Zone, Shimla (HP)**

Country: India

Section 4 - Bidding Forms

Volume 2 (Price Bid)

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Letter of Price Bid

-Note-

The bidder must accomplish the Letter of Price Bid on its letterhead clearly showing the bidder's complete name and address.

Date:

ICB/NCB No.:

Invitation for Bid No.:

To:

We, the undersigned, declare that:

(a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) 8.

(b) We offer to execute in conformity with the Bidding Documents the following Works: _____

(c) The total price of our Bid, excluding any discounts offered in item (d) below is:

[amount of foreign currency in words], [amount in figures], and [amount of local currency in words], [amount in figures]

The total bid price from the Summary of Bill of Quantities for admeasurement contracts or Activity Schedule for lump sum contracts should be entered by the bidder inside this box. The amount should be inclusive of all taxes including GST and nothing extra will be paid on this account.

Absence of the total bid price in the Letter of Price Bid may result in the rejection of the bid.

(d) The discounts offered and the methodology for their application are as follows:

(e) Our Bid shall be valid for a period of days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

(f) If our Bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents.

- (g) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: ¹

Name of Recipient	Address	Reason	Amount
.....
.....

- (h) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (i) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (j) We agree to permit ADB or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by ADB.

Name

In the capacity of

Signed

Duly authorized to sign the Bid for and on behalf of

Date.....

¹ If none has been paid or is to be paid, indicate "None".

Section 5 - Eligible Countries

This section contains the list of eligible countries.

1. Afghanistan
2. Armenia
3. Australia
4. Austria
5. Azerbaijan
6. Bangladesh
7. Belgium
8. Bhutan
9. Brunei Darussalam
10. Cambodia
11. Canada
12. China, People's Republic of
13. Cook Islands
14. Denmark
15. Fiji
16. Finland
17. France
18. Georgia
19. Germany
20. Hong Kong, China
21. India

22. Indonesia
23. Ireland
24. Italy
25. Japan
26. Kazakhstan
27. Kiribati
28. Korea, Republic of
29. Kyrgyz Republic
30. Lao PDR
31. Luxembourg
32. Malaysia
33. Maldives
34. Marshall Islands
35. Micronesia, Federated States of
36. Mongolia
37. Myanmar
38. Nauru
39. Nepal
40. The Netherlands
41. New Zealand
42. Norway
43. Pakistan
44. Palau
45. Papua New Guinea
46. Philippines

47. Portugal
48. Samoa
49. Singapore
50. Solomon Islands
51. Spain
52. Sri Lanka
53. Sweden
54. Switzerland
55. Taipei, China
56. Tajikistan
57. Thailand
58. Timor-Leste
59. Tonga
60. Turkey
61. Turkmenistan
62. Tuvalu
63. United Kingdom
64. United States
65. Uzbekistan
66. Vanuatu
67. Viet Nam

Section 6 - Employer's Requirements

This Section contains the Specifications, Drawings, Supplementary Information that describe the Works to be procured, Personnel Requirements, and Equipment Requirements.

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Specifications

(Each page shall be signed and sealed by the Bidder)

Name of Work – Detailed Design and Construction of. Rural livelihood Centre Building at Karpalpur, Nalagarh Distt. Solan under Asian Development Bank assisted HPSPD. (SH: C/O Main building shall be pre-engineered, Site Development, Site Development i.e. retaining structure, WS & SI, EI, septic tank, rain water harvesting tank & underground water recharging tank/ pit, boundary wall and gate, Air conditioning in selected area as, CCTV, indoor/ outdoor transformer, HT & LT panels, Cabling, DG Set, Solar system, Fire-fighting and yard lighting system, fire alarm system, Land scaping, environment management, safety measures and other miscellaneous item etc. as per scope of work.

Location – The site is 2km from Nalagarh Bus stand, 300m from Pinjor- Swarghat national Highway (Landmark Peer Baba Mosque) with Khasra No. 448 /2/1 in village Dadibhola (Karpalpur panchayat area).

Supervising Authority – Project Manager, Executive Engineer, Himachal Pradesh Public Works Department (HPPWD) Nalagarh Division (Email id: ee-nal-hp@nic.in).

Quality Assurance Consultants – QA firm has been deployed under HP Skill Development Project to monitor the QA issues of the project and visit the project site from time to time and shall report to HPKVN. Contractor shall extend all the support to them in the relevant issues during the entire construction duration.

Scope of work

A. Design

Architectural Design - Architectural detailed drawings showing standard details of civil and architectural works duly approved by local approving authority; including but not limited to Mechanical-Electrical-Plumbing (MEP), Sewer line, rain water harvesting, air conditioning in selected areas, CCTV, fire detection and protection systems, fire protection of pre-engineered structure as per NBC norms, elevator system, source and supply of power, yard lighting, fire detection and protection system, landscaping & hardscaping, area planning during construction w.r.t. material storage, labour huts and traffic movement, main water supply connection, building approach road etc. duly approved by Employer, HPPWD and user department.

Before proceeding with Architectural Conceptual/detailed design, contractor should arrange a detailed kick-off meeting involving HPPWD, user (if allocated), official representative from IIT and QA consultants in order to clarify and agree upon the design requirements and methodology keeping in mind the contract period, in coordination with other services and Architectural design.

A.1 Brief for Architectural Design

- The architectural design shall be carried out to meet the requirements specified in this document as stated in the Schedule of Areas, Table A1.
- The architectural design should be conforming to local hill architecture styles as well as local weather conditions with minimal disturbance to site topography.
- The architectural design of the building shall provide sustainability policies to promote sustainable design and operation of campus functions; it shall
 - a. Maximize the utilization of ecological potential of the site in land use, energy, and resource generation.
 - b. Minimize the energy and resource consumption.
 - c. Protect, harvest and conserve water.
 - d. Minimize waste.
 - e. Use environmentally-friendly products and materials.
 - f. Enhance indoor environmental quality.
 - g. Climate considerations shall be paramount in the design of building, ensuring maximum ventilation and allowing the sun to heat the inside spaces in winters with appropriate design of sunshades.

- The designs of stairs and corridors especially shall be such that no rainwater enters them, and sunshades, drop walls and recessed openings shall be used to ensure this. Antiskid strips should be used for safety against slipping hazards. The stairs should be enabled with PwD features.
 - a) Use of any material should not violate law of land and legal compliance should be adhered to.
- The Architectural design shall also provide for Barrier Free access for Persons with Disabilities (PwD), and shall cater to but not limited to
 - a) Parking for differently abled, near the entrance of the buildings.
 - b) Ramps for easy access to ground floor.
 - c) Handicapped toilets
 - d) Lift to access all floor levels
 - e) Tactile flooring and Signage's

TABLE A1

Sr. No.	Function	No. Of Users	Areas Provided
1	Offices		
	Reception-cum-Counselling room	14	30sqm
	Centre Manager-cum-Office Room	6	35sqm
	Staff Room	7	35sqm
	Office Room	6	28.5sqm
	Subtotal (1)		128.5sqm
2	Academic Facility		
	Training Hall	15	35sqm
	Classroom	90	93.5sqm
	IT Lab	15	35sqm
	Domain Lab	15	35sqm
	Production Hall	40	58.5sqm
	Subtotal(2)		257sqm
3	Accommodation		
	Dormitories	90	255sqm
	Private rooms	4	45sqm
	Subtotal(3)		300sqm
4	Canteen		
	Kitchen		10sqm
	Dining	100	150sqm
	Subtotal (4)		160sqm
5	Utility		
	Hostel Block		
	Hostel Toilets Gents	15	17.4sqm x 3 = 52.2 sqm
	Hostel Toilets Ladies	15	17.4sqm x 3 = 52.2 sqm
	GF Canteen Toilets		
	Gents Toilet		10.5 sqm
	Ladies Toilet		10.5 sqm
	Academic Block		
	Gents toilet	15	13.5 sqm x 3 = 40.5 sqm
	Ladies toilet	15	13.5sqm x 3 = 40.5 sqm
	Lift		3.4 x 4 = 13.6 Sqm
	Subtotal (5)		220.0 sqm
	TOTAL Carpet area (1-5)		1065.5 sqm
	Add for walls and circulation	Approx. 40% of total built up area	710.33 Sqm
	Total Built Up Area		1775.83 Sqm

A.1.1 Design requirements for RLC Nalagarh

- a) The designs for RLC Nalagarh shall preferably be provided for Ground plus 3 storied building without roof, lift room and overhead water tanks in closed area.
- b) Parking should be preferably catered to in the setback areas.
- c) Plinth level of Buildings will be determined on the basis of the existing contours, adjacent plot, road, and drainage levels.
- d) The building shall have 2 entrances, one formal entrance and one for emergency fire exit.
- e) Minimum corridor width as per NBC norms / bye laws; whichever is more. Width should be adequate for access for PwD (persons with disabilities).
- f) Recessed niches / service ducts shall be provided with electric supply, water and drainage for installation of drinking water dispenser.
- g) The building shall be provided with disabled access as per latest MoUD (Ministry of Urban Development) norms. If required passenger lifts as per the NBC prescribed standard for the estimated passenger numbers as per the floor areas, of 1.5m/s speed and with Automatic Rescue device shall be catered for to access all areas of the building.
- h) Unless specified, floor to floor height shall be 3.6m for labs, with clear 2.9m under beams.
- i) It should be ensured that roof and wet areas are made leak proof with guarantee for at least 10 years with appropriate latest technology.
- j) The building will be provided with the production halls and should be designed in a manner that it should be able to withstand relevant loads and vibrations. The production halls should have water inlet and effluent drainage outlets.
- k) The design should consider the fire protection of Pre-engineered structure as per NBC norms.

A.1.2 Aesthetic Considerations and use of traditional architectural elements

- a) Water supply, rainwater and drainage stacks shall be concealed in masonry pipe shafts, with inspection panels on each floor, which shall be covered with aesthetically designed covers/ Jali.
- b) No balcony/part roof, canopy shall drain through spouts, and shall have rainwater pipes of adequate diameter.
- c) It is desirable that the buildings reflect the cultural and architectural traditions of the region.

A.1.3 Approval of all designs and drawings.

The Contractor shall be required to submit all architectural design documents and detailed drawings duly approved by the client department, HPKVN and competent authority /committee appointed for this purpose and shall incorporate such modifications as are admissible within the terms stated above in Section 6: Employer's Requirements. The approval by the Employer however does neither limit nor dilute the primary responsibility of the Contractor in all matters pertaining to the design and construction.

A.2 Structural Design

The contractor shall carry out structural design compliant to the requirements of architectural and various services design. The contractor shall produce the detailed design document including but not limited to detailed calculations of structural analysis in compliance to earthquake zone of the location, Indian standard codes of practices, National Building Code etc. The contractor shall also take approval from HPPWD regarding codal compliance before proceeding with the design. Before proceeding with the structural design, the contractor shall submit for approval to the supervising authority, a complete design specifications document.

The brief specifications are mentioned in this contract document. The contractor shall develop the detailed specifications for each of the component of the project work including all the services, landscaping, and area development. These specifications shall mention all the technical details, applicable area, list of material involved, list of manufactures, applicable codes and standards detailed work procedures, MSDS and other safety data.

The contractor shall also produce Structural drawings showing complete details including but not limited to each and every structural component regarding reinforcement, grade of concrete, size of each component, sectional details at every important location, fire protection details, in line with various services drawings in a manner that all constructible details are mentioned in the drawings with detailed notes. Contractor shall also produce all trade coordination drawings for embedment of inserts, conduits, openings, in the structural components in a manner that the structural safety of all the structural components is adequate for overall safety of the building. These drawings should be duly approved by any IIT and finally approved by the Employer, HPPWD before construction.

Before proceeding with structural design, contractor should arrange a detailed kick-off meeting involving HPPWD, user (if allocated), officials representative from IIT and QA consultants in order to clarify and agree upon the design requirements and methodology in coordination with other services and Architectural design.

A.3 Construction -

Construction at site as per approved Architectural and Structural drawings, specifications and HSE requirements as per ADB and HPPWD norms.

The contractor shall be required to fulfil following requirements in relation to project construction work before, during and after the construction of various buildings as follows -

- The contract management of the entire construction work shall proceed in accordance with general and particular conditions of the contract.
- Under the HP Skill Development Project funded by Asian Development Bank, HPKVN has employed QA consultancy firm for checking the implementation of QA systems in the project to support HPPWD. The representative of the QA consultant shall visit the site from time to time and submit the observation report to HPKVN and PWD for further compliance.
- It is imperative for the contractor to deploy a well-qualified planning engineer, quantity surveyor, Quality Assurance engineer and safety professional, who are well versed with planning, quality and HSE processes and documentation, before the start of the construction work. QA & HSE professionals shall be reporting to contractors administratively only. For all technical & HSE matters, they will take directions from the supervision authority.
- The contractor shall provide, for the entire construction duration, a well-equipped office facility for client, supervision authority, QA consultant deployed by HPKVN, with proper ventilation, climate control, furniture and document storage facility. The cost of such a facility shall be deemed to have been included in the contract price. In case of non-provision of the facility, the supervision authority shall arrange the facility and deduct from the payments due to the contractor.
- The contractor shall submit the detailed resource loaded construction plan in the form of a bar chart suitably made with approved computer software capable of showing progress bars, S- Curve, cash flow, resource planning etc.
- The contractor shall submit a detailed quality assurance plan with project execution methodology, HSE plan for the approval of supervising authority. The quality assurance plan must consist of a list of method statements for each work component, inclusive of all the services. The detailed method statement shall consist of purpose, scope, applicable drawings, specifications and codes, resources to be deployed (Material, manpower, tools and equipment), detailed work procedure, HIRA (Hazard identification and risk analysis) and applicable checklists. The method statement shall have to be approved from the supervising authority before the actual construction of a particular component of the project.
- The contractor shall submit the Material Inspection Report (MIR) as per the approved format along with all necessary test reports as per the frequency prescribed in relevant codes of practices, shelf life, storage conditions and recommendations from the manufacturer. The contractor shall get the material approved from supervisor authority before the use of the material for construction purposes.
- The construction of each component of the project shall not proceed without prior approval of approving authority. The contractor shall be submitting "Request for Inspection" (RFI) to the supervision authority. The format of the RFI shall be approved from the supervision authority/ QA

consultants. The request for inspection shall be accompanied with various construction checklists as per the particular component of work.

- The contractor shall follow the HPPWD system for payment procedures.
- It will be the responsibility of the contractor to make drawings incorporating all the approved changes.
- It is the responsibility of the Contractor to submit and get the project closure document approved from the supervising authority. The project closure document should contain the documentation as per the recommendation of supervising authority including but not limited to As Built drawings (esp. for electrical and associated works, water supply, plumbing & drainage etc.), compilation of quality control records, compilation of details of payments made, operation and maintenance manuals, list of manufacturers / suppliers of various materials used in the project, contacts of contractor's personnel responsible during defect liability period.

A.4 Compliances

- a) Compliance with relevant bye laws of Himachal Pradesh Town and Country Planning applicable in the region.
- b) All designs shall comply with relevant byelaws, National Building Code, Fire and safety regulations, latest applicable at that time.
- c) Such provisions as may be required by the National Disaster Management Agency shall be met.
- d) The submitted designs shall have area calculation charts and sufficient explanation to show Compliance with the above.
- e) Location of transformers, meter room etc shall be in compliance with the HPSEB norms.
- f) Shifting of electric poles, water lines etc shall be carried out if required, and no charges apart from those payable to municipality or utility companies shall be reimbursed on this account.
- g) Sustainable building parameters as prescribed by statutory bodies shall be achieved, whether specifically mentioned elsewhere or not.
- h) Minimizing cutting of trees, and where required obtaining approval for cutting and re plantation shall be the responsibility of the contractor, however HPKVN shall assist in the process of obtaining such approvals.
- i) Debris disposal sites shall be identified/acquired by the contractor and have to be rehabilitated by all means including using suitable Bio-Engineering Techniques
- j) All environmental / forest clearances shall be arranged by the contractor.
- k) All regulatory permission regarding installation of plant and Machinery shall be obtained by the contractor prior to commencement of work.

A.5 Specifications Compliance

- a) The contractor shall execute the whole and every part of the work in line with best workmanship and practices both in regard to materials and otherwise; in every respect and in strict accordance with the specifications as laid out in latest HPPWD Specifications. The Contractor shall take full responsibility for adequacy, suitability, and safety of all the works and methods of construction.
- b) In the case of any class of work for which there are no such specifications as referred to above, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications.
- c) In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications, if not available then in accordance with the instructions and requirements of the Employer.

A.6 Statutory approvals

- a) It shall be the responsibility of the successful Bidder to obtain all approvals from all statutory bodies (NOCs) such as Municipality, Fire Authority, State Electricity Board; and deposit the required fee which shall be reimbursed by the Owner. The amount for the same shall be included in the bid price. However, HPKVN shall assist the process for obtaining such approvals.

A.7 Deviation, Extra Items and Pricing

- a) The Employer shall have power to make alteration in, omissions from, additions to, or substitutions from the original requirements and specifications or to omit a part of the works in case of non-availability of a portion of the site or for any other reason and the contractor shall be bound to carry out the works on the same conditions in all respects including price on which he agreed to do the main work except as hereinafter provided:
- a) the extent of the value of work shall not vary beyond 15% greater or lesser than the original value.
- b) the contract price shall be revised taking into account the quantity of variation and the difference in the rates of the substituted item and the original item based on HPPWD HPSR 2021.
- b) If the substituted item is not available in HPPWD HPSR 2021 the rates shall be derived on the basis of market rates as duly analyzed and approved by the Employer.

A.8 Construction water and power

- a) The Bidders shall make his own arrangements for water required for the work by way of municipal connections, bore wells, temporary tanks and piping, and nothing extra will be paid for the same. This will be subject to the conditions that the water used shall be fit for construction purposes to the satisfaction of the Employer.
- b) The Bidders shall be responsible for arranging and maintaining by means of temporary electric connection and generators at his own cost; all electricity requirements for equipment and lighting and facilities for workers and all other services required for executing the work.

A.9 Employer's Responsibilities

The Employer will help the Bidder in:

- a) Facilitate in site for labour huts for the contractor's labour,
- b) Facilitating in free access to materials and labour to the site of work,
- c) Facilitating in electricity connection for execution of work on payment of all charges which shall be borne by the Bidder.
- d) sanction and release of load from the concerned Electricity Board/Authority,
- e) To facilitate planning permission from local bodies etc. and permission to remove trees coming in the layout of building, road etc.

A.10 Environmental Management Plan

The Bidder shall address environmental and rehabilitation requirements and ensure that he is accountable for preventing or mitigating any environmental impacts. The Employer shall communicate the required measures from time to time through an Environmental Management Plan (EMP) attached as Annexure -1 (table 18 & 19) to Section 6 with the bid document. Upon finalization of detailed design, a detailed EMP would be prepared prior to the commencement of civil works and suitable variation order would be issued to accommodate this. These plans would indicate the details as to how various measures are proposed to be taken, and the cost of such measures which shall be treated as an integral component of the project cost.

The following environmental aspects should be taken into account at various stages of the projects.

A.10.1 Liquid Effluents

- a) Effluents should be treated well to the standards as prescribed by the Central/State Water Pollution Control Boards.
- b) Soil permeability studies should be made prior to effluents being discharged and steps taken to prevent percolation and ground water contamination.
- c) Deep well burial of toxic effluents should not be resorted to as it can result in re-surfacing and ground water contamination. Conservation and re-use of water must be implemented.

- d) Effective management of storm water quantity and quality during construction to avoid erosion and contamination of water bodies.

A.10.2 Air Pollution

- a) The emission levels of pollutants should conform to the pollution control standards and adequate control equipment should be installed for minimizing emission.
- b) Dusty areas, building material stacks will be sprayed with water, particularly during hot, windy weather
- c) Combustion engine vehicles must have official valid emission certifications

A.10.3 Solid Wastes

- a) The site for waste disposal should be checked to verify permeability so that leachates do not percolate into the ground water or water bodies.
- b) Waste materials such as packaging etc shall be removed by truck (covered and/ or watered) to local official municipal disposal site

A.10.4 Noise and Vibration

- a) Adequate measures should be taken for control of noise and vibration so that it remains under permissible limit.

A.10.5 Occupational Safety and Health

- a. Proper precautionary measures for adopting occupational safety and health standards should be taken.
- b. Proper house-keeping and cleanliness should be maintained.
- c. Workers will be required to wear filter masks and eye protection, and earmuffs wherever necessary.

A.10.6 Transport Systems

- a) Proper parking places should be provided for the trucks and other vehicles by the industries to avoid any congestion or blocking of roads.
- b) Care has to be taken to avoid spillage of chemicals or substances on roads or inside the site. Proper road safety signs both inside and outside the plant should be displayed for avoiding road accidents.

A.10.7 Vegetal Cover

- a) Care should be taken to maintain existing trees and vegetation and plant new trees as per the landscape design at strategic locations.
- b) Steep slopes will have minimal clearance of vegetation and replanted as a priority.

A.10.8 Disaster Planning

Disaster planning should be done to meet any emergency situation arising due to fire, explosion, sudden leakage of gas etc. Firefighting equipment and other safety appliances should be kept ready for use during such emergencies. The contractor must also have proper facility for first aid and should have tie-up with hospital in case of emergencies.

A.10.9 DECLARATION OF COMMITMENT TO EMP

I agree to ensure that:

- a) All site and environmental protection measures outlined within the Employer's approved EMP will be adhered to.
- b) All site rehabilitation and revegetation works will be undertaken in accordance with the approved EMP.

- c) Prior to construction personnel commencing work, I will ensure that Equipment/Plant will be serviced off-site and that all equipment will be cleaned and free of vegetation, soil and seed prior to being brought on to the site.
- d) Approval from the Project Manager will be obtained prior to any out-of-hours work occurring. Written notification will be provided to local residents when out-of-hours work is occurring.
- e) Provision of new service connections and upgrading of existing services will be undertaken in a timely manner with minimal on-site and off-site impacts and with prior approval of the services providers. Advice will be obtained from the 'Dial Before You Dig' service to determine the location of existing services onsite

Signature of Bidder

A.10.10 COMPLETION

The Contractor shall

- a. shall ensure the implementation of snag/punch lists and the check-out tests for facilities and systems. Tests will be observed and/or approved by the OSDS or its representative at its discretion. The OSDS and the Project Manager may also contribute to the final snag/punch lists.
- b. shall obtain from sub- contractors/ vendors/ certifying agencies to all files, documents, test certificates, performance warranties/guarantees, spare parts list, maintenance manuals, no claim certificate and transmit the same to the OSDS in both hard copy and electronic formats
- c. Submit AS BUILT drawings immediately on completion, SIX sets of hard copy and TWO soft copies and specifications.
- d. Ensure that the constructed works and sites are cleaned and prepared for occupancy and use.
- e. identify and rectify defects during applicable Defects Liability Period including periodic monitoring and reporting.
- f. Shall submit the vendor / manufacturer list to facilitate the future repairs.

Schedule of Building Components.

Table-3 Schedule of Building components		
S.No.	Item	Specification
1	Foundations	RCC foundation as per site Soil bearing Capacity to be designed for appropriate building dead and live loads as per NBC Norms and earthquake zone.
2	Structural Framework (Pre-engineered)	Pre-engineered Structural Steel main structure frame components viz columns, beams & cross beams, bracing, gussets plates etc. comprising MS tubular section as per approved architectural as well as structural design and drawings.
3	Walls	Wall panel frame of cold formed galvanized light gauge steel frame structure. Exterior insulation finishing system (EIFS) up to 50 mm thickness / GRC cladding. ACP panels wherever applicable shall be provided in combination. Interior walls of built up from double layer of cement fibre boards. Infill of Rockwool/ spray foam insulation. Finish as per table 2 18-inch-thick stone Ashlar masonry outer exposed wall with 1:3 cement mortar up to sill level height on ground floor with foundation as per structural drawings.
4	Ground Floor	PCC grade slab over subbase of compacted soil and graded stone and appropriate finish as per table 2
5.	Intermediate Floors	MS Decking sheets overlaid with PCC and appropriate finish as mentioned in Table 2.

B - Schedule of Building finishes.**B.1 Internal Finishes**

Area wise schedule of internal finishes are listed below in Table 3, the work shall be carried out as per specifications further elaborated in the relevant Clause number of HPPWD HPSR 2021 Specifications.

Table-2 Schedule of Internal Finishes

S.No.	AREAS	Flooring	Dado/Skirting	Wall/ Finish	Ceiling/ Finish
1	Outside Parking, Building Approach	80mm Thick Interlocking block with edge kerbstones	100 mm CC Skirting (11.6.1)	Exterior grade weather-proof Emulsion up to all height	NA

2	Reception, • Waiting Area / Lounge /Lobby	Double Charged Vitrified floor tile with granite border and spacer of required thickness and grouting with epoxy grout. Tactile flooring as per NBC Norms.	Double Charged Vitrified floor tile/ granite with spacer of required thickness and grouting with epoxy grout	Acrylic Emulsion	Calcium Silicate Ceiling/ Gypsum Board decorative Ceiling
3	Training Halls Classrooms Practical / Tech. Lab	25 mm thick kota stone slab flooring with granite border on 20 mm thick base of cement mortar 1:4 (one cement is to four sand) of size 55 x 55 cm.	Kota stone slab 20 mm, skirting dado laid on 12 mm (average) thick cement mortar 1:3 (one cement is to three sand)	Acrylic Emulsion	Calcium Silicate Ceiling/ Gypsum Board decorative Ceiling with Acrylic Emulsion
4.	Centre Manager / Support Staff / Group Counselling Room Admin Office	Full bodied Vitrified tile flooring with 20 mm thick base of cement mortar 1:4 (one cement is to four sand) of size 60 x 60 cm.	Double Charged Vitrified floor tile up to 100 mm with spacer of required thickness and grouting with epoxy grout	Acrylic Emulsion	Calcium Silicate Ceiling/ Gypsum Board decorative Ceiling with Acrylic Emulsion
5	• Toilets Ladies / Gents / DAP /Common • Pantry	First class vitrified Antiskid floor tiles of size 300 mm x 300 mm	Ceramic Glazed wall tile of minimum size 300 mm x 450 mm up to ceiling height	Exterior grade weather-proof emulsion	ACP sheet 3 mm thick exterior grade ceiling or Exterior grade weather-proof emulsion
6	Production Halls	25 mm thick kota stone slab flooring with 20 mm thick base of cement mortar 1:4 (one cement is to four sand) of size 55 x 55 cm.	Kota stone slab 25 mm, dado 100mm laid on 12 mm (average) thick cement mortar 1:3 (one cement is to three sand)	Acrylic Emulsion	Calcium Silicate Ceiling/ Gypsum Board decorative Ceiling with Acrylic Emulsion

5	Students Hostel				
5.1	<ul style="list-style-type: none"> Dining Hall Student's Activity Room 	polished 25 mm thick kota stone slab flooring, with 20 mm thick base of cement mortar 1:4 (one cement is to four sand) of size 55 x 55 cm.	1'x 2' Ceramic tiles 1200 mm high with granite nosing double rounded on top.	Acrylic Emulsion	Acrylic Emulsion
5.2	<ul style="list-style-type: none"> Dormitories Private Rooms 	Double Charged Vitrified floor tile with spacer of required thickness and grouting with epoxy grout	Double Charged Vitrified floor tile with spacer of required thickness and grouting with epoxy grout up to 100 mm.	Acrylic Emulsion	Acrylic Emulsion
5.3	<ul style="list-style-type: none"> Store 	polished 25 mm thick kota stone slab flooring, with 20 mm thick base of cement mortar 1:4 (one cement is to four sand) of size 55 x 55 cm.	Kota stone slab 25 mm, dado 100mm laid on 12 mm (average) thick cement mortar 1:3 (one cement is to three sand).	Acrylic Emulsion	Acrylic Emulsion
5.4	<ul style="list-style-type: none"> Toilets Boys Toilets Girls Kitchen 	First class vitrified Antiskid floor tiles of size 300 mm x 300 mm	Ceramic Glazed wall tile 300 mm x 450 mm up to ceiling height	Exterior grade weather	ACP sheet 3 mm thick exterior grade ceiling

				proof emulsion	or Exterior grade weather proof emulsion
6	Lifts (OTIS / KONE / Johnson & Thyssen Krupp) It should be ensured that spares, repair & maintenance services are available during service life	Lift Cabin - Granite stone slab 20 mm thick	Lift Cabin – Decorative stainless-steel wall panels Face wall / door side wall - Granite stone slab 20 mm thick up to full height	Lift Cabin – Decorative stainless-steel wall panels with Mirror and car operating panel with LCD display Face wall / door side wall - Granite stone slab 20 mm thick up to full height Lift shaft- Exterior grade weather-proof emulsion	Decorative powder coated metal ceiling with fan and light fixtures
6.	Staircases	Ready to install 12mm thick full body vitrified steps with self-embossed grooves and antiskid properties	1'x2 Ceramic tiles 1200 mm high with granite nosing double rounded on top.	Acrylic Emulsion	Calcium Silicate Ceiling/ Gypsum Board decorative Ceiling with Acrylic Emulsion

B.2 General External Finishes.

- External finishes are listed below in Table-3, the work shall be carried out as per specifications.
- Roofing and specifications are listed below in Table-3, the work shall be carried out as per specifications

Table-3 Schedule of External Finishes		
S.No.	Item	Specification

1	Roofing	Double sheet sandwich roofing having top and bottom layer of pre-painted sheet of TATA Durashine (Lysaght) 0.50 mm thick with rockwool 75 mm thick of density 32 kg/cum wrapped in polythene bags insulation and adequate water proofing layer packing in between the sheets. The top sheet shall be supported on LGSF purlins of size 75 mm.
2	External cladding	Exterior insulation finishing system (EIFS) up to 50mm thickness. GRC cladding/ HPL Panels/ ACP Sheet/ wherever applicable on appropriate framework as required as per HPPWD/ manufacturers standard. 18-inch-thick stone Ashlar masonry wall with 1:3 cement mortar up to sill level height on ground floor with foundation as per structural drawings and good workmanship.
4	External Paint	Texture Paint / exterior grade weatherproof emulsion as per approved pattern.
5	White Cement based putty	All walls surfaces

B.3 Door and window and fabrication specifications.

- Laboratories and Classrooms shall have 1.20 m wide doors with vision panel, with fixed glass fanlight of 450 mm height above.
- Bath and WC doors shall be 900mm wide and entrance to Toilet block doors shall be 1000mm wide. DAP toilet door shall be 1.2m wide opening outside.
- Kitchen doors shall be 900mm wide.
- All other doors shall be 1000mm wide, with 450 mm fixed glass fanlight wherever desired.
- Staircases shall be naturally lit and ventilated by partly fixed and partly openable glazing which shall be recessed and adequately protected from rain.
- Door and Window specifications are listed below in Table-4, the work shall be carried out as per specifications further elaborated in the relevant Clause number.

Table-4 Doors, Window, Fabrication, and fixed furniture Specifications		
S.No.	Item	Specification
1.	Doors	uPVC door frames with approved hardware
		Waterproof Commercial Board Flush Shutter 35 mm thick with veneer / laminate 1.0 mm thick of approved make and pattern.
		100 mm Brass Mortice lock set with master key with 2-year product warranty, door stopper, door silencer, hydraulic door closer, window stays etc.
		Shutter Panels with 6.0mm thick float glass/ACP sheet 5.0 mm thick exterior grade of approved make and pattern.
2	Window	uPVC frames and shutters with approved hardware having 6.0 mm thick double heat tempered / toughened glass with Argon filled gas in Gap of twin glass sealed all around in air conditioned areas and single pane 5mm thick in other areas.

3	Railings	SS Railing in building front , reception / lobby areas and for DAP areas and MS railing with Teakwood handrail on other areas.
4	Fixed Furniture such as Almira, Cup-board, wardrobes, reception counter and kitchen cabinet etc.	Structure to be made of 19 mm thick waterproof commercial board having shelves at required spacing as per approved design with Stainless Steel fittings and front and open sides laminated with laminate of approved quality 1.00 mm thick as per approved design. Kitchen top, crockery almira top and reception counter shall be finished with granite stone slab 20 mm thick of approved quality as per approved pattern.

B.4 Schedule of Specifications for External works

B.4.1 Boundary walls, Gates, and landscaping

- Construction of composite RCC and masonry boundary walls at sides and rear (wherever applicable) so as to enclose the property, with Boundary wall with overall height up to 1.80 m out of which 1.35 m high solid wall with RCC pillar with stone / Brick Masonry in combination plastered, and painted both sides with exterior grade weatherproof emulsion and 0.45 m high MS Grill above it,
- Vehicular entrance gate of 6m width and 2.4m height, of MS tubular sections, and painted.
- Pedestrian gate of 1.5m width and 2.4 m height, as above.
- Landscaping of the complete campus including construction of parks, fountains, flower beds and arboriculture as per approved design and drawing.

B.4.2 Site Dressing

- Cutting and filling as required as per design.
- Tree cutting where essential.
- Removal of existing debris.
- Removal of hindrances such as electrical poles, HT/LT lines/ Sewerage and water supply lines, telephone lines/Cables and tree etc.

B.4.3 Internal roads, parking areas, Paved areas at the front, sides and rear of the building.

- 80mm thick interlocking pavement blocks of M40 grade on PCC surface with edge kerbs of approved height with designed level and slopes with proper drainage system.
- Plinth protection with providing and laying underlayer of stone as per design with PCC 1:3:6 and CC floor 1:2:4 laid to the required slope with drainage arrangement.

B.4.4 Signage within the building and in external areas.

- The successful Bidder shall fix all signages, internal, external, with electrical connections and consumables if any; no additional charge shall be payable.
- Signages for persons with disability access in braille or as appropriate shall be provided as per CPWD handbook on barrier free and accessibility 2014.
- Main glow name / sign board of "Rural Livelihood Center - Nalagarh" or of approved wording in national language on 20mm Granite of approved shade & size fixed to required masonry walls or at approved place, shall be provided, including the cost of electrical and the cost of fixing Stainless Steel letters as per approved design.

B.4.5 External Roads

- The designs shall demonstrate adequate width of roads minimum carriage way width of 8 m with adequate turning radius, appropriate gradients (Longitudinal and Camber), including construction of retaining wall and breast walls as per site requirements and approved design, geometrics and junctions including etc.
- Sidewalk of 1.5 m width shall be provided along both sides of roads.
- The specifications of roads and vehicular parking shall be as per Table 5.

	Table - 5 Specifications for Roads and Pavement	
	Road Specifications	
S.No.	Item of Work	Specifications
1	Preparation & Consolidation of sub grade with power road roller.	As per MoRT&H Specifications
2	Providing and laying GSB layer as per approved design	
3	Providing and laying WMM layer of required thickness as per approved design	
4	Providing and laying Two layers of Dense Bituminous Macadam of required thickness as per approved design and bituminous content (Min.4.5%)	
5	Providing and laying Bituminous concrete Layer of required thickness and bituminous content (min. 5.5%) as per approved design	
6	80 mm thick CC interlocking paver block of M 40 grade on all internal roads	
7	Kerb stone of M 25 grade with Cement mortar 1:3 on both side of road	
8	Road side drains as per approved design	
9	Cross drainage as per approved design	
11	Utility ducts in median and under pedestrian paths as per approved arrangements	
12	Road Safety signages type IX ASTM Standards (Retro Reflective prismatic type)	
13	Road marking on center line and both edge lines including Zebra crossing with hot thermoplastic paint of required thickness as per approved design	
	Plinth Protection	
1	Providing and laying underlayer of stone as per design	
2	PCC 1:3:6	
3	CC floor 1:2:4	
	Drop offs etc.	
1	Compaction of Earth work, Stone soling as per design, cement concrete layer 1:4:8 as per design	
2	CC floor 1:2:4	
3	Brushed finish Granite	
	Pedestrian Pathways and Parking	
1	Compaction of Earth work	
2	Stone Soling as per approved design	
3	Cement Concrete layer 1:4:8 as per approved design	
4	80 mm thick CC interlocking paver block of M 40 grade.	

C Additional condition for Electrical and Allied Services

The detailed layout drawings of E.I. including load calculation & key diagram and related services must be got approved from the employer before implementation at site. The bills raised by the contractor for electrical works must be paid only after inspection by the employer and it must be got verified by the

employer. The following observations are made after going through the BOQ document are recommended to be incorporated into it.

C.1 General Requirements for electrical work

- a. Illuminance in buildings shall be as per Table 7 Part 8 Section of National Building Code.
- b. The work shall be carried out in accordance to CPWD Detailed Specifications for Electrical Works.
- c. All rooms with false ceilings as listed in Table 2 shall be lit with recessed LED ceiling fixtures.
- d. Workshops and labs shall be lit by LED luminaires.
- e. All other areas shall be lit with surface mounted ceiling LED luminaires with reflectors.
- f. Data cabling, UPS locations shall be provided as per HPPWD specifications.
- g. Adequate number of ceiling fans as per HPPWD norms shall be provided, wall mounted fans shall be provided in lieu of or addition to ceiling fans where necessary.
- h. Adequate exhaust fans with openable fins as per HPPWD norms shall be provided in all toilets/kitchens and pantries.
- i. Convenience outlets shall be provided as per HPPWD norms, additionally corridors, lobbies etc shall be provided for 6A/16A convenience outlets for operating maintenance and cleaning equipment.
- j. Lightning Conductors shall be provided as required as per HPPWD norms.
- k. All the MCBs Distribution box must be provided with RCCBs
- l. SPDs (Surge protection devices) must be provided to the distribution boxes having computer or networking load.
- m. All the electrical panels / sub panels must be CPRI approved and configured to IEC 61439 code.
- n. Buildings must have niches which runs through every floor.
- o. Cable tray may be used for running the cables inside the building. Wherever applicable.

C.2 Earthing System.

- a) Copper earthing must be provided in the building and all the panels / sub panels must be connected through it.
- b) Earthing system should have $V_{ne} < 5$ volts.

C.3 Lightning Arrester.

- a) Lightning arrester system may equipped with lightning counter and surge protection.
- b) Chemical earthing must be used for lightning arresters.

C.4 Emergency Back Up.

- a) **D.G. Sets.**
- b) All the D.G. sets must be provided with AMF panels and must have separate earthings.
- c) For D.G. sets of capacity 500KVA and above day oil tank must be proposed.

C.5 UPS system

- a) UPS system may be provided with minimum 30 minutes back up and should have individual earthings.

C.6 Lifts.

- a) All the lifts may be provided with ARD system along with single phase preventer and phase reversal relay

Table 5 - General Specifications for Internal Electrification

S.No.	Item of Work	
1	Point Wiring with 1.5 sqmm. FRLS PVC insulated copper cable with medium class PVC conduit with modular switches, plate etc.	
2	Wiring for lights power plug with 2x4 & 4x4 sqmm. FRLS PVC insulated coper cable with PVC conduit.	

3	Wiring for circuit along with Earth wire with FRLS PVC insulated copper cable with PVC conduit.	
4	Telephone Cable 0.5 mm dia FRLS PVC insulated copper conductor cable with PVC conduit.	
5	TV cable RG-6 grade 0.7 mm solid copper with PVC conduit.	
6	3 pin 5/6 amp modular sockets	
7	6 pin 15/16 amp modular sockets	
8	Louvers / shutter for Exhaust Fan	
9	LAN Cable UTP 4 pair CAT 6 with PVC conduit.	

C.7 Power outlets for equipment.

Convenience outlets exhaust fans and 3 phase Power outlets shall be provided as approved by HPPWD.

C.8 CCTV - CCTV cameras shall be provided in all important and approved locations and rooms with central control system and LED viewing screen in split mode for all the cameras.

C.9 Electrical Load

- Bidders shall submit electrical load calculations and required configuration of transformers and DG sets.
- The successful Bidder shall on behalf of the Owner obtain permanent and temporary power connection, and the costs incurred in these shall be reimbursed.
- Emergency back up by a combination of DG sets to provide for uninterrupted power for 100% lighting and power load and 50% of load for power equipment and heating system equipment: after assuming appropriate diversity factors.
- There shall be provision for heating system load which shall be through independent panels and cables.

C.10 External lighting.

- Peripheral lighting, lighting of roads, paths and parking shall be achieved through a combination of 7m long street light poles with and 3m high poles for post top fittings, both shall have LED luminaires.
- External lights shall be operated by independent feeder panels at convenient locations.

D. Internal and External Sanitation and Water supply

- The successful Bidder shall on behalf of the Owner obtain municipal water connection, and provide water supply by bore well, and the costs incurred in these shall be reimbursed.
- The specifications for the Internal and External Sanitation and Water supply shall be as per Table 7 and Table 8 below:

Table - 7 Toilet and Kitchen Specifications		
	Toilets Requirement:-	

S.No.	Hostel Dormitory	
1	Indian WC (25 %)	
2	European WC (75%)	
3	Urinals with flush cocks	
4	Wash Basin 540 x 400 mm with C.P. brass pillar tap	
5	Mirror (600x450 mm)	
6	PTMT Bottle trap	
7	CP brass Bib cocks	
8	CP brass angle cocks	
9	CP gratings	
10	CP brass jet spray	
11	Insulated Hot water connection pipes	
12	Water heaters of required capacity as per approved design and make	
13	Concealed stop cocks	
14	CP brass Shower rose	
15	CP brass towel rail	
16	Stainless Steel Sink (for warden room, pantry)	

Students toilets in Academic

1	Indian WC (25 %)	
2	European WC (75%)	
3	Urinal with flush cocks (only Boys Toilet)	
4	Wash Basin 540 x 400 mm with C.P. brass pillar tap	
5	PTMT Bottle trap	
6	CP brass Bib cock	
7	CP brass towel rail	
8	CP brass angle cocks	
9	CP gratings	
10	CP brass jet spray	
11	Insulated (Nitrile based rubber foam) hot water connection	

12	Water heaters of required capacity as per approved design and make	
	Faculty Toilets	
1	European WC	
2	Urinal with flush cocks (only Gents Toilet)	
3	Wash Basin 540 x 400 mm with C.P. brass pillar tap	
4	Mirror (600x450 mm)	
5	PTMT Bottle trap	
6	CP brass Bib cock	
7	CP brass Towel rail	
8	Water heaters of required capacity as per approved design and make	

Toilets for differently abled

1	As above but in accordance to CPWD Guidelines and Local building bye laws.	
IWC	One IWC with low level cistern + one Bib tap	
EWC	One EWC with low level cistern + one Bib tap + one Floor trap	
Wash Basin	One Wash basin + CP Brass central hole mixture sensor operated+ PTMT Bottle trap + one Mirror.	
Bath	One CP brass shower rose + one CP Brass bib tap + two Concealed stop cocks + one angle cock + water heater	
Urinal	One Urinal sensor operated flush	
Sink	SS sink + one CP brass sink mixture sensor operated	
Water Supply	Battery based, sensor based pillar cock	

Note :-Inner side of Doors of all toilets shall have clothes peg.

Table - 8 Specification for Internal & External Sanitary and Water supply			
S.No.	Item	Description	All pipes to be insulated for prevention of water freezing
1	Internal water supply in toilets / kitchen	Recessed aluminum composite pipes (PEX) with approved insulation	
2	Internal water supply in shaft	aluminum composite pipes (PEX) with approved insulation	
3	Rainwater pipe	Rigid PVC pipe class B with accessories	
4	Internal Soil & Waste pipe	Rigid PVC pipes class B with accessories	
5	External Soil pipe	Rigid PVC pipes class B with accessories	
6	External Waste & Rainwater pipe	Rigid PVC pipes class B with accessories	
7	External water supply	aluminum composite pipes (PEX) with approved insulation	
8	Manhole C.I. Cover	Precast R.C.C. Cover with frame (heavy duty) circular / rectangular/ Square of required size as per approved design	

Water supply from municipal/ground water sources shall be stored in underground tanks and pumped to overhead water tanks which shall have capacities as listed in Table 13 below:

Table- 9 Water Supply and Storage Tanks			
S.No.	Name	Description	Capacity (liters)
1	RLC Nalagarh	Administration Block	
		Under Ground Domestic Water Tank	30,000
		Overhead Domestic Water Tank	15,000
		Hostel Block	
		Overhead Domestic water tank	30,000
		Overhead Domestic water tank	15,000
2	Fire	Under Ground Static water tank	15,000

3.6 Rainwater Harvesting.

- Rain water from roof tops shall be recharged through holding tanks and recharge wells.
- Rain water from roads shall be drained and disposed suitably to ensure no flooding.

3.7 Fire Detection and Suppression

- The successful Bidder shall design and get approved from Fire Authorities, a proposal for Fire Detection and Suppression as per National Building code guidelines and in accordance with local Fire Authority.
- All the works shall be executed as per these standards, and after successful commissioning and testing shall be got approved by the local Fire Authority.
- The capacity of fire tank is subject to change in line with the requirements of local fire authorities.
- Provision of fire escape staircase as approved by local fire authorities is mandatory

Technical Specifications

For the entire work, HPPWD latest edition specifications shall be used. In case of unavailability of HPPWD specifications, CPWD/NBC/ specifications as directed by employer shall be followed.

The work shall be executed in accordance with drawings and design approved by Employer. The drawing which is approved in principle is enclosed with this document, which shall be followed by the agency. The work shall be executed by the agency after approval of structural design and drawings duly vetted from the institute of repute i.e IIT in India on the basis of general layout of the building enclosed with this document. However, some changes may be required to be made in design and drawing owing to the site requirement and other requirements whatsoever, the same shall be incorporated and the work shall be executed as per approved design and drawing.

It shall be responsibility of the contractor to submit structural design and drawing, duly vetted from the any Indian Institute of Technology and final approval from the employer. Work shall be executed as per approved design and drawings.

The scope of work includes structural design and all work for construction and finishing of pre- engineered structure complete in all respect including all internal wiring fittings and fixtures. Internal water supply and plumbing along with all the necessary fittings, flooring painting (external and internal) etc i.e. building complete in all respect including site demarcation, excavation, sub structure consists of lean concrete, Footing, pedestal, RCC/brick work, plinth beam with reinforcement as per design including all shuttering curing, leveling and dressing duly approved by Employer. The super structure consists of MS tubular sector of TATA Structra and partition walls, floor base, truss etc. of LGSF with approved wall cladding and RCC slab on each floor including roofing etc. as per approved design and drawing. The electrical & plumbing drawing will be got approved from Employer before execution.

The specifications and details of various components are under:

1. **Earth Work:**

Earth work shall be executed as per PWD specifications. The surplus earth if any shall be disposed off as per approved dumping site by the employer and approved by local bodies and shall comply with the environmental laws of the State. The dumping sites needs to be arranged by the contractor.

2. **Foundation:**

Design of foundation for normal SBC (to be tested by the reputed agency by contractor himself) based on super structure load reaction and local seismic ,snow and wind conditions and construction at site including site demarcation ,excavation 150 mm thick, PCC, Footing, pedestal ,brick work, plinth beam with reinforcement as per design including all shuttering curing, leveling and dressing, plinth protection and drain all around the building etc. dully approved by the Employer as per approved drawings.

3. **Structural framework:**

Providing and installation main structure frame components viz columns, beams & cross beams, bracing, gussets plates etc comprising of MS tubular section of TATA Structura as per approved design and drawing. Wall frames made up of roll formed cold rolled lipped steel section of required specification made out from sheet of base metal of minimum thickness 0.95 mm or more with Alum/Zinc coating also known as galvalume (with 55% aluminum and 45% zinc) conforming ASTM A792 for galvalume with punching for screws and provision of electrical and plumbing conducts etc.in standard section cold rolled steel in approved size for wall studs, bracings, floor joists, runners, roof truss and purlins with minimum 150 gsm coating of aluminium-zinc for anti rusting and 550 MPa of yield strength i/c provisions for lip notches ,lip cuts, web notches through highly précised machines ,Exterior wall and all wall spacing should not exceed 410mm .Provision for service web holes of 34 mm dia. along the walls. The steel pertains the assembly for load bearing walls with SDST galvanized wafer head screw of dimensions having head dia, not less than 10 mm and assembly for load bearing joists, trusses with hexagonal head screws with heavy shear

strength to withstand heavy loads ,also provision of 1mm tolerance between vertical studs and top bottom plates to withstand earthquake situations. The provision of erection withholds sown bolts minimum of 120 mm length with subsequent dia. fixed at each 600 mmm distance along the wall length 190 mm * 16 mm at corner and window with nut and bolts system (Hilti, power fastener). The gap between bottom steel track and plinth beam to be filled with continuous rubber gasket. The purlin provided for roof sheets spacing at around 600 mm fixed with hex. Head screws and L cleats. The structure will contain trusses of subsequent length with a maximum spacing of 1220 mm with load bearing walls with provision for doors and window's. the cross members provided for strength called bracings, along with strap bracing. Proper holed down ties (Simpson or equivalent) must be installed at all corners and required necessary area's (hold down roof , truss clips, girder, truss, connector, stud plate, ties, hurricane ties ,floor to floor connector, foundation connectors should be installed from frames to foundation).

The bidder must produce the proof of having facility of automated C.N.C. cold roll forming machine of reputed make having capacity of rolling material of thickness of 0.75 mm to 1.80 mm and other parameters required for the fabrication. It will be the responsibility of the bidder to get inspected the workshop by the designated committee deputed by the employer at his risk and cost before award of the work. The structural steel framework shall be suitably protected from fire as per NBC norms with suitable fire protection method.

For RCC structures, the structural steel shall be of appropriate diameter and grade as per approved structural design. The structural steel bars shall be from TISCO (TATA).

4. **Building codes and standards**

The light gauge cold formed steel structure members shall be designed as per International Building Codes or any equivalent code of practice. other Indian standards codes are

- a. IS 4923:2017 MS tubular structural members
- b. IS 811:1987 cold formed light gouge structure steel sections (under evaluation).
- c. IS 801:1975- Code of practice for use of cold form light gauge steel structural members in general building construction (first revision).
- d. SP 6:1980 Handbook for structural engineers – cold formed, light gauge steel structures.

5. **Design loads:**

The building and structure shall be designed in accordance with the National Building Code of India, and IS 875,Code of Practice for Design Loads for Buildings and Structures.

6. **Dead load &Live Load:**

The load of the structure and load imposed on the structure shall conform to IS 875:1987 (Part I,II,III,IV,V)

7. **Seismic Loads:**

The structure shall be designed to resist seismic forces as per the seismic zone, confirming to IS:1893 Part I-2002 (Criteria for Earthquake Resistant design of Structures).

8. **Wind Loads:**

The structure shall be designed to take wind loads as per IS: 875(Part III) -1987(Reaffirmed 1997),1987 addition of the NVCI-Part VI structural design.

9. **ROOFING:**

Refer Table Number – 3 of Section 6.

The roofing sheets shall be pre-coated galvalume iron profile sheets of TATA(Lysaght) (size, shape & Pitch of corrugation as approved by Employer) 0.50 mm + /-5 % total coated thickness (TCT) thick zink aluminum coating @150 gsm with SDP* RW coated with total coating of 35 micron along with accessories. Sheet should have protecting guard film of 25 microns minimum to avoid scratches while transportation and should be supplied in single length up to 12 meters or as desired by the employer. The sheet shall be fixed using self –drilling self tapping screw of size(5.5*55 mm) with EPDM seal.

Providing and fixing thermal insulation with rock wool density 32 kg /cum, 50 mm thick wrapped in polythene bags placed between the roofing sheets and held in position. Providing and fixing ridge, flashing eaves gutter and down pipes of sizes should be as per the design and as approved by the employer. Ridge flashing, gutter shall be of pre-coated GI sheets of thickness 0.45 mm of TATA (Lysaght) properly sealed for water leakages etc. Down pipes made of PVC (FINOLEX or equivalent) of appropriate dia should be provided at all strategic location with spacing not more than 10 meters. All the down pipes should first be terminated in the chamber of minimum depth as decided by employer and all the chamber should be connected to one common chamber of appropriate size. Location and size of the main chamber shall be decided by the employer. Gutter and eve board along with down pipe is to be provided as per approved design.

10. Walls :

Internal cladding: Supply and fixing internal wall with double layer of boards with 8 mm thick cement fibre boards type B class III and outer most layer should be heavy duty 8 mm thick cement board water proof type B class III as per IS :14862:2000 on wall panels of cold formed galvanized light guage steel frame structure to form wall/ partition on internal face of the frame and finished & flexed with self- drilling ,tapping screws ,fasteners of approved make including jointing and fixing to a flush finishing of tapered and square edges of the board recommended filler ,jointing tapes and finishers as per manufacturer specifications , The hollow wall space between the cement boards will be provided with rock wool insulation conforming to IS 8183 and of thickness not less 50 mm for thermal and acoustic insulation. Toilets will have one layer of 10 mm thick cement fibre board type B class III and tiles as specified in para 15.

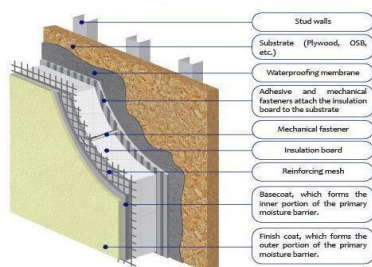
External Cladding:

Exterior Insulation and Finish System / GRC cladding / ACP panels (wherever applicable)

The details of the EIFS shall be as follows

1. LGSF wall panel, rockwool insulation, building wrap paper for vapor resistance, first layer of moisture/fire resistant heavy duty 9 mm thick cement fiber board (high pressure steam Cured) confirming to IS 14862:2000, Type 'A', category IV : compressed after forming & before autoclaving After that second layer of 10mm thick moisture/fire resistant heavy duty 10 mm thick cement fiber board (high pressure steam Cured) confirming to IS 14862:2000, Type 'A', category IV : compressed after forming & before autoclaving complete, by joint filling using self-adhesive fiberglass tape & jointing compound of approved brand such as laticrete, elastomeric jointing compounds. A groove of 4mm will be provided between two adjacent FCBs and the groove will be filled with 6mm or 8mm wicker rod (basically a foam material) followed silicone filling over it.
2. Final layer of cladding will be Exterior Insulation and Finish System (EIFS) using Expanded Polystyrene (EPS) sheets / alternative to EPS material for providing better fire resistance, fiberglass mesh and base coat, primer coat and finish coat. All voids must be filled with an insulating material, either a low expanding polyurethane spray foam or slivers of scrap EPS board. Work to be executed by manufacturer certified personnel with good quality workmanship. Any defects / cracks in the EIFS system shall be rectified by the contractor at his own risk and cost .

Exterior insulation finishing system (EIFS) up to 50mm thickness as per details shown in the indicative picture below in combination with GRC / ACP cladding wherever applicable.



(c) Wet Area :- First class ½ brick masonry walls with glazed tile dado up to ceiling height shall be provided.

11. Flooring

(Refer Table Number 2). Providing and laying granite stone slab/ double charged Vitrified /rectified Ceramic floor tiles of minimum size 600 * 600 mm * 10 mm confirming to IS 15622 of approved make in all colors and shaded, laid on 20 mm thick cement mortar 1:4 (1 cement :4 coarse sand) with spacer of required thickness or by using tile adhesive as per the manufacturers specification including grouting the joints with epoxy grout matching to the shade of tiles etc. minimum size of tile 600*600 mm*10 mm in approved color shade and pattern with spacer of approved thickness.

Providing and fixing of intermediate floor using profiled metallic deck sheet of thickness maximum 0.9 mm and grade of steel S350 GD as per IS :513 with galvanization of 275 gsm as per IS:277 with minimum through depth of 44 mm and shall serve as permanent shuttering to cast in - situ/at all levels as per structural design approved by the employer. The sheet shall be fixed to floor joist using self-drilling, self-tapping screw of size(5.5x55mm) with EPDM seal. The tiling works shall be as per the specification listed above.

12. Wet Areas

Flooring in wet area like Toilet shall be waterproof liner under tile and anti-skid full bodied vitrified tiles of 300x300x8mm thick of approved make and color laid on a bed of 20mm thick cement mortar 1:3 (1cement:3 coarse sand) finished with a flush pointing with epoxy grout including preparation of surface, cleaning etc. complete. Tile should conform IS:15622. The wet areas shall be subjected to successful test after waterproofing treatment before application of further finishes.

13. DADO

Glazed ceramic tiles of 300x450mm or 8mm thick, up to ceiling height in toilet and shall be used for Dado/wall tiles, of approved colors and make fixed on wall with the help of adequate adhesive, finishing, cleaning etc. complete. Tile should conform to IS:15622. On tread & riser of steps 20mm thick granite-stone slab shall be fixed or as decided by the employer.

14. RAILING.

(Refer Table number 4)

Providing and fixing Mild steel railing made of hollow sections, channels, plates etc. as per approved design, Including welding, grinding, making curvature (Wherever required), corrosion protection coat with red oxide, painting with approved color of paint and fitting with approved quality and size of wooden hand rail and wooden balusters along with necessary steel nuts and bolts complete, i/c fixing the railing with necessary accessories and & steel dash fasteners, steel bolts etc., of required size along steps and in all the staircases/ Ramp / balconies and lobby area as shown in architecture drawings attached with NIT and as per entire satisfaction and direction by the employer. The c/c distance of vertical post should not be more than 15cm. The railing design must be got approved from employer.

Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc, Including welding, grinding, buffing, polishing and making curvature (Wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories and & stainless steel dash fasteners, stainless steel bolts etc., of required size along steps and in all the balconies and lobby area as shown in architecture drawings attached with NIT and as per

entire satisfaction and direction by the employer. In balcony and lobby area c/c distance of vertical steel post should not be more than 15cm.

15. **SANITARY**

(Refer table number 6 and 7)

Supply and fixing of sanitary items as per following item description including all accessories, specials, bends etc. including all material, labour, T&Ps according to manufacturer's specification, drawings and as approved and directed by employer.

Providing and fixing mirror of superior quality and size 600mmx450mm with beveled edge with 6mm thick hard board back fixed to wall with wooden cleats and C.P. brass screws & washers complete. (Mirror is to be fixed in every toilet of each flat).

Providing and fixing CP Brass towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fitting arrangement of approved quality and color. 600mm long towel rail provided at appropriate location in every toilet of each flat.

Providing and fixing CP Brass towel ring in every toilet of each flat.

Providing and fixing vitreous china pedestal type water closet (European type) (HINDWARE/CERA/NYCER/JAQUAR/TOTO) with seal and lid, 10 liter low level ISI marked PVC white flushing cistern (HINDWARE/CERA/NYCER/JAQUAR/TOTO) flush bend with fittings and CI brackets, 40mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design. Including painting of fittings and brackets, cutting and making good the walls and floors wherever required, along with ISI marked solid plastic seat and lid of all complete in every toilet of each flat of color as approved by employer.

Vitreous China Wash Basin (HINDWARE/CERA/NYCER/JAQUAR/TOTO) of size 540x400 with CS/MS brackets, 32mm C.P., brass waste of standard pattern, including painting of fittings and brackets, with a pair of 15mm C.P. Brass Pillar Cock in every toilet of colors as approved by employer.

Providing & fixing PVC Flexible waste pipe, of 32mm dia. For wash basin coupling etc. Complete in every toilet of each flat.

Providing & fixing PVC Flexible waste pipe, of 40mm dia. for sink coupling etc. complete in every toilet of each flat.

Providing & fixing PVC flexible waste pipe, of 40mm dia. for sink coupling etc. complete of every toilet of each flat.

Providing & Fixing 100mm dia. PVC Nahani trap / P Trap of self-cleaning design in required numbers in every toilet of each flat.

- Providing rainwater harvesting system of approved size.

16. **WATER SUPPLY:**

(Refer table number 7)

Supply and fixing water supply items as per item description including all material, labour, T&Ps according to manufacturer's specification, drawings as approved and directed by employer.

Providing and laying of water supply line of approved make.

- Providing and laying / fixing cross linked polyethylene (PEX) composite pipe with brass fittings of 15mm, 20mm, 25mm, 32mm, 40 mm dia. Nominal bore including connection from main pipeline, as required and making good the chase.

- Providing and fixing 15mm, 20mm, 25mm, 32 mm, 40 mm dia. bore brass Gate Valve ISI marked with brass wheel of approved quality (screwed end) as per required and approved design.
- Providing and fixing 15mm dia. Nominal bore cross linked polyethylene (PEX) composite pipe for hot water connection pipe with brass union 45cms & 60 cms length.
- Providing and fixing 150mm dia CP Brass Shower Rose with 15mm dia inlet.
- Providing and fixing 150mm dia Nominal bore CP Brass long body Bib Cock of approved quality confirming to IS:8931 weighing not less than 690gms (JAQUAR / ESS ESS/ HINDWARE/JOHNSON).
- Providing and fixing 15mm dia Nominal bore CP Brass Stop Cock (concealed) (JAQUAR / ESS ESS/ HINDWARE/JOHNSON) of approved quality confirming to IS:8931.
- Providing and fixing of minimum of 110mm PVC (FINOLEX) pipe with 4.5Kg/cm² pressure band, door band, tee and socket, as per required, for the outlet of wastewater till main-holes.
- Providing and fixing triple layer PVC water tank of approved make and capacity (Syntax, Jai Bharat, Vectous).
- All the water supply pipes should be insulated with appropriate size nitrile foam based, min. ½ inch thick covering with excellent insulating properties, fully covering the pipe properly secured by good quality taping. External connection pipes should be buried at least 3 Feet below ground for insulation from cold climate. There should be appropriate insulating arrangement for overhead water tanks for preventing the water from freezing.

17. PAINTING:

(Refer Table number 3 and 4)

Providing and applying jointing compounds to finish the joints in external cladding and thereafter base preparation, priming coat, wall putty and final finish as per approved drawings and design. Internal cladding should be finished with proper jointing compound to make smooth finish of the wall and and thereafter base preparation, priming coat, wall putty, sand papering and final finish as per approved drawings and design.

Wherever required, the external cladding shall be of decorative patterned finished as per approval from the employer for better aesthetics.

18. CEILING

(Refer Table Number 3)

Providing and fixing false ceiling with 3mm thick ACP sheet exterior grade / side laminated tiles/ acoustic tiles / cement board fixed into T-Grid frame work with main runners and cross runners fixed to main runners placed 600mm centre to centre both ways so as to form a grid of 600mm square. The frame work shall be suspended from ceiling by level adjusting hangers off. The suspenders shall be placed 600x1200 center to center including fixing to the frame. In wet area ACP sheets 3.0 mm thick exterior grade/ coated metallic sheet ceiling (non-corrosive) should be provided.

19. ELECTRICAL WORK:

Refer Additional condition for Electrical and Allied Services and table number 5.

Electrical connection shall be in 3 phase wiring running up to external face of the wall of the structure near main door. All wirings shall be concealed type & shall be of PVC insulates copper flexible FRLS wire of ISI marked.

- ❖ ISI marked PVC copper flexible FRLS wire of required dia.– for point internal wiring.
- ❖ ISI marked PVC copper flexible FRLS wire of required dia. – for main circuit wiring.
- ❖ PVC 25 mm conduit of standard make & ISI marked.

The following electrical fittings shall be considered for all rooms:

- I. Exhaust fan minimum size of 300 X 300 mm ISI marked with air forced openable fins as per requirement.
- II. LED light within built LED as per requirement.
- III. 5A switches/socket ISI marked as per requirement.
- IV. 15 A switches/socket ISI marked as per requirement.
- V. MCB ISI marked as per requirement.
- VI. Switch board: PVC with standard selection ISI marked as per requirement (Modular).
- VII. Distribution board ISI marked as per requirement.
- VIII. Ceiling mounted grid of tube light of size 600x600 mm LED as per required size of room.
- IX. Split type of air conditioners with all fittings, fixtures, outdoor unit, drainage pipes etc. complete shall be provided in office and selected areas as per client approval.

Note:-

1. All the lighting circuits should be wired with 3 X 1.5 Sq.mm FRLS multi-stand wires of Havells, Finolex or equivalent make with approval of Employer.
2. All the power plugs (15/16 amps) and light plugs (5/6 amps) should be wired with 3 X 4.0Sq.mm FRLS multi-stand wires of Havells, Finolex or equivalent make with approval of Employer.
3. All the power plugs (15/16 amps) should be controlled through individual MCB of appropriate ratings of Havells, Legrand, North west, L&T or equivalent make with approval of Employer.
4. Not more than three light plugs (5/6 amps) should be connected in circuit controlled through MCB of appropriate rating.
5. Maximum of 10 light points or 800 Watts load should be connected in a circuit controlled through MCB of appropriate rating.
6. All the switches and sockets should be Modular type.
7. All the DB's (Vertical or Horizontal) should be double door type of make Le grand, Siemens, C&S, L&T(Hager), Schneider with the approval of Employer.
8. Free/Wall mounting LT panel made of CRCA sheet 1.6 mm thick with 200 Amp TPN MCCB as incomer along with required number of outgoing feeders with one spare feeder and having digital voltmeter and ammeter.
9. Two earth pits with GI plate earthing to each building are to be provided.
10. All the electrical works should be carried out as per PWD general specification for electrical works, part – 1, Internal 2005 with up to date amendments.
11. All the electrical works should be carried out by 'A' Class wiring contractor.

12. All the VTPN & other DBs will be in the scope of the contractor.
13. Any increase in the number of points /luminaries within range of 5% of total quantity will be deemed to be in the scope of the contractor.
14. Every switch board/box, fans and all the fixtures should be duly earthed.
15. All the sub mains should be connected with armored copper cable of appropriate rating with two number earth wire of 4.0 mm dia. bare conductor.
16. Lightening protection complete with lightening conductor connecting Hnp (Copper) and earthing set as directed by Employer.

20. PRODUCTS

21.1 Materials

All materials to be supplied by the Contractor shall conform to relevant Indian Standards as approved by the Employer.

Steel materials required for the work shall be free from imperfections, mill scales, slag intrusions, laminations, pitting, rust etc that may impair strength, durability and appearance. All materials shall be of tested quality only. Test Certificates in respect of each consignment shall be submitted to Employer before use in work. Whenever the materials are permitted for procurement from identified stocks, a random sample shall be tested at an approved laboratory as directed by the Employer.

21.2 Structural Steel

Structural steel conforming to IS 2062: Grade B-fe 410 (yield strength = 240). MPa and IS 4923: 2017 for MS tubular section shall be used for main members of girder structures, cross girder members, bracings, gussets plates etc. Reinforcement steel shall be from Tata (TISCO).

21.2.1 Bolts and Nuts

For splicing of any structural member wherever required HSFG bolts and nuts of property class-8.8 conforming to IS:3757 and IS:6623 (1985) respectively shall be used. Unless specified otherwise, the bolts shall be hexagonal. All the HSFG bolts are tightened up to the proof load as per IS:4000 (1992). All anchor bolts shall be of property class of 8.8 shall conform to IS:1363 (1992), IS:1364 (1992) and IS:1367, as applicable, and unless specified otherwise, shall be hexagonal. All nuts shall conform to property class compatible with the property class of the bolt used. Washers For HSFG bolts, washer shall be conforming to IS:6649 (1985).

Plain washers shall be conforming to IS:5369 (1975), unless otherwise specified. One washer shall be supplied with each bolt and, in case of special types of bolts, more than one washer as needed for the purpose shall be supplied. An additional double coil helical spring washer, conforming to IS: 6755 (1980), shall be provided for bolts carrying dynamic or fluctuating loads and those in direct tension.

21.3 STORAGE OF MATERIALS

21.3.1 General

All materials shall be so stored as to prevent deterioration, and to ensure the preservation of their quality and fitness for the work. If required by the Employer, the materials shall be stored under cover and suitably painted for the protection against weather condition. Any material, which has deteriorated or has been damaged shall be removed from site and replaced by new members as directed by the Employer at no extra cost and time.

- a) The steel to be used in fabrication shall be stored in a separate stack clear of the ground section wise and lengthwise.
- b) The storage area shall be kept clean and property drained. Structural steel shall be so stored and handled in such a manner that members are not subject to excessive stresses and damage. Girders and beams shall be placed in upright position. Long members shall be supported on closely spaced skids to avoid unacceptable deflection.
- c) The Contractor shall have a suitable shop storage yard at his own premises for storing the fabricated steel structures and other materials. The yard shall have proper facilities such as drainage and lighting including access for cranes, trailers and other heavy equipments.
- d) All shops / field connection materials, shop paints etc. shall be stored on racks and platforms, off the ground in a properly covered building by the contractor.
- e) The contractor shall have proper arrangement for sand blasting of steel sections so that these sand blasted materials may be used for fabrication wherever required

22. UPVC / Aluminum /wooden doors, windows, ventilators etc. glazing specifications

22.1 Extent and intent:-

The work shall be carried out in the factory through an approved special agency, who shall furnish all material, labour, accessories, equipment, tool and plants and incidentals required for providing and installing anodized / powder – coated aluminum doors, windows, claddings, louvers and other items as called for on the drawings. The drawings and specifications cover the major requirement only. The supplying of additional fastenings, accessories, fixtures and other items not mentioned specifically herein, but which are necessary to make a complete installation shall be a part of this contract. Hinges for openable panel shall be stainless steel friction hinges / stays selected for specified wind load and dead loads or specifically extruded in-built hinges.

22.2 General:-

Aluminum doors, windows etc. shall be of sizes, section details as approved by the employer. The details shown on the drawings indicate generally the sizes of the component part and general standards. These may be varied slightly to suit the standard adopted by the manufacturers. Before proceeding with any manufacturing, the contractor shall prepare and submit complete manufacturing and installation drawings for approval of the employer and no work shall be performed until the approval of these drawing is obtained.

22.3 Sections:-

Aluminum doors and windows shall be fabricated from extruded sections of profiles as details on drawings. The sections shall be extruded by the manufacturers approved by the employer. The aluminum extruded sections shall conform to BIS designation IIE/IIV 9 WP alloy, with chemical composition technical properties, as per IS: 733 and IS: 1285. The permissible tolerance of the extruded sections shall be such as not to impair the proper and smooth function / operations and appearance of doors and windows.

22.4 Fabrication:-

Door, windows etc. shall be fabricated to sizes at factory and shall be of section, sizes, combinations and details as shown on the drawings. All doors, windows etc. shall have mechanical joints. The joints shall be designed to withstand a minimum wind load of 150 Kg per Sqm. The design shall also incur that the maximum deflection of any member shall not exceed 1/175 of the span of the member. All member shall be accurately machined and fitted to form hairline joints prior to assembly. The joints accessories such as cleats, brackets etc. shall be of such material as not to cause any bimetallic action. The design of the joints and accessories shall be such that the accessories are fully concealed. The fabrication of doors, windows,

etc. shall be done in suitable sections to facilitate easy transportation, handling and installation. Adequate provision shall be made in the door and window members for anchoring to support and fixing of hardware and other fixture as approved by the employer.

Note: Any discrepancies noticed in architectural drawings / technical specifications should be brought to the notice of employer and his decision shall be final.

22.5 Anodizing / Powder coating: -

All aluminum sections shall be powder coated (minimum 50 micron thickness) as per requirement as per IS: 7088 and to required colour as specified in the item as per IS: 1868 grading as specified in item schedule after cutting the member to requisite sizes before the final assembly. Powder coating shall be of minimum 50-micron thickness. Anodizing conforming to specified grade with minimum average thickness of 15 micron when measured as per IS: 612. The anodic coating shall be properly sealed by steams or in boiling water are cold sealing process as per IS: 1868 / IS: 6057. Polythene tape protection shall be applied on the anodized section before they are brought to site. All care shall be taken to ensure surface protection during transportation, storage at site and installation. The tape protection shall be removed on installation. The sample will be tested in the approved laboratory and cost of samples; etc. shall be borne by the contractor.

22.6 Protection of finish:-

All aluminum members shall be rapped with approved self – adhesive non – staining PVC tapes.

22.7 Installation: -

Just prior to installation the doors, windows, etc. shall be uncreated and stacked on edge on level bearers and supported evenly. The frame shall be fixed into position true to line and level using adequate number of expansion machine bolts, anchor fasteners, of approved size and manufacture and in an approved manner. The holes and concrete / masonry members for housing anchor bolts shall be drilled with an electrical drill.

The door / windows assemble as shown on drawings shall be placed in correct final position on the opening and marks made on concrete members at jambs, sills and heads against the hole provided in frames for anchoring. The frame shall then be removed from the opening and laid aside. Neat holes with parallel sides of appropriate size shall then be drilled in the concrete members with an electric drill at the marking to house the expansion bolts. The expansion bolts shall then be inserted in the holes, struck with a light hammer till the nut is forced into the anchor shell. The frame shall then be placed in final position in the opening and anchored to the support through cadmium plated machine screws of required size and anchored to the support through cadmium plated machine screws of required size threaded to expansion bolts. The frame shall be set in the opening by using wooden wedges at supports and be plumbed in position. The wedges shall invariably be placed at the meeting at points of glazing bars and frames.

22.8 EPDM rubber / neoprene gaskets:-

The contractor shall provide and install EPDM rubber / neoprene gasket of approved size and profile at all locations as shown and as called for to render the doors, window etc. absolutely air light and weather tight. The contractor shall produce samples of the gaskets for approval and shall procure the same after approval only. The gasket material should have atleast 10 years warranty.

22.9 Fittings: -

Hinges, stays, handles, tower bolts, locks and other fittings shall be powder coated in same finish of joinery and of quality and manufacturer as approved by the employer.

22.10 Poly – sulphide :-

The gaps between frames and supports and also any gaps in the door and windows section shall be raked out as directed and filled with poly-sulphide of approved colour and make to ensure complete water tightness. The poly-sulphide shall be of such colour and composition that it would not stain the masonry / concrete work, shall receive paint without bleeding, will not sag or run and shall not set hard or dry out in any conditions of weather. The sample of poly sulphide to be used for this purpose shall be got approved from the employer before its actual use.

Note: Any discrepancies noticed in architectural drawings / technical specification should be brought to the notice of employer and his decisions shall be final.

Wooden doors as per Table 4 shall be as per HPPWD specifications.

22.11 Details of UPVC windows

The profiles are hollow, multi-chambered and steel reinforced with an outer wall thickness of 2.2 mm.

Construction

The window unit is designed with all corners, transom/mullion joints mitered and fusion welded. The entire window is steel reinforced, which further increases the structural integrity of the frame. The window unit is designed such that water drainage does not pass through the reinforcement chamber. The product is free from all sharp edges and blurs.

Hardware & Fittings

all hardware including its fixings is of materials resistant to or protected against atmospheric corrosion. Where hardware is fixed through the reinforcement, all screws penetrate the reinforcement by at least 2 mm. The windows incorporate a large variety of security devices such as multi-point locking including espagnolettes with mushroom headed catch. Handles and locks are designed so that they cannot be released from the outside by any mechanism.

Installation

The Window Systems can be fixed directly to the brickwork or surrounding structure using proprietary fixings and silicon sealant. Alternatively, a variable fixing plug fixed to the outside of the frame can be simply fixed to the structure, no matter what the cavity width, no timber or other sub frames are necessary.

Glazing

Double-glazing up to 30mm in air-conditioned areas. In the rest of the areas it shall be single pane of 5mm thick. The Window System shall be doubly glazed with 5-12 mm thick toughened glass with 10-15mm Gap in between which is held in place with a spacer bar and filled with Argon gas and properly sealed all around.

Water Drainage

Water drainage is made in the profile to ensure that if any water comes due to an open window, then it is immediately drained out.

Contractor shall propose the system to the employer and get it approved before actual installation at site.

Supplementary Information

Provided by the Employer

1. The supplementary information provided to the Bidder to assist the Bidder in preparing the Bid. The Employer bears no liability for the supplementary information provided and the Bidder is advised to prepare their own investigations.

2. The Bidder shall visit and study the site and satisfy himself regarding access to site, working conditions, accommodation for workers etc-
3. The Bidder shall make his own topography / utility / soil investigation survey for the desired outcome to the satisfaction of the client.
4. The drawings attached with the tender showing floor plans, section and 3D view are indicative only. Bidder should visit the site and verify the ground information at his risk and cost

Personnel Requirements

Using Form PER-1 and PER-2 in Section 4 (Bidding Forms), the Bidder must demonstrate it has personnel that meet the following requirements:

Table 9

No.	Position	Qualification	Minimum Experience	Experience In Similar Work	Period of deployment
			[years]	[years]	(months)
1	Construction cum Project Manager – 1 Nos.	B.Tech Civil	12	3	Intermittent, as and when required
2	Site Engineers – 1 Nos.	B.Tech	7	3	Continuous
3	Architectural Design Manager – 1 Nos.	Msc/ M.arch	15	5	Intermittent, as and when required
4	Architect – 1 Nos.	B.Arch	10	3	As required by work program
6	Structural Design Engineers – 1 Nos.	M.Tech – structures	12	5	As required by work program
7	Electrical Design Engineer – 1 Nos.	M.Tech – Electrical	10	3	As required by work program
8	Public Health Engineers - 1	M.Tech (Civil)	10	3	As required by work program
9	HVAC Engineer - 1	B.Tech (Mech.)	10	5	As required by work program
10	Drafts men – 2 Nos.	Diploma in Architecture/ Civil	5	2	Intermittent, as and when required
11	Quantity Surveyor -1 Nos.	B.Tech Civil	10	5	As required by work program
12	QA QC Engineer	B.Tech Civil	10	5	Intermittent, as and when required
13	HSE Officer	B.sc. With diploma in safety management from Government institution	5	2	Intermittent, as and when required

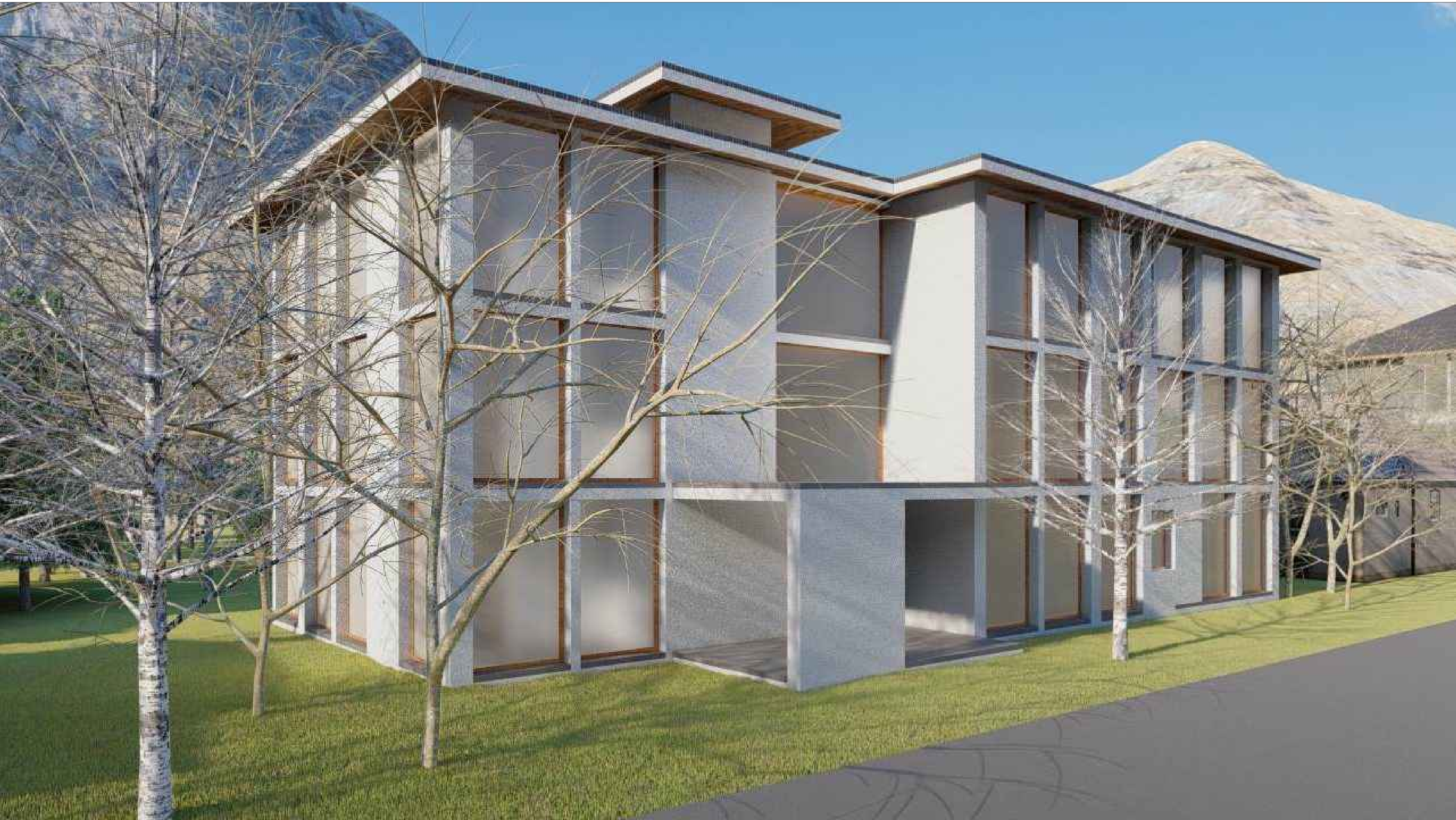
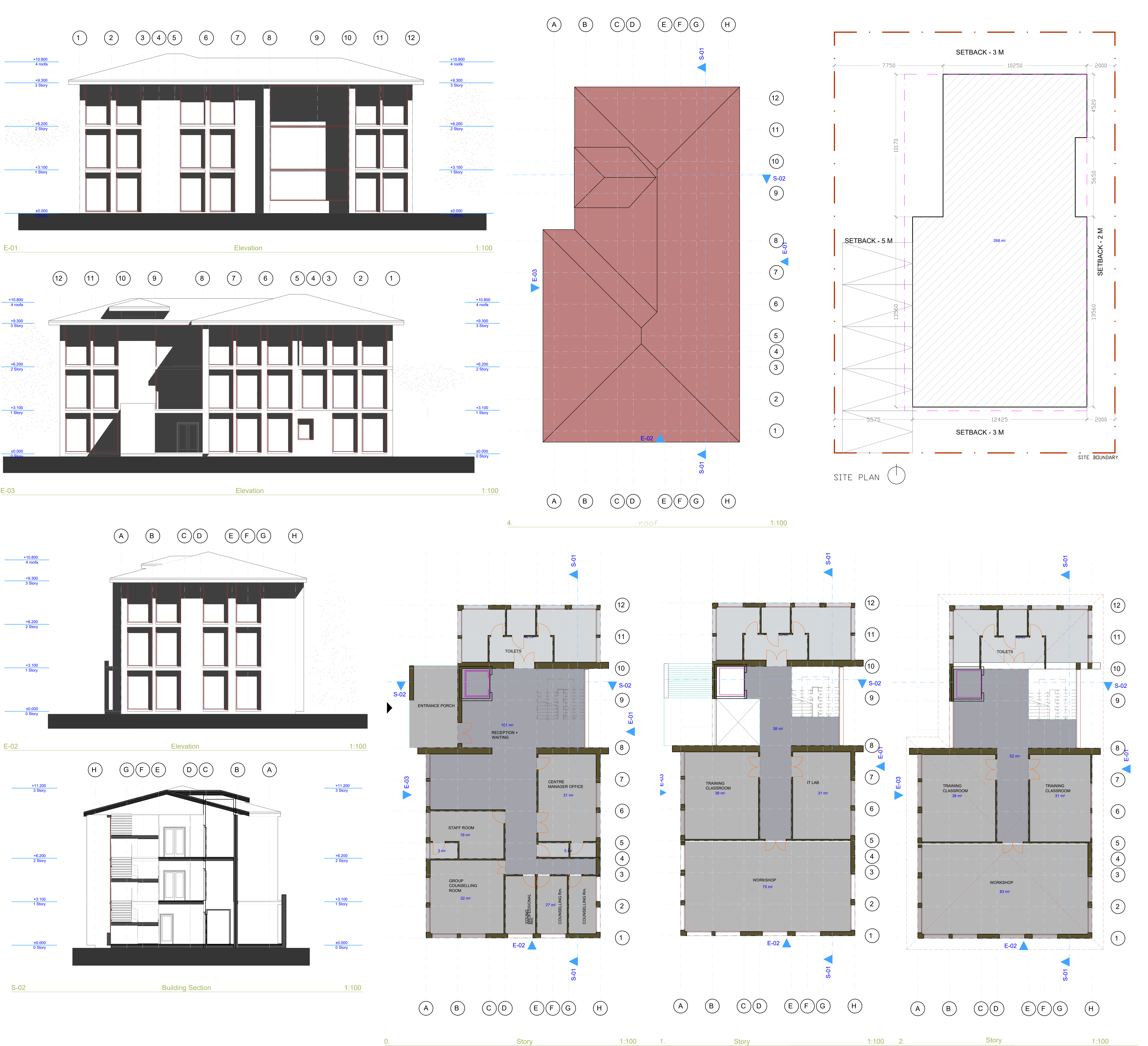
Equipment Requirements

Using Form EQU in Section 4 (Bidding Forms), the Bidder must demonstrate it has the key equipment listed below:

Table 10

No.	Equipment Type and Characteristics	Minimum Number Required
1	Facility of automated CNC cold roll forming machine of reputed make having capacity of rolling material of thickness 0.75 mm to 1.80 mm and other parameters required for the fabrication of LGSF material	1 No.
2.	Facility (Workshop space) of Fabrication and machine welding	1 No.
3	Excavators with chiseling equipment	1 No.
4	Tippers/Dumpers	2 No.
5	Transit Concrete mix plant – weigh batch type	1 No.
6	Mechanical Concrete mixers	2No.
7	Material Hoist	2 No.
8	Hydra	1 No
9.	Crane capable of handling required load of material up to required height and reach, with proper safety devices (can be hired) and should be able to help in erection of structure as per the approved work program.	1 No.

It is the imperative for the contractor to provide a fully functional site laboratory with adequate equipment as per approved list for testing of construction material. The laboratory should have qualified and approved staff for testing of construction material.



MCC KAZA

VIEWS

AREA STATEMENT	
SITE AREA:600 sqm	
LVL 0:	288 sqm
LVL 01	268 sqm
LVL 02:	268 sqm
TOTAL:	824 sqm

NOTE:
THIS DRAWING IS INDICATIVE TO
SHOW THAT THE REQUIREMENTS ARE
FULFILLED WITHIN THE GIVEN PLOT
AREA AND FOR HIGHER LEVEL
ESTIMATES.
CONTRACTOR SHOULD STRICTLY PLAN
AND DESIGN THE BUILDING KEEPING IN
VIEW, THE BUILT UP AREAS
MENTIONED IN THE TABLE 1 SECTION 6
OF TENDER DOCUMENT.

AREA STATEMENT

SITE AREA - 2177 SQM

GROUND FLOOR - 542 SQM

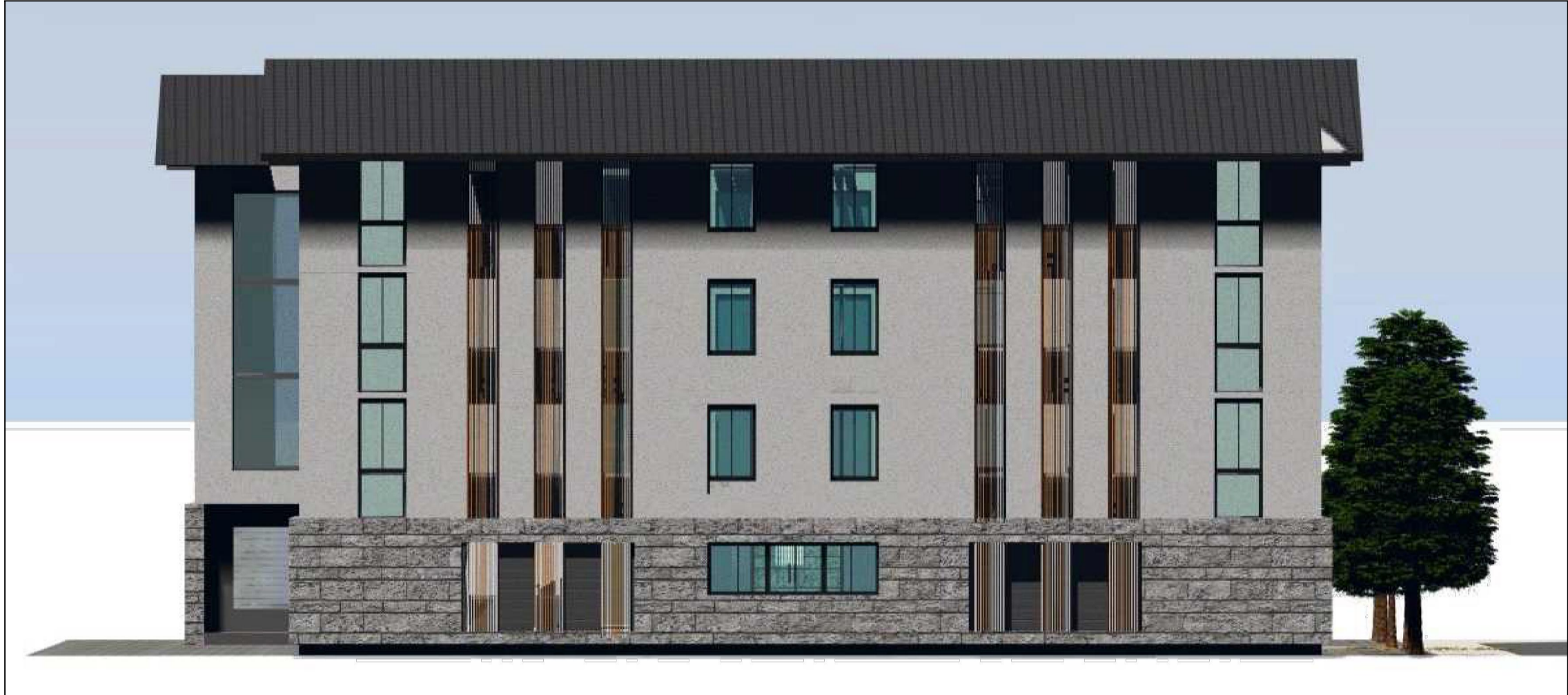
FIRST FLOOR - 542 SQM

SECOND FLOOR - 542 SQM

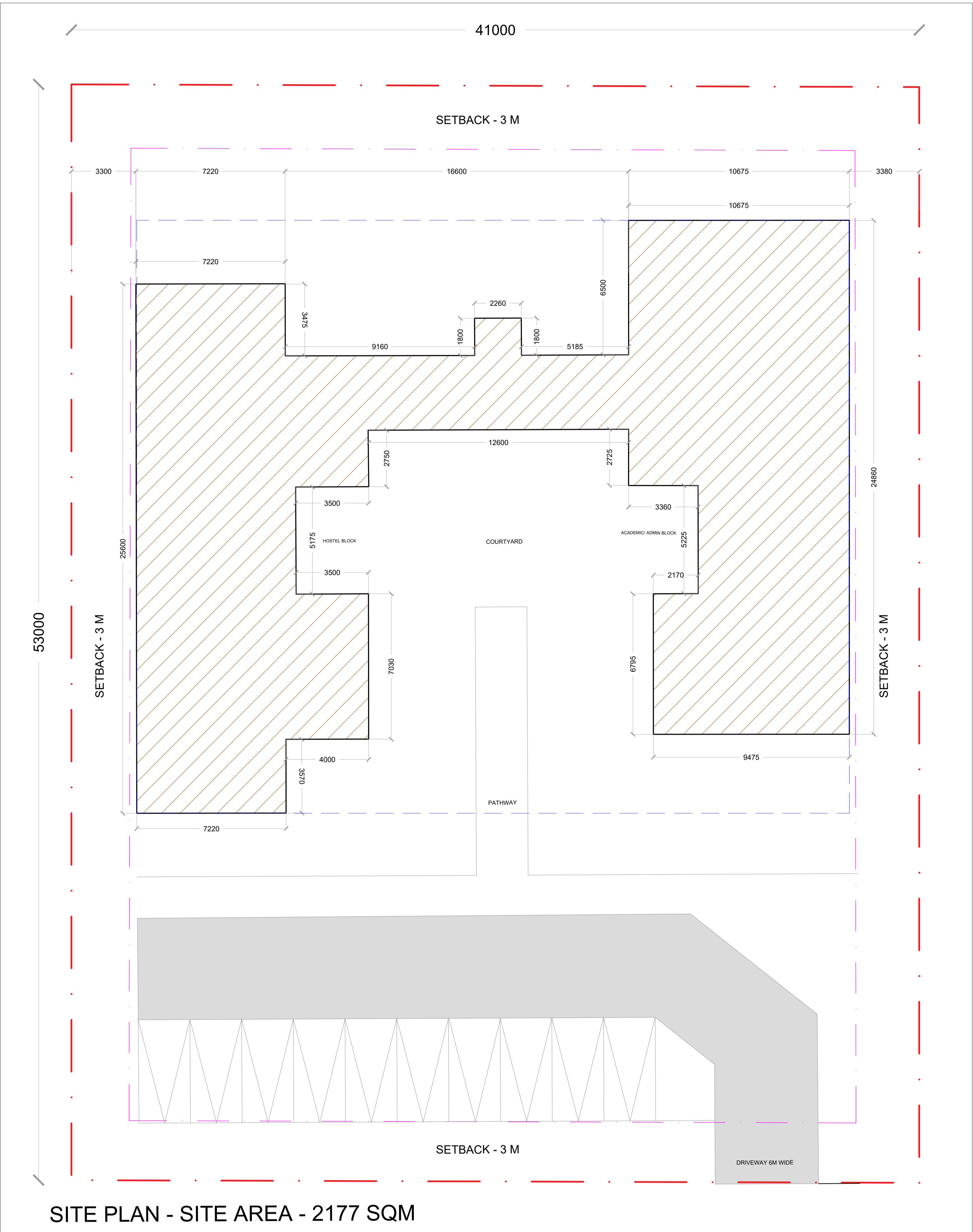
THIRD FLOOR - 290 SQM



ELEVATION

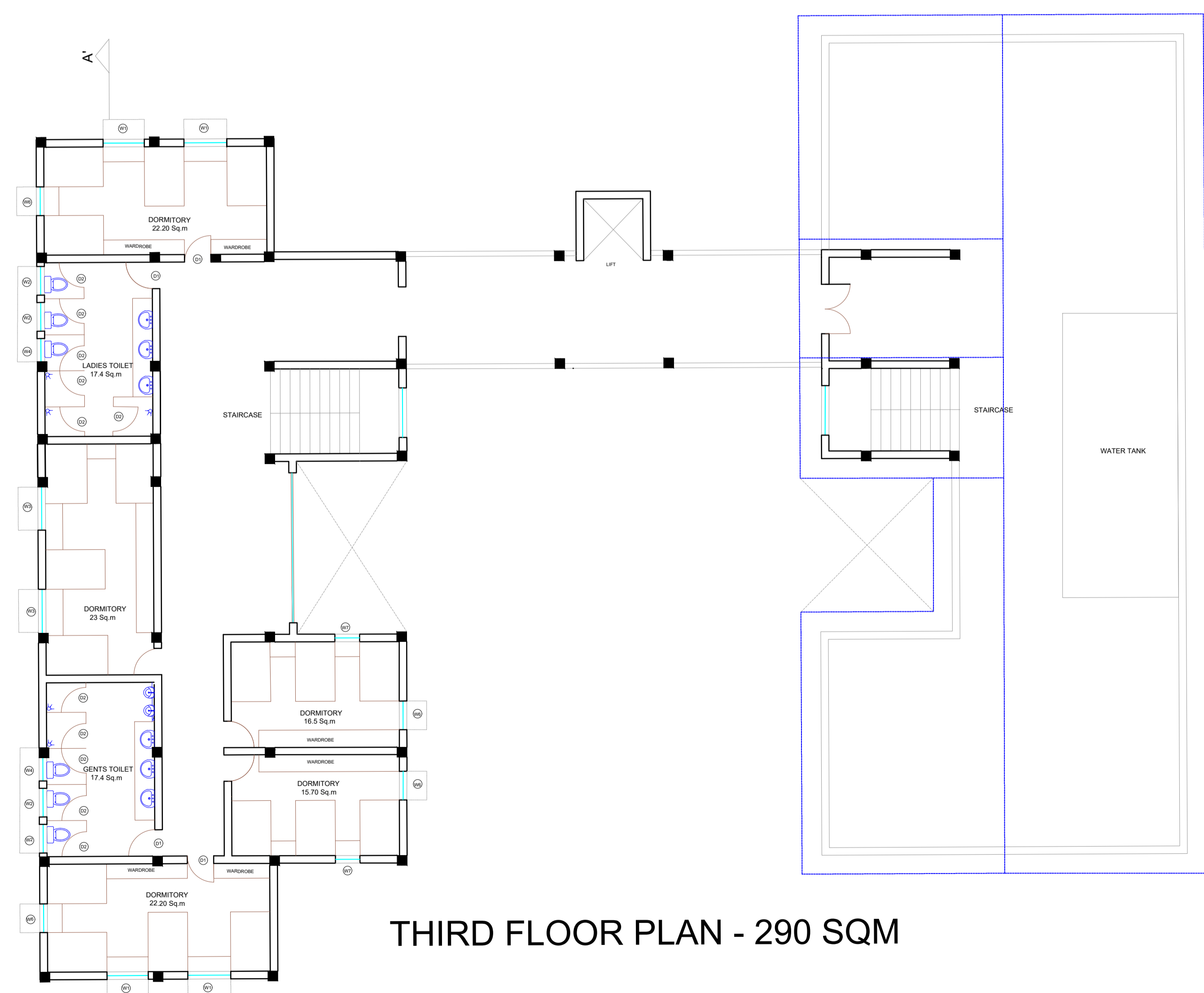
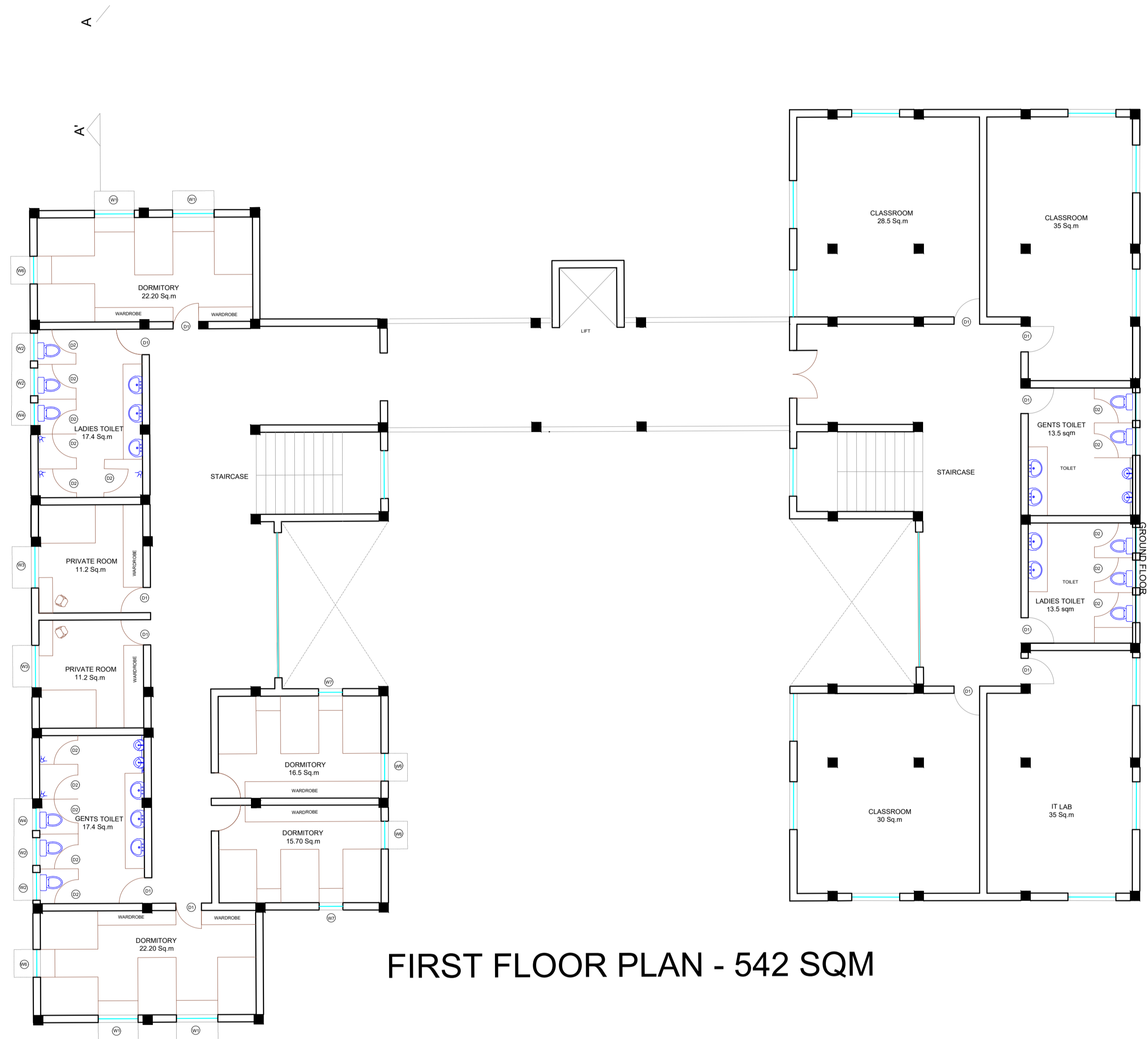
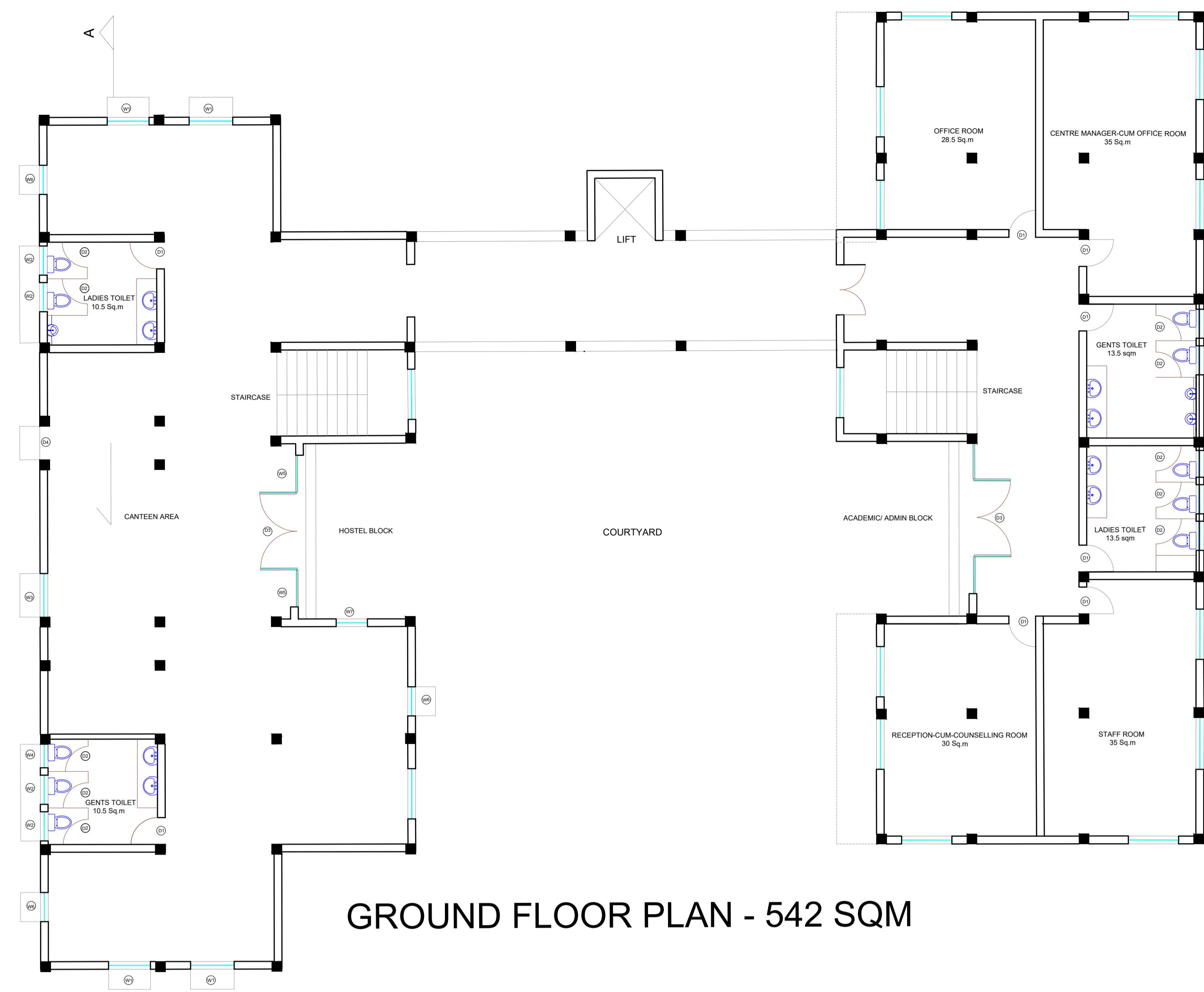


ELEVATION



NOTE: THIS DRAWING IS INDICATIVE TO SHOW THAT THE REQUIREMENTS ARE FULFILLED WITHIN THE GIVEN PLOT AREA AND FOR HIGHER LEVEL ESTIMATES. CONTRACTOR SHOULD STRICTLY PLAN AND DESIGN THE BUILDING KEEPING IN VIEW, THE BUILT UP AREAS MENTIONED IN THE TABLE 1 SECTION 6 OF TENDER DOCUMENT.

VIEWS



SCALE 1:100

NOTE: THIS DRAWING IS INDICATIVE TO SHOW THAT THE REQUIREMENTS ARE FULFILLED WITHIN THE GIVEN PLOT AREA AND FOR HIGHER LEVEL ESTIMATES. CONTRACTOR SHOULD STRICTLY PLAN AND DESIGN THE BUILDING KEEPING IN VIEW, THE BUILT UP AREAS MENTIONED IN THE TABLE 1 SECTION 6 OF TENDER DOCUMENT.

RLC NALAGARH

AREA STATEMENT

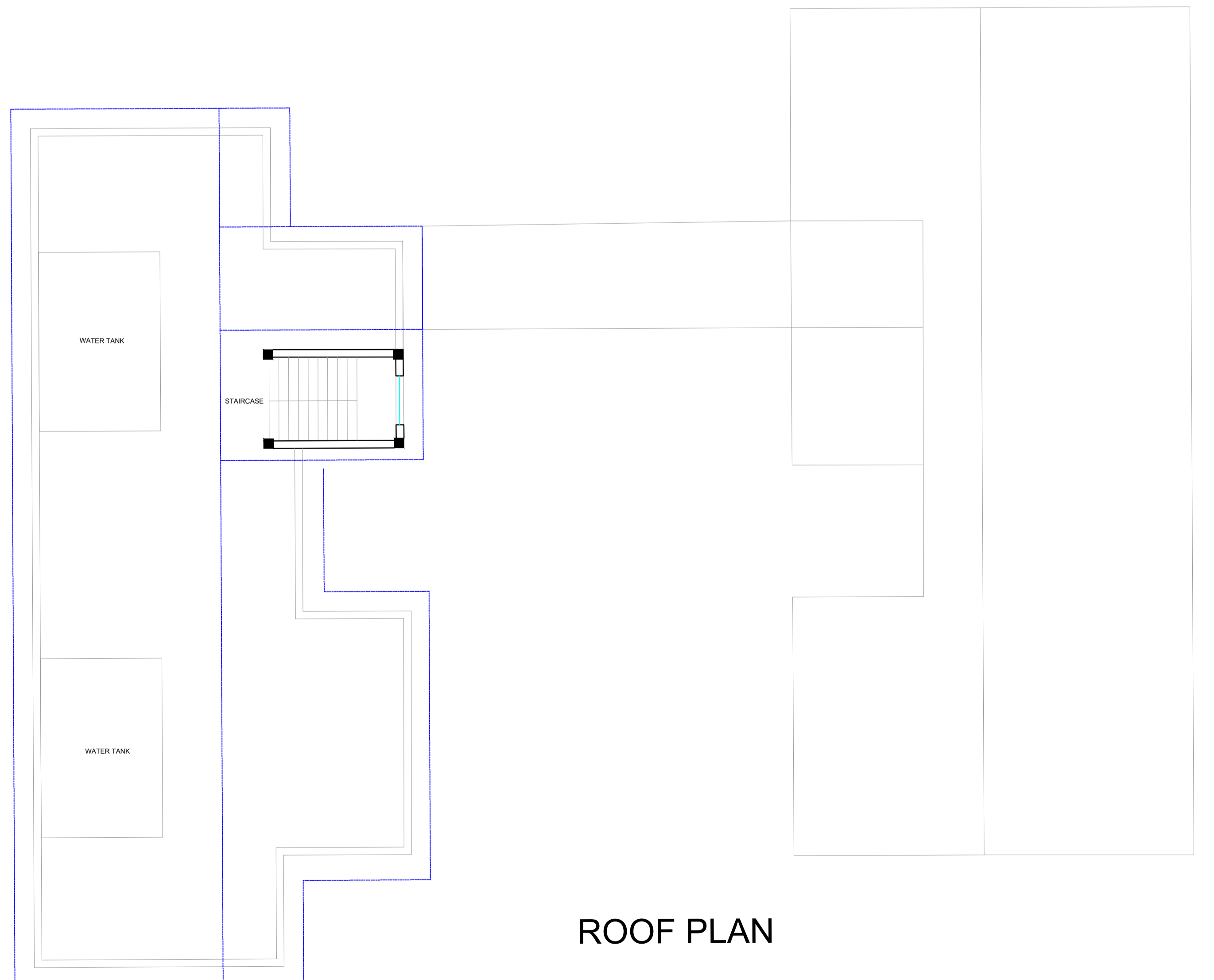
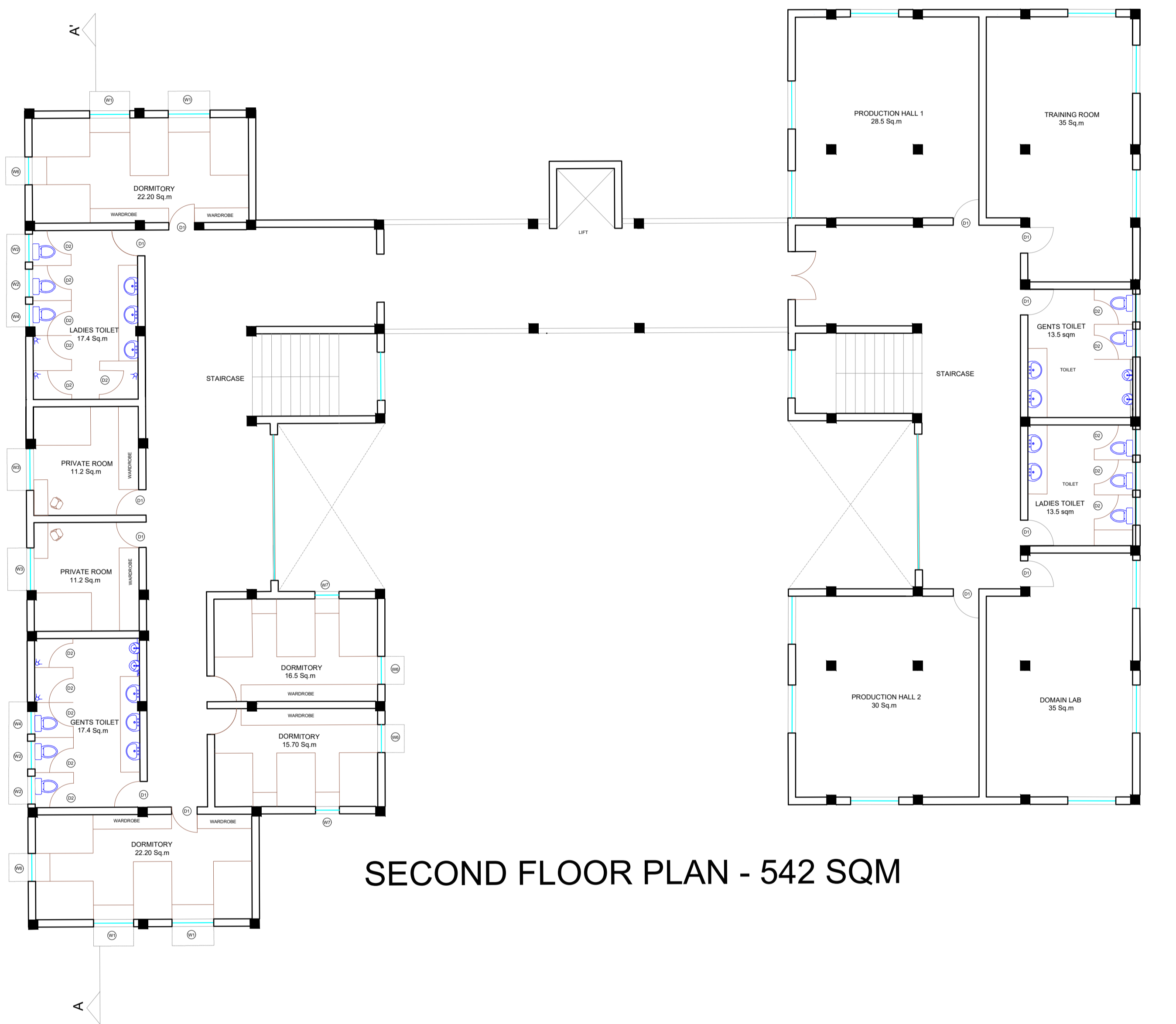
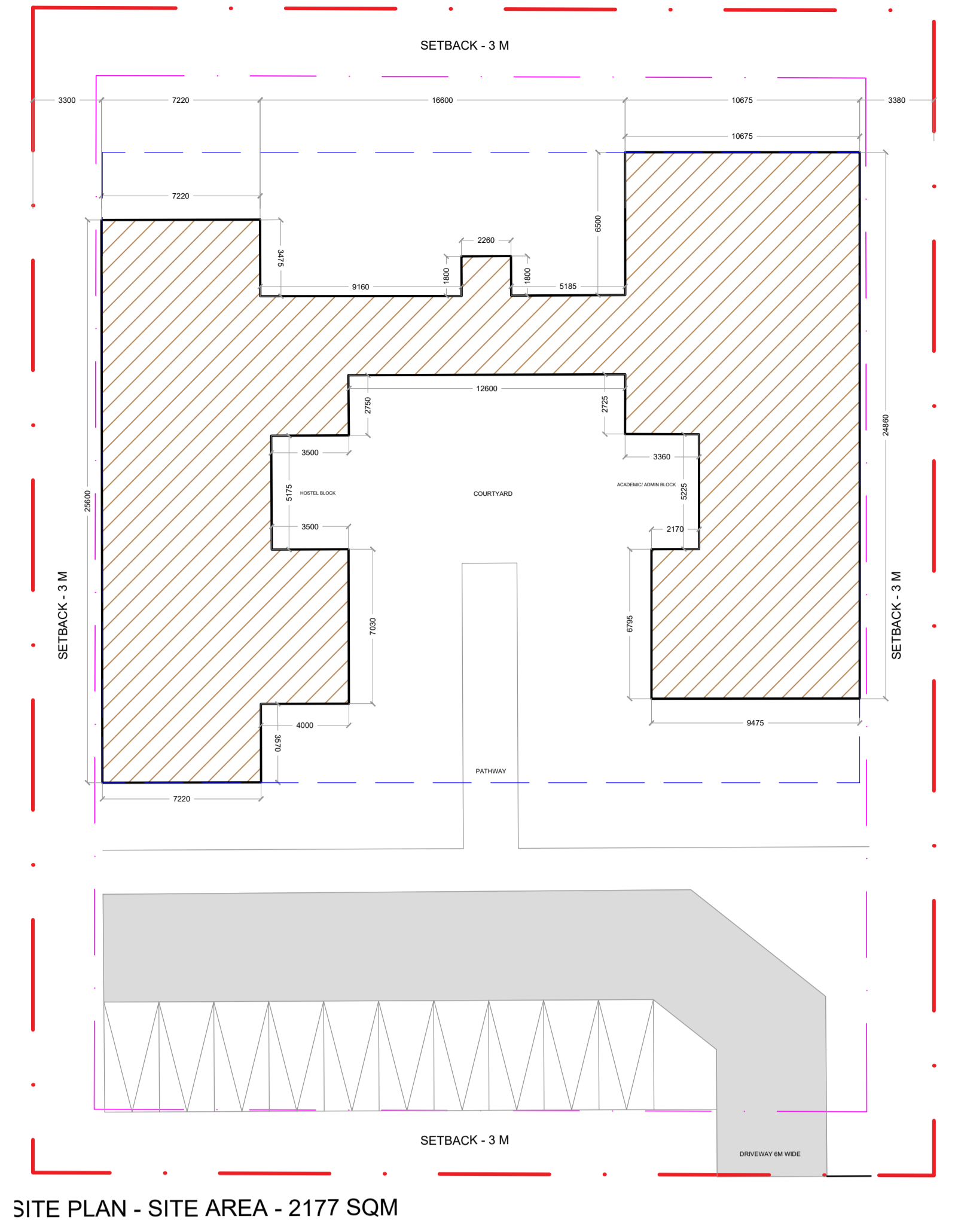
SITE AREA - 2177 SQM

GROUND FLOOR - 542 SQM

FIRST FLOOR - 542 SQM

SECOND FLOOR - 542 SQM

THIRD FLOOR - 290 SQM



Section 7 - General Conditions of Contract

Public Works Department, Government of Himachal Pradesh

[Name of Employer]

[Name of Contract]

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General Conditions of Contract

A. General

1. Definitions

1.1 Boldface type is used to identify defined terms.

- (a) The **Accepted Contract Amount** means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.
- (b) The **Activity Schedule** is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity, which is used for valuations and for assessing the effects of Variations and Compensation Events.
- (c) The **Adjudicator** is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 29.1[Appointment of Adjudicator] hereunder.
- (d) **Bank** means the financing institutions named in the **Particular Conditions of Contract (PCC)**.
- (e) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.
- (f) **Compensation Events** are those defined in GCC 51.1[Compensation Events]hereunder.
- (g) The **Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with GCC 69.1 [Completion].
- (h) The **Contract** is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC 2.3 below.
- (i) The **Contractor** is the party whose Bid to carry out the Works has been accepted by the Employer.
- (j) The **Contractor's Bid** is the completed bidding document submitted by the Contractor to the Employer.
- (k) The **Contract Price** is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.
- (l) **Days** are calendar days; months are calendar months.
- (m) **Dayworks** are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.
- (n) A **Defect** is any part of the Works not completed in accordance with the Contract.
- (o) The **Defects Liability Certificate** is the certificate issued by the Project Manager upon correction of defects by the Contractor.

- (p) The **Defects Liability Period** is the period calculated from the Completion Date where the Contractor remains responsible for remedying defects.
- (q) **Drawings** include calculations and other information provided or approved by the Project Manager for the execution of the Contract.
- (r) The **Employer** is the party who employs the Contractor to carry out the Works, as specified in the **PCC**.
- (s) **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
- (t) **Force Majeure** means an exceptional event or circumstance: which is beyond a Party's control; which such Party could not reasonably have provided against before entering into the Contract; which, having arisen, such Party could not reasonably have avoided or overcome; and, which is not substantially attributable to the other Party.
- (u) **In writing** or **written** means hand-written, type-written, printed or electronically made, and resulting in a permanent record.
- (v) The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.
- (w) The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the **PCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.
- (x) **Letter of Acceptance** means the formal acceptance by the Employer of the Bid and denotes the formation of the Contract at the date of acceptance.
- (y) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- (z) **Party** means the Employer or the Contractor, as the context requires.
- (aa) **PCC** means Particular Conditions of Contract.
- (bb) **Plant** is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.
- (cc) The **Project Manager** is the person named in the **PCC** (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.
- (dd) **Retention Money** means the aggregate of all monies retained by the Employer pursuant to GCC 55.1 [Retention].
- (ee) **Schedules** means the document(s) entitled schedules, completed by the Contractor and submitted with the Letter of Tender, as included in the Contract. Such document may include the Bill of Quantities, data, lists, and schedules of rates and/or prices.

- (ff) The **Site** is the area defined as such in the **PCC**.
- (gg) **Site Investigation Reports** are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- (hh) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
- (ii) The **Start Date** is given in the **PCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- (jj) A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.
- (kk) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- (ll) A **Variation** is an instruction given by the Project Manager which varies the Works.
- (mm) The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the **PCC**.

2. Interpretation

- 2.1 In interpreting these GCC, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.
- 2.2 If sectional completion is specified in the **PCC**, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:
 - (a) Contract Agreement,
 - (b) Letter of Acceptance,
 - (c) Letter of Bid,
 - (d) Particular Conditions of Contract,
 - (e) the List of Eligible Countries that was specified in Section 5 of the bidding document,
 - (f) General Conditions of Contract,
 - (g) Specifications,
 - (h) Drawings,
 - (i) Completed Activity Schedules or Bill of Quantities, and

- (j) any other document listed in the **PCC** as forming part of the Contract.
- 3. Language and Law**
- 3.1 The language of the Contract and the law governing the Contract are stated in the **PCC**.
- 3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Employer's country when
- (a) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's Country prohibits any import of goods from, or any payments to, a particular country, person, or entity. Where the borrower's country prohibits payments to a particular firm or for particular goods by such an act of compliance, that firm may be excluded.
- 4. Contract Agreement**
- 4.1 The Parties shall enter into a Contract Agreement within 28 days after the Contractor receives the Letter of Acceptance, unless the Particular Conditions establish otherwise. The Contract Agreement shall be based upon the attached Contract forms in Section 8. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Employer.
- 5. Assignment**
- 5.1 Neither Party shall assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, either Party
- (a) may assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party; and
- (b) may, as security in favor of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.
- 6. Care and Supply of Documents**
- 6.1 The Specification and Drawings shall be in the custody and care of the Employer. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawing shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.
- 6.2 Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Employer. Unless otherwise stated in the Contract, the Contractor shall supply to the Engineer six copies of each of the Contractor's Documents.
- 6.3 The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Employer's Personnel shall have the right of access to all these documents at all reasonable times.
- 6.4 If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.
- 7. Confidential Details**
- 7.1 The Contractor's and the Employer's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify the Contractor's compliance with the Contract and allow

its proper implementation.

- 7.2 Each of them shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.
- 7.3 Notwithstanding the above, the Contractor may furnish to its Subcontractor(s) such documents, data and other information it receives from the Employer to the extent required for the Subcontractor(s) to perform its work under the Contract, in which event the Contractor shall obtain from such Subcontractor(s) an undertaking of confidentiality similar to that imposed on the Contractor under this Clause.

8. Compliance with Laws

- 8.1 The Contractor shall, in performing the Contract, comply with applicable Laws.
- 8.2 Unless otherwise stated in the Particular Conditions,
- (a) the Employer shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government authorities or public service undertakings in the [Employer's Country or country where the Site is located] which (i) such authorities or undertakings require the Employer to obtain in the Employer's name, and (ii) are necessary for the execution of the Contract, including those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract;
 - (b) the Contractor shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government authorities or public service undertakings in the [Employer's Country or country where the Site is located] which such authorities or undertakings require the Contractor to obtain in its name and which are necessary for the performance of the Contract, including, without limitation, visas for the Contractor's and Subcontractor's personnel and entry permits for all imported Contractor's Equipment. The Contractor shall acquire all other permits, approvals, and/or licenses that are not the responsibility of the Employer under Subclause 8.2(a) hereof and that are necessary for the performance of the Contract. The Contractor shall indemnify and hold harmless the Employer from and against any and all liabilities, damages, claims, fines, penalties, and expenses of whatever nature arising or resulting from the violation of such laws by the Employer or its personnel, including the Subcontractors and their personnel, but without prejudice to Subclause 8.1 hereof.

9. Joint and Several Liability

- 9.1 If the Contractor is a joint venture of two or more persons, all such persons shall be jointly and severally liable to the Employer for the fulfillment of the provisions of the Contract, and shall designate one of such persons to act as a leader with authority to bind the joint venture.

The composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer.

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| 10. Project Manager's Decisions | 10.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer. |
| 11. Delegation | 11.1 The Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may cancel any delegation after notifying the Contractor. |
| 12. Communications | 12.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered. |
| 13. Subcontracting | 13.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations. |
| 14. Other Contractors | 14.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as referred to in the PCC . The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification. |
| 15. Personnel and Equipment | <p>15.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid to carry out the functions stated in the Schedule or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.</p> <p>15.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within 7 days and has no further connection with the work in the Contract.</p> <p>15.3 If the Employer, Project Manager, or Contractor determines, that any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or other prohibited practices during the execution of the Works, then that employee shall be removed in accordance with Clause 15.2 above.</p> |
| 16. Employer's and Contractor's Risks | 16.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks. |
| 17. Employer's Risks | <p>17.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:</p> <p style="margin-left: 40px;">(a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to</p> |

- (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works, or
 - (ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
- (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

17.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to

- (a) a Defect which existed on the Completion Date,
- (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or
- (c) the activities of the Contractor on the Site after the Completion Date.

18. Contractor's Risks

18.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks, are Contractor's risks.

19. Insurance

19.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the **PCC** for the following events, which are due to the Contractor's risks:

- (a) loss of or damage to the Works, Plant, and Materials;
- (b) loss of or damage to Equipment;
- (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
- (d) personal injury or death.

19.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

19.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance, which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

19.4 Alterations to the terms of an insurance shall not be made without the

approval of the Project Manager.

19.5 Both parties shall comply with any conditions of the insurance policies.

20. Site Investigation Reports

20.1 The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the **PCC**, supplemented by any information available to the Contractor.

21. Contractor to Construct the Works

21.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

22. The Works to Be Completed by the Intended Completion Date

22.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

23. Designs by Contractor and Approval by the Project Manager

23.1 The Contractor shall carry out design to the extent specified in the **PCC**. The Contractor shall promptly submit to the Employer all designs prepared by him. Within 14 days of receipt, the Employer shall notify any comments. The Contractor shall not construct any element of the permanent work designed by him within 14 days after the design has been submitted to the Employer or where the design for that element has been rejected. Design that has been rejected shall be promptly amended and resubmitted. The Contractor shall resubmit all designs commented on, taking these comments into account as necessary.

23.2 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, who is to approve them if they comply with the Specifications and Drawings..

23.3 The Contractor shall be responsible for design of Temporary Works.

23.4 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

23.5 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

23.6 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.

24. Safety

24.1 The Contractor shall be responsible for the safety of all activities on the Site.

25. Discoveries

25.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.

26. Possession of the Site

26.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the **PCC**, the Employer shall be deemed to have delayed the start of the

relevant activities, and this shall be a Compensation Event.

27. Access to the Site

27.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

28. Instructions, Inspections, and Audits

28.1 The Contractor shall carry out all instructions of the Project Manager, which comply with the applicable laws where the Site is located.

28.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and subconsultants to keep accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.

28.3 The Contractor shall permit ADB to inspect the Contractor's accounts, records, and other documents relating to the submission of bids and contract performance and to have them audited by auditors appointed by ADB. The Contractor shall maintain all documents and records related to the Contract for a period of three (3) years after completion of the Works. The Contractor shall provide any documents necessary for the investigation of allegations of fraud, collusion, coercion, or corruption and require its employees or agents with knowledge of the Contract to respond to questions from ADB.

29. Appointment of the Adjudicator

29.1 The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the **PCC**, to appoint the Adjudicator within 14 days of receipt of such request.

29.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority at the request of either party, within 14 days of receipt of such request.

30. Procedure for Disputes

30.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Project Manager's decision.

30.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.

30.3 The Adjudicator shall be paid by the hour at the rate specified in the **PCC**, together with reimbursable expenses of the types specified in the **PCC**, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the

Adjudicator's decision shall be final and binding.

- 30.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place specified in the **PCC**.

B. Staff and Labor

- 31. Forced Labor** 31.1 The Contractor shall not employ forced labor, which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty. This covers any kind of involuntary or compulsory labor, such as indentured labor, bonded labor, or similar labor-contracting arrangements.
- 32. Child Labor** 32.1 The Contractor shall not employ children in a manner that is economically exploitative, or 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. Where national laws have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.
- 33. Workers' Organizations** 33.1 In countries where national law recognizes workers' rights to form and to join workers' organizations of their choosing without interference and to bargain collectively, the Contractor shall comply with national law. Where national law substantially restricts workers' organizations, 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. In either case described above, and where national law is silent, the Contractor shall not discourage the Contractor's Personnel from forming or joining workers' organizations of their choosing or from bargaining collectively, and shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organizations and bargain collectively. The Contractor shall engage with such workers representatives. Worker organizations are expected to fairly represent the workers in the workforce.
- 34. Nondiscrimination and Equal Opportunity** 34.1 The Contractor shall not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment relationship on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment or retirement, and discipline. In countries where national law provides for non-discrimination in employment, the Contractor shall comply with national law. When national laws are silent on nondiscrimination in employment, the Contractor shall meet this Subclause's requirements. 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.

C. Time Control

- 35. Program**
- 35.1 Within the time stated in the **PCC**, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.
- 35.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
- 35.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period stated in the **PCC**. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the **PCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.
- 35.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.
- 36. Extension of the Intended Completion Date**
- 36.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.
- 36.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.
- 37. Acceleration**
- 37.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.
- 37.2 If the Contractor's priced proposals for an acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.
- 38. Delays Ordered by the Project**
- 38.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

Manager**39. Management Meetings**

- 39.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- 39.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

40. Early Warning

- 40.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.
- 40.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

D. Quality Control**41. Identifying Defects**

- 41.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.

42. Tests

- 42.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

43. Correction of Defects

- 43.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the **PCC**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 43.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.

44. Uncorrected Defects

- 44.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this

amount.

E. Cost Control

- 45. Contract Price**
- 45.1 In the case of an admeasurement contract, the Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
- 45.2 In the case of a lump sum contract, the Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to monitor and control the performance of activities on which basis the Contractor will be paid. If payment for Materials on Site shall be made separately, the Contractor shall show delivery of Materials to the Site separately on the Activity Schedule.
- 46. Changes in the Contract Price**
- 46.1 In the case of an admeasurement contract:
- (a) If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25%, provided the change exceeds 1% of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change.
 - (b) The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15%, except with the prior approval of the Employer.
 - (c) If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.
- 46.2 In the case of a lump sum contract, the Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor's own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.
- 47. Variations**
- 47.1 All Variations shall be included in updated Programs, and, in the case of a lump sum contract, also in the Activity Schedule, produced by the Contractor.
- 47.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.
- 47.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.
- 47.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying

the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.

47.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

47.6 In the case of an admeasurement contract, if the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in GCC46.1 [Changes in the Contract Price] or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.

48. Cash Flow Forecasts

48.1 When the Program, or, in the case of a lump sum contract, the Activity Schedule, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

49. Payment Certificates

49.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.

49.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.

49.3 The value of work executed shall be determined by the Project Manager.

49.4 The value of work executed shall comprise,

- (a) in the case of an admeasurement contract, the value of the quantities of work in the Bill of Quantities that have been completed; or
- (b) in the case of a lump sum contract, the value of work executed shall comprise the value of completed activities in the Activity Schedule.

49.5 The value of work executed shall include the valuation of Variations and Compensation Events.

49.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

50. Payments

50.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be

calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.

- 50.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.
- 50.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price.
- 50.4 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

51. Compensation Events

- 51.1 The following shall be Compensation Events:
- (a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC 26.1 [Possession of the Site].
 - (b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.
 - (c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.
 - (d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.
 - (e) The Project Manager unreasonably does not approve a subcontract to be let.
 - (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to Bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
 - (g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
 - (h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
 - (i) The advance payment is delayed.
 - (j) The effects on the Contractor of any of the Employer's Risks.
 - (k) The Project Manager unreasonably delays issuing a Certificate of Completion.

51.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

51.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.

51.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.

52. Tax

52.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 28 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC 54.1 [Price Adjustment].

53. Currencies

53.1 Where payments are made in currencies other than the currency of the Employer's country specified in the **PCC**, the exchange rates used for calculating the amounts to be paid shall be the exchange rates stated in the Contractor's Bid.

54. Price Adjustment

54.1 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the **PCC**. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type indicated below applies to each Contract currency:

$$P_c = A_c + B_c \text{ Imc/loc}$$

where:

P_c is the adjustment factor for the portion of the Contract Price payable in a specific currency "c."

A_c and B_c are coefficients¹ specified in the **PCC**, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable in that specific currency "c;" and

¹ The sum of the two coefficients A_c and B_c should be 1 (one) in the formula for each currency. Normally, both coefficients shall be the same in the formulas for all currencies, since coefficient A_c , for the nonadjustable portion of the payments, is a

Imc is a consolidated index prevailing at the end of the month being invoiced and loc is the same consolidated index prevailing 28 days before Bid opening for inputs payable; both in the specific currency "c."

- 54.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

55. Retention

- 55.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the **PCC** until Completion of the whole of the Works.
- 55.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 69.1 [Completion], half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an "on demand" bank guarantee.

56. Liquidated Damages

- 56.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the **PCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the **PCC**. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.
- 56.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC 50.1 [Payments].

57. Bonus

- 57.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in the **PCC** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

58. Advance Payment

- 58.1 The Employer shall make advance payment to the Contractor of the amounts stated in the **PCC** by the date stated in the **PCC**, against provision by the Contractor of an unconditional bank guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid

very approximate figure (usually 0.10 ~ 0.20) to take account of fixed cost elements or other nonadjustable components. The sum of the adjustments for each currency is added to the Contract Price.

by the Contractor. Interest shall not be charged on the advance payment.

58.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.

58.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

59. Securities

59.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount specified in the **PCC**, by a bank acceptable to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a bank guarantee.

60. Dayworks

60.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

60.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within 2 days of the work being done.

60.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

61. Cost of Repairs

61.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

F. Force Majeure

62. Definition of Force Majeure

62.1 In this Clause, "Force Majeure" means an exceptional event or circumstance,

- (a) which is beyond a Party's control;
- (b) which such Party could not reasonably have provided against before entering into the Contract;
- (c) which, having arisen, such Party could not reasonably have avoided or overcome; and

(d) which is not substantially attributable to the other Party.

62.2 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

- (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies;
- (b) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war;
- (c) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel;
- (d) munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity; and
- (e) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

63. Notice of Force Majeure

63.1 If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.

63.2 The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.

63.3 Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

64. Duty to Minimize Delay

64.1 Each Party shall at all times use all reasonable endeavours to minimize any delay in the performance of the Contract as a result of Force Majeure.

64.2 A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

65. Consequences of Force Majeure

65.1 If the Contractor is prevented from performing its substantial obligations under the Contract by Force Majeure of which notice has been given under GCC Subclause 63 [Notice of Force Majeure], and suffers delay and/or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to GCC Subclause 30.1 [Procedure for Disputes] to

- (a) an extension of time for any such delay, if completion is or will be delayed, under GCC Subclause 36 [Extension of the Intended Completion Date]; and

- (b) if the event or circumstance is of the kind described in subparagraphs (a) to (d) of GCC Subclause 62.2 [Definition of Force Majeure] and, in the case of subparagraphs (b) to (d), occurs in the Country, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destructed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in GCC Subclause 19 [Insurance].

65.2 After receiving this notice, the Project Manager shall proceed in accordance with GCC Subclause 10 [Project Manager's Decisions] to agree or determine these matters.

**66. Force Majeure
Affecting
Subcontractor**

66.1 If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's nonperformance or entitle him to relief under this Clause.

**67. Optional
Termination,
Payment and
Release**

67.1 If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under GCC Subclause 63 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with GCC Subclause 73.5 [Termination].

67.2 Upon such termination, the Project Manager shall determine the value of the work done and issue a Payment Certificate, which shall include

- (a) the amounts payable for any work carried out for which a price is stated in the Contract;
- (b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Employer when paid for by the Employer, and the Contractor shall place the same at the Employer's disposal;
- (c) other Costs or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;
- (d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and
- (e) the Cost of repatriation of the Contractor's staff and labor employed wholly in connection with the Works at the date of termination.

**68. Release from
Performance**

68.1 Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises, which makes it impossible or

unlawful for either or both Parties to fulfill its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance,

- (a) the Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract; and
- (b) the sum payable by the Employer to the Contractor shall be the same as would have been payable under GCC Subclause 67 [Optional Termination, Payment and Release] if the Contract had been terminated under GCC Subclause 67.

G. Finishing the Contract

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|--|---|
| 69. Completion | 69.1 The Contractor shall request the Project Manager to issue a certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the work is completed. |
| 70. Taking Over | 70.1 The Employer shall take over the Site and the Works within 7 days of the Project Manager's issuing a certificate of Completion. |
| 71. Final Account | 71.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate. |
| 72. Operating and Maintenance Manuals | <p>72.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the PCC.</p> <p>72.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the PCC pursuant to GCC 72.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount stated in the PCC from payments due to the Contractor.</p> |
| 73. Termination | <p>73.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.</p> <p>73.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:</p> <ul style="list-style-type: none">(a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager; |

- (b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days;
- (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 days of the date of the Project Manager's certificate;
- (e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
- (f) the Project Manager gives two consecutive Notices to update the Program and accelerate the works to ensure compliance with GCC Subclause 22.1 [The Works to be Completed by the Intended Completion Date] and the Contractor fails to update the Program and demonstrate acceleration of the works within a reasonable period of time determined by the Project Manager;
- (g) the Contractor does not maintain a Security, which is required;
- (h) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the **PCC**; and
- (i) if the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract, pursuant to GCC 74.1 [Fraud and Corruption].

73.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC 73.2 above, the Project Manager shall decide whether the breach is fundamental or not.

73.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

73.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

74. Fraud and Corruption

74.1 ADB's Anticorruption Policy requires that Borrowers (including beneficiaries of ADB-financed activity), as well as Contractors, Subcontractors, Manufacturers, and Consultants under ADB-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the ADB

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to

- influence improperly the actions of another party;
- (ii) “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;
 - (iii) “coercive practice” means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - (iv) “collusive practice” means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;
 - (v) “obstructive practice” means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an ADB investigation; (b) making false statements to investigators in order to materially impede an ADB investigation; (c) failing to comply with requests to provide information, documents or records in connection with an Office of Anticorruption and Integrity (OAI) investigation; (d) threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or (e) materially impeding ADB’s contractual rights of audit or access to information; and
 - (vi) “integrity violation” is any act which violates ADB’s Anticorruption Policy, including (i) to (v) above and the following: abuse, conflict of interest, violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB’s Anticorruption Policy, including failure to adhere to the highest ethical standard.
- (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;
 - (c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the borrower or of a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation; and
 - (d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB’s Anticorruption Policy and Integrity Principles and Guidelines (both as amended from time to time), including declaring ineligible, either indefinitely or for a

stated period of time, to participate² in ADB-financed, administered, or supported activities or to benefit from an ADB-financed, administered, or supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations.

75. Payment upon Termination

75.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as indicated in the **PCC**. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.

75.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

76. Property

76.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.

77. Release from Performance

77.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterward to which a commitment was made.

78. Suspension of ADB Loan or Credit

78.1 In the event that ADB suspends the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made,

- (a) the Employer is obligated to notify the Contractor, with copy to the Project Manager, of such suspension within 7 days of having received ADB's suspension notice.
- (b) if the Contractor has not received sums due it within the 28 days for payment provided for in GCC50.1 [Payments], the Contractor may immediately issue a 14-day termination notice.

² Whether as a Contractor, Nominated Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document). A Nominated Subcontractor is one which either has been: (i) included by the Bidder in its prequalification application or bid because it brings specific and critical experience and know-how that are accounted for in the evaluation of the Bidder's prequalification application or the bid; or (ii) appointed by the Employer.

79. Eligibility

- 79.1 The Contractor shall have the nationality of an eligible country as specified in Section 5 [Eligible Countries] of the bidding document. The Contractor shall be deemed to have the nationality of a country if the Contractor is a citizen or is constituted, or incorporated, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including related services.
- 79.2 The materials, equipment, and services to be supplied under the Contract shall have their origin in eligible source countries as specified in Section 5 [Eligible Countries] of the bidding document and all expenditures under the Contract will be limited to such materials, equipment, and services. At the Employer's request, the Contractor may be required to provide evidence of the origin of materials, equipment, and services.
- 79.3 For purposes of GCC 79.2, "origin" means the place where the materials and equipment are mined, grown, produced, or manufactured, and from which the services are provided. Materials and equipment are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that differs substantially in its basic characteristics or in purpose or utility from its components.

Section 8 - Particular Conditions of Contract

The following Particular Conditions of Contract shall supplement the GCC. Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

Particular Conditions of Contract

A. General	
GCC 1.1 (d)	The financing institutions is: Asian Development Bank (ADB)
GCC 1.1 (r)	The Employer is: Public Works Department, Government of Himachal Pradesh, represented by Chief Engineer, Shimla Zone, Solan, Himachal Pradesh
GCC 1.1 (w)	The Intended Completion Date for the whole of the Works shall be 15 months from the Start Date Including design period.
GCC 1.1 (cc)	The Project Manager is: Executive Engineer, Division Nalagarh, Himachal Pradesh Public Works Department (HPPWD), Post Office-Nalagarh, District-Solan, Himachal Pradesh-174101, India
GCC 1.1 (ff)	The Site are located at village Karpalpur, Khasra No 448, Nalagarh, Tehsil, District Solan of Himanchal Pradesh as defined in drawing.
GCC 1.1 (ii)	The Start Date shall be: 15 days from the date of signing of the contract.
GCC 1.1 (mm)	The Works consist of Detailed Design and Construction of. Rural livelihood Centre Building at Karpalpur, Nalagarh Distt. Solan under Asian Development Bank assisted HPSPD. (SH: C/O Main building shall be pre-engineered, Site Development, Site Development i.e. retaining structure, WS & SI, EI, septic tank, rain water harvesting tank & underground water recharging tank/ pit, boundary wall and gate, Air conditioning in selected area as, CCTV, indoor/ outdoor transformer, HT & LT panels, Cabling, DG Set, Solar system, Fire-fighting and yard lighting system, fire alarm system, Land scaping, environment management, safety measures and other miscellaneous item etc. as per scope of work.
GCC 2.2	Sectional Completions are: bifurcation to be done for 1) design stage - Concept, architectural, ID, MEP and structural, design. 2) Construction stage – for conventional part and pre-engineered part.
GCC 2.3(j)	The following documents also form part of the Contract: i) Public Works Depart Specification 1990 published by Public Works Department, Himachal Pradesh; and ii) Environmental Management Plan (Attached as Appendix A), and Initial Environmental Examination Report (Attached as Appendix B). iii) COVID19 measures to be adopted at site)
GCC 3.1	The language of the contract is English The law that applies to the Contract is the law of India
GCC 6.3	Add the following as sub-clause 6.3 (a) The employer's personnel include, designated officials from HPPWD, HPKVN, and appointed PMC, QA and M&E consultants by HPKVN, who may visit the project from time to time for relevant issues of the project.
GCC 8.3	Add the following as Sub-clause 8.3: (i) The Contractor (or either of the Joint Venture partner) shall be required to

	<p>possess valid electrical license issued from competent authority for executing electrification works. However, in the event of electrical works being sub-contracted, the sub-contractor should have the said valid electrical license.</p> <p>(ii) The Contractor shall obtain, if necessary, the licenses under the current explosive rules to enable him to manufacture and process the quantity of gunpowder / explosive and perform the blasting as necessary according to prevailing rules.</p>
GCC 8.4	<p>Add the following Sub-clause 8.4:</p> <p>The Contractor shall comply with all applicable National, provincial and local environmental laws and regulation.</p> <p>The Contractor shall:</p> <p>(a) establish an operational system for managing environmental impacts,</p> <p>(b) carry out all the monitoring and mitigation measures set forth in the Environmental Management Plan (EMP) of the bidding document and</p> <p>(c) allocate the budget required to ensure that such measures are carried out.</p> <p>The Contractor shall submit quarterly reports on the carrying out of such measures to the Employer with photographic evidence.</p>
GCC 11.1	The Project Manager <u>may</u> delegate any of his duties and responsibilities.
GCC 12.1	Apart from Written Communication, e-mail communication also needs to be ensured by Contractor on the following email IDs- hpkvnshimla@gmail.com , hp-shi4@nic.in , ee-sol-hp@nic.in and any other Email ID given by Employer.
GCC 14.1	Schedule of other contractors: <i>Nil</i>
GCC 19.1	<p>The minimum insurance amounts and deductibles shall be:</p> <p>(a) for loss or damage to the Works, Plant and Materials: INR 10.0 million.</p> <p>(b) for loss or damage to Equipment: INR 2.0 million.</p> <p>(c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract: INR 5.0 million and unlimited number of occurrences.</p> <p>(d) for personal injury or death:</p> <p>(i) of the Contractor's employees: As per governing law but not less than INR 1.0 million and unlimited number of occurrences.</p> <p>(ii) of other people: As per governing law but not less than INR 1.0 million and unlimited number of occurrences.</p>
GCC 21.2	<p>Add the following Sub-clause 21.2:</p> <p>The Contractor shall comply with (i) the measures and requirements set forth in the Social Due Diligence Report attached there to as Appendix C, to the extent they concern impacts on affected people during construction; and (ii) any corrective or preventive actions set out in a Safeguards Monitoring Report (SMR) that the Employer will prepare from time to time to monitor compliance with measures set out in the Social Due Diligence Report. (iii) Statutory safety measures required due to COVID19 situation from time to time. The Contractor shall allocate a budget for compliance with these measures, requirements and actions.</p>

GCC 22.1	<p>Add the following para at the end of Sub-Clause 22.1:</p> <p>The Contractor shall adequately record the condition of roads, agricultural land and other infrastructure prior to the start of transporting materials, goods and equipment, and construction.</p>
GCC 23.1	The following shall be designed by the Contractor: Applicable
GCC 24.2	<p>Add the following Sub-clause 24.2:</p> <p>The Contractor shall comply with all safety measures as required by rules and regulations and applicable law.</p>
GCC 26.1	The Site Possession Date(s) shall be: Same as the Start Date.
GCC 29.1	Appointing Authority for the Adjudicator: Concerned Secretary of Administrative Department can appoint Adjudicator from a panel to be drawn or as existing in the Institution of Engineers (India), Shimla Chapter, Himachal Pradesh.
GCC 30.3	<p>The Adjudicator shall be paid by the hour at the rate of: INR 10,000 per work day</p> <p>The reimbursable expenses are: Travel Expenses</p>
GCC 30.4	<p>Institution whose arbitration procedures shall be used:</p> <p>(a) Contracts with foreign contractors:</p> <p>International arbitration shall be conducted in accordance with the rules of the Singapore International Arbitration Centre (SIAC).</p> <p>Arbitration shall be administered by the Singapore International Arbitration Centre (SIAC).</p> <p>The place of arbitration shall be: the place of the institution administering the arbitration.</p> <p>(b) Contracts with domestic contractors:</p> <p>Arbitration shall be conducted in accordance with the laws of the Employer's country.</p>
C. Time Control	
GCC 35.1	<p>The Contractor shall submit for approval a Program for the Works within 15 days from the date of the Letter of Acceptance. The program shall be in most suitable computer program viz. MS-Projects (latest version) and should be resource loaded (i.e manpower, machines and materials etc.).</p> <p>The Contractor shall provide the Employer with quarterly reports of its activities, including each of its obligations in Sub-Clause 8.4, 21.2, 22, 24.2 and 40.3. Copy of the Quarterly report should also be communicated to HPKVN. Submission of the quarterly report is mandatory during the contract period, failing which an amount of INR 0.5 million.</p>
GCC 35.3	<p>The period between Program updates is 45 days.</p> <p>The amount to be withheld for late submission of an updated Program is INR 1.5 million</p>

D. Quality Control	
GCC 43.1	The Defects Liability Period is: 365 days.
E. Cost Control	
GCC 50.1	Text “.....The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 days of the date of each certificate.....” stands replaced with: “.....The Employer shall pay the Contractor the amounts certified by the Project Manager within 45 days of the date of each certificate.....”
GCC 51.5	Add the following Sub-clause 51.5: Notwithstanding above the Contractor shall bear the cost of any impact on structure or land due to movement of machinery during construction and all temporary use of lands outside ROW to be through written approval of Land owner.
GCC 53.1	The currency of the Employer's country is: Indian National Rupee (INR)
GCC 54.1	<p>The Contract <i>shall</i> subject to price adjustment in accordance with GCC Clause 54, The amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts as indicated below:</p> $P = 0.2 + 0.15 (I_{Ln} / I_{Lo}) + 0.65 (I_{Mn} / I_{Mo})$ <p>where:</p> <p>“P” is the adjustment factor for the portion of the Contract Price payable.</p> <p>“I_{Ln}” is the “minimum wage of an unskilled mazdoor notified by the Department of Finance, Government of Himachal Pradesh” at the end of the month being invoiced.</p> <p>“I_{Lo}” is the “minimum wage of an unskilled mazdoor notified by the Department of Finance, Government of Himachal Pradesh” applicable at the end of the month in which the Letter of Award is issued.</p> <p>“I_{Mn}” is the “All India Wholesale Price Index for all commodities published by the Economic Advisor to Government of India, Ministry of Industry and Commerce” at the end of the month being invoiced.</p> <p>I_{Mo} is the “All India Wholesale Price Index for all commodities published by the Economic Advisor to Government of India, Ministry of Industry and Commerce” applicable at the end of the month in which the Letter of Award is issued.</p>
GCC 54.3	Add the following as Sub-clause 54.3: Notwithstanding provisions in Sub-clause 54.1 and Sub-clause 54.2, in the event of Contractor's failure to complete the works on or before Intended Completion Date, adjustment for prices after Intended Completion Date shall be made using either (i) each index or price applicable on the date of Intended Completion Date, or (ii) the current index or price: whichever is more favorable to the Employer.
GCC 55.1	The proportion of payments retained is: 5%

GCC 56.1	The liquidated damages for the whole of the Works are 0.1% per day. The maximum amount of liquidated damages for the whole of the Works is 10% of the final Contract Price.
GCC 57.1	The Bonus for the whole of the Works is Nil per day. The maximum amount of Bonus for the whole of the Works is Nil.
GCC 58.1	The Advance Payments shall be 10% (ten percent) and shall be paid to the Contractor no later than 60 days of receipt of corresponding unconditional Bank Guarantee.
GCC 58.3	Repayment of the Advance Payments shall be at a rate of 15% (fifteen percent) from each payment certificate.
GCC 59.1	The Performance Security amount is 5% of the Initial Contract Price.
G. Finishing the Contract	
GCC 69.2	Add the following as Sub-clause 69.2: “Upon the completion of construction, the Contractor shall fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition as recorded by the Contractor in consonance with its obligation in Clause 22.
GCC 72.1	The date by which operating, and maintenance manuals are required is: <i>at the time of handing over</i> The date by which “as built” drawings are required is: <i>At the time of handing over. In addition</i> , contractor shall provide all important information required to successfully maintain the building, especially in relation to the pre-engineered structures.
GCC 72.2	The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required in GCC 72.1 is: <i>(INR 1 million)</i>
GCC 73.2 (h)	The maximum number of days is: 100 days
GCC 75.1	The percentage to apply to the value of the work not completed, representing the Employer’s additional cost for completing the Works, is 30%

Section 9 - Contract Forms

This section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

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Letter of Acceptance

---- on letterhead paper of the employer ----

..... date.

To: name and address of the contractor

Subject: Notification of Award Contract No.

This is to notify you that your Bid dated date for execution of the name of the contract and identification number, as given in the Bid Data Sheet for the Accepted Contract Amount of the equivalent of amount in numbers and words and name of currency, as corrected and modified in accordance with the Instructions to Bidders 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 9 (Contract Forms) of the Bidding Document.

[Choose one of the following statements:]

We accept that _____ [insert the name of adjudicator proposed by the bidder] be appointed as the Adjudicator.

[or]

We do not accept that _____ [insert the name of the adjudicator proposed by the bidder] be appointed as the Adjudicator, and by sending a copy of this Letter of Acceptance to _____ [insert name of the appointing authority], the Appointing Authority, we are hereby requesting such Authority to appoint the Adjudicator in accordance with GCC 29.1.

Authorized Signature:

Name and Title of Signatory:

Name of Agency:

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made the day of, between *name of the employer*. (hereinafter "the Employer"), of the one part, and *name of the contractor*. (hereinafter "the Contractor"), of the other part:

WHEREAS the Employer desires that the Works known as *name of the contract*. should be executed by the Contractor, and has accepted a Bid 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 Contract Agreement,
 - (b) the Letter of Acceptance,
 - (c) the Letters of Technical Bid and Price Bid,
 - (d) the Particular Conditions of Contract,
 - (e) the List of Eligible Countries that was specified in Section 5 of the bidding document,
 - (f) the General Conditions of Contract,
 - (g) the Specification,
 - (h) the Drawings,
 - (i) the Completed Activity Schedules or Bill of Quantities, and
 - (j) any other documents shall be added here.¹
3. In consideration of the payments to be made by the Employer to the Contractor as indicated 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 *name of the borrowing country*. on the day, month and year indicated above.

¹ Tables of Adjustment Data may be added if the contract provides for price adjustment (see GCC 54.1).

Signed by
for and on behalf of the Employer

Signed by
for and on behalf the Contractor

in the presence of:

in the presence of:

Witness, Name, Signature, Address, Date

Witness, Name, Signature, Address, Date

Performance Security

*Bank's name, and address of issuing branch or office*¹

Beneficiary: *Name and address of employer*

Date:

Performance Guarantee No.:

We have been informed that *name of the contractor*. (hereinafter called "the Contractor") has entered into Contract No. *reference number of the contract*. dated with you, for the execution of *name of contract and brief description of works*. (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 Contractor, we *name of the bank*. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *name of the currency and amount in figures* ² (*amount in words*.) such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of ³, and any demand for payment under it must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458, except that subparagraph (ii) of Sub-article 20(a) is hereby excluded. ⁴

.....
Seal of Bank and Signature(s)

-- Note to Bidder --

If the institution issuing the performance security is located outside the country of the employer, it shall have a correspondent financial institution located in the country of the employer to make it enforceable.

¹ All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.

² The guarantor shall insert an amount representing the percentage of the contract price specified in the contract and denominated either in the currency(ies) of the contract or a freely convertible currency acceptable to the employer. If the bank issuing the performance security is located outside the country of the employer, it shall have a correspondent financial institution located in the country of the employer.

³ Insert the date 28 days after the expected completion date. 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 [6 months][1 year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

⁴ Or the same or similar to this clause specified in the Uniform Rules for Demand Guarantees, ICC Publication No. 758 where applicable.

Advance Payment Security

Bank's name, and address of issuing branch or office¹

Beneficiary: *Name and address of employer*

Date:

Advance Payment Guarantee No.:

We have been informed that *name of the contractor*. (hereinafter called "the Contractor") has entered into Contract No. *reference number of the contract*. dated with you, for the execution of *name of contract and brief description of works*. (hereinafter called "the Contract").

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum *name of the currency and amount in figures* ². (..... *amount in words*.) is to be made against an advance payment guarantee.

At the request of the Contractor, we *name of the bank*. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *name of the currency and amount in figures* ³. (..... *amount in words*.) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the advance payment for purposes other than the costs of mobilization in respect of the Works.

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Contractor on its account number *contractor's account number*. at *name and address of the bank*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated 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 eighty percent (80%) of the Contract Price has been certified for payment, or on the ... day of ⁴, 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, ICC Publication No. 458 (or ICC Publication No. 758 as applicable).

.....
Seal of Bank and Signature(s)

-- Note to Bidder --

If the institution issuing the advance payment security is located outside the country of the employer, it shall have a correspondent financial institution located in the country of the employer to make it enforceable.

¹ All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.

² The guarantor shall insert an amount representing the amount of the advance payment 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.

³ Footnote 2.

⁴ 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 [6 months][1 year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

Initial Environmental Examination

Project Number: 49108-002
December 2021

India: Himachal Pradesh Skill Development Project Sub-project– Rural Livelihood Center at Nalagarh District Solan

Prepared by the Government of Himachal Pradesh for the Asian Development Bank

This initial environmental examination is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

ABBREVIATIONS

ADB	-	Asian Development Bank
ASI	-	Archaeological Survey of India
CPCB	-	Central Pollution Control Board
CLC	-	City Livelihood Centre
CPR	-	Common Property Resources
DOLE	-	Department of Labor and Employment
DOTe	-	Department of Technical Education
DTE	-	Directorate of Technical Education, Vocational and Industrial Training
DOP	-	Department of Planning
DOT	-	Department of Tourism
EA	-	Executive Agency
DOUD	-	Department of Urban Development
EIA	-	Environmental Impact Assessment
EMP	-	Environmental Management Plan
FSI	-	Forest Survey of India
GOHP	-	Government of Himachal Pradesh
GOI	-	Government of India
HPSDP	-	Himachal Pradesh Skill Development Project
IEE	-	Initial Environmental Examination
IA	-	Implementing Agency
ITI	-	Industrial Training Institute
IUCN	-	International Union for Conservation of Nature
MOEFCC	-	Ministry of Environment, Forests and Climate Change
MCC	-	Model Career Center
NP	-	National Park
OM	-	Operations Manual
PA	-	Protected area
PD	-	Project director
PIU	-	Project Implementation Unit
PMC	-	Project Management Consultant
PMU	-	Project Management Unit
PUC	-	Pollution under Control
PWD	-	Public Works Department
RLC	-	Rural Livelihood Centre
REA	-	Rapid Environmental Assessment
SEIAA	-	State Environment Impact Assessment Authority
SLEC	-	State-level Empowered Committee
SPCB	-	State Pollution Control Board
SPM	-	Suspended Particulate Matter
SPS	-	Safeguard Policy Statement 2009
UNESCO	-	United Nations Educational Scientific and Cultural Organization
WLS	-	Wildlife Sanctuary

CURRENCY EQUIVALENTS

(As of 09 December 2021)

Currency unit – Indian rupee (Rs)

Rs1.00 = \$0.01323

\$1.00 = Rs 75.58

WEIGHTS AND MEASURES

µg	–	microgram
dB(A)	–	weighted decibel
km	–	kilometer
km ²	–	square kilometer
m	–	meter
m ²	–	square meter

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EXECUTIVE SUMMARY

1. At the request of the Government of India and the Government of Himachal Pradesh (GOHP), ADB will offer \$80 million in loan assistance to modernize and reform Himachal Pradesh's technical and vocational education and training (TVET) programs and scale up training capacity. The Department of Technical Education (DOTE), GOHP, will be the executing agency for the proposed Himachal Pradesh Skill Development Project (HPSDP). The Himachal Pradesh Kaushal Vikas Nigam (HPKVN), the Directorate of Technical Education, Vocational & Industrial Training (DTE), Department of Higher Education (DOHE), and the Public Works Department (PWD) will be the implementing agencies. HPKVN will also operate as the project management unit (PMU) for HPSDP. For the civil works component, it will be assisted by PWD officials who are well aware of the state and India's building codes and environmental regulations.

2. The impact of HPSDP will be a more productive work force in Himachal Pradesh equipped with market-relevant technical and vocational skills created, in alignment with the Himachal Pradesh Skill Development Policy (Him Kaushal), 2016. The outcome will be improved employment and livelihood development opportunities for those trained under the project. This will be achieved through the following outputs:

- Output 1: TVET in Himachal Pradesh modernized, expanded, and aligned to national standards
- Output 2: Market-aligned skills ecosystem created
- Output 3: Access to quality training institutes improved.
- Output 4: TVET institutional structure reformed and improved.

3. Output 3 of the Project will involve construction of new training facilities and upgrading of some existing buildings to improve the access of TVET programs across Himachal Pradesh¹. The new facilities include construction of 5 city livelihood centres (CLCs), 7 rural livelihood centres (RLCs) and 1 Polytechnic for women, ten model career centres (MCCs), and 1 ITI at Chhattari. In addition to above infrastructure components, one Centre of Excellence (COE) is also planned near Waknaghat town in Solan district. This COE shall impart Training programs of higher levels in hospitality, Information Technology, and other areas of industry demand. On an average, the CLCs and RLCs will have three to four floors and occupy about 900 square meters (m²). The MCCs will have three to four floors on average and occupy around 400 m² each. **The Department of Urban Development (DOUD), Department of Rural Development (DORD), and the Department of Labor and Employment (DOLE) will help HPKVN in running livelihood development and counseling programs at the proposed CLCs, RLCs, and MCCs, respectively.**

4. GOHP has assured ADB that the proposed new infrastructure will be built, either within premises owned by the government, or on vacant and unencumbered land owned by the government. No new land will be acquired, nor will anyone be displaced in anticipation of ADB funding. Sites located within or near environmentally sensitive areas and tribal areas of Himachal Pradesh will not be considered. No project related activity will have any adverse impact on indigenous peoples or impede their cultural and human rights. Hence, from a safeguard's perspective, the Project is categorized as 'B' for environment, 'C' for involuntary resettlement, and 'C' for indigenous peoples. The project categorization has been

¹A detailed Environmental and Social Management Framework (ESMF) has been prepared in line with ADB's Safeguards Policy Statement (SPS), 2009, to guide the executing agency and implementing agencies in mainstreaming environmental and social concerns into the design and implementation phases of HPSDP.

reconfirmed by an experienced ADB environment and social safeguards consultant, who has already visited all sites already identified and finalized so far.

5. One RLC with inclusion of facilities has been planned at Nalagarh in Solan district of Himachal Pradesh. Nalagarh is a town and a Municipal Council in Solan district in the Indian state of Himachal Pradesh.

6. The RLC site is on unencumbered GOHP owned land. The RLC will help rural youth in getting trained through various job-oriented skill training programs run by it for gainful employment. The training programs have been designed keeping in view industry and market needs.

7. The RLC will be a G+3 storey building. The building comprises 2 Production Halls, 2 Multiprocessing units, Training Hall, Office, Classrooms (3 nos.), 1 IT Laboratory, 1 Domain laboratory, Reception cum Counseling room, Canteen, Staff room, Centre Manager room along with wash rooms at every floor. Besides this, there would be dormitory for stay of students and trainees in every floor. The built-up area of RLC building is 2000 m² (approx.). In the RLC building a septic tank will be provided for 100 users. Solar panels will be installed on the roof with potential to generate 5 kW. A Hostel/ dormitory for 90 students and 4 trainees is also designed within the RLC. The Sanitation facilities have been planned on all floors.

8. The architectural expression of the RLC building is in harmony with the local style of Himachal Pradesh - suitable for cool weather, with a long rainy season. The building aims to evoke a true guiding, learning and facilitation Centre for local Himachali youth in getting employment. The RLC building will be a barrier-free building. There will be ramps and specially designed toilets to make it easy for people with disabilities. The RLC building will have adequate number of modern sanitation and drinking water facilities. Concrete gutters at the end of steel sheeting roofs will direct the rainwater to underground rainwater harvesting tanks (approx. capacity 20,000 liters). The clean rainwater runoff can be re used for horticultural purposes and for flushing in the toilets.

9. Any waste generated on account of operation and maintenance of solar PV Cell will be taken up by the supplier, who will also be maintaining the PV cell, for possible recycle and reuse.

10. This **Initial Environmental Examination (IEE)** report provides details about the RLC site, the potential environmental impacts of the civil works, and suggests ways of mitigating and addressing these². Near RLC site, there is no existence of any protected, reserved or revenue forest areas. Site's topographical features enable swift drainage. The RLC site is on an undulating terrain. There are no protected areas (national parks, bird sanctuaries, tiger reserves, etc.), wetlands, mangroves, or estuaries in or near the sub-project location.

11. Since the RLC including the hostel facility will be a small building with 2000m² built-up area (approx.) for conducting skills developing training program, and placement facilitation, therefore, construction of RLC and its operations are unlikely to cause any significant impacts. These routine and localized effects associated with construction and operation of the new building can be mitigated easily by following the measures laid down in the

²Local stakeholders were involved in developing the IEE through discussions on-site and public consultation. Their views were incorporated into the IEE, and the design of the sub-project. The IEE will be made available at public locations in the town such as Nalagarh tehsil office, Municipal office building, district administration office. It will be disclosed to a wider audience via the ADB, DOUD, and HPKVN websites.

Environment Management Plan (EMP) included in the IEE. The EMP will be included in civil work bidding and contract document. **The IEE confirms the RLC building construction and functioning as environment category “B”.** No further special study or detailed environmental impact assessment (EIA) needs to be undertaken to comply with ADB SPS, 2009 or Government of India EIA Notification, 2006.

12. HPKVN and PWD will be responsible for overall planning and implementation of the civil works. They will ensure that the ESMF is followed during project implementation. The Project Management Consulting (PMC) firm has experienced Environment and Social Safeguards specialists. The EMP implementation will be monitored by the Environment and Social safeguard specialist of PMC.

I. INTRODUCTION

A. Background

1. **Location:** One Rural Livelihood Center (RLC) with inclusion of facilities is planned at Nalagarh town in Solan district of Himachal Pradesh. The latitude and longitude of the proposed RLC is given below:

Sl. No.	Name of Facility	Latitude	Longitude
1	RLC (with inclusion of hostel facilities) at Nalagarh	31.02768 N	76.71483 E

2. The nearest rail head at Kalka is 34 km away from RLC site. Nalagarh is well connected with important destinations such as Shimla, Chandigarh and Delhi. The distances of important destinations are given below:

3. The nearest rail head is Railway Station Kalka Railway Station which is about 34km away from RLC site. It is located within center of 3 towns i.e. Nalagarh, Baddi and Pinjore. The project site is well connected to Shimla, Chandigarh, and Delhi. Important destinations such as Baddi, Pinjore, Swarghat and Parwanoo are the nearby cities to Nalagarh. Naina Devi, Kasauli, Nalagarh Fort, Ramsheher Fort are the nearby Important tourist destinations to visit. The distances of important destinations are given below:

Sl. No.	Name of Facility	Altitude (m)	District	Distance from RLC site
1.	RLC, Nalagarh	395.10	Solan	Baddi : 14 km Solan : 78 km Nalagarh : 3 km Swarghat : 34 km Parwanoo : 36 km Kasauli : 58 Una : 72 km Chandigarh Airport : 63 km Mandi : 137 km Bilaspur : 73 km New Delhi : 348 km Shimla : 96 km Ambala : 89 km

4. The proposed RLC site is a vacant and unencumbered land in the ownership of Department of Rural Development (DORD), Government of Himachal Pradesh. The Solan district lies between the parallels of 30°44'53" to 31°22'01" North and 76°36'10" to 77°15'14" East.

5. The proposed site is in Solan district and about 78 km from the district headquarter Solan. The Solan district is bounded by Shimla district in the North and Ropar district of Punjab and Ambala district of Haryana in the south, by Sirmaur District in the east and by Bilaspur district in the west. Mandi district touches the boundary of Solan district in north-east. The shape of the district is rectangular with slight bulge on the northern side intruding towards Mandi district. It is located between the longitudes 76.42 and 77.20 degree and latitudes 30.05 and 31.15 degree north. The elevation of the district ranges from 300 to 3,000 meters above sea level. The mountain ranges lie in the outer Himalayas and are a part of Shivalik ranges. Administratively, the district is divided into four Sub-division viz. Solan comprising of Solan and Kasauli tehsils, Nalagarh covers the jurisdiction of Arki and Kandaghat Sub-divisions covers their respective tehsils. The total geographical area of the

district is 1,936 sq. km. which constitutes 3.49 percent of the total area of the State and ranks 9th amongst the districts.

6. Present Status of RLC Site: The site ownership is with DORD. The RLC site is in undulating terrain. The subproject site is on an undulating terrain. The subproject site is an open plot. There are no permanent or temporary structures on the site. There are also no trees. There are small shrubs at site which have grown over the time due to plot being vacant. There are no permanent or temporary structures on the site. The photographs of sub-project site are shown below:



View of RLC Site



Another View of RLC Site



View of Site Showing Shrubs

B. Compliance with India's Environmental Regulatory Framework

7. India's environmental rules and regulations, as relevant for the RLC Nalagarh are shown in **Table 1**. The Environmental Impact Assessment (EIA) notification, 2006 by the Ministry of Environment, Forests and Climate Change (MOEFCC, GOI) specifies the requirements for mandatory environmental clearances. All projects and activities are broadly categorized into two categories—category 'A' and category 'B', based on the spatial extent of

potential impacts on the environment, human health, and natural and man-made resources³. However, MOEFCC's Notification- S.O. 3999, dated 09/12/2016 exempts all educational and training institutes from obtaining prior environmental clearance. Since all the training facilities to be constructed or upgraded under HPSPDP, including this RLC subproject, are meant for educational and training purposes, they will not require any prior environmental clearances according to the environmental rules and regulations of India. Further, as shown in **Table 1**, most other rules pertaining to India's regulatory framework such as Ancient Monuments and Archaeological Sites and Remains (amendments and validation) Act, 2010; the Wildlife (Protection) Act, 1972, amended in 2003 and 2006; and the Forest (Conservation) Act, 1980, will also not apply to RLC subproject. Only some permission will be required from the Himachal Pradesh State Pollution Control Board for the construction phase of the sub-project.

Table-1: Environmental Regulatory Compliance

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
Construction of Rural Livelihood Center at Nalagarh	The EIA notification, 2006 (and its subsequent amendments till date) provides for categorization of projects into category 'A' and 'B', based on extent of impacts.	The sub-project is not covered in the ambit of the EIA notification (amended till date), either as a Category 'A' or Category 'B' project. As per the MOEFCC Notification S.O. 3999 dated 09/12/2016, educational and training institutions are exempted from prior environmental clearance. As a result, the categorization, and the subsequent environmental assessment and clearance requirements, either from the state or the GOI, are not triggered. Not Applicable
	The Ancient Monuments and Archaeological Sites and Remains (amendments and validation) Act, 2010 provide guidance for carrying out activities including conservation, construction and reuse in and around the protected monuments.	The RLC site is not close to any monument which is protected by the Archaeological Survey of India (ASI). Hence, no clearance is needed from ASI. Not Applicable
	Water (Prevention and control of pollution) Act, 1974 and Air (prevention and control of pollution) Act, 1981	Consent for Establishment (CFE) and Consent for Operation (CFO) from the State Pollution Control Board will be required during construction for installation of diesel generator set, hot mix plant, and concrete batching plant,

³ All projects or activities included as Category 'A' in the Schedule, including expansion and modernization of existing projects or activities and change in product mix, will require prior environmental clearance from the Central Government in the Ministry of Environment, Forests and Climate Change (MoEFCC) on the recommendations of an Expert Appraisal Committee (EAC) to be constituted by the Central Government for the purposes of this notification; All projects or activities included as Category 'B' in the Schedule, including expansion and modernization of existing projects or activities as specified in sub paragraph (ii) of paragraph 2, or change in product mix as specified in sub paragraph (iii) of paragraph 2, but excluding those which fulfill the General Conditions stipulated in the Schedule, will require prior environmental clearance from the State/Union territory Environment Impact Assessment Authority (SEIAA). The SEIAA shall base its decision on the recommendations of a State or Union territory level Expert Appraisal Committee (SEAC) as to be constituted for in this notification. In addition, General Condition (GC) of the notification specifies that any project or activity specified in Category 'B' will be treated as Category A, if located in whole or in part within 5 km from the boundary of: (i) Protected Areas notified under the Wild Life (Protection) Act, 1972, (ii) Critically Polluted areas as notified by the Central Pollution Control Board from time to time, (iii) Notified Eco-sensitive areas, (iv) inter-State boundaries and international boundaries

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Initial Environmental Examination For Development of Rural Livelihood Center at Nalagarh

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
		etc., as SPCB categorization of industries. For the operation phase, no CFO will be required. Applicable only for Construction Phase
	The Wildlife (Protection) Act, 1972, amended in 2003 and 2006, provides for protection and management of Protected Areas.	No wildlife protected areas within 15 km aerial distance from the sub project site. Not Applicable
	Forest (Conservation) Act, 1980	This act provides guidelines for conservation of forests and diversion of forest land for non-forest use. It describes the penalties for contravention of the provisions of the Act. If forest land has to be acquired for the project, clearance is required from the Forest Department. No forest land is required for sub- project for the RLC construction. Hence this is not applicable. Not Applicable
	Solid Waste Management Rules, 2016	These rules have been notified by the MoEFCC for collection, transportation and disposal of municipal waste. In the case of RLC, these rules will be applicable both during construction and operation. Applicable
	Hazardous Wastes (Management, Handling and Trans-boundary Movements) Rules 2016	These rules are for safe handling, storage, transportation, and disposal of hazardous wastes. The hazardous waste mainly discarded fuel and lubricants on account of vehicle, equipment, and machinery maintenance during construction. Hence these rules will be applicable during construction phase. Applicable
	Battery Waste Management Rules 2020	These rules have been promulgated for safe recycling of lead acid batteries. These will be applicable both during construction and operation phases. Applicable
	Noise Pollution (Regulation and Control) Rules, 2000	These rules prescribe ambient noise levels for various land uses. This act will be applicable both during construction and operation phases of RLC sub-project. Applicable
	E- Waste (Management) Rules, 2016	These rules have been formulated to channelize the E-waste to authorized dismantlers for possible re-use and recycle of waste. These will be applicable during operation phase of RLC sub-project. Applicable
	Bio-Medical Waste Management Rules 2016	The facilities will not generate any biomedical waste during construction and operation phases of RLC subproject, except in case of injuries, requiring first

Himachal Pradesh Skill Development Project
Initial Environmental Examination For Development of Rural Livelihood Center at Nalagarh

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
		aid applications, which is likely to be negligible. Applicable
	Construction and Demolition Waste Management Rules 2016	The rules have been formulated for safe storage, transportation, and disposal of construction and demolition waste. There will be generation of construction waste during construction phase. Hence these rules will be applicable during construction phase. Applicable
	Contract Labor (Regulation and Abolition) Act, 1970	This Act is to regulate the employment of contract labor in certain establishments and to provide for its abolition in certain circumstances. While appointing contractor to supply temporary labor, license to be obtained by company (principal employer) from Department of Labor and Employment. According to this act, if the contractor fails to make the payment of wages within the prescribed period and make short payment, then the principal employer shall be liable to make the payment of wages in full or unpaid balance dues as the case may be to the contract labor employed by the contractor and recover the amount so paid from the contractor. The appointed contractor may hire some laborers on contract on temporary basis, so this act will be applicable. Applicable
	Workmen's Compensation Act, 1923	The Workmen's Compensation Act, 1923 was enacted to offer compensation to the workers who have encountered injuries due to an accident during their employment. This act ensures that rights of the laborers are maintained even after they encounter some disability or death due to an accident during their work. In the current sub-subproject this act will be applicable as there may be accidents and /or injuries to the workers during construction. Applicable
	Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act, 1996	The rules have been formulated and notified under this Act in 1998 for the regulation of employment and safe working conditions for the construction workers. The workers will be employed by the contractor (s) for the construction and these rules will be applicable during construction phase for proper occupational, health and safety measures at site. Applicable
	The Occupational Safety, Health and Working Conditions Code 2020	The Occupational Safety, Health and Working Conditions Code, 2020 is a

Sub-Project	Applicability of Acts/Guidelines	Compliance Criteria
		code to consolidate and amend the laws regulating the Occupational safety and health and working conditions of the persons employed in an establishment. The Act replaces 13 old central labor laws. This act has been notified in Gazette of India on September 29, 2020. This Act will be applicable to the sub-project from date of its enforcement, which is yet to be notified by the GoI. Applicable (from date of enforcement notification)

Note: All the relevant Indian environmental and labor laws and regulations will be followed during sub-project lifecycle.

C. International Agreements and Commitments of Government of India

8. The Republic of India is party to various international agreements/conventions/treaties for conservation of environment at global level. The construction, development and operations of RLC will not trigger most of the convention/agreements including Ramsar Convention on Wetlands, 1971, Convention on World Cultural and Natural Heritage, 1972, Vienna Convention on Protection of Ozone Layer, 1985, and Montreal Protocol on Substances Depleting the Ozone layer, 1987 and Convention on Biological Diversity (CBD), 1992 because RLC sub-project site is not close to any notified wetlands and cultural and natural heritage sites, no production of ozone depleting substances from the sub-project and no biodiversity rich areas close to the sub-project site. The only convention(s) pertaining to climate change will be triggered. This is explained below:

1. United Nations Framework Convention on Climate Change (UNFCCC), 1994

9. As per the convention the reduction/limitation requirements of Green House Gases (GHG) apply only to developed countries. The only reporting obligation for developing countries relates to the preparation of GHG inventory (GHG sources and sinks, potential vulnerability to climate change, adaptation measures and other steps being taken to address climate change). India acceded to the Kyoto Protocol in 2002 and voluntarily agreed to reduce the GHG emissions in 2018.

10. The RLC sub-project activities will not have direct GHG emissions, but on account of slight increase in traffic both during construction and operation phases, there will be increased SO₂ and NO_x emissions through vehicular emissions.

11. The sub-project aims to adopt environmentally friendly construction materials, energy conservation measures (energy efficient fixtures, usage of solar energy for water heating and campus -lighting), minimization of natural resource consumption and landscaping and tree plantation.

D. Asian Development Bank's Environmental Safeguard Policy Principles

12. Since the proposed HPSPDP is being funded by the ADB, it has to comply with ADB's SPS, 2009, in addition to the India's own environmental laws and regulations. The environmental safeguard policy principles embodied in SPS, 2009 aim to avoid adverse impacts on the environment and on affected people or communities; minimize, mitigate and/or compensate for adverse project impacts, if unavoidable; help borrowers to strengthen their safeguard systems and to develop their capacity in managing the environmental and

social risks. The SPS, 2009 categorizes all projects into 3 environmental categories (A, B or C) based on their potential impacts⁴. Similarly, ADB's REA checklist method was followed to assess the potential impact of the proposed sub-project (**Annexure-1**). As explained in **Annexure-1**, this subproject has been categorized as 'B'. Accordingly, this IEE has been prepared to address the potential impacts in line with the requirements for category B projects. The IEE was based mainly on baseline data generation on environmental parameters and secondary sources of information and field reconnaissance surveys. Stakeholder consultations at subproject site are an integral part of the IEE. An Environmental management plan (EMP) outlining the specific environmental measures to be adhered to during implementation of the sub-projects is included in the IEE.

D. Review and Approval Procedure

13. For Category 'B' projects, the draft environmental status report is reviewed by the relevant ADB Departments and the Executing Agency. Additional comments are incorporated into the final documents as relevant. These are reviewed by the Executive Agency and ADB safeguards team. The final report is made available worldwide by ADB, via the depository library system and the ADB website and by the Executive Agency on its website.

E. Report Structure

14. This Report contains eight sections including this introductory section: (i) Introduction; (ii) description of sub-project components; (iii) description of the existing environment around the sub-projects; (iv) environmental impacts and mitigation measures; (v) EMP; (vi) public consultation and information disclosure; (vii) findings and recommendations; and (viii) conclusions.

⁴ As per SPS 2009, projects are assigned to one of the following four categories: (i) **Category A**. A proposed project is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works. An environmental impact assessment is required. (ii) **Category B**. A proposed project is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. An initial environmental examination is required. (iii) **Category C**. A proposed project is classified as category C if it is likely to have minimal or no adverse environmental impacts. No environmental assessment is required although environmental implications need to be reviewed (iv) **Category FI**. A proposed project is classified as category FI if it involves investment of ADB funds to or through a FI (paras. 65-67).

II. DESCRIPTION OF THE PROJECT COMPONENTS

A. Components of the Sub-project

15. The location of the RLC site and surroundings has been shown in **Figures 1 and 2**. **Table -2** summarizes the need for the sub-project and brief description of its components.

Figure-1: Location of RLC Nalagarh site

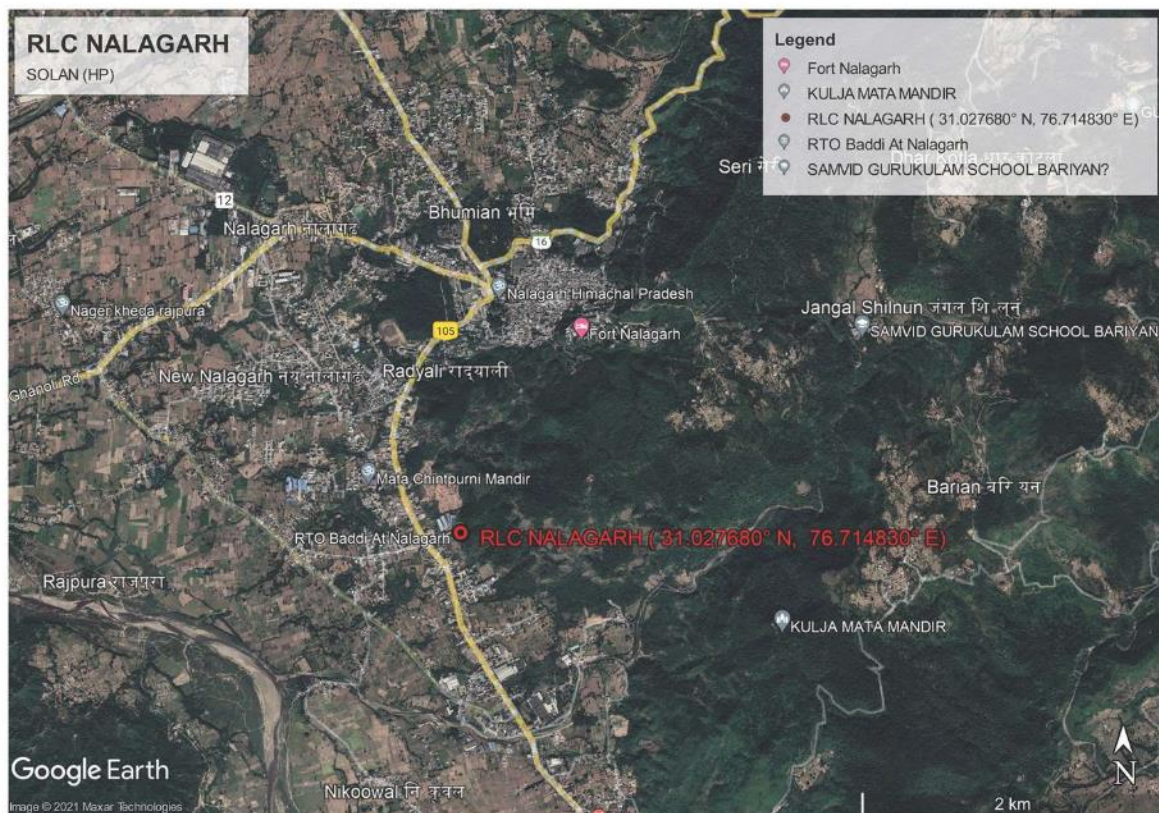


Figure-2: Location of RLC Nalagarh Subproject Site



Table-2: Description of the Sub-project Components

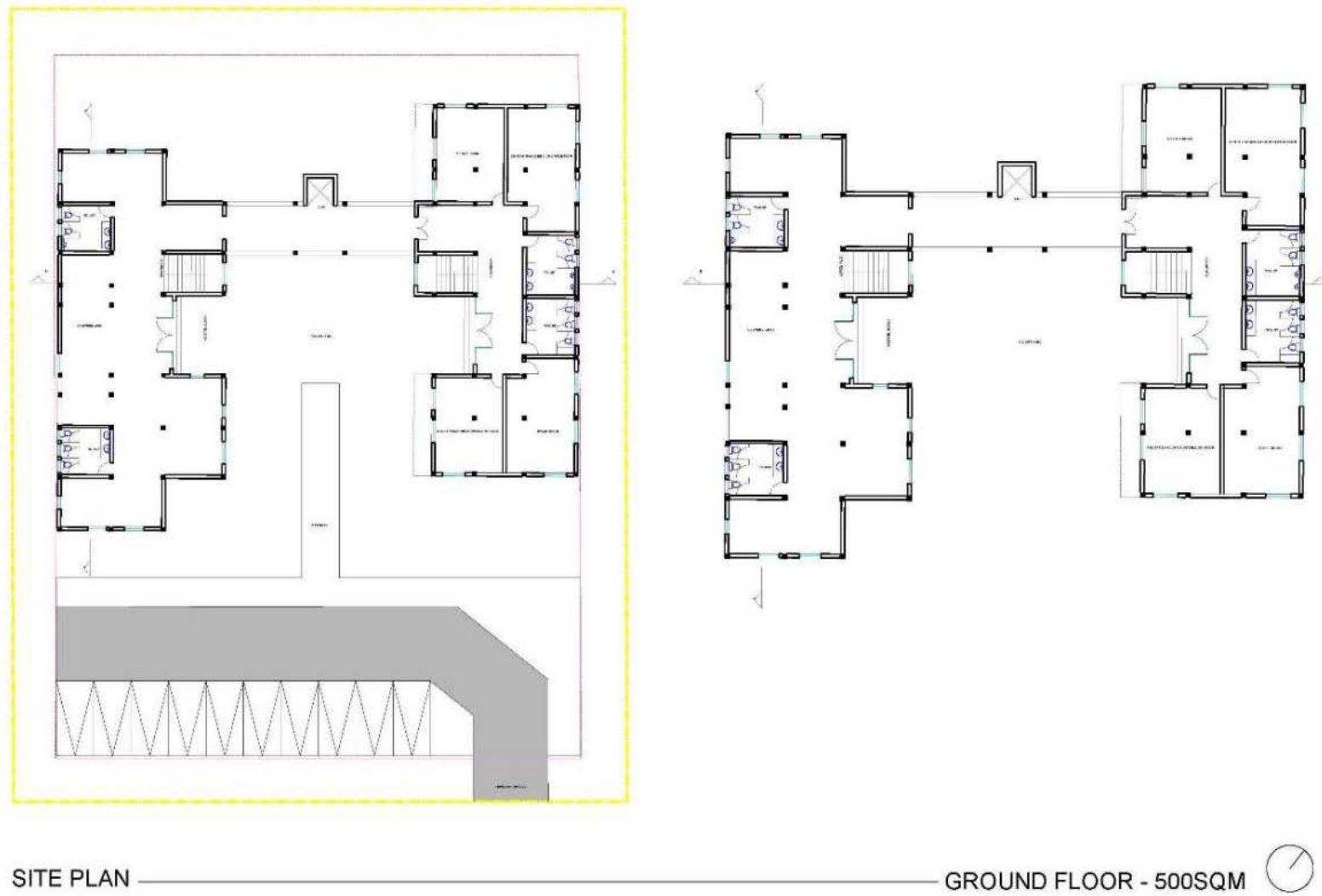
Description	Need of the Sub-project	Proposed Components																																																																																							
RLC (inclusive of hostel facilities) at Nalagarh	<ul style="list-style-type: none"> The RLC site at Nalagarh is located in Nalagarh town and tehsil in Solan district. The students from the subproject region have to travel to city centers of Himachal Pradesh or Punjab for job oriented skill courses or training. The RLC will be very effective for imparting job-oriented training and skills to rural youth. The subproject will also be very helpful for female students as it is difficult for them travel longer distances for the education. 	<p>The main sub-project components include:</p> <p>i. The RLC will be a G+3 storey building. The different facilities and their area statement is given below:</p> <table> <tr> <th>Sl. No</th><th>Function</th><th>Area (sqm)</th></tr> <tr> <td>1.</td><td>Office</td><td></td></tr> <tr> <td></td><td>Reception cum</td><td>20</td></tr> <tr> <td></td><td>Counselling room</td><td></td></tr> <tr> <td></td><td>Centre Manager cum Office room</td><td>30</td></tr> <tr> <td></td><td>Staff room</td><td>30</td></tr> <tr> <td></td><td>Office room</td><td>30</td></tr> <tr> <td>2.</td><td>Academic Facility</td><td></td></tr> <tr> <td></td><td>Training Hall</td><td>30</td></tr> <tr> <td></td><td>Classroom</td><td>135</td></tr> <tr> <td></td><td>IT Lab</td><td>45</td></tr> <tr> <td></td><td>Domain Lab</td><td>90</td></tr> <tr> <td></td><td>Production Hall</td><td>90</td></tr> <tr> <td>3.</td><td>Accommodation</td><td></td></tr> <tr> <td></td><td>Dormitories</td><td>260</td></tr> <tr> <td></td><td>Private room</td><td>50</td></tr> <tr> <td>4.</td><td>Canteen</td><td></td></tr> <tr> <td></td><td>Kitchen</td><td>150</td></tr> <tr> <td></td><td>Dining</td><td>160</td></tr> <tr> <td>5.</td><td>Utility</td><td></td></tr> <tr> <td></td><td>Hostel Toilet Gents</td><td>40x3</td></tr> <tr> <td></td><td>Hostel Ladies</td><td>40x3</td></tr> <tr> <td></td><td>Gents Toilet</td><td>20x4</td></tr> <tr> <td></td><td>Ladies Toilet</td><td>20x4</td></tr> <tr> <td></td><td>Staff Toilet</td><td>20x4</td></tr> <tr> <td>6.</td><td>Public Areas</td><td></td></tr> <tr> <td></td><td>Mess</td><td>150</td></tr> <tr> <td></td><td>Open ground</td><td>160</td></tr> <tr> <td></td><td>Total Carpet Area</td><td>1910</td></tr> </table> <p style="text-align: right;">Total area (Approx) 2000</p> <p>ii. Sanitation facilities have been provided at all floors. Solar panels will be installed on the roof with potential to generate 5 kW.</p> <p>iii. The total electricity load has been estimated as 30 kilowatts</p> <p>iv. Water consumption has been estimated as 4500 liters per day. Water source will be from the PHED supply.</p> <p>v. For solid waste disposal, either location will be identified close to RLC or it will be integrated with Nalagarh Town waste disposal system.</p> <p>vi. The training courses in RLC will</p>	Sl. No	Function	Area (sqm)	1.	Office			Reception cum	20		Counselling room			Centre Manager cum Office room	30		Staff room	30		Office room	30	2.	Academic Facility			Training Hall	30		Classroom	135		IT Lab	45		Domain Lab	90		Production Hall	90	3.	Accommodation			Dormitories	260		Private room	50	4.	Canteen			Kitchen	150		Dining	160	5.	Utility			Hostel Toilet Gents	40x3		Hostel Ladies	40x3		Gents Toilet	20x4		Ladies Toilet	20x4		Staff Toilet	20x4	6.	Public Areas			Mess	150		Open ground	160		Total Carpet Area	1910
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Initial Environmental Examination For Development of Rural Livelihood Center at Nalagarh

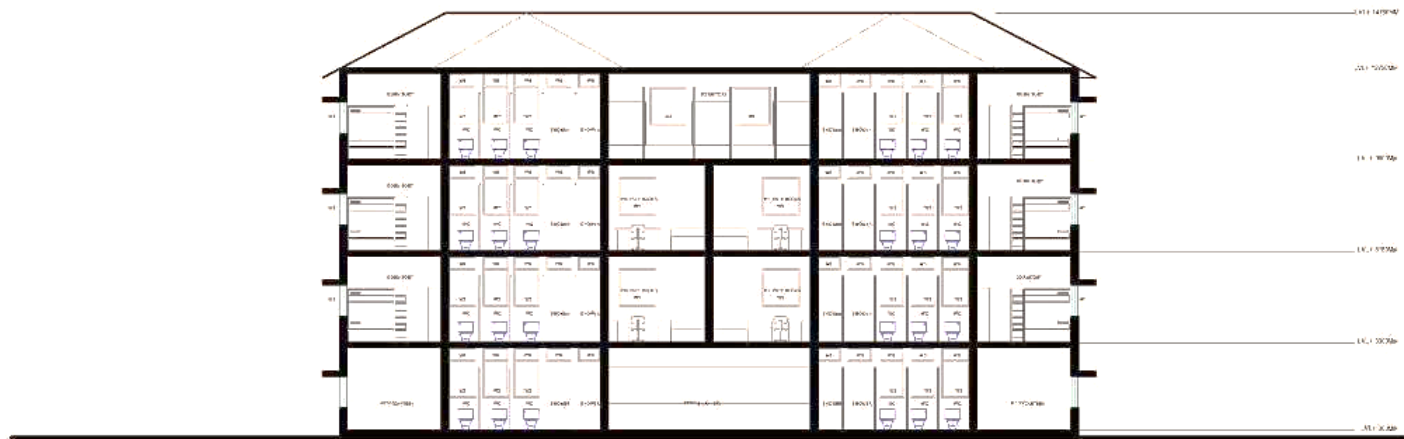
		include computer maintenance, electrician, mobile repair, Food Processing (Pickle making, apple juice, jam making), tailoring and fashion design, automobile repairing and maintenance, etc. The above courses are indicative. The finalization of courses will be done after assessing local needs at the end of construction phase.
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16. The layout plan of the RLC Nalagarh along with drawings have been shown below in **Figure-3**.

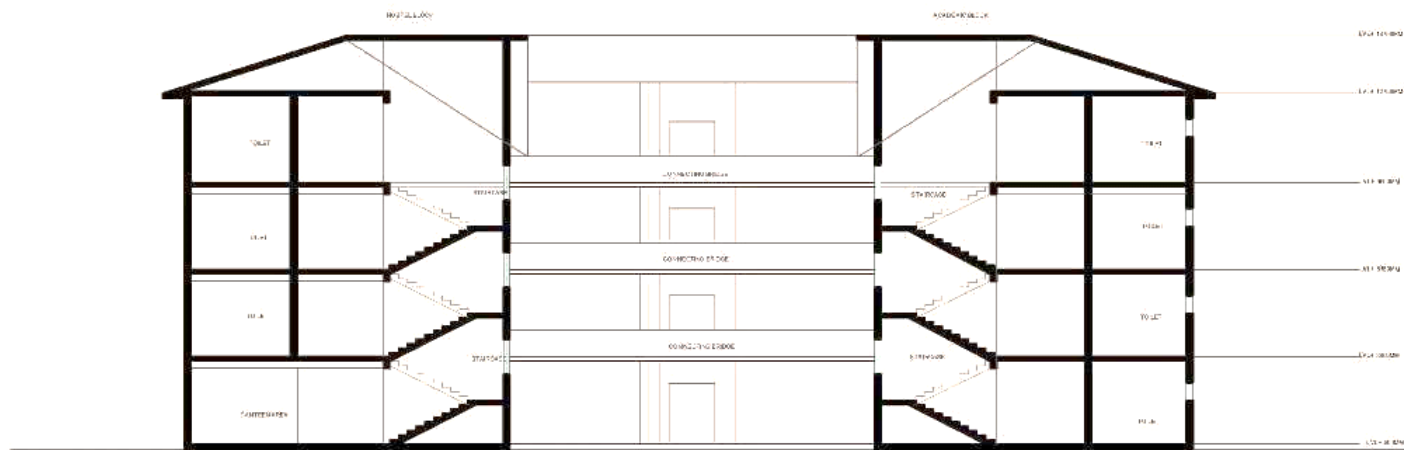
Figure-3: Layout Plan and Drawings of RLC Nalagarh







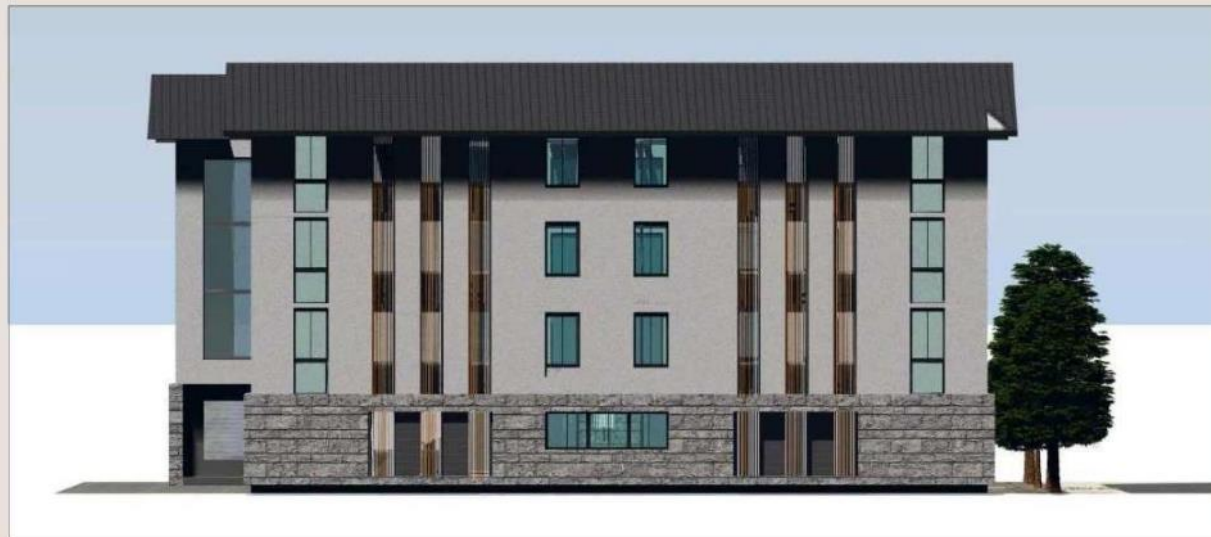
SECTION AA'



SECTION BB'



ELEVATION



ELEVATION



RLC NALAGARH

VIEWS

B. Executing and Implementing Agencies

17. The Department of Technical Education (DOTE), GOHP, is the executing agency for the HPSPDP. The Himachal Pradesh Kaushal Vikas Nigam (HPKVN), the Directorate of Technical Education, Vocational & Industrial Training (DTE), Department of Higher Education (DOHE), and the Public Works Department (PWD) are the implementing agencies. HPKVN also operates as the project management unit (PMU) for the overall project implementation. For the civil works components, it is being assisted by PWD officials who are well aware of the states and India's building codes and environmental rules and regulations. HPKVN and PWD are responsible for overall planning and implementation of the civil works. They will ensure that the ESMF is adhered to during project implementation. The Project Management Consulting (PMC) firm engaged under the loan has experienced Environment and Social Safeguards specialists. They assist PWD and HPKVN in supervising the civil works, ensuring that the IEEs and EMPs are prepared for all future sub-projects, and in preparing semi-annual safeguards monitoring reports also. HPKVN consolidates the semi-annual reports, and submits to ADB. ADB posts the environmental monitoring reports on its website.

C. Implementation Schedule

18. The implementation period for the proposed sub-project is 24 months. The preliminary drawings for RLC have been prepared and approved. The subproject is in the final stage of bidding process and the subproject is expected to be completed by 2023.

III. DESCRIPTION OF THE EXISTING SUB-PROJECT ENVIRONMENT

19. This section presents a brief description of the existing environment around the sub-project site, including its physical resources, ecological resources, socio-economic development and social and cultural resources. Broad aspects on various environmental parameters such as geography, climate and meteorology, physiographic, geology, seismology, ecology, socio-cultural and economic development parameters that are likely to be affected by the proposed sub-project are presented. Secondary information was collected from relevant government agencies like the Forest Department, State Environment Department and State Pollution Control Board, and Meteorological Department.

A. Environmental Profile

Air and Noise Quality

20. No air pollution sources (point or non-point) have been seen in the surroundings of sub project influence area. The sub project site is in Nalagarh town. The subproject site is about 200 m from Baddi- Nalagarh National Highway No. 21. It was observed that the traffic on the road connecting to the site is too low, hence insignificant vehicular emissions is expected.

21. There are no industrial establishments at sub project area and surroundings. The ambient air quality and noise data for the sub project is not available. But the levels are expected to be well within the stipulated limits due to no major source of air and noise pollution at the site. Ambient Air quality Monitoring will be conducted by the Contractor prior to start of construction works with an aim to establish baseline conditions.

22. It was observed that ambient noise scenario in the study area is quite low in general. There are no industrial establishments in and around the project area. As the traffic density is very low, the noise either from point or nonpoint sources is not expected in the project area. Moreover, there will be not much rise in the noise impacts due to the proposed activities as RLC activities are teaching activities with hostel facilities for stay of trainees. There is no noise baseline data available for the sub project site. But the levels are expected to be well within the stipulated limits due to no major source of noise pollution at the site. Noise level monitoring will be conducted by the Contractor prior to start of construction prior to establish baseline conditions.

23. **Climate.** The climate of the sub-project area is generally sub-tropical. The location being at foothills experiences extreme high temperatures and higher rainfall in comparison to plains. The climate data for Nalagarh has been given in **Table-3**. It is clear from this table that the summers are invariably hot, temperature rising to 38°C (maximum) in the month of June and it falls down to 8°C in the winter months of December and January. The winters start from December to February and are characterized by heavy frost. The months of October, November and March are transition months.

24. Summers starts from April onwards and lasts up to middle of June. The weather is hot and humid. This is also the period of severe drought. The days in the month of May and June are very hot and dry. Occasional thunderstorms break the dry spell.

25. The Rainfall data of Baddi which is at a distance of 17 km from Nalagarh shows that rainfall varies from 1000 mm to 1200 mm, 70% of which is received during the monsoon months. The annual average rainfall in the area is about 1186 mm.

26. The **Table-3** below shows month wise weather conditions at Baddi which is at a distance of 17 km from Nalagarh.

Table-3: Climatic Conditions

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Temperature (°C)	13.1	15.6	20.6	26.3	31.1	32.4	29.1	28.1	27.9	23.8	18.7	14.6
Minimum Temperature (°C)	6.8	8.8	13.6	18.7	23.7	26.1	25	24.3	22.9	16.8	10.7	7.4
Maximum Temperature (°C)	19.4	22.4	27.7	34	38.6	38.7	33.3	32	32.9	30.9	26.7	21.8
Average rainfall /Precipitation (mm)	63	46	48	13	26	79	355	292	183	46	11	24

The Climate data of Baddi which is 17 km from project site has been depicted.

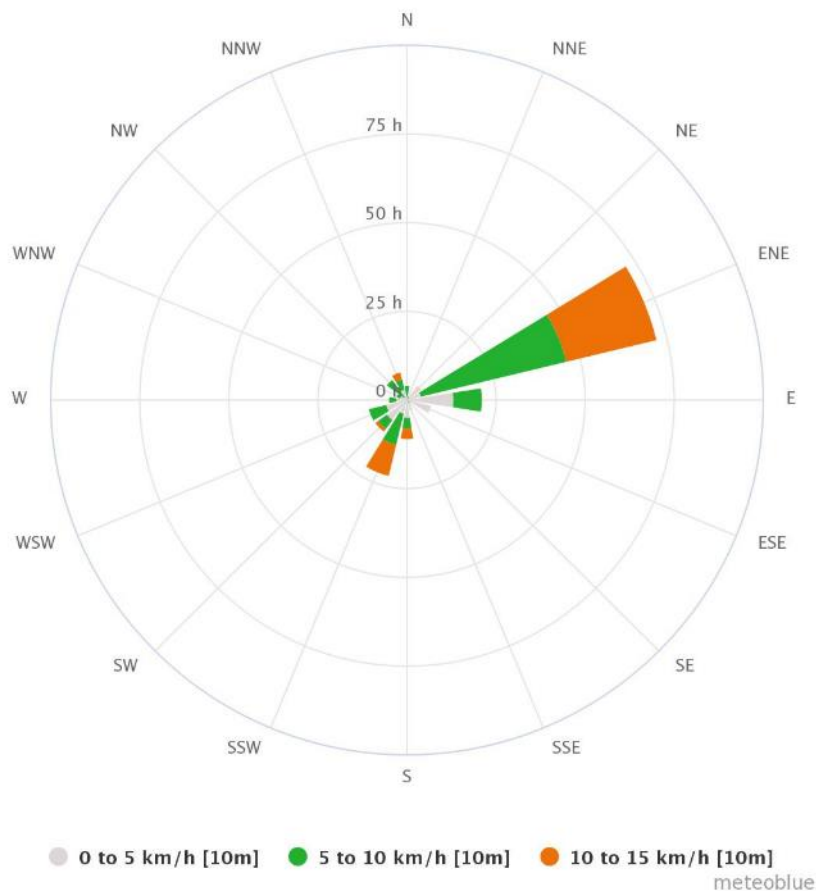
Source: Government of India, Ministry of Earth Sciences, Indian Meteorological Department- Chandigarh IMD Observatory (Year 2018)

27. **Rainfall.** The sub-project area experiences maximum rainfall during Monsoon season from July to September while least Rainfall is received in November and April months. There is no occurrence of snowfall at Nalagarh. The annual average rainfall is around 1200 mm.

28. **Humidity.** Based on recent (2018) meteorological data of the Solan district, it is found that relative humidity increases rapidly with the onset of monsoon and reaches maximum (around 85% in the morning and 84% in the evening) during August, when peak monsoon period sets in. Relative humidity is the minimum during the summer months (from April to June) with May being the driest month (40% in morning and 33% in evening). Skies are heavily clouded during the monsoon months and for short spells when the project area is affected by Western Disturbances.

29. **Wind Speed and Directions.** Generally, light to moderate winds prevail throughout the year with speed ranging from 1 to 15 kmph. Winds are light and moderate particularly during the morning hours, while during the afternoon hours the winds are stronger. The annual wind rose diagram based on local data has been given below in **Figure-4**. It is clear from wind rose diagram that most predominant wind direction is ENE followed by SSW. The most predominant wind speed range in project area is 5-10 kmph. Calm conditions (wind speed <1 kmph) prevail in morning and night hours.

Figure-4: Annual Wind Rose Diagram for Sub-project Region



Source: Government of India, Ministry of Earth Sciences, Indian Meteorological Department- Chandigarh IMD Observatory (Year 2018)

TOPOGRAPHY AND SOILS

30. The subproject site is in an undulating land. The elevation of subproject site is 395.10 m above mean sea level (amsl). The sub-project area is geographically located at foothills of Shiwalik range. The local topography is plain, undulating and is dissected by khuds and nallahs. Generally, khuds and nallahs are formed by erosion of alluvial soils during rainy season due to steep channel gradient and very high speed discharge and flow of rainwater. Local topography formed by deposition of sediments and it is shaped like alluvial plains. It has vast range of hills and area is surrounded by Dharampur range, Surajpur-Haripur-Mandhala range and Shiwalik hills.

31. In order to establish baseline status for soil quality in subproject area, data (obtained from secondary sources) of Baddi which is 17 km from Nalagarh has been referred to and this has been presented in **Table-4** below:

Table-4: Soil Quality of Sub-project Area

Sl. No.	Parameter	Unit	Baddi Town	Kunduwal Village
1	pH	-	8.01	8.23
2	EC	μhos/cm	175	144
3	Organic Matter	%	0.30	0.33
4	CEC	meq/100 gm	1.43	0.54
5	SAR	meq/100 gm	0.51	0.13
6	Lead as Pb	mg/kg	12.45	10.12
7	Cadmium as Cd	mg/kg	<0.50	<0.50
8	Chromium as Cr	mg/kg	3.47	4.25
9	Nickel as Ni	mg/kg	0.24	0.12
10	Zinc as Zn	mg/kg	137	146
11	Copper as Cu	mg/kg	22.80	14.5
12	Nitrogen	kg/ha	330	449
13	Phosphate as P	kg/ha	4.5	2.1
14	Potassium	kg/ha	100	63

Source: Environmental Impact Assessment Study for Integrated Solid Waste Management Project at Kinduwal Village, Tehsil Baddi (Year 2012)

32. It is clear from the results that soils are alkaline in nature and organic matter is low. Among the nutrients in the soil, Nitrogen is in medium range, but phosphate and potassium are low. The soils are suitable for vegetation growth. Soil is generally sandy loam in valley areas of the Solan district and in rest of the hilly and mountainous areas, soil is skeletal. In subproject area also soil is sandy loam. Soil depth is generally shallow, except in areas having good vegetative cover. Soil is generally dry and shallow.

Surface water and Ground water

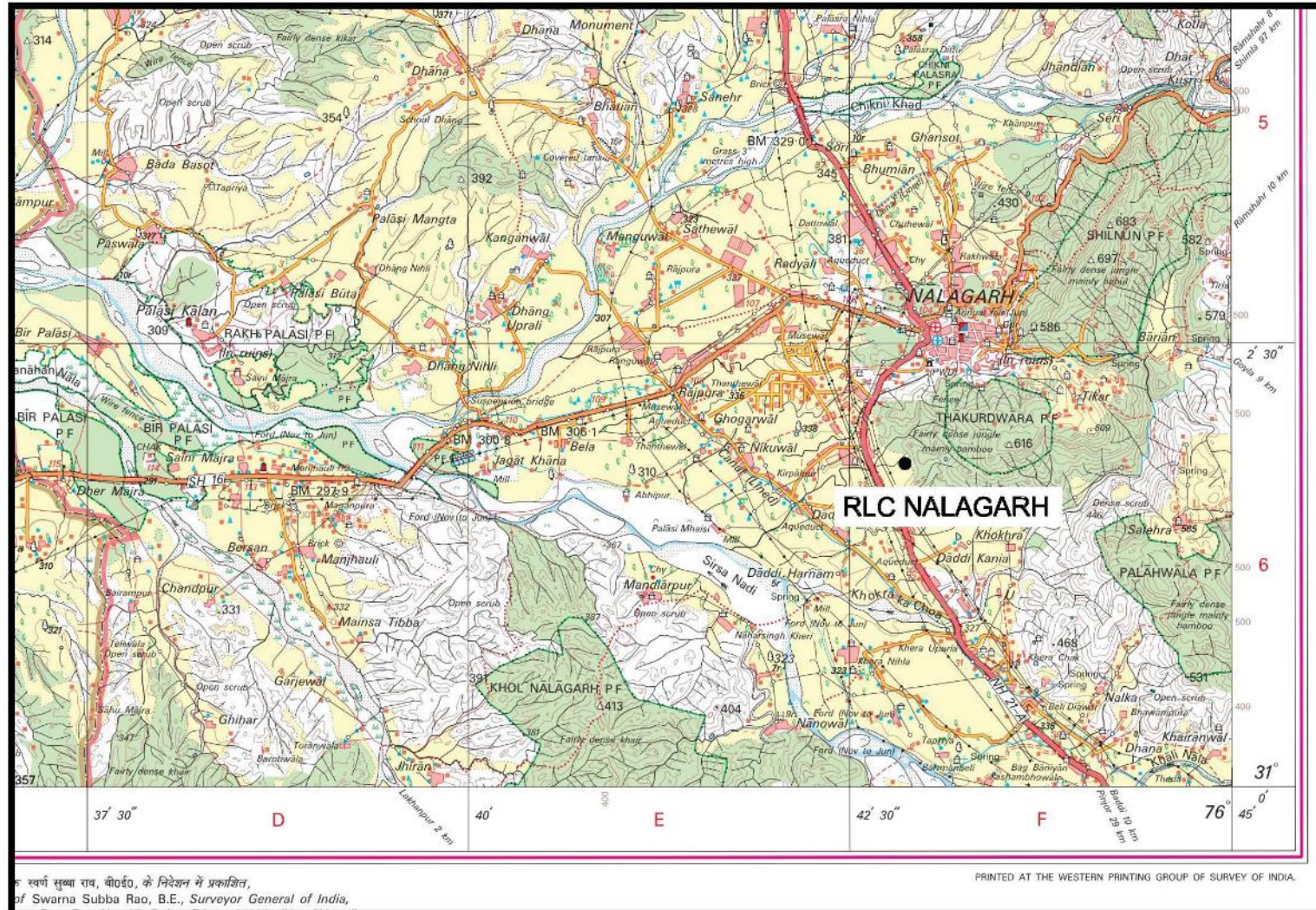
33. The RLC site at Nalagarh is not close to any surface water source. There is no River or pond within 1 km aerial distance. The River Sirsa is the closest river to the site which is at a distance of 1.33 km from the RLC site. This River has been shown on Survey of India Toposheet Map (SOI OSM Sheet No. 53A/12 [H43E/12] in **Figure-5**. To establish baseline scenario, ground water quality data was obtained from the Central Ground Water Board. The water quality data for the Solan district is given below in **Table-5**.

Table-5: Ground Water quality in Sub-Project Area for Solan District

Parameter	pH	EC $\mu\text{S/cm}$ at 25°C	Cl*	*NO ₃	*F	*Ca	*Mg	*Na	*K	*Total Hardness as CaCO ₃
Min	7.50	320	14	5.40	0.11	16	9.5	25	1	20
Max	8.10	1100	264	107	0.33	55	29	138	6	208
Drinking Water Quality Standards	6.5- 8.5	No limit specified	1000	45	1.5	200	100	No limit specified	No limit specified	600
<i>*Units of all parameters (except pH and EC) in mg/l</i>										

Source: District Ground Water Brochure District Solan-Central Ground Water Board (Year 2013)

Figure-5: Location of Nearest Surface Water Source from Sub-project Site



34. It is clear from the above table that all parameters of water quality are within the permissible limits, specified by Bureau of Standards (BIS), for drinking and irrigation. The water quality monitoring will be conducted by the contractor prior to the start of construction works. The maps showing hydrogeology of Solan district has been given in **Figure -6**.

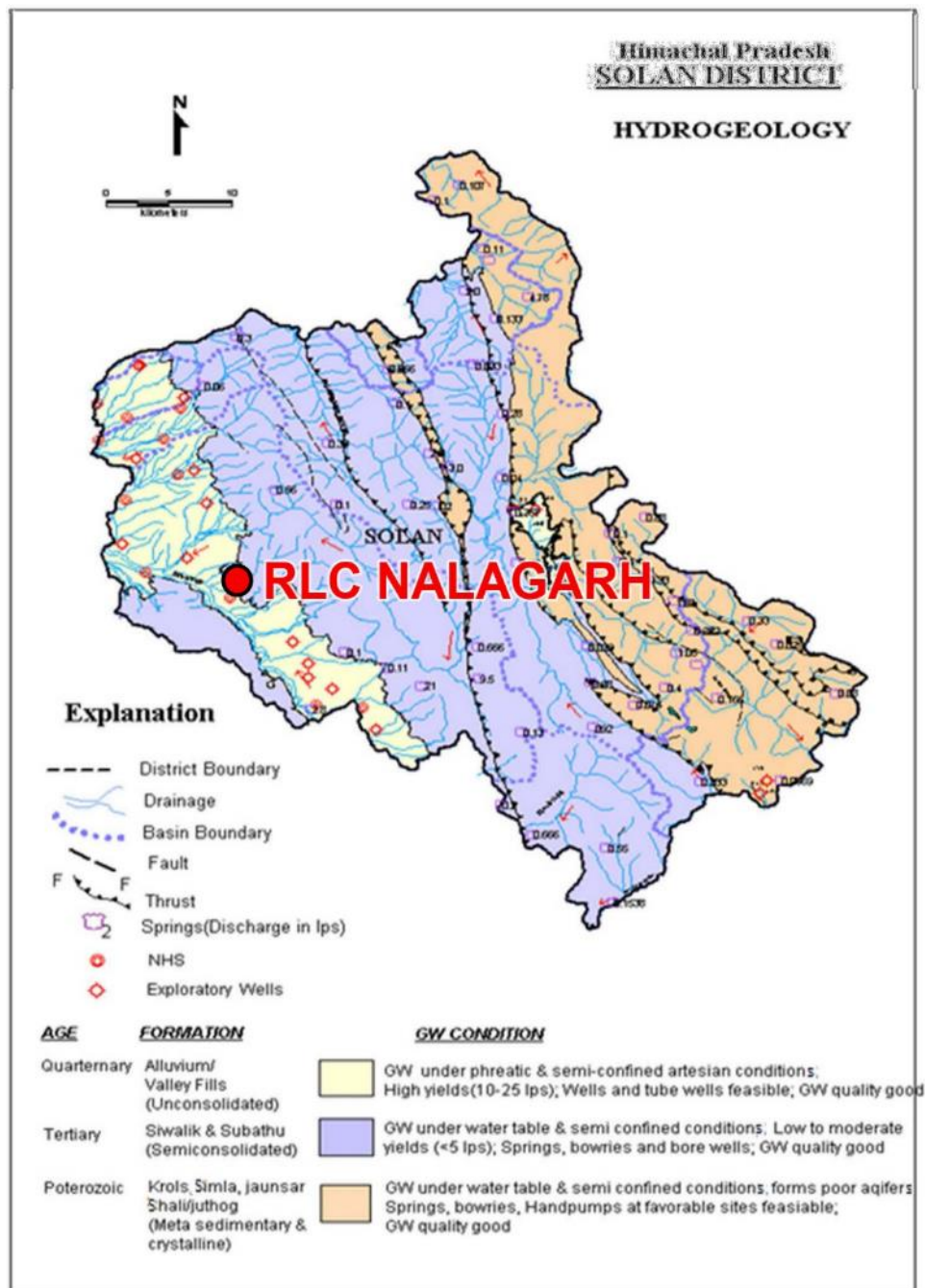
35. CGWB has drilled 16 exploratory wells in the district in the depth range of 65 to 300 m bgl. Static water level ranges from 2.20 to 43.20 m bgl and discharge ranges from 1.44 to 1968 lpm with a draw-down of 2.48m to 24.10 m.

36. Since Sirsa is the only river of significance in the surroundings of so water quality data of this river was collected from secondary sources. This data has been given below in **Table-6**. It is clear that water quality of river does not meet the criteria in respect of BOD and Dissolved Oxygen at downstream of Nalagarh Bridge location. The presence of Nitrate and Nitrites indicates water is polluted. The water is also not suitable for outdoor bathing.

Table-6: Sirsa River Water quality in Sub-Project Region

Sl. No.	Parameter	Unit	Value		CPCB Criteria for Drinking Water Source After Conventional Treatment and Disinfection
			Minimum	Maximum	
A: Location- Up stream of Sitomajri Nalagarh					
1	Temperature	°C	11	27	-
2	Dissolved Oxygen	mg/l	5.2	9.2	>4.0
3	pH	-	7	8.4	6.5-8.5
4	BOD ₅	mg/l	0.40	3.0	<3.0
5	Nitrate- nitrite	mg/l	0	19	-
6	Feacal Coliform	MPN/100 ml	1.8	23	<2500
7	Total Coliform	MPN/100 ml	8.1	94	<5000
B: Location- Down stream of Nalagarh Bridge					
1	Temperature	°C	12	32	-
2	Dissolved Oxygen	mg/l	4.1	8.5	>4.0
3	pH	-	7.3	8.8	6.5-8.5
4	BOD ₅	mg/l	0.3	4.0	<3.0
5	Nitrate- nitrite	mg/l	0	17	-
6	Feacal Coliform	MPN/100 ml	4.0	33	<2500
7	Total Coliform	MPN/100 ml	25	170	<5000
Source: Water Quality Data Central Pollution Control Board- CPCB ENVIS (Year 2016)					

Figure-6: Hydrogeology Map for Solan District



Source: District Ground Water Brochure District Solan-Central Ground Water Board (Year 2013)

Geology and Seismology

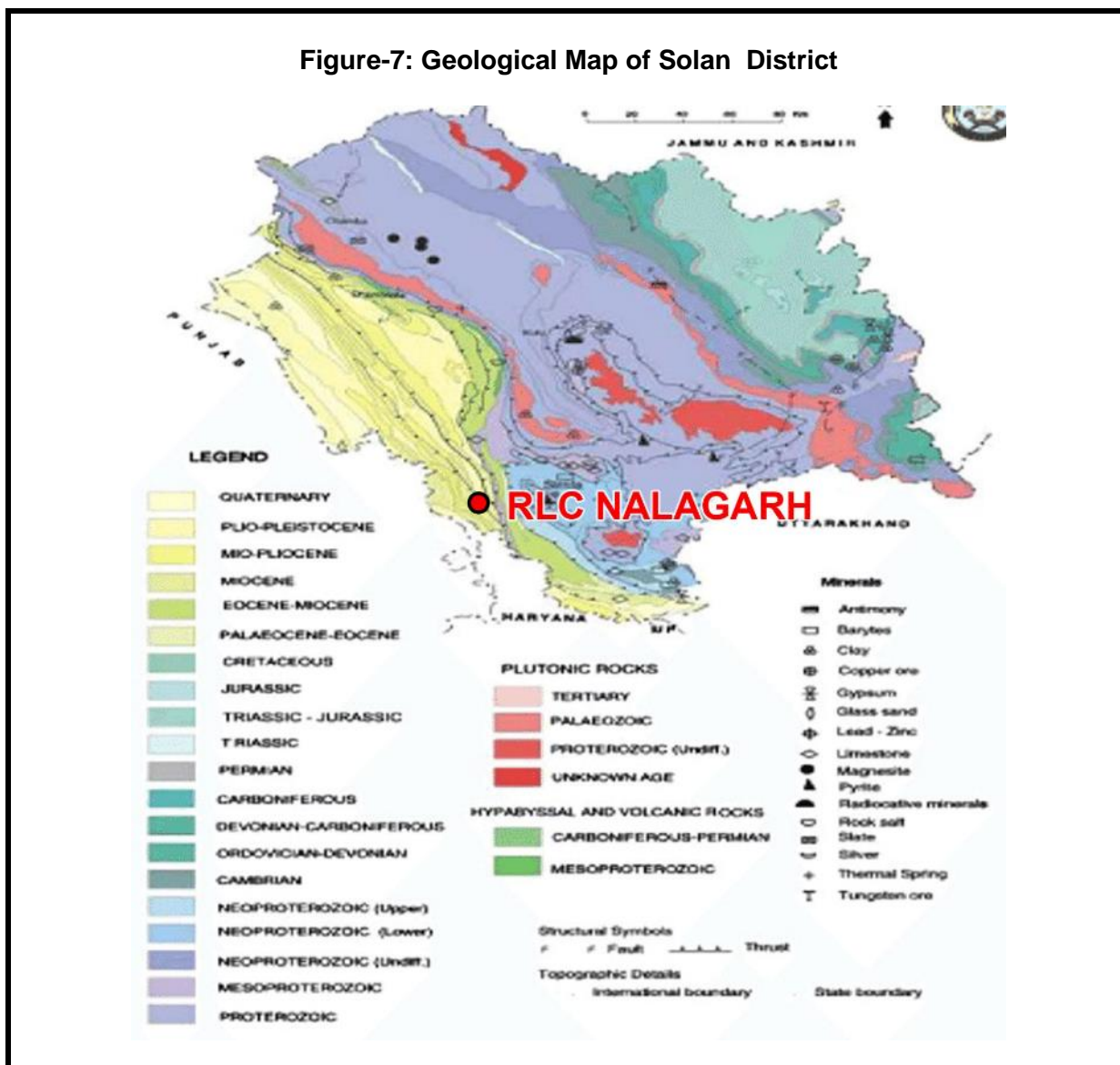
37. Geologically, the rock formations occupying the district range in age from pre-Cambrian to Quaternary period. The generalized geological succession in the district is given below in **Table-7**. The rock masses in the subproject region consist of alluvium and valley fills. The geological map of project region is given in **Figure-7**.

Table-7: Geological Description of Solan District

Era	Period	Formation	Composition (Lithology)
Quaternary	Recent to Pleistocene	Alluvium /valley fills/ Older alluvium	Sand with pebble and clay, medium to coarse grained sand with pebble of sandstone and lenses of clay
Tertiary	Pliocene – M-Miocene	Shivalik Group	Sand stone, conglomerate, clay, gravel beds, shale, mudstone
	L-Miocene - Oligocene	Subathu	Sand Stone, Shale, Nodular Clay, Lime stone
Proterozoic	Upper- III	Krols	Red Sandstone, Carbonaceous shale, slate, greywacke, dolomitic limestone
	Lower-III	Simla/Jaunsar	Siltstone, greywacke, sandstone, quartzite, conglomerate, Shale, slate, phyllite, dolomite and meta- volcanics
	Proterozoic-II	Shali/Sunder Nagar	Cherty dolomite, quartzite, limestone, shale, slate, phylitised/ sporadic shale, meta-volcanics etc.
	Un- differentiated	Jutogh Group	Shale, phyllite, schist, staurolite quartzite, dolomite, Limestone, and amphibolite

Source: District Ground Water Brochure District Solan -Central Ground Water Board (Year 2013)

Figure-7: Geological Map of Solan District



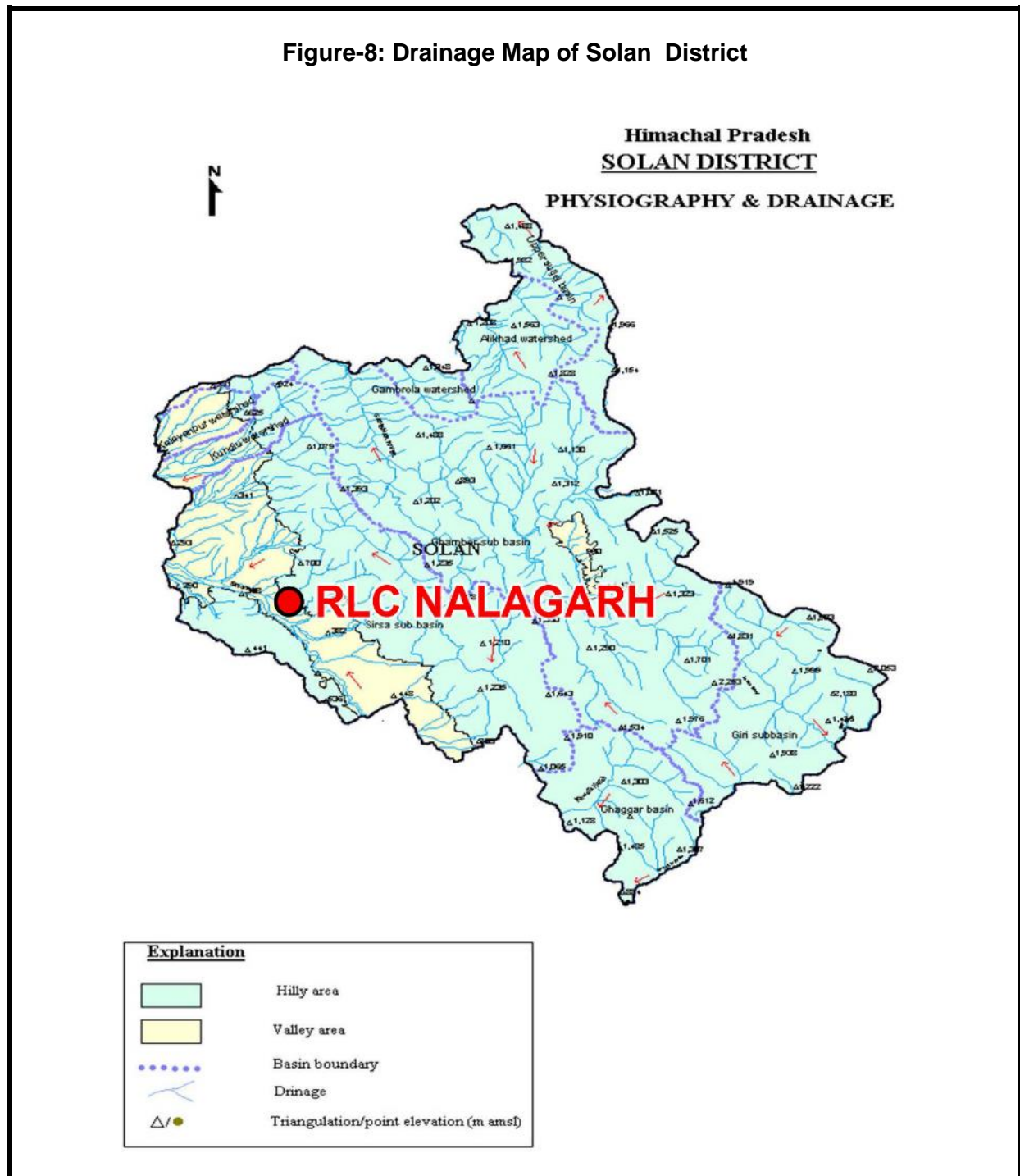
Source: District Ground Water Brochure District Solan-Central Ground Water Board (Year 2013)

38. India's seismic code divides the country into five seismic zones (I to V). The sub-project stretch comes under seismic zone V as defined by Urban Earthquake Vulnerability Project (UEVP) and the Atlas prepared by the Building Materials Promotion and Technology Council (BMTPC), Government of India and UNDP [IS 1893 (Part I : 2002)]. All structures have been designed considering seismic zone V. It may be mentioned that intensity of earthquake increases from Zone I to V. The Zone V mainly covers Himalayan region in India and Himachal Pradesh being a hilly state lies in Himalayan region. Zones I, II and III mainly cover Central and Southern parts of Indian peninsula. It may be mentioned that after an earthquake of 7.8 intensity on Richter scale in Kangra district in 1905 no major earthquake has occurred in Himachal Pradesh.

Drainage

39. Solan district is drained by streams/rivers forming part of the drainage basins of the Sutlej, the Yamuna and the Ghaggar rivers. However, major part of the district is drained by tributaries of Sutlej river viz., Ghambar River and Sirsa nadi. Ghambar River flows almost from the central part of the district towards north-east to join the Sutlej River in Gobind Sagar Lake. Another important-tributary of the Sutlej River is the Sirsa Nadi, flowing towards north-

west in the Nalagarh valley. The sub-project area is drained by Sirsa Nadi. The Giri River and its tributary, Assan flows towards south in the eastern part over a small area and are part of Yamuna river basin. Ghaggar River flows towards south-west and marks the south-eastern boundary of the district. Most of the rivers/streams/khads maintain base flow for major part of the year. In hilly terrain, the drainage density is high and fine, but it become coarse in foothills, rolling areas and valleys. The drainage map of Solan district is given in **Figure-8**.



Source: District Ground Water Brochure District Solan-Central Ground Water Board (Year 2013)

B. Ecological Resources

(i) Forests

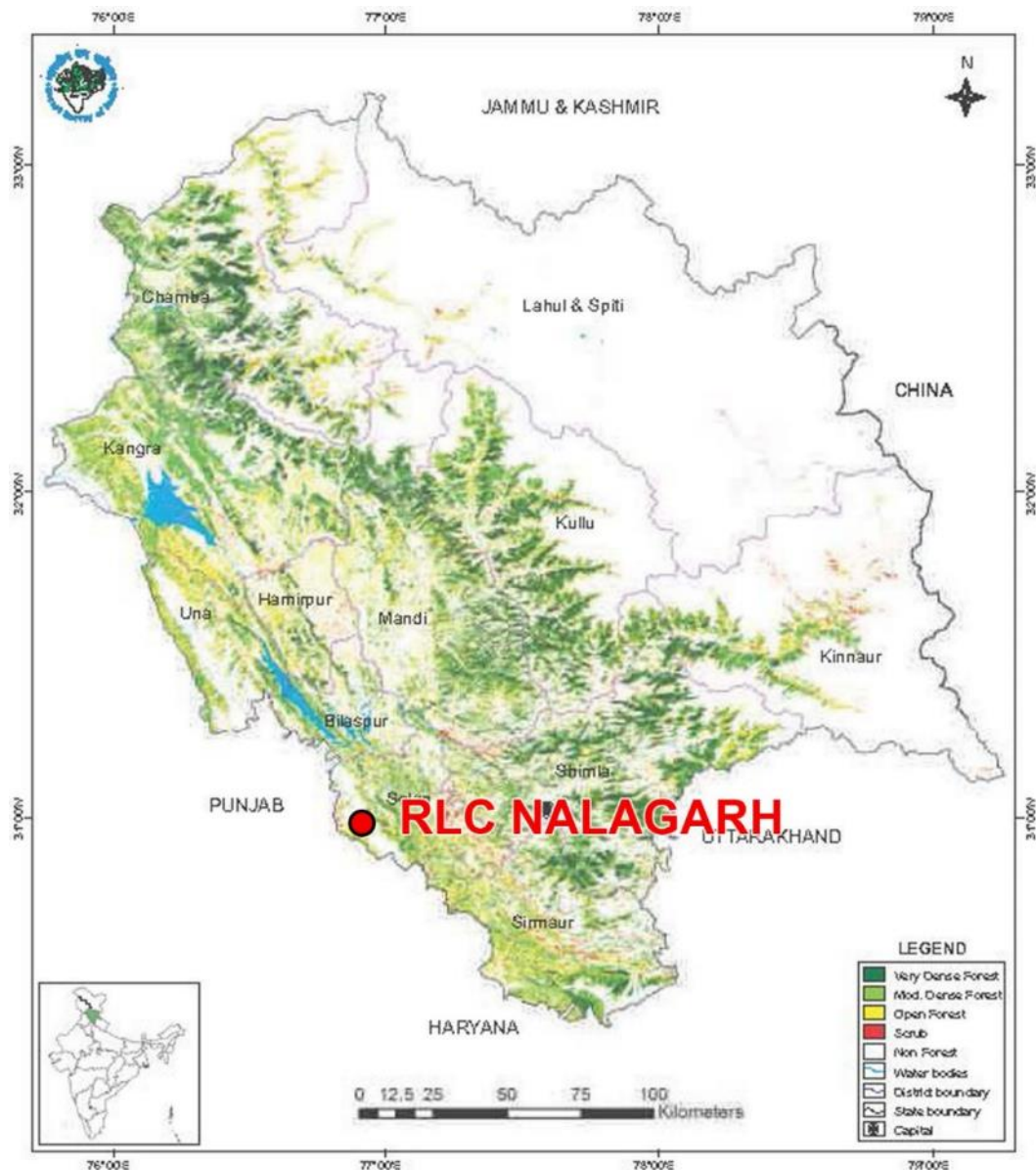
40. Various types of forests in Himachal Pradesh currently cover an area of nearly 37,691 square kilometers (14,553sq.miles), which is about 38.3% of the total land area of the state. The variation in the landscape has created great diversity of flora and fauna. From the snowbound peaks of the Himalayas to the moist Alpine scrub, sub Alpine forests, dry - temperate and moist- temperate forests to moist deciduous forests, the state possesses a wide biodiversity that in return nurtures a large multiplicity of floral and faunal forms. Reserve Forests constitute 71.11%, Protected Forests 28.52% and Un-classed forests constitute 0.35% of the total forest area. The Solan district has 44.73% area of its total geographical area under forest. The most portions of these forest areas are managed by the Forest Department. The forest areas under very dense, moderately dense and open category are presented below in **Table-8**:

Table-8: Different Categories of Forests in Solan District

District	Very Dense Forest Area (km ²)	Moderately Dense Forest Area (km ²)	Open Forest Area (km ²)
Solan	46	426	394
Source : State Forest Department Web Site (April 2019)			

41. The forests of subproject district can be classified into six main categories namely: (1) the tropical dry deciduous forests, (2) the sal forests (3) the chir forests, (4) the oak forests, (4) the deodar, fir and spruce forests, and (5) the Alpine pastures . Forest cover map for Himachal Pradesh is shown in **Figure -9**.

Figure-9: Forest cover Map of Himachal Pradesh



Source: Forest Department, Government of Himachal Pradesh (Year 2018)

42. The RLC Nalagarh sub-project site does not fall within any reserved, protected, or revenue forest areas. The complete vegetation of Himachal Pradesh relies on two factors - height and rainfall. The southernmost part of the state is at a lower altitude level and it contains both humid and subtropical dry broadleaf woodlands, along with subtropical moist broadleaf forests. The majority of area is covered by Himalayan subtropical broadleaf forests. Apart from this, the state has some of the vegetation, which is abundant with sal, sisham, and chir pine, dry deciduous and moist broad-leafed forests. The landscape which falls in temperate regions has trees like oak, deodar, blue pine, fir and spruce. The trees found in higher elevations include Alders, birches, rhododendrons and moist alpine scrubs.

43. Himachal Pradesh has abundant growth of fruits like apple, peaches, plums and berries. It is rightly called the 'fruit bowl of India'. There are plenty of fruit orchards and fruits and these fruits are transported to various parts of the country and exported abroad also.

The pleasant climate also helps numerous flower varieties like gladiolas, lilies, chrysanthemums, roses, marigolds, carnations, etc. to grow in abundance.

44. Himachal Pradesh is home to approximately 1200 birds along with 359 animal species. This includes leopards, ghoral, snow leopard, musk deer (state animal), and Western Tragopan (state bird). The state is an ideal tourist destination for animal lovers as it hosts 12 main national parks and sanctuaries. It has two major national sanctuaries -the Great Himalayan National Park and the Pin Valley National Park.

(ii) Flora and Fauna around Subproject Site

45. **There are no protected areas within 15 km radius of RLC site.** Around the sub-project site, there is limited fauna because of habitation. The common trees in the surroundings of sub-project sites are *Mangifera indica* (Aam), *Cassia fistuca* (Alish), *Premna latifolia* (Baken), *Ficus bengalensis* (Banian), *Zizphusmauratiana* (Ber), *Grewia elastic* (Beuli), *Butea monosperma* (Brahmadake), *Acacia arabica* (Babool), *Ficus glomerata* (Gular), *Syzygiumcaryophyatum* (Jamun), *Azadirachta indica* (Neem), *Ficus religiosa* (Pipal), *Lirioendrontulipifera* (Popular), *Eucalyptus camaldulensis* (Safeda), *Cassia fistuca* (Amaltash), *Phyllanthus emblica* (Amla), *Jatropohacurcuas* (Arand), *Premna latifolia* (Bakar), *Terminalia belerica* (Bahera), etc. There is no endangered or rare species flora at or surroundings of RLC site.

46. The fauna in the surroundings of RLC sub-project site includes- Indian porcupine: Sch IV of WPA, (IUCN- not reported), Indian Hare: Sch IV of WPA, (IUCN -LC), Fox: Sch IV of WPA, (IUCN-LC), Rhesus Monkey: Not reported in WPA, (IUCN-LC), Jackal: Sch II Part I of WPA (IUCN-LC), Wild Boar: Sch III of WPA, (IUCN-LC), Barking Deer: Sch III of WPA (IUCN-LC), Nilgai: Sch III of WPA, (IUCN-LC). The reptiles include Common Snake: Not reported in WPA, (IUCN-LC), House Lizard (Not reported in WPA and IUCN). The avian fauna found in project region include Black Shouldered Kite Not reported in WPA, (IUCN-LC), Crested Serpent Eagle: Not reported in WPA, (IUCN- LC), Rock pigeon: Not reported in WPA, (IUCN-LC), Spotted Dove: Not reported in WPA, (IUCN-LC), House Sparrow: Not reported in WPA, (IUCN- LC), Indian Cuckoo: Not reported in WPA, IUCN- LC, Black Bulbul: Not reported in WPA, (IUCN- LC), Common Myna: Not reported in WPA, (IUCN-LC).

(iii) Protected Areas

47. The list of protected areas (National Parks and Wildlife Sanctuaries) in Himachal Pradesh is given in **Table 9**. There are four protected areas in the Solan district (Chail, Majathal bird sanctuaries, Shili, and Darlaghat Conservation Reserves) **but these protected areas are located more than 30 km away from the proposed RLC site.**

Table-9: Protected Areas in Himachal Pradesh

Sl. No.	Sanctuaries	District	Area (km ²)
1	Bandli	Mandi	32.11
2	Chail	Solan	16
3	Chandra Tal	Lahaul & Spiti	38.56 +(11.53 for Consideration)
4	Churdhar	Sirmour	55.52
5	Daranghati	Shimla	171.50
6	Dhauladhar	Kangra	982.86
7	Gamgul-Siyabehi	Chamba	108.40
8	Kais	Kullu	12.61
9	Kalatop-Khajjiar	Chamba	17.17

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Sl. No.	Sanctuaries	District	Area (km ²)
10	Kanawar	Kullu	54.27
11	Khokhan	Kullu	14.94
12	Kibber	Lahaul & Spiti	2220.12
13	Kugti	Chamba	379
14	Lipa Asrang	Kinnaur	31
15	Majathal	Solan	30.86
16	Manali	Kullu	29
17	Nargu	Mandi	278
18	Pong Dam Lake	Kangra	207.59
19	Rakchham-Chitkul	Kinnaur	304
20	Renuka	Sirmour	4
21	Rupi-Bhaba	Kinnaur	503
22	Sechu-Tuan Nalla	Chamba	390.29
23	Sainj	Kullu	90
24	Shikari Devi	Mandi	29.94
25	Shimla Water Catchment	Shimla	10
26	Simbalbara	Sirmour	27.88
27	Talra	Shimla	46.48
28	Tirthan	Kullu	61
29	Tundah	Chamba	64
30	Water Supply Catchment	Shimla	10
National Parks			
1	Great Himalayan National Park	Kullu	765
2	Pin Valley National Park	Lahaul & Spiti	675
Conservation Areas			
1	Shilli Conservation Reserve	Solan	1.49
2	Shri Naina Devi Conservation Reserve	Bilaspur	17.01
3	Darlaghat Conservation Reserve	Solan	0.67

Source: Himachal Pradesh State Forest Department (Year 2017)

C. Economic Resources

Industries

48. The Solan district has 15 notified industrial areas. The district has pharmaceutical, cement, food processing and packaging, electrical accessories, wires and cables, Breweries and communication systems industries. These industries are spread in all parts of district. The sub-project location has also significant number of industries. There are about 246 large and medium industries in the district. In addition to large and medium industries, there are many micro and small enterprises in the district. The details of number of industries and employment have been presented below in **Table-10**.

Table-10: Details of Industries and Employment in Solan District

Sl. No.	Head	Unit	Particulars
1	Registered (MSEs) Industrial Units	Nos.	5331
2	Registered Medium Scale Units	Nos.	240
3	Registered Large Scale Units	Nos.	106
4	Employment in MSEs Sector	Nos.	69492
5	Employment in Medium Sector	Nos.	21095
6	Employment in Large Sector	Nos.	24408
7	Number of Industrial Areas	Nos.	15

Source: Directorate of Industries, Government of Himachal Pradesh (Year 2014)

Transportation

49. The RLC Nalagarh site is well connected with Shimla, Chandigarh, and other destinations in Himachal Pradesh through various national highways and state highways. The nearest rail head from RLC site is Kalka at about 34 km. The nearest operating airport is Chandigarh at a distance of about 63 km. No clearance or permission from Airport Authority of India (AAI) is needed as RLC building is low height (Ground plus three) and not in-flight path.

Land Use

50. A study of the land use (**Table-11**) pattern shows that majority of the area of Solan district is under permanent pastures, grazing land and forest. The land under cropped area is also significant. The barren land area is quite low. The land use of RLC site is rural area. If land use of sub project sites is to be seen in terms of classification of **Table 11**, it will fall 'Land put to non-agriculture uses'.

Table-11: Land Use Pattern of Solan District

Land use	Area (In 000' hectare)
Geographical Area by Village Papers	180.90
Forest land	20.30
Misc. Tree Crops, Groves (Not included in Net Area Sown)	0.60
Permanent Pastures and Other Grazing Land	77.30
Culturable Waste land	14.90
Land put to Non Agriculture Uses	12.90
Barren and Uncultivated land	11.70
Current Fallows	3.30
Other Fallows	2.40
Net Area Sown	37.60
Area Sown more than Once	26.10
Total Cropped area	63.80

Source: Solan District Census Handbooks 2011

51. **Agricultural Development.** Agriculture is the mainstay of the people and 70% of the total population depends on it. The soil in the district varies from light to sandy heavy and in the valley areas it is sandy to sandy loam. The district has different type of soils which offer great potentialities for growing various types of cereals, fruits, vegetables and other cash crops. The Ravi and Kharif are the principal crops. Wheat and Maize are the staple food

as these are produced in maximum quantities. Rice is produced both on irrigated and un-irrigated lands. Kulth is grown on inferior lands. Since the economy of the district basically depends on agriculture hence majority of the workers are engaged in agricultural activities. Despite the hilly topography of the district the agro climatic conditions provide a range of potentialities for growing cash crops like off season vegetables, tomatoes, potatoes, pulses and temperate fruits apart from cereals, millets and oil seeds. Among the cereals wheat, maize and rice are extensively grown. According to data presented in District Census Handbook (2011), area under Wheat crop was maximum (25346 ha), followed by Maize (22733 ha).

Electrification

52. The Rural Electrification in Solan is 98.30 % and Urban Electrification is 99.0% as per District Census Handbook-2011.

D. Social and Cultural Resources

Population and Communities

53. According to the Census 2011, the total population of Solan district was 5, 80,320 comprising 3, 08,754 males and 2,71,566 females. This population of the district formed 8.45 per cent of the state population. Out of the total population of the district 82.40 per cent was living in rural areas while 17.60 per cent was living in urban areas. Rural population of the district was distributed among 9 sub- district and urban population was spread over in 8 towns. The total urban population in the district was 1, 02,147 persons comprising 59018 males and 43,129 females. The total rural population in this district was 4, 78,173 persons and is composed of 2,49,736 males and 2,28,437 females. This rural population was distributed in 2,544 villages. Out of the total 2,544 villages in the district 2,383 were inhabited villages while 161 villages were uninhabited. The density of population in Solan district in 2011 was 300 persons per sq. km. against the state average of 123 persons. At sub-district level, the density of population varied between 601 in Kasauli sub-district and 178 persons in Ramshahr sub-district. In rural areas, the density of population was 251 persons per sq. km. while in urban areas it was 3,061 persons. Out of the total population of 5,80,320 persons of the district during Census 2011 5,48,579 (94.5 per cent) persons had reported their religion as Hindu followed by 14,678 (2.53 per cent) persons as Muslim and 13,926 (2.40 per cent) persons as Sikh. Remaining Buddhist, Christian, Jain and other religions have a negligible representation in the district. The other major religious communities include Sikhs with 2,387 persons. The total literacy rates of rural and urban areas were 82.2 and 90.4 per cent, respectively. The proportion of male and female literates in rural areas was 88.9 and 75.0 per cent respectively. In urban areas this proportion is 92.5 and 87.5 per cent, respectively. The difference between male and female literacy rates in urban areas is about 5.0 points as against 13.9 points in rural areas.

Health facilities

54. There are good health facilities in Solan district. The Solan district has 06 General Hospitals, 34 Primary Health Centers, 5 Community Health Centers, 5 ESI Dispensaries, and 178 sub- Health centers. In addition to these government facilities, there are many private hospitals and nursing homes in urban centers of the district.

Education facilities

55. There are good education facilities in Solan district. This district has 767 Primary Schools, 139 Middle Schools, 177 Higher Secondary Schools, 07 Government colleges and

9 private colleges. There are many technical education training institutes both Government and privately owned in the Solan district. The district Solan has nine Universities. The current HPSPDP project will also contribute towards skills development and employability of Himachali youth.

Tourist destinations

56. Nalagarh is a beautiful hill station which was once an important kingdom. Nalagarh is very famous for its picturesque beauty. The Nalagarh Valley is a long band surrounded by the spurs of the outer Himalayas to its north-east and the heavily eroded range of the Shivaliks in the south and west. Also known as Nawalgarh, it was renowned in the medieval period as the state of Hindur which was founded by Raja Ajai Chand in 1100 AD. The Chandela Rajputs were great patrons of art and architecture of Nalagarh. Since then, many Rajputs have inhabited Nalagarh to engage in farming in the Chikni Sirsa Valley. Raja Surendra Singh was the last ruler of Nalagarh and his son, Raja Vijayendra Singh is the present ceremonial ruler. The major attraction of Nalagarh is the Nalagarh Fort. The fort offers spectacular views of the Shivalik Hills lying past the Sirsa River. The fort and the palace of Nalagarh were built in the Mughal style of architecture and serves as a heritage resort. The fort surrounded by acres of lush greenery, is full of modern amenities and makes for an ideal royal experience for visitors. The hill station is also famous for boating and fishing activities at the Gobind Sagar Lake. The lake is a water reservoir formed by the Bhakra Dam and is also a great picnic spot.

57. Presently, Nalagarh is emerging as industrial area as it hosts many manufacturing units like leather, steel, chemicals, thread mills and breweries.

Archaeological Resources

58. There are no heritage sites notified by Archaeological Survey of India (ASI) within 300 m distance from the sub-project site. Similarly, no common property resources such as public wells, water tanks, play grounds, common grassing grounds or pastures, market areas and community buildings will be affected by the proposed sub-project.

IV. ENVIRONMENTAL IMPACT AND MITIGATION MEASURES

A. Environmental Impacts

59. Any project creating physical infrastructure will cause some minor impacts on the environment. This IEE examines the potential impacts anticipated during the construction and operation of the RLC and hostel facilities including:

- (i) **Location impacts:** Impact associated with site selection including effect on the environment and resettlement or livelihood related impacts on communities.
- (ii) **Design impacts and Pre-Construction Impacts:** Impact arising from project design, including the technology used, scale of operations, discharge standards, topographic survey, geotechnical survey, etc.
- (iii) **Construction impacts:** Impact resulting from construction activities including site clearance, earthworks, civil works, etc.; and
- (iv) **Operation and Maintenance impacts:** Impact associated with the operation and maintenance of the infrastructure built in the sub-project.

60. ADB's REA checklist for Buildings was used while screening the site and recommending mitigation measures.

B. Location Impacts

61. The RLC site is located on unencumbered land owned by DORD, Government of Himachal Pradesh. The RLC building will be constructed on a vacant plot at Nalagarh town about 200 m from Baddi- Nalagarh National Highway No. 21 in the tehsil of Nalagarh in district(Annexure-2). No new land has been acquired for the proposed RLC building, nor has anyone been displaced in anticipation of the proposed ADB project. There are no significant ecological resources in the surroundings of RLC site as it is lying vacant. There are no heritage sites notified by ASI or State Archaeological Department within the delineated sub-project area or in the immediate surroundings (300 m distance). No significant impacts can arise due to sub-project location as the RLC building components will not impinge upon any area of ecological, archaeological, or historical importance. The subproject site will also not require change in land use. All necessary NOCs have been obtained from various departments. The RLC site is about 200 m from Baddi- Nalagarh National Highway No. 21. The access road to the site is a local road. Not much traffic is seen on the road, so air and noise pollution impact on RLC facility is not anticipated on account of vehicular traffic. Also, the road is wide enough, so traffic congestion issues on account of construction vehicles is not envisaged. Traffic will be managed as per the traffic management plan.

62. The subproject site is located within seismic zone V and even a small magnitude earthquake may damage RLC building.

C. Impacts during Design and Pre-Construction Phase

63. As noted above, the proposed RLC site is owned by GOHP. There are no issues arising due to land acquisition or involuntary resettlement. There are no issues pertaining to tree cutting also. Based on the environmental screening of the site, it is concluded that there are no significant adverse environmental impacts during the design and Pre-construction phases.

D. Impacts during Construction Phase

64. All construction activities to be undertaken at the subproject site will be approved by the PMU. The construction stage impacts due to the proposed project components are

generic to the construction activities. The EMP emphasizes on the construction impacts and necessary mitigation measures to be strictly followed by the contractor and supervised by the PWD -PIU. The key potential impacts are covered in the following paragraphs.

65. Impact due to stockpiles of construction materials. Improper stockpiling of construction materials in and around the RLC site could obstruct movement along access road. Hence, due consideration will be given for proper materials storage at construction site. Stockpiles will be covered to protect from dust and erosion. Waste materials will be disposed off at identified and approved locations.

66. Disposal of construction waste. The construction waste could lead to untidy conditions at site and may find its way to local drains of open area where RLC is located. In the proposed sub-project, it shall be mandatory for the contractor to ensure proper disposal of the construction waste at the disposal site as designated by the PWD.

67. Quarry and Borrow pits operations. Since the civil works are of a small size, all construction material will be procured from market. There will not be any need for direct procurement of stone dust and sand and other building materials from quarries.

Incorporation of adequate drainage provisions:

68. The Contractor shall ensure that no construction materials like earth, stone, or similar is disposed off in a manner that may block the flow of water of any water course & cross drainage channels. The Contractor will take all necessary measures to prevent any blockage to the water flow. In addition to the design requirements, contractor will take all required measures as directed by the PWD site in charge/executive engineer to prevent temporary or permanent flooding of any site or any adjacent area.

69. Increase in noise levels. Noise levels in the immediate proximity of RLC construction site are expected to increase somewhat during construction. However, these will be largely imperceptible as civil works will be confined to relatively small area and site will be well fenced with MS Sheet. The duration of construction will also be relatively brief. Transportation of construction materials will be confined to daytime, depending upon extent of construction activity. The increase in noise levels is expected to be marginal and of no consequence for inconvenience. This increase is likely to be felt up to 25-50 m only. This noise will be intermittent in nature and will last only during the construction phase. The construction noise will not be felt as the habitation and /or houses are at a sufficient distance (50-60 m) from the RLC site. But necessary monitoring of noise levels will be taken up as part of environmental monitoring plan.

70. Impacts on biodiversity during construction phase. No major impacts are expected on the biodiversity during the construction phase as RLC site is in an open area. There may be conflict of wild animals and construction crew in case of accidental entry of any wild animal from the open area in the vicinity.

71. Disturbance due to traffic during construction phase. At the time of construction, inconvenience to locals is not anticipated as the access road is sufficiently wide. However, a sample Traffic Management plan is attached in **Annexure-3** to guide the contractor.

72. Impact on cultural properties. The proposed RLC subproject of HPSPDP will not have any impact on any religious structure or any other structure of historical and/or cultural significance.

73. Impacts on Water Quality: Excavated materials may end up in local drains particularly during monsoon season. Other risks of water pollution may be caused by: (i)

poorly managed construction sediments, wastes and hazardous substances; and (ii) poor sanitation practices of construction workers. The contractor will be required to:

- Ensure drainages and water bodies within the construction zones are kept free of obstructions.
- Keep loose soil material and stockpiles out of drains, flow-lines and watercourses.
- Avoid stockpiling of excavated and construction materials (sand, gravel, cement, etc.) unless covered by tarpaulins or plastic sheets.
- Re-use/utilize, to maximum extent possible, excavated materials.
- Dispose any residuals at identified disposal site (PWD/QA Firm will identify and approve sites).
- Dispose waste oil and lubricants generated as per provisions of Hazardous Waste (Management Rules, 2016).
- Develop spill prevention and containment plan, educate workers about the plan, and have the necessary materials on site prior to and during construction
- Refuel equipment within the designated refueling containment area away from drainages, nallahs, or any water body.
- Inspect all vehicles daily for fluid leaks before leaving the vehicle staging area, and repair any leaks before the vehicle resumes operation

74. **Ground Water.** Ground water will not be extracted and used for construction purposes. The contractor will arrange for water from the market. It will be supplied by the authorized water tankers. The problem of ground water contamination is also not anticipated during the construction phase since there will be proper disposal of the waste water.

75. **Ambient Air Quality.** Generation of dust is anticipated during transportation, excavation, and construction activities. Some dust and gaseous emissions will also be generated during the construction period from machines such as mixers, and vehicles engaged in transportation of construction materials. Pollutants of primary concern at this stage include respirable and suspended particulate matter (RSPM) and gaseous emissions (NOX, SO₂, CO, etc.). However, transportation of construction materials will be confined to a few trips per day depending upon extent of construction activity. Therefore, impact at this stage will be temporary and restricted to the close vicinity of the construction site only.

76. All vehicles and construction equipment operating for the contractor and the consultant will obtain and maintain "Pollution under Control" (PUC) certificates. To control dust emissions, vehicles deployed for borrow materials, sand and aggregate haulage, will be covered with tarpaulins to prevent spillage. Regular sprinkling of water during excavations, loading, unloading, vehicular movement, and raw material transport will prevent spread of dust and other contaminants. Periodic air quality monitoring will be conducted to ensure that emissions comply with the vehicle emission standards specified by the Government of India and ambient air quality standards specified by the Central Pollution Control Board. The contractor will submit emission monitoring results as a compliance with environmental monitoring plan. The impacts related to air pollution on account of construction activities will be felt close to subproject site, if RLC site is not properly barricaded.

77. **Construction Waste.** The site being undulating cutting will be involved. Some waste will be generated due to excavated earth material and waste from construction. Debris and excavated earth material can be reused subject to the approval of the PWD Engineer during the construction. Waste generated during construction and demolition will be disposed off as per law and to the satisfaction of the Engineer. The clean-up and restoration operations will be implemented by the contractor prior to demobilization. The contractor will clear all temporary structures and dispose off all garbage from construction site. Entire construction

site and surrounding vacant area will be left tidy at the contractors' expense as per the satisfaction the Engineer.

78. The contractor will need to adopt the following mitigation measures:

- Prepare and implement a waste management plan. Manage solid waste according to the following hierarchy: reuse, recycling, and disposal. Include in waste management plan designated/approved disposal areas.
- Coordinate with Local Municipal Authority/village Panchayat for beneficial uses of excavated Soils/silts/sediments or immediately dispose to designated areas.
- Recover used oil and lubricants and reuse; or remove from the sites.
- Avoid stockpiling and remove immediately all excavated soils, excess construction materials, and solid waste (removed concrete, wood, trees and plants, packaging materials, empty containers, oils, lubricants, and other similar items).
- Prohibit disposal of any material or wastes (including human waste) into drainage, nallah, or watercourse.

79. **Disposal of construction waste:** The construction waste could lead to untidy conditions at sites and may find its way to local stream ending into the river in the rainy season and may lead to siltation and obstruction to natural flow in the streams. It shall be made mandatory for the contractor involved in construction activities for proper disposal of the construction waste at the disposal sites as designated by the PWD.

80. The contractor is likely to engage local labor for various construction activities. However, in case that migrant labor has to be engaged, the contractor will establish properly designed labor camp with all basic amenities such as potable drinking water supply and sanitation facilities (septic tanks and soak pit). Dust bins will be placed in adequate numbers. The EMP lays down some measures to address likely adverse impacts associated with the labor camps.

E. Environmental Impacts during Operation Phase

81. Since only vocational training, counseling, and small production (as part of practical vocational training) of local produces will be undertaken at the RLC. During this local produce production, there will be generation of organic waste (about 5 kg/day). There will not be any impacts due to computer maintenance and mobile except E-waste due to minor repair in computer laboratory. This e-waste will be collected by the agency maintaining the laboratory for possible reuse and /or disposal as per provisions of E-waste (Management) Amendment Rules, 2018. No environmental impacts will be there due to Tailoring and Fashion design course. In the Automobile training course, there will not be any waste generation during practical classes, but there will be generation of 3- 5 liters lube oil during maintenance of Engine and other equipment used for demonstration/practical. This lube oil will be collected. No air emissions and liquid effluents generation is likely due to running of training courses practical/demonstration classes.

82. The RLC design provides for adequate parking, accommodation, and safe disposal for wastewater and solid waste. Toilet blocks with septic tank and soak pits have been included in the building design of RLC. The solid waste generated at RLC facility during operation phase will be segregated. Its disposal location will be finalized in consultation with local panchayat members and probably at a location where Nalagarh town solid waste is being disposed off. The organic waste generated at production center will be used for compost generation. Since septic tanks have been proposed for disposal of wastewater therefore regular maintenance and cleaning of these needs to be undertaken as part of RLC

operation. There may be some waste on account of operation and maintenance of solar PV cell. The supplier of PV cell will be responsible for collection of waste for possible recycle and reuse.

83. Given the relatively small size of the RLC facilities, there will not be any significant vehicular traffic increase on account of functioning of RLC. Most RLC trainees and staff will be using public transport. A diesel generator will be required, but only during power cuts. The generator will be of the silent type and will comply with the levels stipulated by Central Pollution Control Board.

84. **Safety Measures.** The design of RLC includes structural and seismic safety measures required by India's latest building codes (in seismic zone V). The other safety features are explained below:

- The RLC building will be equipped with fire-fighting systems with portable fire extinguishers and smoke detectors. The staircase will have adequate width to allow for people to exit the RLC building during any fire-related or other eventuality.
- During natural calamities, the operations will be stopped. The trainees and staff will be safely evicted as per Disaster Management plan of Himachal Pradesh.
- Necessary first aid facilities will be provided at the RLC building.

85. **Socioeconomic Impacts.** The RLC functioning will have a positive socio-economic impact since it will provide rural youth an opportunity to enhance skills in job-oriented areas.

86. **Flora and Fauna.** Since RLC building will be constructed on the land which is close to habitation and on a vacant plot, so no adverse impact on fauna and flora is anticipated due to the RLC construction and functioning as no tree felling is required. Further, to enhance the natural look of the RLC building and premises, plantation of shrubs and landscaping will be taken up along the pathways and vacant space. There is no existence of any wildlife /bird sanctuary, national park or any other area notified by the GoHP or MoEFCC for ecological importance within an aerial distance of 15 km from the RLC site.

87. **Emergency Plan for Accident and Natural Hazards.** For operation phase onsite emergency plan will be prepared by the head of the RLC team for probable accidents and fire scenarios. For natural calamities the Disaster Management Plan prepared by DORD will be followed. The Disaster Management Plans have been prepared by the respective departments of GoHP as per provisions of Disaster Management Act 2005 of Government of India.

F. Description of Planned Mitigation Measures

88. Screening of environmental impacts is based on the magnitude and duration of the impact. **Table-12** provides the potential environmental impacts and the mitigation measures including the institutional responsibilities for implementing the same. The sub-project site is located sufficiently away from protected areas and the components proposed will not impact any environmentally sensitive or protected areas. All sub-project activities including construction and operation will take place within the available government land.

Table-12: Summary of Environmental Impacts and Planned Mitigation Measures for RLC Nalagarh

Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
1	Location Impacts				
1.1	Lack of sufficient planning to assure long term sustainability of the RLC building and ensure protection specially from earthquake and other natural disasters	Permanent	Major	The design of RLC building has been completed considering earthquake coefficient of zone V.	PMU and PWD
2	Design and Pre-construction Impacts				
2.1	Consents, permits, clearances, no objection certificates (NOC), etc.	Permanent	Major	Obtain all necessary consents, permits, clearance, NOCs, etc. prior to start of civil works. Acknowledge in writing and provide report on compliance with all the obtained consents, permits, clearance, NOCs, etc. Include in detailed design drawings and documents all conditions and provisions, if necessary	PMU and PWD
2.2	Layout of components to avoid impact on the aesthetics of the RLC site	Permanent	Major	The RLC building components will not have any adverse impacts on aesthetics of site as these involve construction of building within the existing vacant plot. Hence, no mitigation measures are warranted.	Not Applicable
2.3	Slope stability related issues	Permanent	Major	Slope stabilization measures have been included in the design.	Not Applicable
2.4	Increased storm water runoff from alterations of the site's natural drainage patterns due to landscaping, excavation works, construction of parking lots, and addition of paved surface.	Permanent	Moderate	Design of proposed RLC building will allow efficient drainage at the site and maintain natural drainage patterns.	PMU and PWD
2.5	Integration of energy efficiency and energy	Permanent	Moderate	Following measures have been included in the design to enhance energy efficiency:	PMU and PWD

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
	conservation programs in design of RLC building			<ul style="list-style-type: none"> • Usage of recyclable materials like wood substitutes. • Installation of BEE certified equipment • Usage of energy efficient lighting fixtures (LED and solar). • Provision of Solar power generation 	
2.6	Impacts on Flora and Fauna	Permanent	Minor	The construction of RLC building does not require cutting of trees as site is a vacant plot close to the habitation. Hence no impact on flora and fauna anticipated. Further, a positive impact is expected as there will be plantation of shrubs on internal roads of RLC as well as tree plantation in the vacant space along the boundary.	PMU and PWD
3	Construction Impacts				
3.1	Construction Camps - Location, Selection, Design and Layouts	Temporary	Moderate	Construction camp at the RLC site will be located within the vacant space of plot, as far as possible. The construction camp will not affect the day-to-day activities of local residents. Adequate sanitation facilities shall be provided at camp site and no wastewater will be discharged outside.	Contractor and PWD
3.2	Traffic circulation plan during construction	Temporary	Moderate	Prior to commencement of site activities and mobilization on ground, the contractor will prepare a traffic circulation plan for safe passage of local traffic during construction stage. This will include alternative access routes, traffic regulations, Signages, etc. The contractor will get these plans approved from the PWD (the Engineer). The contractor will disseminate the traffic circulation plan around the sub- project site.	Contractor and PWD
3.3	Impacts on flora and fauna and accidental conflict with wild animals	Temporary	Minor	The PMC will conduct site induction and environmental awareness programs at the RLC site. The construction related activities will be limited within the work areas.	Contractor and PWD

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
				<p>Storage of construction materials will be within the sub-project site limits.</p> <p>RLC site specific landscape and shrubs and tree plantation plans will be prepared at the end of construction period and necessary landscaping, tree plantation and shrubs plantation shall be carried out as per this plan. If there is any accidental conflict and /or any entry of wild animals to the site, the guidance will be taken from forest and wildlife officials and workers will be sensitized not hurt or kill any wild animals or birds.</p> <p>The contractor will also sensitize workers not cut the trees for fire wood for cooking or heating. The contractor will arrange LPG or kerosene for cooking.</p>	
3.4	Site clearance activities, including delineation of construction areas	Temporary	Moderate	<p>The commencement of site clearance activities will be undertaken with due permission from the Environment Specialist of the PWD/ PMU to minimize environmental impacts.</p> <p>All areas used for temporary construction operations will be subject to complete restoration to their former conditions with appropriate rehabilitation procedures.</p>	Contractor and PWD
3.5	Drinking water availability	Temporary	Moderate	Sufficient supply of potable water will be provided and maintained at the construction site and construction camp. If the drinking water is obtained from an intermittent public water supply, then storage tanks will be provided.	Contractor and PWD
3.6	Waste disposal	Temporary	Major	Location of disposal site for construction waste will be finalized by the Environmental Specialist of the PWD and PMU/PMC for the RLC site. The PMU will confirm that disposal of the waste material will not impact any local drainage or	Contractor and PWD

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
				environmentally sensitive areas.	
3.7	Stockpiling of construction materials	Temporary	Moderate	Stockpiling of construction materials should not impact or obstruct the local drainage and Stockpiles will be covered to protect from dust and erosion.	Contractor and PWD
3.8	Soil Erosion	Temporary	Moderate	There may be requirement for temporary slope protection during construction at the excavated areas. These requirements should be met. The slope protection measures for the current finalized RLC site should be assessed and if need is felt, detailed drawings should be prepared. Adequate measures will be taken up at this site so that there is no soil erosion causing risks in the vicinity.	Contractor and PWD
3.9	Soil and Water Pollution due to fuel and lubricants, construction waste	Temporary	Moderate	The fuel storage and vehicle cleaning area at sub-project site should be avoided far as possible. In case of unavoidable circumstances, fuel storage and vehicle cleaning area, at RLC site will be paved with impervious surface and these will be stationed such that water discharge does not drain into any local drain/stream. Water pollution parameters will be monitored as per monitoring plan. There will be visual monitoring for soil contamination also.	Contractor and PWD
3.10	Siltation of water bodies due to spillage of construction wastes	Temporary	Moderate	No disposal of construction wastes will be carried out into any local drainage in the vicinity of site. Extraneous construction wastes will be transported to the pre-identified disposal sites for safe disposal.	Contractor and PWD
3.11	Generation of dust	Temporary	Moderate	The contractor will take every precaution to reduce the levels of dust at construction site. The site will be properly barricaded with prefabricated MS sheets.	Contractor and PWD
3.12	Emission from Construction Vehicles, Equipment and Machinery	Temporary	Moderate	Vehicles, equipment and machinery used for construction will conform to the relevant Standards (vehicular emission standards of	Contractor and PWD

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
				Government of India and CPCB specified standards for equipment and machinery) and will be regularly maintained to ensure that pollution emission levels comply with the relevant requirements.	
3.13	Noise Pollution	Temporary	Moderate	Noise limits for construction equipment used in this project shall not exceed as specified in the Indian Regulations. The site will be properly barricaded with prefabricated MS sheets preferably having acoustic properties to screen noise from site to outside.	Contractor and PWD
3.14	Material Handling at Site	Temporary	Moderate	Workers employed on mixing cement, lime mortars, concrete, etc., will be provided with protective footwear and protective goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. Workers engaged in stone breaking activities will be provided with protective goggles and clothing. The use of any toxic chemical will be strictly in accordance with the manufacturer's instructions. The Engineer will be given at least 6 working days' notice of the proposed use of any chemical. A register of all toxic chemicals delivered to the site will be kept and maintained up to date by the Contractor.	Contractor and PWD
3.15	Disposal of Construction Waste	Temporary	Moderate	Safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed off around the sub-project site, in the backside vacant areas in the locality.	Contractor and PWD
3.16	Safety Measures During Construction	Temporary	Moderate	Adequate safety measures for workers during handling of materials at the RLC site will be taken up. The contractor must comply with all regulations	Contractor and PWD

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
				for the safety of workers. Precaution will be taken to prevent danger of the workers from fire, accidental injury, etc. First aid treatment will be made available for all injuries likely to be sustained during work. The Contractor will comply with all anti-malaria instructions/advisories given by the Engineer.	
3.17	Clearing of Construction of Camps and Restoration	Temporary	Major	Contractor at the sub-project site will prepare site restoration plan for approval by the Engineer (PWD). These camp site restoration plans are to be implemented by the contractor prior to demobilization. On completion of the works, all temporary structures will be cleared away, all rubbish disposed off as per law, excreta or other disposal pits or trenches filled in and effectively sealed off and the site left clean and tidy, at the Contractor's expense, to the entire satisfaction of the Engineer	Contractor and PWD
3.18	Onsite emergency plan for probable accidents and mishaps and Disaster Management Plan for Natural Calamities	Temporary	Major in case of natural calamity and minor in case of accidents or mishaps at construction site	The onsite emergency plan for probable accident scenarios will be prepared by the contractor in consultation with PWD and PMC. For natural calamities, disaster management plan prepared by the PWD under the provisions of Disaster Management Act 2005 will be followed.	Contractor
3.19	COVID 19 Safety Measures	Temporary	Moderate	Adequate safety measures for workers for prevention of COVID 19 will be taken up. The contractor has to comply with all MoH regulations related to COVID 19 for the safety of workers and ensure the usage of masks, sanitizers, daily thermal screening of the workers, staggered lunch timings and avoid overcrowding, maintenance of temperature records of the labor, etc.	Contractor and PWD

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
4	Operation and Maintenance impacts				
4.1	Environmental Conditions	Temporary	Moderate	Air, water, noise levels and soil contamination will be monitored periodically as per the Environmental Monitoring Plan prepared. Adequate height boundary wall shall be constructed around RLC for the building safety.	DORD
4.2	Safety risks	Temporary	Major	All safety features provided as part of RLC building construction will be maintained.	DORD
4.3	Unhygienic conditions due to poor maintenance of sanitation facilities and irregular solid waste collection	Temporary	Severe	The RLC will carry out maintenance of the toilets and carry out the regular collection and disposal of wastes as per prevailing laws. The septic tanks will be maintained and emptied regularly.	DORD
4.4	Onsite emergency plan for probable accidents and mishaps scenarios and Disaster Management Plan for Natural Calamities	Temporary	Major in case of natural calamity and minor in case of accidents or mishaps at construction site	The head of RLC with the assistance of team will prepare on site emergency plan for probable accidents and mishaps during operation phase. For natural calamities, the disaster management plan prepared by DORD will be followed.	Head RLC Nalagarh
4.5	Waste from operation and maintenance of Solar PV Cell	Occasionally	Minor	The supplier of Solar PV cell will collect any waste generated on account of operation and maintenance for possible recycle/reuse/disposal as operations will be maintained by the supplier.	Operator Solar PV Cell
4.6	The spent oil generation due to annual maintenance of Engine/automobile set up	Permanent	Minor	The spent oil quantity generated will be collected in jerry cans and will be sold to authorized recyclers for re-use.	Head RLC Nalagarh
4.7	Generation of organic waste in Food Processing	Permanent	Minor	This waste will be properly segregated and stored. This waste will be either used for making compost at RLC or will be disposed off locally at local disposal site in consultation with Municipal committee of Nalagarh.	Head RLC Nalagarh
4.8	Generation of E-waste from maintenance of computer	Permanent	Minor	The E-waste generated on account of maintenance and operation will be collected by	Head RLC Nalagarh

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Sl. No.	Potential Environmental Issues	Duration or Extent	Magnitude	Proposed Mitigation Measures	Institutional Responsibilities
	Laboratory			the maintenance agency for possible re-use and /or disposal as per E-waste (Management) Amendment Rules, 2018	
4.9	Waste from operation and maintenance of Solar PV Cell	Occasionally	Minor	The supplier of Solar PV cell will collect any waste generated on account of operation and maintenance for possible recycle/reuse/disposal as operations will be maintained by the supplier.	Operator Solar PV Cell

G. Land Aquisition and Resettlement

89. The proposed RLC building is planned on the land owned by DORD, GOHP. The revenue records showing ownership of GOHP for the proposed RLC (inclusive of hostel facilities) site have been given in **Annexure-2**. Hence, there will not be any acquisition of private land. The proposed plot for RLC building construction is unencumbered Government land; there are also no squatters or encroachers. Hence, there is no requirement of any rehabilitation and resettlement for constructing RLC building.

V. ENVIRONMENT MANAGEMENT PLAN (EMP)

A. Institutional Arrangements for Project Implementation

90. The Government of Himachal Pradesh through DOTE is the executing agency. The executing agency (i) assumes overall responsibility for the execution of the project and reporting; (ii) engage adequate permanent or fixed-term staff to implement the Project; (iii) setup a state-level project management unit (PMU) and project implementation units (PIUs) at local sub-project level; (iv) provides overall strategic guidance on technical supervision and project execution; and (v) ensures overall compliance with the loan covenants.

91. The implementing agencies in the project are HPKVN, DTE, DOHE and PWD. The implementing agency responsibilities include (i) project planning and budgeting; (ii) day-to-day assistance, supervision and guidance for the project implementation units and their consultants; (iii) review sub-projects for due diligence requirements and approve sub-project proposals; (iv) bidding, evaluation and contract award; (v) managing and disbursing funds; (vi) review compliance with loan covenants, contract specifications, work plans and quality control; and (vii) consolidate and submit progress reports, finance and accounting / audit reports, and matters requiring higher level decision to state-level empowered committee (SLEC) and ADB.

92. A State-level empowered committee (SLEC) has been established in Himachal Pradesh. This committee is chaired by State's Chief Secretary, with Principal Secretary/Secretary of the Department of Planning as Member Secretary and Secretaries from relevant line departments (PWD, DOUD, DORD and DOLE) and HPKVN Managing Director as members. The SLEC has been empowered to take all decisions on behalf of the State and will (i) act as a policy making body, (ii) provide overall advice and guidance to the State's executing agency and PMU, and (iii) accord all approvals under the project.

93. DOP will establish a PMU, headed by a full-time Project Director (PD) at HPKVN, and consisting of personnel drawn from relevant line departments and market. This PMU will also have safeguards expert (social and environment). The PMU will be supported by the Project Management Consultants (PMC). The PMU will be the nodal agency for overall management of all program activities and will be responsible for: (i) project planning and budgeting; (ii) providing day-to-day assistance, supervision and guidance for the PIUs and PWD; (iii) reviewing sub-projects to satisfy ADB's due diligence requirements and approving sub-project proposals submitted by PIUs and line departments; (iv) bidding, evaluation and contract award; (v) managing and disbursing funds; (vi) reviewing compliance with loan covenants, contract specifications, work plans and quality control; (vii) consolidating and submitting progress reports, finance and accounting/audit reports, and matters requiring higher-level decision, to the SLEC and ADB.

94. The sub-project will be implemented by the Project Implementation Unit (PIU) at local level comprising of personnel drawn from relevant line departments on deputation and outside of government and will be headed by a Project Manager. The PIU will be responsible for: (i) prioritizing and preparing sub-project proposals; (ii) providing day-to-day assistance, supervision and guidance to the PWD and an agency to be hired for quality check; (iii) conducting detailed assessments and surveys including public consultation and input from stakeholders; (iv) preparing detailed designs, specifications, schedule of quantity, bidding documents, and related documentation; (v) implementing civil works and related activities; (vi) reporting to PMU; (vii) preparing regular progress reports for the SLEC, the executing agency and ADB through PMU; and (viii) supervising construction, conducting quality control, approving progress payments to contractors; and (ix) maintaining records and accounts on an up-to-date basis and making these available to ADB, its missions, or auditors for inspection.

95. The Project Management Consultant (PMC) has been engaged to provide support to the PMU in overall planning, risk management, implementation, monitoring and evaluation of projects under the HPSDP. The PMC assists the PMU and PIUs in meeting the relevant requirements of ADB, GOHP, and GOI for project implementation. The PMC Team reports to and work under the overall guidance of the PMU. The scope of services of the PMC's include: (i) planning, reporting, and communication; (ii) establishment of procedures and systems; (iii) review and preparation of plans, manuals, and reports; (iv) overall project management, monitoring and implementation of MIS; and (v) social, environmental, archaeological, occupational health and safety, community participation and gender action compliance monitoring.

96. The executing has engaged one agency for the quality check and to meet timeline requirements. This quality check firm works under the PMU. The scope of services of the agency include (i) surveys, verification of feasibility studies and base maps; (ii) project planning and management support to the PIU; (iii) finalization of design criteria, preparation of manuals, guidelines and systems; (iv) preparation of detailed design and bid documents; and (v) construction management and contract administration.

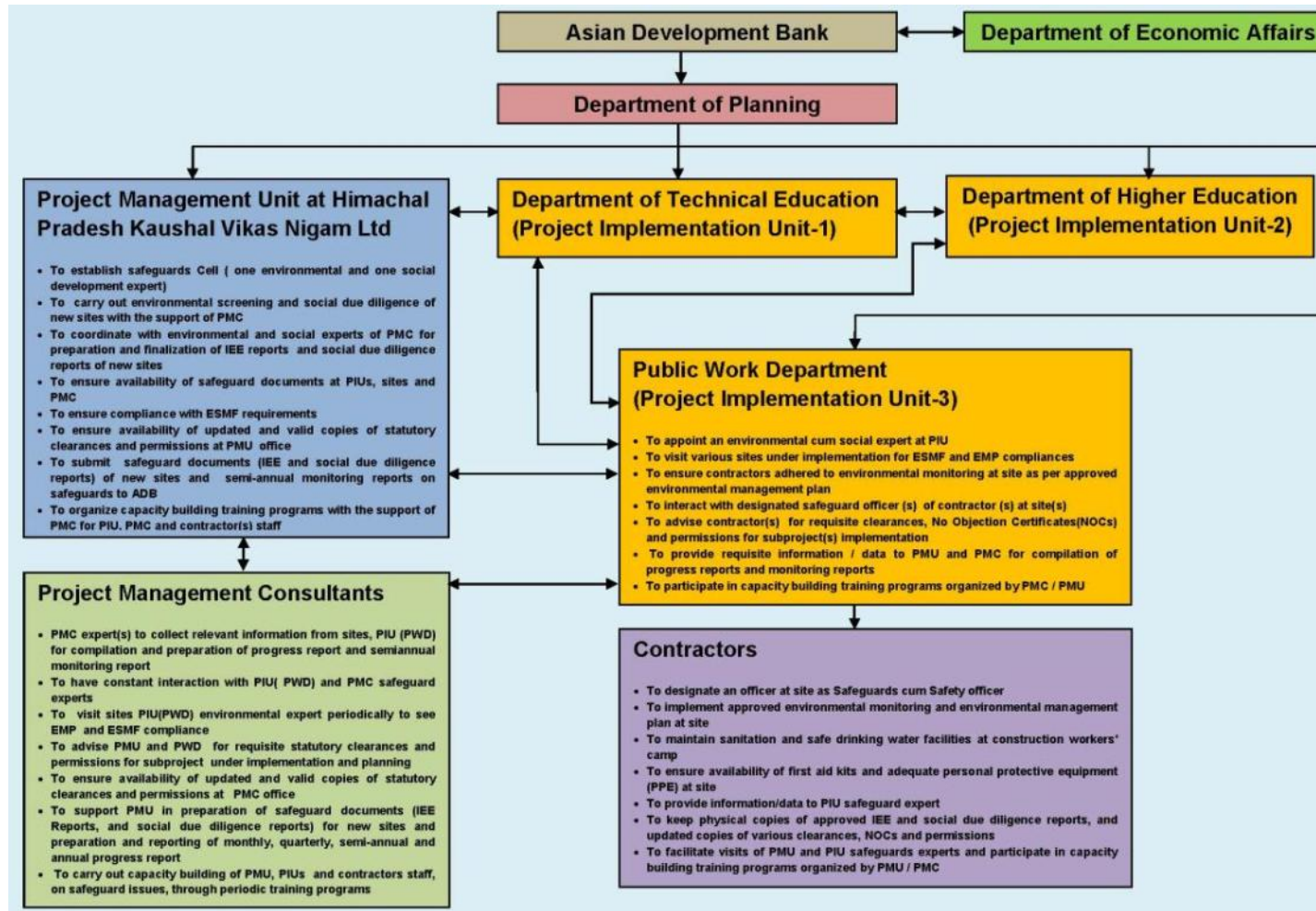
97. In order to ensure effective implementation of safeguard related components in the project PIU at PWD will include a safeguard expert (an environmental cum social expert) in the team. This safeguard expert will ensure compliance with ESMF requirements, and implementation of environmental management plan of RLC at site through contractor.

98. The PMC also has safeguard experts in their team to support PMU in reporting, safeguards related documents preparation, disclosure, and capacity building of PWD-PIUs, PMU and contractor. The PMU at HPKVN has also established a safeguard cell comprising of an environmental expert, and a social development expert.

99. The contractor in the current RLC sub-project site will designate one officer as safeguard cum safety officer for the implementation of IEE and EMP requirements at site. The project implementation arrangement for safeguard compliance has been shown below in **Figure -10**.

100. The EMP for RLC (inclusive of hostel facilities) Nalagarh for Pre-construction, Construction and Operation phase is given in **Tables-13 to 15**.

Figure-10: Project implementation arrangement for safeguard compliance



B. Responsibility for updating IEE during Pre-Construction and Construction

101. **Responsibility for monitoring:** During construction, the Environmental Specialist of the Safeguards cell at PMU (at HPKVN) and PMC and the designated representative engineer of the PWD will monitor the contractor's performance. During the operation phase, monitoring will be the responsibility of the PMU. The Environmental specialist PMU with the assistance of PMC environmental specialist will prepare semi-annual reports.

102. **Responsibility for Reporting:** PMU at HPKVN will submit semi-annual reports on the implementation of the EMP to ADB. It will permit ADB to field environmental review missions to examine in detail, the environmental aspects of the project. Any major lapses in adhering to the ESMF and IEE and / or EMPs for specific sub-projects should be reported to ADB immediately. The PMC's Environment Safeguard Specialist will assist the PMU in finalizing the semi-annual and annual progress reports. For any noncompliance observed corrective actions will be taken in a time bound manner. The cost for mitigating non compliance will be borne by the contractor as per contract provisions. In case of mitigation costs not coming in scope of contract, these will be met out of contingencies built in EMP cost and in overall project cost.

Table-13: Pre-Construction Phase Environmental Management Plan for RLC Nalagarh

Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
1	Lack of sufficient planning to assure long term sustainability of the improvements and ensure protection of the assets created.	Design has included provisions for ensuring effective maintenance and protection of the assets to be created to ensure the long-term sustainability. The long-term sustainability has been ensured by taking into consideration appropriate Bureau of Indian Standards Codes (BIS) for design, Seismic Zone V coefficient, appropriate wind load factor (corresponding to 39 m/s wind speed), and detailed design after carrying geotechnical investigations and topographic survey at RLC Nalagarh site.	Verification of site specific design parameters	PWD	PMU and PMC	Review after completion of DPR	Part of PWD and PMC Professional Fee
2	Layout of components to avoid impacts on the aesthetics of the of the RLC site and surroundings	The site and layout of RLC have been finalized at vacant land under the ownership of DORD, GOHP. The exterior of RLC building will well mix with the existing buildings.	RLC building exteriors	PIU and PWD	PMU and PMC	Review after completion of detailed design	Part of PWD and PMC Professional Fee
3	Slope stability related issues	The RLC site is undulating. Hence during construction any exposed slopes at excavated areas will be covered and slope protection	Slope protection measures on side slopes of access path, internal roads,	PIU and PWD	PMU and PMC	Review of recommended slope protection measures	Part of PWD and PMC Professional Fee

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		measures will be provided specially at side slopes of internal roads.	etc.				
4	Increased storm water runoff from alterations of the site's natural drainage patterns due to landscaping, excavation works, construction of parking lot, and addition of paved surfaces	Design of proposed RLC building at Nalagarh enables efficient drainage of the plot. The storm water generated will be diverted to local drain through a properly constructed drainage system. Since RLC site is in undulating hilly area therefore, there is swift flow and drainage is not an issue.	Arrangement for proper diversion of storm water runoff	PIU and PWD	PMU and PMC	After mobilization of contractor at the RLC site and during establishment of construction camp.	Incidental to construction cost
5	Integration of energy efficiency and energy conservation programs in design of sub-project components	The detailed design for the proposed RLC at Nalagarh has ensured the environmental sustainability principles, including energy efficiency, resource recycling, waste minimization, etc. The design considers the following energy efficiency measures: <ul style="list-style-type: none"> • Usage of recyclable materials to minimize usage of natural resources • Installation of BEE certified equipment • Usage of energy efficient lighting fixtures (LED) • Provision of P-V cells on roof top for solar power. 	Specifications of rainwater harvesting structures, electrical fixtures, details of water heating system	PIU and PWD	PMU and PMC	During finalization of detailed design	Part of project cost

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		<ul style="list-style-type: none"> Installation of rainwater harvesting structures of 20,000-liter capacity (approx.) for roof top rainwater collection for recharge 					
6	Consents, permits, clearances, no objection certificate (NOC), etc.	<p>Obtain all necessary consents, permits, clearances, NOCs, etc. prior to start of civil works.</p> <p>Acknowledge in writing and provide report on compliance all obtained consents, permits, clearances, NOCs, etc.</p>	Consents, permits, clearance and NOCs Records and communications	PIU and DORD	PMU	Check consent for establishment of construction camp at RLC site, approval of RLC drawings from civic authorities any other local permission required.	Project cost
7	Establishment of baseline environmental conditions prior to start of civil works	<p>1-Conduct documentation of location of components, areas for construction zone (Camp, staging, storage, stockpiling, etc.) and surroundings (within direct impact zones). Include photos and GPS coordinates</p> <p>2- Carry out environmental monitoring at RLC site for ambient air quality, water quality and noise levels to establish baseline environmental monitoring for</p>	Records and Photographs, baseline environmental monitoring results	Contractor	PIU (PWD) and PMC	Once prior to start of construction works	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		the parameters indicated in the monitoring plan					
8	Finalization of landscaping and tree plantation plan	Landscaping and tree plantation plan is to be prepared based on finalized and approved layout of RLC. In this plan locations of tree plantation and landscaping shall be clearly marked.	Locations of tree plantation and shrubs plantation plan preparation	PIU	PMU	After completion of detailed engineering design	Project cost
9	Utilities	<ul style="list-style-type: none"> The locations and operators of utilities to be impacted should be identified and documented in detailed design documents to prevent unnecessary disruption of services during the construction phase. Require contractor to prepare a contingency plan to include actions to be done in case of unintentional interruption of services. Obtain from the PIUs and/or PWD the list of affected utilities and operators. If relocations are necessary; contractor will coordinate with the providers to relocate the 	<p>List and maps showing utilities to be shifted</p> <p>Contingency plan for services disruption</p>	<ul style="list-style-type: none"> PWD will prepare preliminary list and maps of utilities to be shifted During detailed design phase, contractor to (i) prepare list and operators of utilities to be shifted; (ii) contingency plan 	PMU and PWD	Pre-Construction Phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		utility.					
10	Social and Cultural Resources	<ul style="list-style-type: none"> Consult Archaeological Survey of India (ASI) or Himachal Pradesh State Archaeology Department to obtain an expert assessment of the archaeological potential of RLC site although no such potential is seen. Consider alternatives, if the RLC site, is found to be of medium or high risk. Include state and local archaeological, cultural and historical authorities, and interest groups in consultation forums as project stakeholders so that their expertise can be made available. Develop a protocol for use by the contractors in conducting any excavation work, to ensure that any chance finds are recognized, and measures are taken to ensure they are protected and conserved. 	Chance find protocol	<ul style="list-style-type: none"> PMC to consult ASI or HP State Archaeology Department PMC to develop protocol for chance finds 	PMU	Prior to start of construction activities	PMC
11	Construction Camp-Locations, Selection, Design and Layout	Sitting of the construction Camp at RLC site shall be as per the guidelines below and	Construction Camp sites, and locations of	Contractor	PWD and PWD	At the time of construction camps	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		details of layout to be approved by PWD. The potential sites for labor camp and construction camp shall be identified by the contractor and this identified site shall be visited by the environmental expert of PMU safeguards cell along with environmental expert of PWD and one having least impacts on environment will be approved by the PWD and PMU. As far as possible, construction camp and labor camp will be established at vacant land in RLC plot or adjoining vacant land to avoid impact on private land. Locations for storage of construction materials shall be identified at the site or at any existing building close to RLC site. Sanitation facilities at construction camps shall be adequately planned.	material storage areas, sanitation facilities			establishment and finalization of storage areas	
12	Sources of construction materials	Use quarry sites and sources licensed by the GOHP and compliant with the environmental regulations of India. Verify suitability of all material	Permits issued to quarries and sources of materials	Contractor PMC and PWD to verify sources (including permits) if additional is requested by	PMU and PWD	Upon submission by contractor	PMC and PWD as part of consultancy fee

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		sources and obtain approvals from PIU. If additional quarries are required after construction has started, obtain written approval from PIU. Submit to PWD monthly documentation of sources of materials.		contractor			
13	Access for Construction material transportation	Plan transportation routes so that heavy vehicles do not use narrow local roads, except in the immediate vicinity of RLC site. Schedule transport and hauling activities during non-peak hours. Locate entry and exit points in areas where there is low potential for traffic congestion. Keep the site free from all unnecessary obstructions. Drive vehicles in a considerate manner. Coordinate with the Traffic Police Department for temporary road diversions and for provision of traffic	Traffic management plan	Contractor	PMU and PWD	During Delivery of construction materials	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameters (Indicators for Compliance)	Responsible for Implementation	Responsible for Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		aids if transportation activities cannot be avoided during peak hours.					
14	Occupational health and safety	<p>Comply with IFC EHS Guidelines on Occupational Health and Safety.</p> <p>Develop comprehensive site-specific health and safety (H&S) plans. The overall objective is to provide guidance to contractor on establishing a management strategy and applying practices that are intended to eliminate, or reduce, fatalities, injuries and illnesses for workers performing activities and tasks associated with the project.</p> <p>Include in H&S plan measures such as: (i) type of hazards at RLC construction site; (ii) corresponding personal protective equipment for each identified hazard; (iii) H&S training for all site personnel; (iv) procedures to be followed for all site activities; and (v) documentation of work-</p>	Health and safety (H&S) plan	Contractor	PMU and PMC, PIU and PWD	During Pre-construction phase	Contractor

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		related accidents. Obtain Labor License and provide medical insurance coverage for workers.					
15	Stakeholder consultations	Continue information dissemination, stakeholder consultations, and involvement/participation of stakeholders during project implementation.	-Disclosure records - Consultations	PMU,PMC PIU,PWD and Contractor	PMU and PMC	<ul style="list-style-type: none"> • During updating of IEE Report • During preparation of site- and activity-specific plans as per EMP • Prior to start of construction • During construction 	PMU and Contractor

Table-14: Construction Phase Environmental Management Plan for RLC Nalagarh

Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
1	Sanitation and drinking water facilities at construction Camp of RLC Nalagarh	The contractor shall provide sanitation facilities at the camp site. These facilities will include dust bins in adequate numbers for solid waste collection, drinking water facilities, and separate toilets for male and females. These toilets facilities shall be maintained, and septic tanks/soak pits shall be provided at the toilets. The dust	Construction camp sanitation and drinking water facilities	Contractor	PWD and PMC	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		bins shall be regularly emptied and waste from camp site shall be disposed off at designated locations.					
2	Traffic Circulation plan during construction phase	Prior to commencement of site activities and mobilization on ground, the Contractor will prepare and get approved from the Engineer (PWD), circulation plan during construction for safe passage of public vehicles so that locals are not at inconvenience. The Contractor with support of the PIU will carry out dissemination of these information and circulation plan at RLC site	Safe movement of Traffic	Contractor	PWD and PMC	Every day during construction phase	Contractor
3	Site clearance activities, including delineation of construction area	Only ground cover shrubs, if any, that impinge directly on the permanent works or necessary temporary works shall be removed with prior approval from the Environmental Experts of PWD and PMC. All areas used for temporary construction operations will be subjected to complete restoration to their former conditions with appropriate rehabilitation procedures. The photographic records shall be maintained for the temporary sites used for construction. These will help in proper restoration.	Pre-construction records of site and vegetation in area of construction	Contractor	PWD and PMC	During site clearance activities	PWD and PIU
4	Drinking water availability at Construction camp and construction site	Sufficient supply of cold potable water to be provided and maintained. If the drinking water is obtained from an intermittent public water supply then storage tanks will be provided. For this contractor will submit plans how availability of drinking water shall be	Water supply source and availability of water, permission of local authority if obtained from	Contractor	PWD and PMC	During Construction phase regularly	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		assured. In case it is obtained from the natural spring then permission from local authorities shall be obtained.	local spring				
5	Waste disposal	The pre-identified disposal location shall be part of Comprehensive Waste Disposal Plan. Solid Waste Management Plan to be prepared by the Contractor in consultation with local civic authorities. The Environmental Specialist of PWD shall approve these disposal sites after conducting a joint inspection on the site with the Contractor. Contractor shall ensure that waste shall not be disposed off near water stream in the surroundings of site and along the access path.	Waste Disposal sites, waste management plan	Contractor	PWD and PMC	Regularly during construction phase	Contractor
6	Stockpiling of construction materials	Stockpiling of construction materials will be done in such a way that it does not impact and obstructs the drainage. The stockpiles will be covered to protect from dust and erosion.	Stockpiling sites at RLC Nalagarh site	Contractor	PWD and PMC	Regularly during construction phase	Contractor
7	Arrangement for Construction Water	(i) The Contractor shall provide a list of locations and type of sources from where water for construction shall be acquired. (ii)The contractor shall use ground/surface water as a source of water for the construction with the written consent from the concerned Department. (iii)To avoid disruption/ disturbance to other water users, the Contractor shall arrange water from market or from local municipality and consult PWD before finalizing the source.	Water availability at identified water source locations	Contractor	PWD and PMC	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
8	Soil Erosion	Slope protection measures will be undertaken as per design to control soil erosion especially on side slopes of access and internal roads.	Locations of slope protection	Contractor	PMC and PWD		Contractor
9	Construction crew and Wildlife/wild animals Conflict	1-In case construction camp is established at RLC site, it shall be properly secured. 2-Any accidental entry and or sighting of animals at site, the forest and Wildlife Department officials will be immediately informed, and their advice will be followed. 3-The contractor will sensitize the workers not to hunt or hurt any animals or birds. 4-The workers will also be sensitized not to cut the trees or shrubs for fuel wood. The contractor will arrange LPG or Kerosene for cooking.	Any accidental entry and / or sighting of wildlife /animal at RLC site	Contractor	PWD and PMC	Regularly during construction phase	Contractor
10	Water Pollution from Fuel and Lubricants	1-The Contractor shall ensure that all construction vehicle parking locations, fuel/ lubricants storage sites, vehicle, machinery and equipment maintenance and refueling site shall be located at least 500 m away from the natural stream. 2-Contractor shall ensure that all vehicle/machinery and equipment operation, maintenance and refueling shall be carried out on paved surfaces in such a manner that spillage of fuels and lubricants does not contaminate the ground. 3- Waste water from vehicle parking, fuel storage areas, workshops, wash down and refueling areas shall be treated in an	Vehicle parking, refueling sites, Oil interceptor functioning	Contractor	PMC and PWD	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		oil interceptor before discharging it on land or into surface water bodies or into other treatment system. 4-The monitoring of water quality will be taken up as per monitoring plan.					
11	Soil Pollution due to fuel and lubricants, construction wastes	The fuel storage and vehicle cleaning area will be stationed such that spillage of fuels and lubricants does not contaminate the ground. Soil contamination will be monitored as per monitoring plan.	Vehicle maintenance and parking area visual inspection, soil contamination monitoring	Contractor	PMC and PWD	Regularly during construction phase	Contractor
12	Siltation of water bodies due to spillage of construction wastes	1-The Contractor shall take all precautionary measures to prevent entering of wastewater into any local drainage during construction. 2-No disposal of construction wastes will be carried out into any surface water bodies. Extraneous construction wastes will be transported to the pre-identified disposal sites for safe disposal.	Water bodies especially natural streams	Contractor	PMC and PWD	Regularly during construction phase	Contractor
13	Generation of dust	The contractor will take every precaution to reduce the levels of dust at construction site. All filling works to be protected/ covered in a manner to minimize dust generation. In order to minimize impacts on neighboring habitation, the RLC site will be properly barricaded with prefabricated MS sheets of adequate height as per site requirements.	Sub-project site, air quality monitoring results	Contractor	PMC and PWD	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
14	Emission from Construction Vehicles, Equipment and Machinery	All vehicles, equipment and machinery used for construction shall conform to the relevant Bureau of India Standard (BIS) norms. The discharge standards promulgated under the Environment Protection Act, 1986 shall be strictly adhered to. The silent/quiet equipment available in the market shall be used in the RLC construction. The Contractor shall maintain a record of PUC for all vehicles and machinery used during the contract period which shall be produced for verification whenever required.	PUC certificates of vehicles and machinery	Contractor	PMC and PWD	Regularly during construction phase	Contractor
15	Noise Pollution	The Contractor shall confirm that all Construction equipment used in construction shall strictly conform to the MoEFCC and CPCB noise standards and all vehicles and equipment used in construction shall be fitted with exhaust silencers. At the construction sites noisy construction work such as crushing, operation of DG sets, use of high noise generation equipment shall be stopped during the nighttime between 10.00 pm to 6.00 am. Noise limits for construction equipment used in this project will comply with the Indian regulations. The RLC site will be properly barricaded with the Sheets having acoustic properties of adequate height to avoid impacts of noise generated due to construction activities.	Certificates of vehicles conforming noise standards, noise monitoring results	Contractor	PWD and PMC	Regularly during construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
16	Impacts on flora and fauna	Minimize impacts on flora and fauna during construction phase by limiting site clearance bare minimum and limiting all types of pollution generation. Take plantation works at the end of construction as per landscape plan prepared in pre-construction phase.	Environmental monitoring reports, Trees and shrubs planted at RLC site	Contractor	PWD and PMC	Regularly during construction phase	Contractor
17	Material Handling at Sub-Project site	Workers employed on mixing cement, lime mortars, concrete, etc., will be provided with protective footwear and protective goggles. Workers, who are engaged in welding works, will be provided with welder's protective eye-shields. The use of any toxic chemical will be strictly in accordance with the manufacturer's instructions. The PWD will be given at least 6 working days' notice of the proposed use of any chemical. A register of all toxic chemicals delivered to the site will be kept and maintained up to date by the Contractor.	Data on available personal protective equipment	Contractor	PWD and PMC	Regularly during construction phase	Contractor
18	Disposal of Construction Waste, and Debris	The Contractor shall confirm that safe disposal of the construction waste will be ensured in the pre-identified disposal locations. In no case, any construction waste will be disposed off around the RLC site	Disposal site	Contractor	PMC and PWD	Regularly during construction phase	Contractor
19	Onsite emergency plan for probable	The onsite emergency plan will be prepared by the contractor in consultation with PWD and PMC. Accident register will be maintained at site.	Onsite emergency plan document and Disaster	Contractor	PWD	Mock Drill every quarter	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
	accidents and mishaps and Disaster Management Plan for Natural Calamities	For natural calamities, disaster management plan prepared by the PWD under the provisions of Disaster Management Act 2005 will be followed.	Management Plan document of PWD				
20	Safety Measures During Construction	Adequate safety measures for workers during handling of materials at the proposed RLC site will be taken up. The contractor has to comply with all regulations for the safety of workers. Precaution will be taken to prevent danger of the workers from accidental injuries, fire, etc. First aid treatment will be made available for all injuries likely to be sustained during the course of work. The contractor will comply with all anti-malaria instructions given by the Engineer.	Records of availability of personal protective equipment, availability of first aid kits	Contractor	PMC and PWD	Regularly during construction phase	Contractor
	COVID-19 Safety Measures	Contractor to ensure the availability of masks and Sanitizers for COVID-19 Safety and the compliance of COVID Safety protocol as per Gol and State Government guidelines.	COVID Safety Plan, Records, Records of Availability of Masks, Sanitizers	Contractor	PMC and PWD	Regularly during construction phase	Contractor
21	Clearing of Construction of Camp and Restoration	Contractor to prepare site restoration plans for approval by the Engineer (PWD). The plan is to be implemented by the contractor prior to demobilization. On completion of the works, all temporary structures will be cleared away, all rubbish properly disposed off as per law, excreta or other disposal pits or trenches filled in and effectively sealed off and the site left	Restoration plan, and records of pre-construction of temporary sites	Contractor	PMC and PWD	End of construction phase	Contractor

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		clean and tidy, at the Contractor's expense, to the entire satisfaction of the PWD.					

Table-15: Operation Phase Environmental Management Plan for RLC Nalagarh

Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
1	Environmental Conditions	The periodic monitoring of the ambient air quality, noise levels, and water quality will be taken up as per monitoring plan through an approved monitoring agency.	Monitoring results and relevant standards	DORD through Pollution Monitoring Agency	PMU	As per monitoring Plan	DORD and PMU
2	Unhygienic conditions due to poor maintenance of sanitation facilities and irregular solid waste collection	The DORD through hired agency and/or staff will carry out maintenance of the toilets at RLC facility and carry out the regular collection and disposal of wastes to a designated waste treatment site. For solid waste disposal, suitable site will be identified as per law. Septic tanks will be maintained and regularly emptied.	Maintenance schedule of RLC building and facilities created	DORD	PMU	Every Quarter	DORD and PMU
3	Natural Disasters	Necessary procedures to be followed by the visitors, RLC staff and trainees during the natural	Warnings of disasters by Meteorological	District Administration	PMU	During Disasters	Government of Himachal Pradesh

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
		disasters shall be written at prominent locations.	Department				
4	Waste from operation and maintenance of solar PV Cell	The supplier of Solar PV cell will collect any waste generated on account of operation and maintenance for possible recycle/reuse/disposal as operations will be maintained by the supplier.	Waste generated from operation and maintenance of Solar PV Cell	Supplier and Operator of Solar PV Cell	RLC Manager /Head	As per schedule of maintenance	Fee of Solar PV Cell Supplier
5	Onsite emergency plan for probable accidents scenarios and mishaps and Disaster Management Plan for Natural Calamities	The Head /Manager RLC Nalagarh will prepare onsite emergency plan for possible accidents and mishaps for operational phase. For natural calamities, the disaster management plan prepared by DORD will be followed.	Onsite Emergency plan document and Disaster Management Plan document	Manager/Head RLC Nalagarh	DORD	Mock Drills every quarter	RLC operation cost
6	The spent oil generation due to annual maintenance of Engine/automobile set up	The spent oil quantity generated will be collected in jerry cans and will be sold to authorized recyclers for re-use.	Quantity of spent Oil and safe storage	Manager/Head RLC Nalagarh	DORD	Annually	RLC operation cost
7	Generation of organic waste in Food Processing	This waste will be properly segregated and stored. This waste will be either used for making compost at RLC or will be disposed off locally at local disposal site in consultation with Nalagarh Municipal Committee.	Quantity of waste and storage	Manager/Head RLC Nalagarh	DORD	Daily	RLC operation cost
8	Generation of E-waste from	The E-waste generated on account of maintenance and	E-waste Quantity	Agency providing maintenance	DORD	As per maintenance	Fee of Agency providing

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Sl. No.	Environmental Issues	Mitigation Measures	Parameter (Indicators for Compliance)	Responsible Implementation	Responsible Supervision	Frequency for Monitoring	Sources of Fund for Implementing Mitigation Measure
	maintenance of computer Laboratory	operation will be collected by the maintenance agency for possible re-use and /or disposal as per E-waste (Management) Amendment Rules, 2018		services to the Computer Laboratory		schedule or computer breakdown	maintenance services

C. Environmental Monitoring Plan

103. Environmental monitoring will be undertaken during construction at three levels. Environmental monitoring (covers EMP implementation and compliance with all of the Government of Himachal Pradesh's rules with respect to the environment, and handling of solid and liquid waste) at site will be undertaken by the contractor during pre-construction and construction Phases and will be supervised by PWD and PMU (through PMC). Environmental monitoring during operation phase will be undertaken by the DORD and will be monitored by HPKVN. The Environment and Social Safeguards Specialists of the PMC will ensure that IEE and EMP are updated for any changes in design in accordance with ADB's and GOHP's requirements. These PMC staff will also coordinate between PWD, HPKVN and DORD to ensure that all the provisions of the EMP are being adhered to by the contractor.

104. To ensure the effective implementation of mitigation measures and EMP during construction and operation phase of the RLC, it is essential that an effective Environmental Monitoring Plan is followed as given in **Table 16**. The proposed monitoring of all relevant environmental parameters, with a description of the sampling stations, frequency of monitoring, applicable standards and responsible agencies are presented in this table.

Table-16: Environmental Monitoring Plan for RLC Nalagarh for Preconstruction, Construction and Operation Phases

Sl. No.	Field (Environmental Attribute)	Phase	Parameters to be Monitored	Locations	Frequency	Responsibility	Cost (INR/US\$)
1	Air Quality	During pre-construction phase	CO, NO _x , PM ₁₀ , PM _{2.5} , and SO ₂ as per NAAQS 2009	RLC Construction site	Once in the pre-construction phase to establish baseline	Contractor, PWD, PMU and DORD through approved Monitoring Agency	INR130,000/ US \$ 1900
		During Construction Phase			Once in a season (except monsoon season) during construction phase (24 months construction phase)		
		Operation Phase			Once in a season except monsoon season for first 2 years of operation phase		
2	Drinking Water Quality at Construction Site	During pre-construction phase	All parameters specified for drinking water in IS: 10500-2012	RLC construction site	Once in pre-construction phase to establish baseline	Contractor, PWD, PMU, and DOLE through approved Monitoring Agency	INR130,000/ US \$1900
		During Construction Phase			Once in every season (except monsoon season) during construction phase		
		Operation Phase			Once in every season except monsoon season for first 2 years of operation phase		
3	Noise Levels	During Construction Phase	Noise quality as per National Ambient Noise Standards of CPCB on dB(A) scale	Noise levels at RLC Site	Once in every season (except monsoon season) during construction phase	Contractor, PWD, PMU, and DORD through approved Monitoring Agency	INR 39,000/ US \$ 600
		Operation Phase			Once in every season except monsoon season for first 2 years of operation phase		
		Operation Phase			Once in a season except monsoon season for first 2 years of operation phase		
4	Soil Pollution and Erosion Monitoring	During pre-construction phase	Soil contamination and erosion visual monitoring	Soil Pollution and Erosion at RLC site	Visual monitoring of soil contamination due to accidental spillage of fuel and lubricants to be taken up	Contractor, PWD, PMU, and DORD through approved Monitoring Agency	Visual Observations, no financial cost
		During Construction Phase					
		Operation Phase					

Note: For first year of operation phase (under defect liability period) contractor will organize monitoring and for remaining one year DORD will organize monitoring through National Accreditation Board for Laboratories (NABL) accredited monitoring agency.

Summary of Site- and Activity-Specific as per RLC EMP

105. **Table-17** summarizes site- and activity-specific plans to be prepared as per EMP tables.

Table-17 Site- and Activity-Specific Plans/Programs as EMP

To be Prepared During	Specific Plan/Program	Purpose	Responsible for Preparation	Responsible for Implementation
Pre-Construction phase	Environmental monitoring program as per detailed design	Indicate sampling locations, methodology and parameters to the contractor	PMU, PIU, PMC and PWD	Contractor
Pre-Construction phase	List and maps showing utilities to be shifted	Utilities shifting	PWD during preliminary design and pre-construction phase	Contractor
Pre-Construction Phase	Contingency plan for interruption of services	Mitigate impacts due to interruption of services during utilities shifting	Contractor	Contractor
Pre-Construction	Chance find protocol	Address archaeological or historical chance finds	PMU and PMC	Contractor
Pre-Construction Phase	List of pre-approved sites for construction camp, stockpiles, and waste disposal sites	Location/s for construction camp for RLC site, areas for stockpile, storage and disposal for minimization of impacts	PMC, PMU, PWD and PIU	Contractor
Pre-Construction phase	Waste and Spoil management plan	Mitigate impacts due to waste generation	Contractor	Contractor
Pre-Construction phase	Spill prevention and containment plan	Mitigate impacts of accidental spills of oil, lubricants, fuels, concrete, and other hazardous materials	Contractor	Contractor
Construction phase	Traffic management plan	Mitigate impacts due to transport of materials and project related traffic movement	Contractor	Contractor
Construction phase	Health and Safety (H&S) plan	To comply with IFC EHS Guidelines on Occupational health and safety	Contractor	Contractor
Construction phase	Erosion control and re-vegetation plan	Mitigate impacts due to erosion and vegetation removal at RLC site	Contractor	Contractor
Construction Phase	Environmental Monitoring Plan Implementation	To check efficacy of mitigation measures	PMC, PMU, and PWD	Contractor
Operation Phase	Maintenance of sub-project	To maintain RLC plantation and to carry	PMU, and DORD	DORD

To be Prepared During	Specific Plan/Program	Purpose	Responsible for Preparation	Responsible for Implementation
	sites landscape, and plantation and environmental monitoring plan	out environmental monitoring to check environmental conditions at site		

106. The guidelines for preparation of site-specific traffic management plans have been provided in **Annexure-3**.

D. Capacity Building

107. In addition to the primary objective of skills enhancement of Himachali youth and guidance to them for proper selection career, the HPSPDP sub-project will also raise awareness about environmental conservation amongst trainees, implementing agencies, and local communities. The project will have the opportunity to build capacity in environment protection for the above-mentioned stakeholders.

108. The Environmental Specialists at PMC and safeguards cell at PMU will provide the basic training required for environmental awareness. Specific modules customized for the available skill set will be devised after assessing the capabilities of the members of the Training Program and the requirements of the project. The training would cover basic principles of environmental assessment and management; mitigation plans and programs, implementation techniques, monitoring methods and tools. The proposed training program along with the frequency of sessions is presented in **Table 18** below.

Table-18: Training Modules for Environmental Management

Program	Description	Participants	Duration	Training Conducting Agency
A. Pre-Construction Stage				
Sensitization Workshop on Environment	Introduction to Environment: environmental assessment and social due diligence requirements in the project, Regulatory Clearances, and permission requirements in the project, and EMP Implementation, Introduction of ADB SPS 2009, and ADB Guidelines on Environmental considerations in planning, design and implementing projects	DOUD, DOLE and DORD officials, Environmental specialist of PWD and other Engineering staff associated with the HPSPDP sub-projects, PIU staff and HPKVN PMU staff	½ Working Day	Environmental Specialist of the PMC
Session 1	Environmental impacts due to sub-projects in construction and operation phases, pollution generation activities during pre-construction and construction phases Environmental Management, Environmental Mitigation Provisions in the Contract, Implementation Arrangements, Methodology of Assessment Good engineering practices to be	All PIU, HPKVN, DORD and PWD Staff associated with RLC Nalagarh	½ Working Day	Environmental Specialist of the PMC

Program	Description	Participants	Duration	Training Conducting Agency
	integrated into contract documents			
B. Construction Stage				
Session 2	Roles and Responsibilities- Roles and Responsibilities of Implementing Agencies officials, associated contractors and consultants towards protection of environment. Implementation. Arrangements for EMP and Environmental Monitoring during construction phase	Engineers and staff of line departments of the Government of GOHP, DORD, DOUD, PIUs, PMC, PMU and HPKVN	½ Working Day	Safeguards Specialist of the PMU
Session 3	Monitoring and Reporting System	Engineers and staff of implementing agencies, and PMU/PIU	¼ Working Day	Safeguards Specialist of PMU

DOLE= Department of Labor and Employment, DOUD = Department of Urban Development, DORD= Department of Rural Development, ES = Environment Specialist, HPKVN= Himachal Pradesh Kaushal Vikas Nigam Limited, PIU = Project Implementation Unit, PMC = Project Management Consultant, PMU = Project Management Unit, PWD = Public Works Department.

E. Environmental Budget

109. Most of the mitigation measures require the contractor to adopt good site practices, which should be part of their normal procedures already, so there are unlikely to be major costs associated with compliance. Only those items not covered under budgets for construction are included in the IEE budget. The IEE costs include mitigation, monitoring and capacity building costs. The summary budget for the environmental management costs for the sub-project is presented in **Table 19**.

Table-19: Environmental Management and Monitoring costs (INR)

Monitoring Component	Rate	Amount (INR)	Source of Fund
Pre-Construction and Construction Phase			
Air Quality - one location at RLC site , thrice a year (one sample pre-construction and 6 samples during construction phase; total 7samples)	10,000	70,000	Contractor
Water Quality- One Drinking water sample from RLC construction site, thrice a year (one sample pre-construction and 6 samples during construction phase; total 7 samples)	10,000	70,000	Contractor
Noise Quality-One location at subproject site, thrice a year (one sample pre-construction and 6 samples during construction phase; total 7 samples)	3000	21,000	Contractor
Training for Capacity Building of stakeholders	Covered in the consultancy cost of PWD and PMC		
Total Pre Construction and Construction Phase Monitoring Cost (A)		161,000	Project for plantation and contactor for monitoring

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Monitoring Component	Rate	Amount (INR)	Source of Fund
O & M Phase			
Air Quality -one location at RLC site thrice a year for first 2 years (3 samples per annum, total 6 samples)	10,000	60,000	PMU and DORD
Water Quality-one Drinking water sample from RLC building site, thrice a year for initial 2 years (3 samples per annum, total 6 samples)	10,000	60,000	PMU and DORD
Noise Quality-one location at RLC, thrice a year for first 2 years (3 samples per annum, total 6 samples)	3000	18,000	PMU and DORD
Total O&M Phase Monitoring Cost (B)		138,000.00	PMU and DORD
Total Cost (A+B)		299000.00	
Contingencies @ 5 %		14950.00	
Total Budgeted Cost (INR)		313 950 (Say 314,000)	

F. Environmental Monitoring and Reporting

110. The PMU with the assistance of PMC will monitor and measure the progress of EMP implementation during construction phase. During operation phase PMU safeguard cell will take care of EMP implementation. PWD environmental cum social expert will undertake site inspections and document review to verify compliance with the EMP and progress toward the final outcome. PWD will submit monthly monitoring and implementation reports to PMU at HPKVN and to the concerned departments (in present case to DORD), who will take follow-up actions, if necessary. PWD will also submit quarterly, semi-annual and annual monitoring and implementation reports to PMU. The PMU will submit semi-annual monitoring reports to ADB. Monitoring reports will be posted in a location accessible to the public.

111. ADB will review project performance against the EA's commitments as agreed in the legal documents. The extent of ADB's monitoring and supervision activities will be commensurate with the Project's risks and impacts. Monitoring and supervising of social and environmental safeguards will be integrated into the project performance management system. ADB will monitor projects on an ongoing basis until a project completion report is issued.

VI. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

A. Process For Consultations Followed

112. The construction and operation of RLC does not involve any elements, which could have an adverse impact on the community. There is no deprivation of any sort for the residents or displacement of any groups. Particularly, with regard to environmental impacts, this RLC subproject can be characterized as innocuous.

113. In view of this, the need for holding a public hearing (as defined in EIA Notification 2006 of Government of India) is not perceived at this stage. However, in compliance with the ADB's guidelines, focused public consultations were undertaken during the IEE preparation. Residents of the Nalagarh town and elected representatives of Nalagarh local committee were informed about the RLC building construction and subsequent functioning in their area and their views were obtained. During the preparation of this IEE, consultations have been held with the officials of DOTE, HPKVN, Forest Department, DOUD, DORD and DOLE.

114. The process of consultations was taken up, as an integral part of the sub-project design and environmental assessment, in accordance with ADB Guidelines and following objectives:

- To educate the general public, specially potentially impacted or benefited communities, individuals and stakeholders about the proposed RLC activities.
- To familiarize the people with technical and environmental issues of the RLC Nalagarh sub-project for better understanding.
- To solicit the opinion of the communities and individuals on environmental issues and assess the significance of impacts due to the proposed development.
- To foster co-operation among officers of EA and IAs, the community and the stakeholders to achieve a cordial working relationship for smooth implementation of the sub- project and
- To identify the environmental issues relating to the proposed activity.

115. During the consultations local residents opined that there is need to develop skills of local youth and at the same time guide them properly to select the suitable job. Community suggested that there is strong need of skill development in the youth and getting need based quality training at their place will support them. The subproject will help skilled rural youth in getting training and skills enhancement for job oriented fields. The locals demanded fast implementation of the sub-project. The dates of consultations and stakeholders consulted have been summarized below in **Table 20**. The views, comments and suggestions of stakeholders and their incorporation in project design are presented in **Tables 21 and 22**. The records of consultations (list of participants with signatures) and consultation photographs are given in **Annexure-4**.

Table-20: Dates and Stakeholders Consulted

Sl. No.	Stakeholders Consulted	Dates of Consultations
1	Himachal Pradesh Forest department	23 December 2015 and 18 March 2016
2	Department of Rural Development and Department of Higher Education	21 December 2015
3	Himachal Pradesh Pollution Control Board	23 December 2016
4	State Department of Labor and Employment	21 December 2015
5	Department of Technical Education, GOHP	22 December 2015 and 14 and 15 March 2016
6	Residents and Elected representatives of	21 August 2021

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Sl. No.	Stakeholders Consulted	Dates of Consultations
	Municipal Committee Nalagarh	

116. It is clear from given **Tables 21 and 22** that most of the suggestions of stakeholders have been taken care in the project design.

Table-21: Views, Comments, and Suggestions of Stakeholders at RLC Nalagarh Site and Considerations in Sub-Project Design

Sl. No.	Place	Date	Consultations held with	Issues discussed	Outcome of discussions and consideration in project design and Implementation
1	RLC Project Site	21/08/21	With local residents, DORD, PWD and HPKVN officials and elected representatives	RLC Building Layout and RLC components, RLC benefits, implementation schedule, environmental and social impacts during project implementation, etc.	<ol style="list-style-type: none"> 1. Local residents and the elected representatives of Panchayat welcomed the construction of RLC building and subsequent functioning and told the consultants that RLC will help in enhancing their skills through job oriented courses/training programs. This RLC will be of immense help to rural youth of sub-project region as skill oriented courses will help them get jobs in their own place. With the emergence of industrial areas and coming up of new industries, students will get jobs easily as presently many students find difficulties for pursuing education in urban centers because of affordability. 2. DORD officials briefed the components of RLC Nalagarh as they said that there was long standing demand of local population for RLC so that more rural candidates get trained in skilled courses. This will help them to get employment at nearby Industrial areas and also in development of their own enterprises. 3. One elected representative welcomed the set up of RLC as Nalagarh itself has many industries and nearby Baddi has also many industries. 4. One participant suggested that building should have facility for disabled candidates. Environment Specialist replied that facility has been provided for disabled. 5. One participant suggested for collection of rainwater and its utilization. The environmental specialist replied that rooftop rainwater collection system designed as part of building design and this water will be stored. 6. The environmental expert informed the participants that as part of RLC building design tree plantation and landscaping plan has been prepared. This will be implemented during construction phase. 7. All the participants suggested that adequate sanitation facilities be planned both during construction and operation. The environmental specialist replied that during construction, the contractor will arrange adequate drinking water and sanitation

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Sl. No.	Place	Date	Consultations held with	Issues discussed	Outcome of discussions and consideration in project design and Implementation
					<p>facilities. This will be monitored through EMP implementation. For the operation phase, building design has taken care of this issue.</p> <p>8. The participants were also briefed about the Grievance Redress Mechanism and how they could register their grievances and get them resolved.</p> <p>9. Participants expected the faster implementation of the project and assured their full support to the project team.</p>

Table-22: Summary of Stake Holder Consultations at Institutional Level

Sl. No.	Place and date	Consultations held with	Issues discussed	Outcome of discussions and consideration in project design and Implementation
1	Shimla, 23/12/2015 and 18/3/2016	Conservator Forest Cum Nodal Officer CAMPA, State Forest Department	Clearances, permissions and No Objection Certificates (NOCs) - requirements from the State Forest Department and suggestions for the project	<ol style="list-style-type: none"> 1. The ADB Environment and Social Safeguards consultant briefly explained the project concept to the state department officials. 2. It was informed by the officials that for any site falling under forest land, clearance is required either under the 'Forest (Conservation) Act, 1980 or under the 'Schedule Tribe and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006. 3. For vocational training purposes, GOHP can give clearance up to 1.0 hectare land. If application is submitted under the Forest (Conservation) Act, 1980, then the net present value (NPV) of the land and cost for compensatory afforestation are to be paid by the State Government. 4. If the application is submitted under Forest Rights Act 2006, then for educational institutes, payment of NPV and compensatory afforestation costs are exempted for the land up to 1.0 hectare. The clearance can also be issued at Divisional Forest Officer level. 5. The Forest Officials suggested that application may be made under Forest Rights Act for faster clearance if any site falls under the forest. 6. The ADB Environmental consultant assured everyone that sites on forest land will not be considered to the extent feasible. However, under unavoidable situations, applications for clearances will be submitted as suggested.

B. Future Consultation And Information Disclosure

117. To ensure continued public and stakeholder participation in the sub-project life cycle, periodic consultations and focus group discussion should be continued. This participatory process will ensure that all views of the people are adequately reviewed and suitably incorporated in the design and implementation process. Further, to ensure an effective disclosure of this RLC subproject proposal to the stakeholders and the communities in the vicinity of site, an extensive project awareness campaign will be carried out.

Information Disclosure

118. Electronic version of this IEE will be placed in the official websites of the HPKVN and ADB(after approval of this document by the GOHP and ADB). On demand, any person seeking information can obtain a hard copy of the complete IEE document by paying cost of photocopy from the office of the PMU and PIU, on a written request. The PMU will display project information at site during implementation.

C. Grievance Redress Mechanism

119. A grievance redressal committee will be formed within the PIU (at PWD) and at PMU Level to register grievances of the people regarding technical, social and environmental issues. The affected person(s)/aggrieved party can give their grievance verbally or in written to the local site office(s) of sub-project(s). Grievances of affected person will first be brought to the attention of the site in charge, who can resolve the issue at the site level. If the matter is not solved within 7 days period by the site in charge, it will be brought to the Grievance Redress Committee constituted for the purpose in PIU (PWD). This GRC shall discuss the issue in its monthly meeting and resolve the issues within one month of time after receiving the grievance. If the matter is not resolved by GRC at PIU level within stipulated time, it shall be referred to GRC at PMU level by Project Manager of PIU.

120. GRC at PMU shall discuss the issue and try to resolve it and inform the PIU accordingly. If the matter is not resolved by the GRC at PMU level within one month of time the matter will be referred to State Level Empowered Committee (SLEC), who will resolve the complaint within one month. However, the aggrieved person/party can bring the matter to the Court of Law any time after filing the complaint either at PIU level or PMU level. The PIU and sub-project site office shall keep records of all grievances received including contact details of complainant, date of receiving the complaint, nature of grievance, agreed corrective actions and the date these were affected and final outcome. For this a complaint register will be maintained at RLC sub-project site. The grievance redress process is shown below. The cost for functioning of Grievance Redress Mechanism will be accounted for in project cost as part of PMU or PIU functioning.

121. Further, person(s) / aggrieved party who are, or may be, adversely affected by the subproject may submit complaints to ADB's Accountability Mechanism. The accountability mechanism provides an independent forum and process whereby people can voice, and seek a resolution of their problems, as well as report alleged violations of ADB's operational policies and procedures. Before submitting a complaint to the Accountability Mechanism, affected person(s) / aggrieved party should first make a good faith effort to solve their problems by working with the ADB South Asia operations department including the India Resident Mission.

Composition and functions of GRC

122. PIU Level Grievance Redress Committee (GRC- PIU) – This committee will comprise of Project Manager, Site In charge and one officer from contractor team. The GRC- PIU will be headed by Project Manager (PIU). It will meet at least once a month. The agenda of the meeting will be circulated to all the members and the affected persons/aggrieved party along

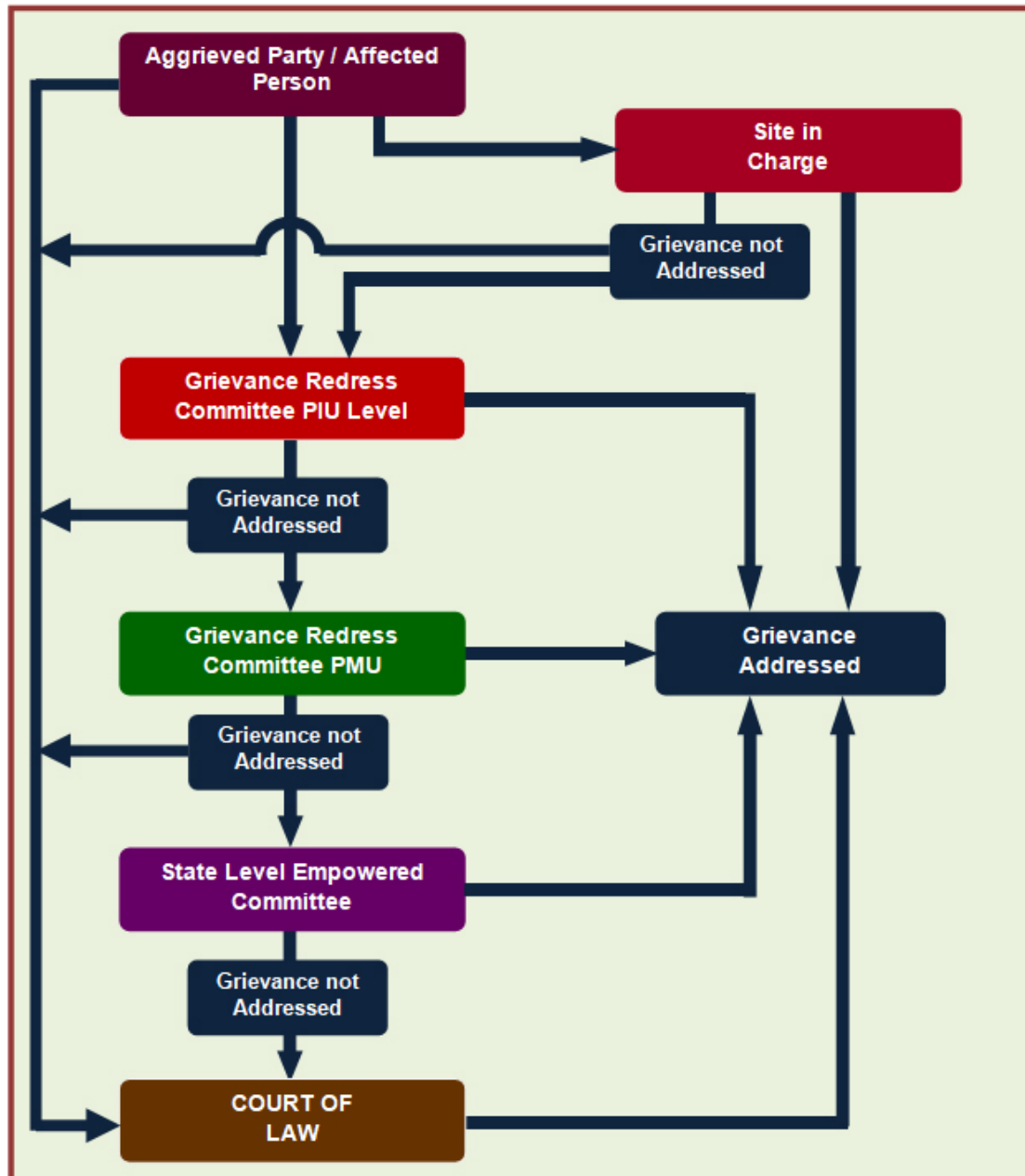
with venue, date and time at least a week prior to the meeting. The matters shall remain with GRC at PIU level for one month.

123. GRC at PMU. There shall be one GRC in PMU. GRC at PMU will include the Managing Director, HPKVN, and Project Manager PIU (PWD at Shimla Head Quarters); safeguard specialists (Environmental and Social) of the PMU, and one representative from concerned Department (DOTE/DOLE/DOHE/DORD). The Committee shall be headed by the Managing Director, HPKVN. This committee shall look into the matters, which are referred to and not resolved by GRC at PIU level. If the matter is not resolved by the GRC at PMU level within one month of time, then the aggrieved person or party can bring the matter to State Level Empowered Committee (SLEC) which is in-charge of the overall HPSPDP.

124. Approach to GRC. Affected person or aggrieved party can approach the GRC for redress of his/their grievances through any of the following modes:

- Web based: A separate corner will be developed at the HPKVN website so that public and affected person can register their complaints in the online column.
- Telecom based: A telephone number will be displayed at the web site of HPKVN and the construction site of sub project so that general public can register their complaint through telephone and mobile phone to the PIU and PMU office. One complaint register will also be maintained at sub-project site.
- Construction site. The grievance redress mechanism for the HPSPDP for safeguards related issues has been shown below in **Figure-11**:

Figure-11: Grievance Redress Mechanism (HPSDP Project)



VII. FINDINGS AND RECOMMENDATIONS

125. The proposed, RLC inclusive of all facilities, at Nalagarh sub project components do not involve any interventions in and around the natural and cultural heritage destinations and have less significant (direct and indirect) environmental impacts. It is expected that the proposed sub-project will provide necessary support by providing training on job-oriented courses. This training will help them in getting gainful employment in Himachal Pradesh, outside Himachal Pradesh in other States and abroad.

126. This IEE has identified minor likely impacts on water, air and noise during construction and operation period and has defined mitigation measures. Those mitigation measures will be implemented and monitored during the sub-project execution. The overall environmental quality of RLC surroundings will not be affected as a result of functioning of RLC as adequate sanitation facilities have been planned.

127. The specific management measures laid down in the IEE will effectively address any adverse environmental impacts due to the sub-project. The effective implementation of the measures proposed will be ensured through the building up of capacity towards environmental management within the PMU supplemented by the technical expertise of Safeguards Specialists of the PMC. Further, the environmental monitoring plan provides adequate opportunities towards course correction to address any residual impacts during construction or operation stages.

VIII. CONCLUSIONS

128. On the basis of the IEE, it is expected that the proposed RLC at Nalagarh has only minor, localized, temporary and insignificant environmental impacts. These can be easily mitigated through adequate mitigation measures and regular monitoring during the design, construction and post construction phases. Negative impacts on water, air quality and noise levels during civil works & operation phase, which will be appropriately monitored and adequately mitigated. This report has not identified any comprehensive, broad, diverse or irreversible adverse impacts caused by the sub project. Based on the findings of the IEE, the classification of the sub-project as Category “B” is confirmed. No further special study or detailed EIA needs to be undertaken to comply with ADB SPS (2009).

ANNEXURE-1: RAPID ENVIRONMENTAL ASSESSMENT (REA) CHECKLIST

Instructions:

- (i) The project team completes this checklist to support the environmental classification of a project. It is to be attached to the environmental categorization form and submitted to the Environment and Safeguards Division (RSES) for endorsement by Director, RSES and for approval by the Chief Compliance Officer.
- (ii) This checklist focuses on environmental issues and concerns. To ensure that social dimensions are adequately considered, refer also to ADB's (a) checklists on involuntary resettlement and Indigenous Peoples; (b) poverty reduction handbook; (c) staff guide to consultation and participation; and (d) gender checklists.
- (iii) Answer the questions assuming the "without mitigation" case. The purpose is to identify potential impacts. Use the "remarks" section to discuss any anticipated mitigation measures.

Country/Project Title

India/ Supporting Skill Development in Himachal Pradesh

SAHS

Sector Division:

Screening Questions	Yes	No	Remarks
A. Project Siting Is the project area adjacent to or within any of the following areas?			The subproject involves construction of building for RLC at Nalagarh town of Solan district. This RLC will provide job-oriented training programs to rural youth of the region. The RLC site is located beyond 15 km distance from the (a) core and buffer zones of national parks, sanctuaries, tiger reserves, and biosphere reserves, etc. There are no protected structures or monuments of archaeological importance within the aerial distance of 300 m from the proposed RLC site.
▪ Underground utilities		√	The RLC site at Nalagarh is under the ownership of DORD-GOHP. There are no underground utilities at the subproject site.
▪ Cultural heritage site		√	No cultural heritage site within 15 km distance from the proposed RLC site.
▪ Protected Area		√	No protected areas within 15 km distance from the RLC site.
▪ Wetland		√	No wet land within 15 km aerial distance of RLC Nalagarh site.
▪ Mangrove		√	Since site of RLC Nalagarh site is away from coastal area and in hilly terrain, so no issue of Mangroves.
▪ Estuarine		√	Site is in hilly area and away from shore.
▪ Buffer zone of protected area		√	The site is in open area near habitation and away from protected areas.

Himachal Pradesh Skill Development Project
Initial Environmental Examination For Development of Rural Livelihood Center at Nalagarh

Screening Questions	Yes	No	Remarks
▪ Special area for protecting biodiversity		√	Since site is in rural habitation there is no existence of any special areas for bio-diversity protection.
▪ Bay		√	The RLC site is away from coastal line and bay.
B. Potential Environmental Impacts Will the Project cause...			
▪ Encroachment on historical/cultural areas?		√	The RLC site is beyond 300 m distance from archaeologically protected, historical and cultural areas.
▪ Encroachment on precious ecology (e.g. sensitive or protected areas)?		√	The proposed RLC site is away from sensitive or protected areas.
▪ Impacts on the sustainability of associated sanitation and solid waste disposal systems?		√	The sanitation facilities will be self-sustained as septic tanks have been planned at RLC location and solid waste collection and disposal will be integrated either with the Nalagarh town waste disposal system or a new site will be identified.
▪ Dislocation or involuntary resettlement of people?		√	The proposed site for RLC is on Government owned land. The land ownership is in the name of DORD, so no Involuntary Resettlement issues.
▪ Disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?		√	No such impacts are anticipated.
▪ Accident risks associated with increased vehicular traffic, leading to loss of life?		√	The proposed RLC site at Nalagarh town is 200 m away from the NH and in open area, therefore, traffic related accident risk is not anticipated. The connecting road to site has less traffic. During operation also traffic increase is not anticipated as locals will be coming to RLC and adequate parking has been planned as part of RLC building design. However, to rule out any accident due to project related vehicular traffic, if required, flagmen will be deployed near the sub-project construction site to regulate the traffic. Traffic Management Plan will be prepared for the construction phase.
▪ Increased noise and air pollution resulting from increased traffic volume?		√	Since increase in the traffic is not anticipated, therefore, no increase in air and noise pollution.

Himachal Pradesh Skill Development Project
Initial Environmental Examination For Development of Rural Livelihood Center at Nalagarh

Screening Questions	Yes	No	Remarks
▪ Occupational and community health and safety risks?	√		The RLC activities during operation and construction phases may cause minor occupational and community health and safety risks. Suitable mitigation measures incorporated in EMP.
▪ Risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation?		√	No such risks are anticipated
▪ Generation of dust in sensitive areas during construction?	√		No generation of dust during the operation phase. Minor dust generated during construction activities will be controlled through dust suppression measures and through implementation of Environmental Management Plan (EMP).
▪ Requirements for disposal of fill, excavation, and/or spoil materials?	√		The proposed site for RLC is on plain land. No filling is required. Minor excavations for foundations will be done. Any spoil generated will be utilized in construction and remaining, if any, will be disposed off at the identified site. The site for disposal will be identified during the construction phase.
▪ Noise and vibration due to blasting and other civil works?		√	No blasting is planned. The noise due to construction activities will be controlled within the stipulated limits through implementation of EMP.
▪ Long-term impacts on groundwater flows as result of needing to drain the project site prior to construction?		√	RLC site at Nalagarh has swift drainage and no need to drain the project site
▪ Long-term impacts on local hydrology as a result of building hard surfaces in or near the building?		√	The proposed built-up area of RLC is around 2000 m ² and this small area will not cause any impact on local hydrology. Suitable drainage system will be designed to take care of storm water runoff at site.

Himachal Pradesh Skill Development Project
Initial Environmental Examination For Development of Rural Livelihood Center at Nalagarh

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> Large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)? 		√	<p>Since RLC building to be constructed is of small in size, so construction force shall be around 25-30 at any point of time. The construction workers will be mainly locals so no influx is anticipated during the construction.</p> <p>During operation phase also most of the students will be locals, and RLC is designed with hostel facilities, so no influx and impacts on social infrastructure are anticipated.</p>
<ul style="list-style-type: none"> Social conflicts if workers from other regions or countries are hired? 		√	<p>Preference will be given to locally available labor. The construction activities are limited in nature. In case workers are hired from other regions, requisite awareness programs and consultations with the locals will be organized to avoid social conflicts.</p>
<ul style="list-style-type: none"> Risks to community safety caused by fire, electric shock, or failure of the building's safety features during operation? 		√	<p>Since proposed RLC building is new, the safety measures are being planned in the building design as per national and state level requirements.</p>
<ul style="list-style-type: none"> Risks to community health and safety caused by management and disposal of waste? 		√	<p>During construction phase waste collection and disposal system will be planned by the contractor and it will be approved by the implementing agency (PWD). For operation phase adequate provisions have been made in the building design to take care disposal of wastewater (septic tanks) and other solid waste generated. The waste collection and disposal will be integrated; either with the Nalagarh town waste disposal system or a new site will be identified.</p>
<ul style="list-style-type: none"> Community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning? 		√	<p>The proposed RLC site is in an open area in Nalagarh town. Specific community risks are not foreseen due to operation as such RLC site has good connectivity. The RLC building has been designed following applicable seismic coefficient for Himachal Pradesh to build safety in structural design. There will be periodic maintenance of building during the operation phase.</p>

A Checklist for Preliminary Climate Risk Screening

Country/Project Title: India/Himachal Pradesh Skill Development Project (Sub-Project-RLC Building at Thana Kalan)
Sector: Social Development
Subsector:
Division/Department: SAHS

Screening Questions		Score	Remarks ⁵
Location and Design of project	Is sitting and/or routing of the project (or its components) likely to be affected by climate conditions including extreme weather related events such as floods, droughts, storms, landslides?	0	The proposed RLC building is planned in an inhabited area, quite away from river and streams and not likely to be affected by floods, drought, storms and landslides.
	Would the project design (e.g. the clearance for bridges) need to consider any hydro-meteorological parameters (e.g., sea-level, peak river flow, reliable water level, peak wind speed etc.)?	0	Not Applicable
Materials and Maintenance	Would weather, current and likely future climate conditions (e.g. prevailing humidity level, temperature contrast between hot summer days and cold winter days, exposure to wind and humidity hydro-meteorological parameters likely affect the selection of project inputs over the life of project outputs (e.g. construction material)?	0	Weather conditions at RLC site do not demand usage of any specific construction material to counteract weather phenomenon.
	Would weather, current and likely future climate conditions, and related extreme events likely affect the maintenance (scheduling and cost) of project output(s)?	0	No, weather conditions at selected site do not require specific scheduling for maintenance.
Performance of project outputs	Would weather/climate conditions and related extreme events likely affect the performance (e.g. annual power production) of project output(s) (e.g. hydro-power generation facilities) throughout their design life time?	0	Not Applicable

Options for answers and corresponding score are provided below:

Response	Score
Not Likely	0
Likely	1
Very Likely	2

⁵ If possible, provide details on the sensitivity of project components to climate conditions, such as how climate parameters are considered in design standards for infrastructure components, how changes in key climate parameters and sea level might affect the sitting/routing of project, the selection of construction material and/or scheduling, performances and/or the maintenance cost/scheduling of project outputs.

Responses when added that provide a score of 0 will be considered low_risk project. If adding all responses will result to a score of 1-4 and that no score of 2 was given to any single response, the project will be assigned a medium risk category. A total score of 5 or more (which include providing a score of 1 in all responses) or a 2 in any single response will be categorized as high-risk project.

Result of Initial Screening (Low, Medium, High): Low Risk

Other Comments: None

Prepared by: Shreeniwas Verma, Environmental Safeguard Specialist

**ANNEXURE-2: LAND RECORDS CERTIFIED BY THE REVENUE DEPARTMENT
OFFICIALS SHOWING GOHP OWNERSHIP**

Pardhan Chandra

क्रमांक: नलग/एस.डी.के./2020- 652
कार्यालय उप-मंडलाधिकारी (ना०)
नालागढ़, जिला सोलन (हि०प्र०)।

नालागढ़ दिनांक:- 04 सितम्बर, 2020

सेवा में,

तहसीलदार,
नालागढ़, जिला सोलन (हि.प्र.)।

विषय:-

ग्रामीण विकास एवं पंचायती राज विभाग को "Rural Livelihood Centre" निर्माण हेतु भूमि खसरा न. 448/2/1 तादादी 3-0 बीघा मौजा डाडी भोला, तहसील नालागढ़, जिला सोलन (हि०प्र०) के नाम हस्तांतरण बारे।

महोदय,

उपरोक्त विषय में कार्यालय खंड विकास अधिकारी, नालागढ़ के पत्र संख्या: BDO/NLG/JE-Works/2020-21-3196 दिनांक 04-09-2020 के सन्दर्भ में निवेदन है कि ग्रामीण विकास एवं पंचायती राज विभाग को "Rural Livelihood Centre" हेतु भूमि खसरा न. 448/2/1 तादादी 3-0 बीघा मौजा डाडी भोला, तहसील नालागढ़ के हस्तांतरण की छानबीन एवं मदवार रिपोर्ट इस कार्यालय को प्रेषित करे:-

1. क्या प्रस्तावित भूमि हि० प्र० विलेज कोमन लैंड वैस्टिंग एंव युटिलाईजेशन एक्ट 1974 के अन्तर्गत सरकार को निहित हुई है।
2. प्रस्तावित भूमि किस पुल में है तथा विभाग को हस्तान्तरण करने के पश्चात् खाता प्रदेश सरकार में कितनी भूमि शेष रह जाएगी।
3. प्रस्तावित भूमि के पुलों की अदला बदली करने के लिए नक़ल जमाबंदी, ततीमा प्रस्तावना रिपोर्ट सहित इस कार्यालय को प्रेषित करे।
4. प्रस्तावित भूमि के हस्तांतरण करने बारे वाशिन्दगान देह के ब्यान सत्यपित संलग्न करे।
5. प्रस्तावित भूमि पर कोई भी सार्वजनिक स्थान सड़क रास्ता पानी का चश्मा आदि है।
6. प्रस्तावित भूमि पर पेड़ मौजूद है।
7. प्रस्तावित भूमि की वर्तमान बजारी कीमत कितनी बनती है।
8. प्रस्तावित भूमि पर हिमाचल प्रदेश सरकार का कब्ज़ा है।
9. प्रस्तावित भूमि विभाग के लिए उपयुक्त है।
10. प्रस्तावित भूमि के हस्तांतरण/पुल अदला-बदली बारे नक़ल जमाबंदी, ततीमा मौका व ग्राम पंचायत का सहमति प्रस्ताव संलग्न करे।

1560 Jwala

संलग्न :- मूल मिसल

भवदीय,

(महेंद्र पाल गुर्जर भा०प्र०से०),
उप मंडलाधिकारी (ना०),
नालागढ़ जिला सोलन (हि.प्र.)।

प्रतिलिपि बराए उक्त भूमि का अनापति प्रमाण पत्र बारे :-

1. मुख्य कार्यकारी अधिकारी, बड़ी बरोटीवाला नालागढ़ विकास प्राधिकरण, बड़ी।
2. वन मंडलाधिकारी, नालागढ़।
3. अधिशापी अभियंता, सिचाई एवं जन स्वास्थ्य विभाग, नालागढ़।
4. अधिशापी अभियंता, हि०प्र० विद्युत बोर्ड, नालागढ़।
- ✓ 5. अधिशापी अभियंता, हि०प्र० लोक निर्माण विभाग नालागढ़।

(महेंद्र पाल गुर्जर भा०प्र०से०),
उप मंडलाधिकारी (ना०),
नालागढ़ जिला सोलन (हि.प्र.)।
दूरभाष न. - 01795-223024

No. BDO/NLG/JE-Works/2020-21- 3196
Office of Block Development Officer
Development Block, Nalagarh
Dated:- 04/09/2020

To

The Sub Divisional Officer (Civil)
Nalagarh, District Solan (H.P.)

Subject:-

Regarding transfer of Government land in favour of Rural Development & Panchayati Raj Department for "Rural Livelihood Centre".

Sir,

In reference to the letter no. NRLM 30/2014-15 RDD-RLC-Vol-II-2117 Dated:- 21st July, 2020 regarding the selection and transfer of land in favour of above cited subject, it is submitted that approx. 3 Bighas are required for the construction of "Rural Livelihood Centre". It is, therefore, requested to your good self that 3 Bighas out of 30 Bighas in Khasra No. 448 may kindly be transferred in favour of Rural Development & Panchayati Raj Department so that construction work could be started at the earliest.

Yours faithfully,

Assistant Commissioner-cum-
Block Development Officer
Development Block, Nalagarh

SDK
↑
NLG
out

कार्यालय ग्राम पंचायत किरपालपुर

विकास खण्ड नालागढ़, जिला सोलन (हि.प्र.)

श्री. वामन

तहसीलदार आदि के
नालागढ़,

श्री. वामन जी.

सिक्केन के लिए खान्दारी इसी खंड में
पुनः एक नई योजना का प्रति लक्ष्य लेना इनके
है जो कि Rural Livelihood Centre के

~~ले~~ लिए इच्छा-मूल के लिए जा रहा है। यह लक्ष्य
लक्ष्य के लिए प्रस्तावित किया गया है और
प्राप्त करें।

1/04/09/2020



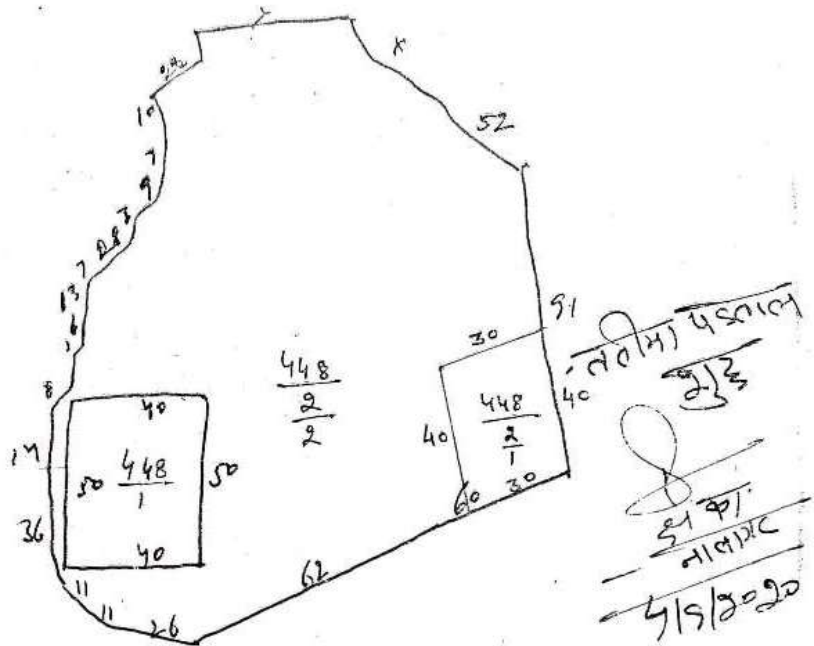
प्रमाण
प्रमाण
ग्राम पंचायत किरपालपुर प्र.
वि. ख. नालागढ़, सोलन हि.प्र.

04/09/2020

97

अनुसंधान 21 जरा लडा मीजा डाडी मौला न. ह. 146 परगना
तह. नालागढ़. जिला सोलन (हि. प्र.)

पैमाना ब. हिसाब 40 अ. प्रिडिन्स



क्षेत्रीय पुलिका

नम्बर खसरा इस्तराज रवणा

सबके हाल

$$\frac{448}{2}$$

$$\frac{448}{2}$$

$$20 \times 40 = 1200$$

3-0

$$\frac{448}{2}$$

वारी मांदाबस्तूर 22-0

25-0

नोट:- तरीमा मीजा अनुसार कस्ब मन्डा सामल प्रधान ग्राम
पंचायत किरपालपुर गुल्मी 14/11/16 मय आदिवा बृहत्सल्लर
महोदय मी 4-9-2020 के जिला उजरतवकार सल्लर
तमोर किमा गद्या।
डा. का. नालागढ़ 4/5/2020
किरपालपुर नालागढ़ जिला सोलन

ANNEXURE-3: SAMPLE TRAFFIC MANAGEMENT PLAN

A. Principles

1. Since the scale of construction work at the sub-projects sites is relatively small, there will not be any major or prolonged disruption of local traffic. Nevertheless, it is good to prepare a traffic management plan (TMP) to minimize and avoid public inconvenience to the extent feasible. This indicative TMP will ensure the safety of all the road users along the work zone and minimize public inconvenience. It addresses the following issues:

- (i) The safety of pedestrians, bicyclists, and motorists travelling through the construction zone.
- (ii) Protection of work crews from hazards associated with moving traffic.
- (iii) Avoiding traffic congestion and
- (iv) Maintenance of access to adjoining properties.

B. Operating Policies for TMP

2. The following principles will help to promote safe and efficient movement for all road users (motorists, bicyclists, and pedestrians, including persons with disabilities) through and around work zones while reasonably protecting workers and equipment.

- (i) Make traffic safety and temporary traffic control an integral and high-priority element of every project from planning through design, construction, and maintenance.
- (ii) Inhibit traffic movement as little as possible.
- (iii) Provide clear and positive guidance to drivers, bicyclists, and pedestrians as they approach and travel through the temporary traffic control zone.
- (iv) Inspect traffic control elements routinely, both day and night, and make modifications when necessary.
- (v) Pay increased attention to roadside safety in the vicinity of temporary traffic control zones.
- (vi) Keep the public well informed.
- (vii) Make appropriate accommodation for abutting property owners, residents, businesses, emergency services, railroads, commercial vehicles, and transit operations.

C. Analyze the impact due to street closure, if required

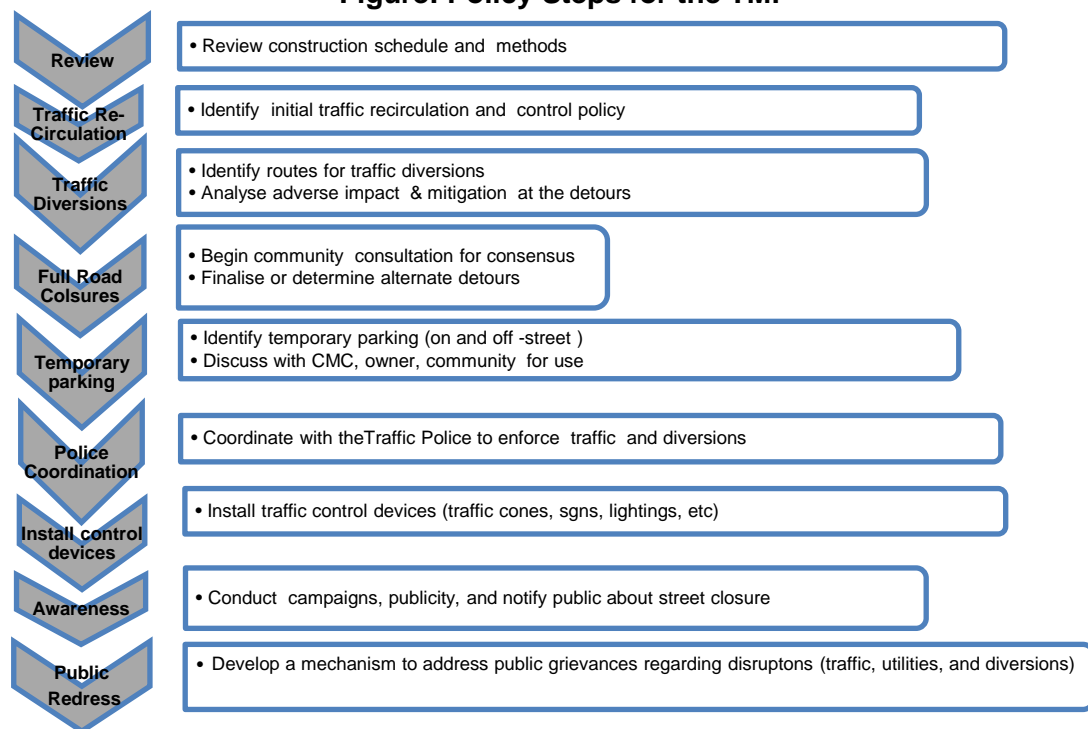
3. A final decision to close a particular street and divert the traffic should involve the following steps:

- (i) approval from the PIU and local administration to use alternative local streets as detours.
- (ii) consultation with businesses, community members, traffic police, PWD, etc, regarding the mitigation measures necessary at the detours where the road is diverted during the construction.
- (iii) determining of the maximum number of days allowed for road closure, and incorporation of such provisions into the contract documents.
- (iv) determining if additional traffic control or temporary improvements are needed along the detour route.
- (v) considering how access will be provided to the worksite.
- (vi) contacting emergency service, school officials, and transit authorities to determine if there is any effect on their operations; and

- (vii) Developing a notification program to keep the public informed. As part of this program, the public should be advised of alternate routes that commuters can take or will have to take as result of the traffic diversion.

4. If full road-closure of certain streets within the area is not feasible due to inadequate capacity of the detour streets or public opposition, then full closure can be restricted to weekends with the construction commencing on Saturday night and ending on Monday morning prior to the morning rush hour traffic.

Figure: Policy Steps for the TMP



D. Public awareness and notifications

5. The PWD and the contractors will issue timely notifications to inform the public about the following issues:

- (i) Road blockages and alternative routes along with the duration (as applicable)
- (ii) Traffic control devices placed around the construction zones (signs, traffic cones, barriers, etc.).
- (iii) Reduced speed limits to be enforced at the work zones and traffic diversions.

8. It may be necessary to conduct an awareness campaign on road safety during construction. It will target relevant groups i.e. children, adults, and drivers. Therefore, these campaigns will be conducted in schools and community centers. In addition, the project will publish a brochure for public information. These brochures will be widely circulated around the area and will also be available at the PIU, and the contractors' site office. The text of the brochure should be concise to be effective, with a lot of graphics. It will serve the following purpose:

- (i) Explain why the brochure was prepared, along with a brief description of the project.
- (ii) Advise the public to expect the unexpected.

- (iii) Educate the public about the various traffic control devices and safety measures adopted at the work zones.
- (iv) Educate the public about the safe road user behaviour to emulate at the work zones.
- (v) Tell the public how to stay informed or where to inquire about road safety issues at the work zones (name, telephone, mobile number of the contact person; and
- (vi) Indicate the office hours of relevant offices.

E. Vehicle Maintenance and Safety

10. A vehicle maintenance and safety program shall be implemented by the construction contractor. The contractor should ensure that all the vehicles are in proper running condition, and comply with roadworthy and meet certification standards of GOHP. All vehicles should be in good condition and meet the pollution standards of Government of India and GOHP. The drivers will follow the special code of conduct and road safety rules of GOHP. They will ensure that all loads are covered and secured. Vehicles will be cleaned and maintained in designed places.

F. Install traffic control devices at the work zones and traffic diversion routes

10. The purpose of installing traffic control devices at the work zones is to delineate these areas to warn, inform, and direct the road users about a hazard ahead, and to protect them as well as the workers. As proper delineation is the key for achieving the above objective, it is important to install good traffic signs at the work zones. The following traffic control devices will be used in work zones:

- Signs
- Pavement Markings
- Channelizing Devices
- Arrow Panels
- Warning Lights

11. Procedures for installing traffic control devices at any work zone vary depending on road configuration, location of the work, construction activity, duration, traffic speed and volume, and pedestrian traffic. Work will take place along major roads, and the minor internal roads. As such, the traffic volume and road geometry vary. However, regardless of where the construction takes place, all the work zones should be cordoned off, and traffic shifted away at least with traffic cones, barricades, and temporary signs (temporary “STOP” and “GO”).

12. The work zone should take into consideration, the space required for a buffer zone between the workers and the traffic (lateral and longitudinal) and the transition space required for delineation, as applicable. For the works, a 30 cm clearance between the traffic and the temporary STOP and GO signs should be provided. In addition, at least 60 cm is necessary to install the temporary traffic signs and cones.

13. Traffic police should regulate traffic away from the work zone and enforce the traffic diversion result from full street closure in certain areas during construction. Flaggers or personnel should be equipped with reflective jackets at all times and have traffic control batons (preferably the LED type) for regulating the traffic during night time.

14. In addition to the delineation devices, all the construction workers should wear fluorescent safety vests and helmets in order to be visible to the motorists at all times. There

should be provision for lighting beacons and illumination for night constructions. The PIU and contractor will coordinate with the local administration and traffic police regarding the traffic signs, detour, and any other matters related to traffic. The contractor will prepare the traffic management plan in detail and submit it along with the EMP for the final approval.

ANNEXURE-4: PHOTOGRAPHS AND ATTENDANCESHEETSOFCONSULTATIONS

A. Consultation Photographs



Environmental Specialist with Elected Representative at Site for Consultations



Stakeholder Consultations with Local stakeholders

B. Signature Sheet

IND 49108-002: Supporting Skill Development in Himachal Pradesh

Stakeholder Consultations

Date: 21/08/2021

Location: Nalagarh

Name of Sub-Project: RLC Nalagarh

S. No.	Name	Designation	Phone Number	Signature
1	Dr Kamal Beharaj	Boj. Mand. Resident	94180 97074	[Signature]
2	Keshava Mund. Dhimas		97360 25333	[Signature]
3	Pareem Swis Gossai	ward member.	94180 11495	[Signature]
4	Rajwinder Kumar Gaur	ward member	98760 04508	[Signature]
5	Gurpreet Swis	Exo Parishad	98761 48083	[Signature]
6	Dhanendra		7982430090	[Signature]
7	Dr. Tripta Bhardwaj	Ret. & Vice Principal	94180 44855	[Signature]
8	Nikita Choudhary		8219423908	[Signature]
9	Yukti Sood	Resident	9805097943	[Signature]
10	Shreemati	PMC Environment Specialist	9811224458	[Signature]
11	Vivek Dhimas	Junior Engineer	9816002423	[Signature]
12				
13				
14				