

Request for Bids

Performance-Based Maintenance Contract on Wangdue Zam - Chuserbu (PNH01) & Lawala - Gangtey - Phobjikha Dzongkhag Road (Including 2.23 km Tabading Access Road)

- (a) **Lot 1:** Wangdue Zam - Nobding (Ch.59.70-105.00 km)
- (b) **Lot 2:** Nobding - Chuserbu (Ch. 105.00-136.00km) & Lawala - Gangtey - Phobjikha Dz Road (Ch. 0.00-17.43 km, including 2.23 Tabading Access Road)

RFB No: ACCESS/DOST/W-4/53

Issued on: September 20, 2026

PART 1 – BIDDING PROCEDURES

Section I - Instructions to Bidders (ITB)

This Section provides relevant information to help Bidders prepare their Bids. It is based on two (2) envelope Bidding process. Information is also provided on the submission, opening, and evaluation of Bids and on the award of Contracts. **Section I contains provisions that are to be used without modification.**

Section II - Bid Data Sheet (BDS)

This Section includes provisions that are specific to each procurement and that supplement Section I, Instructions to Bidders.

Section III - Evaluation and Qualification Criteria

This Section specifies the criteria to determine the Most Advantageous Bid.

Section IV - Bidding Forms

This Section includes the forms for the Bid submission, Bill of Quantities or Activity Schedules to be completed by the Bidder and submitted as part of its Bid.

Section V - Eligible Countries

This Section contains information regarding eligible countries.

Section VI - Fraud and Corruption

This section includes the Fraud and Corruption provisions which apply to this Bidding process.

PART 2 – WORKS' REQUIREMENTS

Section VII - Works' Requirements

This Section contains the Specification, the Drawings, and supplementary information that describe the Works to be procured. The Works' Requirements also include the environmental and social (ES) requirements.

PART 3 – CONDITIONS OF CONTRACT AND CONTRACT FORMS

Section VIII - General Conditions of Contract

This Section contains the general clauses to be applied in all contracts. **The text of the clauses in this Section shall not be modified.**

Section IX - Particular Conditions of Contract

This Section consists of the Particular Conditions of Contract which contains provisions specific to each contract. The contents of this Section

modify or supplement the General Conditions of Contract and shall be prepared by the Employer.

Section X - Contract Forms

This Section contains the Letter of Acceptance, Contract Agreement and other relevant forms

Request for Bids

Employer: Department of Surface Transport, MoIT

Project: Bhutan ACCESS Project

Contract title: Performance-Based Maintenance Contract on Wangdue Zam – Chuserbu PNH (PNH01) and Lawala – Gangtey – Phobjikha Dzongkhag Road (Including 2.23 km Tabading Access Road)

(c) Lot 1: Wangdue Zam - Nobding (59.70-105.00 km)

(d) Lot 2: Nobding - Chuserbu (105.00-136.00km) & Lawala - Gangtey - Phobjikha Dz Road (0.00-17.43 km, including 2.23 Tabading Access Road)

Country: Bhutan

Loan No.: Credit No.7756-BT / Grant No E431-BT / Project ID: P181278

RFB No: ACCESS/DOST/W-4/53

Issued on: September 20, 2026

1. The Royal Government of Bhutan, Ministry of Infrastructure and Transport, Department of Surface Transport has received financing from the World Bank toward the cost of the Accelerating Transport And Trade Connectivity In Eastern South Asia (Access) – Bhutan Project and intends to apply part of the proceeds toward payments under the contract¹ for Performance-Based Maintenance Contract on Wangdue Zam – Chuserbu PNH and Lawala – Gangtey – Phobjikha Dzongkhag Road (Including Tabading Access Road) **Lot 1: Wangdue Zam - Nobding (59.70-105.00 km) & Lot 2: Nobding - Chuserbu (105.00-136.00 km) & Lawala - Gangtey - Phobjikha Dz Road (0.00-17.43 km, including 2.23 Tabading Access Road)**
2. The Department of Surface Transport now invites sealed Bids from eligible Bidders for Performance-Based Maintenance Contract on **Lot 1: Wangdue Zam - Nobding (59.70-105.00 km) & Lot 2: Nobding - Chuserbu (105.00-136.00 km) & Lawala - Gangtey - Phobjikha Dz Road (0.00-17.43 km, including 2.23 Tabading Access Road)** where the project scope includes initial repairs, routine maintenance and management services, periodic maintenance, emergency maintenance, climate change resilience work, and road safety works, and where the contract duration is 5 years.
3. Bidding will be conducted through national competitive procurement using Request for Bids (RFB) as specified in the World Bank’s “Procurement Regulations for IPF Borrowers, Fifth Edition, September 2023 (“Procurement Regulations”), and is open to all eligible Bidders as defined in the Procurement Regulations.
4. Bids will be evaluated in accordance with the evaluation process set out in the bidding documents.

¹ Substitute “contracts” where Bids are called concurrently for multiple contracts. Add a new para. 3 and renumber paras 3 - 8 as follows: “Bidders may Bid for one or several contracts, as further defined in the Bidding Document. Bidders wishing to offer discounts in case they are awarded more than one contract will be allowed to do so, provided those discounts are included in the Letter of Bid.”

5. Interested eligible Bidders may obtain further information from the Department of Surface Transport at sonam.tobgay@moit.gov.bt and inspect the bidding document during office hours at the address: MoIT Building, Maintenance Division Office.
6. The bidding document in English, which will be published on the website of the ministry (www.moit.gov.bt) may be downloaded by interested eligible Bidders without any charges.
7. Bids must be delivered to the address **Chief Engineer, Maintenance Division, Department of Surface Transport, Ministry of Infrastructure and Transport** on or before **October 28, 2026, Time: 1130 hours (Bhutan time)**. Electronic bidding will not be permitted. Late Bids will be rejected. The outer Bid envelopes marked “ORIGINAL BID”, and the inner envelopes marked “TECHNICAL PART” will be publicly opened at 1430 hours on the same day in the presence of the Bidders’ designated representatives and anyone who chooses to attend, at the address: **Conference of Director General, Department of Surface Transport, Ministry of Infrastructure and Transport**.
All envelopes marked “FINANCIAL PART” shall remain unopened and will be held in safe custody of the Employer until the second public Bid opening.
8. Each Bid must be accompanied by: (i) a Bid Security of BTN 6.10 million for Lot 1 and BTN 5.90 million for Lot 2, as applicable to the Lot or Lots for which the Bidder submits a Bid; and (ii) a Local Labor Method Statement for each Lot for which the Bidder submits a Bid. A Bidder submitting Bids for both Lots shall provide a separate Bid Security and Local Labor Method Statement for each Lot
9. The address(es) referred to above is (are):

Chief Engineer

Maintenance Division

Department of Surface Transport (DoST)

Ministry of Infrastructure & Transport (MoIT)

City: Thimphu

ZIP/Postal Code: 11001

Country: Bhutan

Telephone: PABX No.: **975-2-322086**

Email id and website: jwangchuk@moit.gov.bt and www.moit.gov.bt

Request for Bids

(Two-Envelope Bidding Process)

Project: Accelerating Transport and Trade Connectivity in Eastern South Asia (Access) – Bhutan Project

Employer: Department of Surface Transport, Ministry of Infrastructure and Transport

Contract title: Performance-Based Road Maintenance Contract of Wangdue Zam - Chuserbu section of PNH01 and Lawala - Gangtey – Phobjikha Dzongkhag Road.

1. Lot 1: Wangdue Zam - Nobding (59.70-105.00 km)
2. Lot 2: Nobding to Chuserbu (105.00-136.00km) & Lawala - Gangtey - Phobjikha Dz Road (0.00-17.43 km, including 2.23 Tabading Access Road)

Country: Kingdom of Bhutan

Loan No.: Credit No.7756-BT / Grant No E431-BT /Project ID: P181278

RFB No: ACCESS/DOST/W-4/53

Issued on: September 20, 2026

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PART 1 – Bidding Procedures

Section I - Instructions to Bidders

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Section I - Instructions to Bidders

A. General

1. Scope of Bid

- 1.1 In connection with the Specific Procurement Notice – Request for Bids (RFB), specified in the **Bid Data Sheet (BDS)**, the Employer, as **specified in the BDS**, issues this bidding document for the provision of Works as specified in Section VII, Works' Requirements. The name, identification, and number of lots (contracts) of this RFB are **specified in the BDS**.
- 1.2 Throughout this bidding document:
- (a) the term **“in writing”** means communicated in written form (e.g., by mail, e-mail, fax, including if **specified in the BDS**, distributed or received through electronic-procurement system used by the Employer) with proof of receipt;
 - (b) if the context so requires, **“singular”** means **“plural”** and vice versa;
 - (c) **“Day”** means calendar day, unless otherwise specified as a **“Business Day.”** A Business Day is any day that is a working day of the Borrower. It excludes the Borrower's official public holidays;
 - (d) **“ES”** means environmental and social (including Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH));
 - (e) **“Sexual Exploitation and Abuse” “(SEA)”** means the following:
 - “Sexual Exploitation”** is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;
 - “Sexual Abuse”** is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;
 - (f) **“Sexual Harassment” “(SH)”** is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Contractor's Personnel with other Contractor's or Employer's Personnel;
 - (g) **“Contractor's Personnel”** is as defined in Sub- Clause 1 (ii) of the General Conditions of Contract; and

(h) **“Employer’s personnel”** is as defined in GCC Sub-Clause 1 (nn) of the General Conditions of Contract.

A non-exhaustive list of (i) behaviors which constitute SEA and (ii) behaviors which constitute SH is attached to the Code of Conduct form in Section IV.

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|--------------------------------|---|
| 2. Source of Funds | <p>2.1 The Borrower or Recipient (hereinafter called “Borrower”) specified in the BDS has received or has applied for financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount specified in the BDS, toward the project named in the BDS. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this bidding document are issued.</p> <p>2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank, and will be subject, in all respects, to the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan account for the purpose of any payment to persons or entities, or for any import of goods, equipment, plant, or materials, if such payment or import is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).</p> |
| 3. Fraud and Corruption | <p>3.1 The Bank requires compliance with the Bank’s Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG’s Sanctions Framework, as set forth in Section VI.</p> <p>3.2 In further pursuance of this policy, Bidders shall permit and shall cause their agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit the Bank to inspect all accounts, records and other documents relating to any initial selection process, prequalification process, bid submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.</p> |
| 4. Eligible Bidders | <p>4.1 A Bidder may be a firm that is a private entity, or a state-owned enterprise or institution —subject to ITB 4.6—or any combination of them in the form of a joint venture (JV), under an existing agreement, or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the</p> |

Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution. Unless **specified in the BDS**, there is no limit on the number of members in a JV.

- 4.2 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the Bidder:
- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
 - (b) receives or has received any direct or indirect subsidy from another Bidder; or
 - (c) has the same legal representative as another Bidder; or
 - (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the Bid of another Bidder, or influence the decisions of the Employer regarding this Bidding process; or
 - (e) or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid; or
 - (f) or any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Project Manager for the Contract implementation;
 - (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project **specified in the BDS 2.1** that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
 - (h) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding document or specifications of the contract, and/or the Bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.

- 4.3 A firm that is a Bidder (either individually or as a JV member) shall not participate in more than one Bid, except for permitted alternative Bids. This includes participation as a subcontractor in other Bids. Such participation shall result in the disqualification of all Bids in which the firm is involved. A firm that is not a Bidder or a JV member may participate as a subcontractor in more than one Bid.
- 4.4 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.8. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or subconsultants for any part of the Contract including related Services.
- 4.5 A Bidder that has been sanctioned by the Bank, pursuant to the Bank's Anti-Corruption Guidelines, in accordance with its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework as described in Section VI paragraph 2.2 d. shall be ineligible to be prequalified for, initially selected for, bid for, propose for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address specified in the BDS.
- 4.6 Bidders that are state-owned enterprises or institutions in the Employer's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Employer.
- 4.7 A Bidder shall not be under suspension from Bidding by the Employer as the result of the operation of a Bid-Securing or Proposal-Securing Declaration.
- 4.8 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations

Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country. When the Works are implemented across jurisdictional boundaries (and more than one country is a Borrower, and is involved in the procurement), then exclusion of a firm or individual on the basis of ITB 4.8 (a) above by any country may be applied to that procurement across other countries involved, if the Bank and the Borrowers involved in the procurement agree.

- 4.9 A Bidder shall provide such documentary evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 4.10 A firm that is under a sanction of debarment by the Borrower from being awarded a contract is eligible to participate in this procurement, unless the Bank, at the Borrower's request, is satisfied that the debarment;
- (a) relates to fraud or corruption; and
 - (b) followed a judicial or administrative proceeding that afforded the firm adequate due process.

5. Eligible Materials, Equipment and Services

- 5.1 The materials, equipment and services to be supplied under the Contract and financed by the Bank may have their origin in any country subject to the restrictions specified in Section V, Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the Employer's request, Bidders may be required to provide evidence of the origin of materials, equipment and services.

B. Contents of Bidding Document

6. Sections of Bidding Document

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

PART 1 Bidding Procedures

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

PART 2 Works' Requirements

- Section VII – Works' Requirements

PART 3 Conditions of Contract and Contract Forms

- Section VIII - General Conditions of Contract
- Section IX - Particular Conditions of Contract
- Section X - Contract Forms

6.2 The Specific Procurement Notice - Request for Bids (RFB) issued by the Employer is not part of this bidding document.

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

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information and documentation as is required by the bidding document.

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

7.1 A Bidder requiring any clarification of the bidding document shall contact the Employer in writing at the Employer's address **specified in the BDS** or raise its 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 **specified 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. If so **specified in the BDS**, the Employer shall also promptly publish its response at the web page **identified in the BDS**. Should the clarification result in changes to the essential elements of the bidding document, the Employer shall amend the bidding document 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 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 upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
- 7.4 If so **specified in the BDS**, the Bidder's designated representative is invited to attend a pre-Bid meeting and/or a Site of works visit. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 7.5 The Bidder is requested, to submit any questions in writing, to reach the Employer not later than one week before the meeting.
- 7.6 Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the bidding document in accordance with ITB 6.3. If so **specified in the BDS**, the Employer shall also promptly publish the Minutes of the pre-Bid meeting at the web page **identified in the BDS**. 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. 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. The Employer shall also promptly publish the addendum on the Employer's web page in accordance with ITB 7.1.

- 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 Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously in two separate sealed envelopes (two-envelope Bidding process). One envelope shall contain only information relating to the Technical Part and the other, only information relating to the Financial Part. These two envelopes shall be enclosed in a separate sealed outer envelope marked “ORIGINAL BID”.
- 11.2 The **Technical Part** shall contain the following:
- (a) **Letter of Bid – Technical Part**, prepared in accordance with ITB 12;
 - (b) **Bid Security** or **Bid-Securing Declaration**, in accordance with ITB 19.1;
 - (c) **Alternative Bid - Technical Part**: if permissible in accordance with ITB 13, the Technical Part of any Alternative Bid;
 - (d) **Authorization**: written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.3;
 - (e) **Bidder’s Eligibility**: documentary evidence in accordance with ITB 17.1 establishing the Bidder’s eligibility to Bid;

- (f) **Qualifications:** documentary evidence in accordance with ITB 17.2 establishing the Bidder's qualifications to perform the Contract if its Bid is accepted;
- (g) **Conformity:** a technical proposal in accordance with ITB 16;
- (h) **Local Labor Method Statement** in accordance with ITB 16 and Section IV, Bidding Forms; and
- (i) any other document **required in the BDS.**

11.3 The **Financial Part** shall contain the following:

- (a) **Letter of Bid – Financial Part:** prepared in accordance with ITB 12 and ITB 14;
- (b) **Bill of Quantities or Activity Schedule** completed in accordance with ITB 12 and ITB 14 as specified **in the BDS;**
- (c) **Alternative Bid - Financial Part:** if permissible in accordance with ITB 13, the Financial Part of any Alternative Bid; and
- (d) any other document **required in the BDS.**

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

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

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

12. Letters of Bid and Schedules

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

13. Alternative Bids

13.1 Unless otherwise **specified 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**, and the method of evaluating different alternative times for completion will be described in Section III, Evaluation and Qualification Criteria.
- 13.3 Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the requirements of the bidding document must first price the Employer's design as described in the bidding document and shall further provide all information necessary for a complete evaluation of the alternative by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the Bidder with the Most Advantageous Bid conforming to the basic technical requirements shall be considered by the Employer.
- 13.4 When **specified in the BDS**, Bidders are permitted to submit alternative technical solutions for specified parts of the Works. Such parts will be **identified in the BDS** and described in Section VII, Works' Requirements. The method for their evaluation will be stipulated in Section III, Evaluation and Qualification Criteria.

14. Bid Prices and Discounts

- 14.1 The prices and discounts quoted by the Bidder in the Letter of Bid – Financial Part and in the Priced Activity Schedule or Bill of Quantities 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 IV, 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 Bid – Financial Part, in accordance with ITB 12.1, shall be the total price of the Bid, excluding any discounts offered.
- 14.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid - Financial Part, 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 indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data in Section IV- Bidding Forms and the Employer may require the Bidder to justify its proposed indices and weightings.

- 14.6 If so specified in ITB 1.1, Bids are invited for individual lots (contracts) or for any combination of lots (packages). Bidders wishing to offer discounts 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. Discounts shall be submitted in accordance with ITB 14.4, provided the Bids for all lots (contracts) are opened at the same time. **However, discounts on condition of award of more than one contract will not be used for Bid evaluation purpose.**

- 14.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of Bids, shall be included in the rates and prices² and the total Bid price submitted by the Bidder.

15. Currencies of Bid and Payment

- 15.1 The currency(ies) of the Bid and the currency(ies) of payments shall be the same and 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 unit rates and prices and shown in the Schedule of Adjustment Data are reasonable³, in which case a detailed breakdown of the foreign currency requirements shall be provided by Bidders.
- 15.3 Subject to ITB 15.2, the Bidder shall among other relevant factors, take into consideration the local labor requirements, specified in ITB 16.2 when specifying (i) its local and foreign currency requirements, and (ii) the weightings (and corresponding amounts) in the Table of Adjustment Data in Section IV- Bidding Forms, as applicable

² In lump-sum contracts, delete "rates and prices and the."

³ For lump-sum contracts, delete "unit rates and prices and shown in the Schedule of Adjustment Data are reasonable" and replace with "Lump-sum."

16. Technical Proposal

- 16.1 The Bidder shall furnish a technical proposal in the Technical Part of the Bid including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV, Bidding Forms, in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work's requirements and the completion time.
- 16.2 Unless otherwise specified **in the BDS**, the Bidder shall:
(i) allocate not less than 30% of the total labor cost under the contract to the employment of local labor⁴; and (ii) submit the Local Labor Method Statement.

17. Documents Establishing the Eligibility and Qualifications of the Bidder

- 17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid, – Technical Part, included in Section IV, Bidding Forms.
- 17.2 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract, the Bidder shall provide the information requested in the corresponding information sheets included in Section IV, Bidding Forms.
- 17.3 If a margin of preference applies as specified in accordance with ITB 38.1, domestic Bidders, individually or in joint ventures, applying for eligibility for domestic preference shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITB 38.1.

18. Period of Validity of Bids

- 18.1 Bids shall remain valid until the date specified **in the BDS** or any extended date if amended by the Employer in accordance with ITB 8. A Bid that is not valid until the date specified **in the BDS**, or any extended date if amended by the Employer in accordance with ITB 8, shall be rejected by the Employer as nonresponsive.
- 18.2 In exceptional circumstances, prior to the date of expiry of the Bid validity, 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 for twenty-eight (28) days beyond the extended date for Bid validity. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid, except as provided in ITB 18.3.
- 18.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the date of expiry of the Bid validity specified

⁴ Local labor excludes Contractor's foreign personnel. Foreign personnel who are already working in the Borrower's country on another project/contract shall also not be treated as local labor.

in accordance with ITB 18.1, the Contract price shall be determined as follows:

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

19. Bid Security

19.1 The Bidder shall furnish as part of its Technical Part of its Bid, either a Bid-Securing Declaration or a Bid Security as **specified in the BDS**, in original form and, in the case of a Bid security, in the amount and currency **specified in the BDS**.

19.2 A Bid-Securing Declaration shall use the form included in Section IV, Bidding Forms.

19.3 If a Bid Security is specified pursuant to ITB 19.1, the Bid Security shall be a demand guarantee, and in any of the following forms at the Bidder's option:

- (a) an unconditional guarantee issued by a bank or non-bank financial institution (such as an insurance, bonding or surety company);
- (b) an irrevocable letter of credit;
- (c) a cashier's or certified check; or
- (d) another security **specified in the BDS**,

from a reputable source, and an eligible country. If an unconditional guarantee is issued by a non-bank financial institution located outside the Employer's Country, the issuing non-bank financial institution shall have a correspondent financial institution located in the Employer's Country to make it enforceable unless the Employer has agreed in writing, prior to Bid submission, that a correspondent financial institution is not required. In the case of a bank guarantee, the Bid Security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Employer prior to Bid submission. The Bid Security shall be valid for twenty-eight (28) days beyond the original date of expiry of the Bid validity, or beyond any extended date if requested under ITB 18.2.

19.4 If a Bid Security or Bid-Securing Declaration is specified pursuant to ITB 19.1, any Bid not accompanied by a

substantially responsive Bid Security or Bid-Securing Declaration shall be rejected by the Employer as non-responsive.

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 signing the Contract and furnishing the Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security pursuant to ITB 50.

19.6 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security.

19.7 The Bid Security may be forfeited:

- (a) if a Bidder withdraws its Bid prior to the expiry date of the Bid validity specified by the Bidder on the Letter of Bid – Technical Part and repeated in the Letter of Bid – Financial Part or any extension thereto provided by the Bidder; or
- (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 49; or
 - (ii) furnish a Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB 50.

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

19.9 If a Bid Security is not required in the BDS, pursuant to ITB 19.1, and:

- (a) if a Bidder withdraws its Bid prior to the expiry date of the Bid validity specified by the Bidder on the Letters of Bid or any extended date provided by the Bidder; or
- (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 49; or
 - (ii) furnish a Performance Security and if required in the BDS, the Environmental, and Social (ES) Performance Security in accordance with ITB 50;

the Borrower may, if provided for **in the BDS**, declare the Bidder ineligible to be awarded a contract by the Employer for a period of time as **stated in the BDS**.

20. Format and Signing of Bid

- 20.1 The Bidder shall prepare the Bid, in accordance with this Instruction, ITB 11 and ITB 21.
- 20.2 Bidders shall mark as “CONFIDENTIAL” information in their Bids which is confidential to their business. This may include proprietary information, trade secrets or commercial or financially sensitive information.
- 20.3 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 where entries or amendments have been made shall be signed or initialed by the person signing the Bid.
- 20.4 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.
- 20.5 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

D. Submission of Bids

21. Sealing and Marking of Bids

- 21.1 The Bidder shall deliver the Bid in two separate, sealed envelopes (the Technical Part and the Financial Part.) These two envelopes shall be enclosed in a separate sealed outer envelope marked “ORIGINAL BID”.
- 21.2 In addition, the Bidder shall submit copies of the Bid in the number **specified in the BDS**. Copies of the Technical Part shall be placed in a separate sealed envelope marked “COPIES: TECHNICAL PART”. Copies of the Financial Part shall be placed in a separate sealed envelope marked “COPIES: FINANCIAL PART”. The Bidder shall place both of these envelopes in a separate, sealed outer envelope marked “BID COPIES”. In the event of any discrepancy between the original and the copies, the original shall prevail. If alternative Bids are permitted in accordance with ITB 13, the alternative Bids shall be submitted as follows: the original of the alternative Bid Technical Part

shall be placed in a sealed envelope marked “ALTERNATIVE BID – TECHNICAL PART” and the Financial Part shall be placed in a sealed envelope marked “ALTERNATIVE BID – FINANCIAL PART” and these two separate sealed envelopes then enclosed within a sealed outer envelope marked “ALTERNATIVE BID – ORIGINAL”, the copies of the alternative Bid will be placed in separate sealed envelopes marked “ALTERNATIVE BID – COPIES OF TECHNICAL PART”, and “ALTERNATIVE BID – COPIES OF FINANCIAL PART” and enclosed in a separate sealed outer envelope marked “ALTERNATIVE BID - COPIES”

21.3 The envelopes marked “ORIGINAL BID” and “BID COPIES” (and, if appropriate, a third envelope marked “ALTERNATIVE BID”) shall be enclosed in a separate sealed outer envelope for submission to the Employer.

21.4 All inner and outer envelopes, shall:

- (a) bear the name and address of the Bidder;
- (b) be addressed to the Employer in accordance with ITB 22.1;
- (c) bear the specific identification of this Bidding process indicated in ITB 1.1; and
- (d) bear a warning not to open before the time and date for Bid opening.

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 **specified in the BDS**. When so **specified in the BDS**, Bidders shall have the option of submitting their Bids electronically. Bidders submitting Bids electronically shall follow the electronic Bid submission procedures **specified 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 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 20.3, (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 date of expiry of the Bid validity specified by the Bidder on the Letter of Bid or any extended date thereof.

E. Public Opening of Technical Parts of Bids

25. Public Opening of Technical Parts of Bids

25.1 Except in the cases specified in ITB 23 and ITB 24.2, the Employer shall publicly open and read out all Bids received by the deadline, at the date, time and place **specified in the BDS**, in the presence of Bidders’ designated representatives and anyone who chooses to attend. All Bidders, or their representatives and any interested party may attend a public opening. Any specific electronic Bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be as **specified in the BDS**.

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

- (a) the name of the Bidder and whether there is a withdrawal, substitution, or modification;
- (b) the receipt of envelopes marked “SECOND ENVELOPE: FINANCIAL PART”;
- (c) the presence or absence of a Bid Security or Bid-Securing Declaration if one was required; and
- (d) if applicable, any Alternative Bid – Technical Part.

25.9 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.

F. Evaluation of Bids – General Provisions

26. Confidentiality

26.1 Information relating to the evaluation of the Technical Part shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until the notification of evaluation of the Technical Part in accordance with ITB 34. Information relating to the evaluation of Financial Part, the evaluation of combined Technical Part and Financial Part, and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with the RFB process until the Notification of Intention to Award the Contract is transmitted to all Bidders in accordance with ITB 45.

26.2 Any effort 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 a Bidder wishes to contact the Employer on any matter related to the Bidding process, it shall do so in writing.

27. Clarification of Bids

27.1 To assist in the examination, evaluation, and comparison of the Bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its Bid given a reasonable time for a response. 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, including any voluntary increase or decrease in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the

correction of arithmetic errors discovered by the Employer in the evaluation of the Bids, in accordance with ITB 36.

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

**28. Deviations,
Reservations, and
Omissions**

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

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

**29. Nonmaterial
Nonconformities**

29.1 Provided that a Bid is substantially responsive, the Employer may waive any nonconformities in the Bid.

29.2 Provided that a 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 Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

G. Evaluation of Technical Parts of Bids

**30. Determination of
Responsiveness of
Technical Part**

30.1 The Employer's determination of the Technical Part's responsiveness shall be based on the contents of the Bid, as specified in ITB 11.

30.2 Preliminary examination of the Technical Part shall be carried out to identify bids that are incomplete, invalid or substantially nonresponsive to the requirements of the Bidding documents. A substantially responsive 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 If the Technical Part 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. Eligibility and Qualifications of the Bidder

31.1 The Employer shall determine to its satisfaction whether the eligible Bidders that have submitted substantially responsive Bid - Technical Parts meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.

31.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm different from the Bidder.

31.3 Prior to Contract award, the Employer will verify that the successful Bidder (including each member of a JV) is not disqualified by the Bank due to noncompliance with contractual SEA/SH prevention and response obligations. The Employer will conduct the same verification for each subcontractor proposed by the successful Bidder. If any proposed subcontractor does not meet the requirement, the Employer will require the Bidder to propose a replacement subcontractor.

31.4 Only substantially responsive bids submitted by eligible and qualified bidders shall proceed to the detailed technical evaluation specified in ITB 32.

32. Detailed Evaluation of Technical Part

32.1 The Employer's evaluation of Technical Part will be carried out as specified in Section III, Evaluation and Qualification Criteria.

32.2 The scores and weightings to be given to Rated Criteria (including technical and non-price factors and sub factors) are specified in the BDS.

33. Subcontractors

- 33.1 Unless otherwise stated **in the BDS**, the Employer does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Employer.
- 33.2 The subcontractor's qualifications shall not be used by the Bidder to qualify for the Works unless their specialized parts of the Works were previously designated by the Employer **in the BDS** as can be met by subcontractors referred to hereafter as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractors proposed by the Bidder may be added to the qualifications.
- 33.3 Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as **specified in the BDS**. Subcontractors proposed by the Bidder shall be fully qualified for their parts of the Works.

H. Notification of Evaluation of Technical Parts and Public Opening of Financial Parts of Bids

34. Notification of Evaluation of Technical Parts and Public Opening of Financial Parts

- 34.1 Following the completion of the evaluation of the Technical Parts of the Bids, the Employer shall notify in writing those Bidders whose Bids were considered non-responsive to the bidding document or failed to meet the Qualification requirements, advising them of the following information:
- (a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document;
 - (b) their envelopes marked "SECOND ENVELOPE: FINANCIAL PART" will be returned to them unopened after the completion of the selection process and the signing of the Contract; and
 - (c) notify them of the date, time and location of the public opening of the envelopes marked "SECOND ENVELOPE: FINANCIAL PART".
- 34.2 The Employer shall, simultaneously, notify in writing those Bidders whose Technical Part have been evaluated as substantially responsive to the bidding document and met all Qualifying Criteria, advising them of the following information:
- (a) their Bid has been evaluated as substantially responsive to the bidding document and met the qualification requirements;
 - (b) their envelope marked "SECOND ENVELOPE: FINANCIAL PART" will be opened at the public opening of the Financial Parts; and

- (c) notify them of the date, time and location of the second public opening of the envelopes marked “SECOND ENVELOPE: FINANCIAL PART”.

34.3 The opening date shall be not less than ten (10) Business Days from the date of notification of the results of the technical evaluation, specified in ITB 34.1 and 34.2. However, if the Employer receives a complaint on the results of the technical evaluation within the ten (10) Business Days, the opening date shall be subject to ITB 52.1. The Financial Part of the Bid shall be opened publicly in the presence of Bidders’ designated representatives and anyone who chooses to attend.

34.4 At this public opening the Financial Parts will be opened by the Employer in the presence of Bidders, or their designated representatives and anyone else who chooses to attend. Bidders who met the Qualification Criteria and whose bids were evaluated as substantially responsive will have their envelopes marked “SECOND ENVELOPE: FINANCIAL PART” opened at the second public opening. Each of these envelopes marked “SECOND ENVELOPE: FINANCIAL PART” shall be inspected to confirm that they have remained sealed and unopened. These envelopes shall then be opened by the Employer. The Employer shall read out the names of each Bidder, the technical scores and the total Bid prices, per lot (contract) if applicable, including any discounts and Alternative Bid - Financial Part, and any other details as the Employer may consider appropriate.

34.5 Only envelopes of Financial Part of Bids, Financial Parts of Alternative Bids and discounts that are opened and read out at Bid opening shall be considered further for evaluation. The Letter of Bid – Financial Part and the Priced Activity Schedules are to be initialed by a representative of the Employer attending the Bid opening in the manner **specified in the BDS**.

34.6 The Employer shall neither discuss the merits of any Bid nor reject any envelopes marked “SECOND ENVELOPE: FINANCIAL PART”.

34.7 The Employer shall prepare a record of the Financial Part of the Bid opening that shall include, as a minimum:

- (a) the name of the Bidder whose Financial Part was opened;
- (b) the Bid price, per lot (contract) if applicable, including any discounts; and
- (c) if applicable, any Alternative Bid – Financial Part.

34.8 The Bidders whose envelopes marked “SECOND ENVELOPE: FINANCIAL PART” have been opened or their 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.

I. Evaluation of Financial Parts of Bids

35. Evaluation of Financial Parts

35.1 To evaluate the Financial Part, 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 Quantities⁵ for admeasurement contracts, but including Daywork⁶ items, where priced competitively;
- (b) price adjustment for correction of arithmetic errors in accordance with ITB 36.1;
- (c) price adjustment due to discounts offered in accordance with ITB 14.4;
- (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 37;
- (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 35.4; and
- (f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria.

35.2 If price adjustment is allowed in accordance with ITB 14.5, the estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.

35.3 If this bidding document allows Bidders to quote separate prices for different lots (contracts), each lot will be evaluated separately to determine the Most Advantageous

⁵ In lump-sum contracts, delete “Bill of Quantities” and replace with “Activity Schedule.”

⁶ Daywork is work carried out following instructions of the Project Manager and paid for on the basis of time spent by workers, and the use of materials and the Contractor’s equipment, at the rates quoted in the Bid. For Daywork to be priced competitively for Bid evaluation purposes, the Employer must list tentative quantities for individual items to be costed against Daywork (e.g., a specific number of tractor driver staff-days, or a specific tonnage of Portland cement), to be multiplied by the Bidders’ quoted rates and included in the total Bid price.

Bid using the methodology specified in in Section III, Evaluation and Qualification Criteria. **Discounts that are conditional on the award of more than one lot or slice shall not be considered for Bid evaluation.**

35.4 Provided that a 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 by adding the average price of the item or component quoted by substantially responsive Bidders. If the price of the item or component cannot be derived from the price of other substantially responsive Bidders, the Employer shall use its best estimate.

36. Correction of Arithmetic Errors

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

- (a) only for admeasurement 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; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

36.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 36.1, shall result in the rejection of the Bid.

37. Conversion to Single Currency

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

38. Margin of Preference

38.1 Unless otherwise **specified in the BDS**, a margin of preference for domestic Bidders⁷ shall not apply.

⁷ An individual firm is considered a domestic bidder for purposes of the margin of preference if it is registered in the country of the Employer, has more than 50 percent ownership by nationals of the

- 39. Comparison of Financial Parts**
- 39.1 The Employer shall compare the evaluated costs of all responsive and qualified Bids to determine the Bid that has the lowest evaluated cost.
- 40. Abnormally Low Bids**
- 40.1 An Abnormally Low Bid is one where the Bid price, in combination with other constituent elements of the Bid, appears unreasonably low to the extent that the Bid price raises material concerns as to the capability of the Bidder to perform the Contract for the offered Bid price.
- 40.2 In the event of identification of a potentially Abnormally Low Bid, the Employer shall seek written clarifications from the Bidder, including detailed price analyses of its Bid price in correlation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the bidding document.
- 40.3 After evaluation of the price analyses, in the event that the Employer determines that the Bidder has failed to demonstrate its capability to deliver the contract for the offered tender price, the Employer shall reject the Bid.
- 41. Unbalanced or Front Loaded Bids**
- 41.1 If the Bid for an admeasurement contract, which results in the lowest evaluated cost, in the Employer's opinion, seriously unbalanced or front loaded the Employer may require the Bidder to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the Bid prices with the scope of works, proposed methodology, schedule and any other requirements of the bidding document.
- 41.2 After the evaluation of the information and detailed price analyses presented by the Bidder, the Employer may as appropriate:
- (a) accept the Bid; or
 - (b) require that the amount of the performance security be increased at the expense of the Bidder to a level not exceeding 20% of the Contract price; or
 - (c) reject the Bid.

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

J. Evaluation of Combined Technical and Financial Parts, Most Advantageous Bid and Notification of Intention to Award

42. Evaluation of combined Technical and Financial Parts, Most Advantageous Bid

42.1 The Employer's evaluation of responsive Bids will take into account technical factors, in addition to cost factors in accordance with Section III Evaluation and Qualification Criteria. The weight to be assigned for the Technical factors and cost is specified **in the BDS**. The Employer will rank the Bids based on the evaluated Bid score (B).

42.2 Having compared the evaluated costs of Bids, the Employer shall determine the Most Advantageous Bid. The Most Advantageous Bid is the Bid of the Bidder that meets the Qualification Criteria and whose Bid has been determined to be substantially responsive to the Bidding document and is the Bid with the highest combined technical and financial score.

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

43.1 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.

44. Standstill Period

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

45. Notification of Intention to Award

45.1 The Employer shall send to each Bidder (that has not already been notified that it has been unsuccessful) the Notification of Intention to Award the Contract to the successful Bidder. The Notification of Intention to Award shall contain, at a minimum, the following information:

- (a) the name and address of the Bidder submitting the successful Bid;
- (b) the Contract price of the successful Bid;
- (c) the total combined score of the successful bid;
- (d) the names of all Bidders who submitted Bids, and their Bid prices as readout, and as evaluated and technical scores;

- (e) a statement of the reason(s) the Bid (of the unsuccessful Bidder to whom the notification is addressed) was unsuccessful;
- (f) the expiry date of the Standstill Period; and
- (g) instructions on how to request a debriefing and/or submit a complaint during the standstill period.

K. Award of Contract

46. Award Criteria

46.1 Subject to ITB 43, the Employer shall award the Contract to the successful Bidder. This is the Bidder whose Bid has been determined to be the Most Advantageous Bid as specified in ITB 42.

47. Notification of Award

47.1 Prior to the expiration of the Bid validity and upon expiry of the Standstill Period, specified in ITB 44.1 or any extension thereof, and, upon satisfactorily addressing any complaint that has been filed within the Standstill Period, the Employer shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification of award (hereinafter and in the Conditions of Contract and Contract Forms called the “Letter of Acceptance”) shall specify the sum that the Employer will pay the Contractor in consideration of the execution of the contract (hereinafter, and in the Conditions of Contract and Contract Forms, called “the Contract Price”).

47.2 Within ten (10) Business Days after the date of transmission of the Letter of Acceptance, the Employer shall publish the Contract Award Notice which shall contain, at a minimum, the following information:

- (a) name and address of the Employer;
- (b) name and reference number of the contract being awarded, and the selection method used;
- (c) names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated;
- (d) names of all Bidders whose Bids were rejected either as nonresponsive or as not meeting qualification criteria, or were not evaluated, with the reasons therefor;
- (e) the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope; and
- (f) successful Bidder’s Beneficial Ownership Disclosure Form.

47.3 The Contract Award Notice shall be published on the Employer’s website with free access if available, or in at least one newspaper of national circulation in the Employer’s country, or in the official gazette.

47.4 Until a formal Contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract.

48. Debriefing by the Employer

48.1 On receipt of the Employer's Notification of Intention to Award referred to in ITB 45.1, an unsuccessful Bidder has three (3) Business Days to make a written request to the Employer for a debriefing. The Employer shall provide a debriefing to all unsuccessful Bidders whose request is received within this deadline.

48.2 Where a request for debriefing is received within the deadline, the Employer shall provide a debriefing within five (5) Business Days, unless the Employer decides, for justifiable reasons, to provide the debriefing outside this timeframe. In that case, the standstill period shall automatically be extended until five (5) Business Days after such debriefing is provided. If more than one debriefing is so delayed, the standstill period shall not end earlier than five (5) Business Days after the last debriefing takes place. The Employer shall promptly inform, by the quickest means available, all Bidders of the extended standstill period

48.3 Where a request for debriefing is received by the Employer later than the three (3)-Business Day deadline, the Employer should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Public Notice of Award of contract. Requests for debriefing received outside the three (3)-day deadline shall not lead to extension of the standstill period.

48.4 Debriefings of unsuccessful Bidders may be done in writing or verbally. The Bidder shall bear their own costs of attending such a debriefing meeting.

49. Signing of Contract

49.1 The Employer shall send to the successful Bidder the Letter of Acceptance including the Contract Agreement, and a request to submit the Beneficial Ownership Disclosure Form providing additional information on its beneficial ownership. The Beneficial Ownership Disclosure Form shall be submitted within eight (8) Business Days of receiving this request.

49.2 The successful Bidder shall sign, date and return to the Employer, the Contract Agreement within twenty-eight (28) days of its receipt.

50. Performance Security

50.1 Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Employer, the successful Bidder shall furnish the Performance Security and, if required in

the BDS, the Environmental and Social (ES) Performance Security in accordance with the General Conditions of Contract, subject to ITB 41.2 (b), using for that purpose the Performance Security and ES Performance Security Forms included in Section X, Contract Forms, or another form acceptable to the Employer. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Employer. A foreign institution providing a bond shall have a correspondent financial institution located in the Employer's Country, unless the Employer has agreed in writing that a correspondent financial institution is not required.

- 50.2 Failure of the successful Bidder to submit the above-mentioned Performance Security and, if required in the BDS, the Environmental and Social (ES) Performance Security, or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Employer may award the Contract to the Bidder offering the next Most Advantageous Bid.

51. Adjudicator

- 51.1 The Employer proposes the person named **in the BDS** to be appointed as Adjudicator under the Contract, at the hourly fee **specified in the BDS**, plus reimbursable expenses. If the Bidder disagrees with this proposal, the Bidder should so state in his Bid. 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 Particular Conditions of Contract (PCC) pursuant to Clause 23.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.

52. Procurement Related Complaint

- 52.1 The procedures for making a Procurement-related Complaint are as specified in the BDS.

Section II - Bid Data Sheet (BDS)

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

A. General	
ITB 1.1	The reference number of the Request for Bids (RFB) is: ACCESS/DOST/W-4/53 The Employer is: Department of Surface Transport (DoST), Ministry of Infrastructure and Transport (MoIT). The name of the RFB: Performance-Based Maintenance Contract (PBM); Wangdue Zam - Chuserbu section of PNH01 (59.70-136.00 km) and Lawala - Gangtey – Phobjikha Dz Road (0.00 - 17.43 km, including 2.23 Tabading Access Road). The number and identification of lots (contracts) comprising this RFB is: The RFB consists of one package with two lots: Lot 1: Wangdue Zam - Nobding (59.70-105.00 km) Lot 2: Nobding - Chuserbu (105.00-136.00km) & Lawala - Gangtey - Phobjikha Dz Road (0.00-17.43 km, including 2.23 Tabading Access Road) The Bidders may submit their Bids for any one of the two lots or both lots. The evaluation of Bids and contract award will be done separately for each lot.
ITB 1.2(a)	Not Applicable
ITB 2.1	The Borrower is: <i>Kingdom of Bhutan</i> Loan or Financing Agreement amount: Credit No: IDA 77560-US\$ 154 million Grant No: IDAE4310-US\$146 million. The name of the Project is: ACCELERATING TRANSPORT AND TRADE CONNECTIVITY IN EASTERN SOUTH ASIA (ACCESS) – BHUTAN PROJECT
ITB 4.1	The maximum number of members in the JV shall be: Two (02)
ITB 4.5	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr .
B. Contents of Bidding Document	

ITB 7.1	For <u>clarification of Bid purposes</u> only, the Employer's address is: Attention: Sonam Tobgay, Assistant Project Manager and Jambay Wangchuk, Project Manager Address: Drentoen Lam, Thimphu, Bhutan and Post Box No:791 DoST, MoIT Floor/Room number: Maintenance Division, Second Floor, Block C City: Thimphu ZIP Code: 11001 Country: Bhutan Mobile: +975 17249614 and +975 17800177 E-mail: <i>sonam.tobgay@moit.gov.bt and jwangchuk@moit.gov.bt</i>
ITB 7.1	Requests for clarification should be received by the Employer no later than 14 days before the submission of bids. Web page: www.moit.gov.bt
ITB 7.4	A pre-bid meeting shall take place at the following date, time, and place: Date: 7-9th of October 2026 Time: 0930-1700 hours (Bhutan time) Place: Conference Hall, Ministry of Infrastructure and Transport, Thimphu. Mobile: +975 17249614 E- mail: sonam.tobgay@moit.gov.bt Contact person: Sonam Tobgay, PMBC focal person The Pre-Bid Meeting will also be held virtually. The link will be sent at least two (2) calendar days before the scheduled meeting through email to all the interested registered bidders.
ITB 7.6	The pre-bid meeting minutes shall be published on the web page: www.moit.gov.bt Bidders are advised to check the website regularly until the bid opening.
C. Preparation of Bids	
ITB 10.1	The language of the Bid is: English. All correspondence exchange shall be in English. The language for the translation of supporting documents and printed literature shall be English.

ITB 11.2	The Local Labor Method Statement shall demonstrate how the Bidder(s) shall provide employment opportunities to all existing community group workers.
ITB 11.2	The Bidder shall submit the following additional documents in the Technical Part of its Bid: 1. Code of Conduct for Contractor’s Personnel (ES) The Bidder shall submit its Code of Conduct that will apply to Contractor’s Personnel (as defined in Sub-Clause 1 (ii) of the General Conditions of Contract) to ensure compliance with the Contractor’s Environmental and Social (ES) obligations under the Contract. The Bidder shall use for this purpose the Code of Conduct form provided in Section IV. No substantial modifications shall be made to this form, except that the Bidder may introduce additional requirements, including as necessary to take into account specific Contract issues/risks. 2. Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks The Employer has prepared an ES Screening Report for the project activities, which includes the minimum ES Risk Management Measures relevant to the project under the following instruments: Environmental and Social Codes of Practice (ESCOPs), Labor Management Procedures (LMP), Chance Find Procedures, and GBV SEA/SH Plan. These instruments are provided in full in Section VII (Employer's Requirements) and establish the minimum environmental, social, and occupational health and safety (ES) mitigation measures that the Contractor shall implement upon award of the Contract. As part of the Technical Proposal, the Bidder shall submit a Management Strategies and Implementation Plan (MSIP), using the outline provided in Section IV (Bidding Forms). The purpose of the MSIP is to demonstrate the Bidder's understanding of the ES risks associated with the project works and the Bidder's proposed approach to implementing the ES requirements specified in the Bidding Documents. The MSIP shall include the following four elements: • Confirmation of Understanding: A statement confirming that the Bidder has read and understood the requirements of the ESCOPs, LMP, Chance Find Procedures, and GBV SEA/SH Plan provided in Section VII, and commits to implementing them in full upon contract award. • Implementation Methodology: A concise description of the Bidder's proposed approach for managing the key environmental, social, and occupational health and safety risks associated with the works, including

	the timing and sequencing of ES risk management measures in relation to the proposed works. • Relevant Experience: A summary of the Bidder's experience in implementing environmental, social, and occupational health and safety measures in similar road works or infrastructure maintenance contracts. 3. Valid Trade license and BCTA registration certificate 4. Integrity Pact duly executed. 5. Valid Tax Clearance Certificate. 6. Valid Audit Clearance. 7. Valid GST Certificate.
ITB 11.3 (b)	The following schedules shall be submitted with the Bid: <i>None</i>
ITB 11.5	The minimum stake of the JV should be at least 20% for non-lead partners and at least 51% for lead partners.
ITB 13.1	Alternative bids shall not be considered.
ITB 13.2	Alternative times for completion shall not be permitted.
ITB 13.4	Alternative technical solutions shall be permitted for the following parts of the Works: Not Applicable.
ITB 14.2	Require bidders to quote prices separately for each lot for which they bid.
ITB 14.5	The prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract and shall apply only to the components specified in PCC GCC 49.1
ITB 14.6	Cross-discounts conditional upon the award of more than one lot shall not be permitted or considered in the evaluation, however discount for individual lot is permissible.
ITB 15.1	The price shall be quoted by the Bidder in: Bhutanese Ngultrum (BTN) All payments shall be made in Bhutanese Ngultrum (BTN).
ITB 16.2	ITB 16.2 applies.
ITB 18.1	<i>The bid shall be valid for 120 days after the bid submission deadline.</i>
ITB 18.3 (a)	Adjustment of bid price: Not Applicable.
ITB 19.1	Bid Security shall be required. The amount and currency of the Bid Security shall be BTN 6.10 million (Lot 1) The amount and currency of the Bid Security shall be BTN 5.90 million (Lot 2)

	If a bidder submits bids for 2 lots, bidder shall submit bid security separately for each lot.
ITB 19.3 (d)	Other types of acceptable securities: Not Applicable.
ITB 19.9	Not Applicable
ITB 20.3	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: Authorization letter duly signed and sealed with a legal stamp.
D. Submission of Bids	
ITB 21.2	In addition to the original of the Bid, the number of copies is: One.
ITB 22.1	The Deadline for Bid submission is: Date: 28th October 2026 Time: 1130 hours (Bhutan Time) For Bid submission purposes only, the Employer's address is: Attention: Jambay Wangchuk, Project Manager Address: Chief Engineer, Maintenance Division, Department of Surface Transport, Ministry of Infrastructure and Transport, Drentoen Lam, Thimphu, Bhutan and Post Box No:791 City: Thimphu ZIP Code: 11001 Country: Bhutan E-mail: jwangchuk@moit.gov.bt Bidders "Shall Not" have the option of submitting their bids electronically. The electronic Bids submission procedures shall be: Not Applicable.
E. Public Opening of Technical Parts of Bids	
ITB 25.1	The Bid opening shall take place at: Date: 28th October 2026 Time: 1430 hours (Bhutan Time) Venue: Office of the Director General, Department of Surface Transport Ministry of Infrastructure, Drentoen Lam, Thimphu, Bhutan and Post Box No.: 791
ITB 25.1	The electronic Bid opening procedures shall be: Not Applicable.
ITB 25.6	The Letter of Bid—Technical Part and the sealed envelope marked "SECOND ENVELOPE: FINANCIAL PART" shall be initialed by the bid opening committee of the Employer.

G. Evaluation of Technical Parts of Bids

ITB 32.1	The technical factors (and sub-factors if any), which for purposes of this document carry the same meaning as Rated Criteria, and the corresponding weight out of 100% are:			
	Technical Factor	Description	Reference to Bidding Document/Submission Form	(Weight %)
	1. Management Plans	Assesses the Bidder's overall technical approach and understanding of PBMC requirements, performance standards, service levels, risk allocation, climate vulnerability, road asset management obligations, quality management, occupational health and safety, emergency response, and traffic safety management for the relevant lot. The Bidder shall submit outlines of the plans, not fully developed final plans.	Appendix A to Technical Part: Technical Proposal – 1. Management Plans: 1.1 Quality Management Plan; 1.2 Occupational Health and Safety Management Plan; 1.3 Emergency Procedures Plan.	15
	2.Method Statements for Works and Services	Assesses the adequacy, practicality, safety, environmental soundness, and lot-specific relevance of the Bidder's proposed methods for executing major works and services. The method statements shall describe construction and maintenance methods, sequencing, labour and plant deployment, sources of materials, quality control, traffic safety, environmental protection,	Appendix A to Technical Part: Technical Proposal – Method Statements; Method Statement Form; Local Labor Method Statement; reference to Appendix B Equipment only for deployment approach	45

		inspections, reporting, and response procedures.		
	3.Contractor's Organization and Schedules	Assesses the completeness and realism of the Bidder's proposed site organization, reporting lines, mobilization arrangements, construction schedule, activity sequencing, Gantt chart, coordination arrangements, and deployment locations for the relevant lot.	Appendix A to Technical Part: Technical Proposal – Contractor's Organization and Mobilization and Construction Schedules; Site Organization; Mobilization Schedule; Construction Schedule	10
	4.Key Personnel Deployment and Competency	Assesses the quality, relevance, role allocation, and deployment approach of the proposed key personnel for managing and delivering the relevant lot. Minimum personnel qualifications and availability shall remain pass/fail requirements. Scoring shall focus only on quality and relevance of team arrangement, clarity of responsibilities, PBMC/road maintenance relevance of experience, continuity of personnel, and adequacy of deployment for the lot.	Appendix C to Technical Part: Key Personnel; Form PER-1: Key Personnel Schedule; Form PER-2: Resume and Declaration; Section III Qualification Criteria for minimum personnel requirements	15
	5.Key Equipment Deployment Strategy	Assesses the adequacy, practicality, and reliability of the Bidder's proposed equipment deployment for the relevant lot. This factor shall not re-score the minimum ownership/access	Appendix B to Technical Part: Equipment; Form EQU; Method Statement; Mobilization Schedule; Construction Schedule;	15

		requirement. It shall assess only how the proposed equipment will be mobilized, stationed, operated, maintained, backed up, and deployed to meet service levels, response times, safety, quality, and work programme requirements.	Equipment Deployment Plan	
	Total Technical Score for Each Lot			100
	Section III provides a more detailed breakdown of the technical factors and sub-factors.			
ITB 33.1	At this time the Employer does not intend to execute certain specific parts of the Works by subcontractors selected in advance.			
ITB 33.2	Not Applicable			
ITB 33.3	Contractor’s proposed subcontracting: Maximum percentage of subcontracting permitted is: 30% of the total contract amount. Bidders planning to subcontract shall specify, in the Letter of Bid, the activity(ies) or parts of the Works to be subcontracted along with complete details of the subcontractors and their qualifications.			
H. Notification of Evaluation of Technical Parts and Public Opening of Financial Parts				
ITB 34.5	The Letter of Bid – Financial Part and Schedules shall be initialed by the bid opening committee of the Employer.			
I. Evaluation of Financial Parts of Bids				
ITB 35.1(a)	Financial bids for Emergency Works and Dayworks shall not be included in the Evaluation			
ITB 35.3	Evaluate the financial part separately for each lot.			
ITB 37.1	The currency that shall be used for Bid evaluation and comparison purposes to convert at the selling exchange rate all Bid prices expressed in various currencies into a single currency is Bhutanese Ngultrum (BTN). The source of exchange rate shall be: The Royal Monetary Authority of Bhutan. The date for the exchange rate shall be: 14 days prior to the deadline for submission of the Bids.			

ITB 38.1	A margin of domestic preference shall not apply.
J. Evaluation of Combined Technical and Financial Parts and Most Advantageous Bid	
ITB 42.1	The weight to be given for cost is 60%.
K. Award of Contract	
ITB 46	An award shall be made lot-wise to the bidder with the highest score for each lot.
ITB 50.1 and 50.2	The Performance Security, which shall be inclusive of environmental and social safeguards security, shall be provided in any one of the following forms after the receipt of Letter of Acceptance: a. Unconditional bank guarantee; b. Banker's certified cheque/cash warrant, or c. Demand draft. The Performance Security shall be 10% of the total Contract Amount.
ITB 52.1	The procedures for making a Procurement-related Complaint are detailed in the "<u>Procurement Regulations for IPF Borrowers</u>." If a bidder wishes to make a Procurement-related Complaint, the bidder shall submit its complaint following these procedures, in writing (by the quickest means available, that is either by email or fax) to: For the attention: Tenzin Title/position: Director General Employer: Department of Surface Transport, Ministry of Infrastructure and Transport, Thimphu, Bhutan Email address: tenzin@moit.gov.bt A copy of the complaint can be sent for the Bank's information and monitoring to: pprocurementcomplaints@worldbank.org

Section III - Evaluation and Qualification Criteria

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

Wherever a Bidder is required to state a monetary amount, Bidders should indicate the USD equivalent using the rate of exchange determined as follows:

- For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amount for that year is to be converted) was originally established.
- Value of single contract - Exchange rate prevailing on the date of the contract.

Exchange rates shall be taken from the publicly available source identified in the ITB 37.1. Any error in determining the exchange rates in the Bid may be corrected by the Employer.

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Section III - Evaluation and Qualification Criteria

1. Technical Part

1.1 Evaluation of Technical Proposal

1.1.1 Evaluation Approach

This procurement shall be evaluated as one package consisting of two lots. Each lot shall be evaluated separately.

Lot	Description
Lot 1	Performance-Based Maintenance Contract for Wangdue Zam – Chuserbu (59.70 - 105.00 km) PNH01
Lot 2	Performance-Based Maintenance Contract for Wangdue Zam – Chuserbu (105.00 - 136.00 km) PNH01 & Lawala – Gangtey – Phobjikha Dzongkhag Road, including Tabading Access Road (0.00 - 17.43 km)

Bidders may bid for one lot or for both lots, as specified in the Bidding Document. Each lot shall be technically and financially evaluated and awarded separately.

Assessment of adequacy of Technical Proposal with Requirements in accordance with ITB 32.1.

The Rated Criteria (including technical and non-price factors, and sub factors if any) to be evaluated and the scores to be given to each factor and sub factor are specified in the BDS ITB 32.1.

1.1.2 Technical Criteria – Lot-Wise Evaluation

The Technical Proposal shall be evaluated separately for each lot. The Technical Score for each lot shall be out of 100 points.

Sl. No.	Rated Technical Factor	Description	Reference to Bidding Document / Submission Form	Weight
1	Management Plans	Assesses the Bidder's overall technical approach and understanding of PBMC requirements, performance standards, service levels, risk allocation, climate vulnerability, road asset management obligations, quality management, occupational health and safety, emergency response, and traffic safety management for the relevant lot.	Appendix A to Technical Part: Technical Proposal – 1. Management Plans: 1.1 Quality Management Plan; 1.2 Occupational Health and Safety Management Plan; 1.3 Emergency Procedures Plan.	15

		The Bidder shall submit outlines of the plans, not fully developed final plans.		
1.1	Quality Management Plan	Assesses how the Bidder proposes to maintain the road network under the relevant lot at or above the required service levels throughout the contract period, including inspections, defect identification, quality control, corrective action, reporting, and responsibility assignment.	Appendix A – 1.1 Quality Management Plan	5
1.2	Occupational Health and Safety Management Plan	Assesses the Bidder's approach to safe working conditions, accident prevention, PPE, work on live roads, safety monitoring, and safety culture for the relevant lot.	Appendix A – 1.2 Occupational Health and Safety Management Plan	5
1.3	Emergency Procedures Plan	Assesses preparedness and response arrangements for emergencies, including landslides, floods, traffic incidents, road blockages, and other events requiring timely response under the Works' Requirements.	Appendix A – 1.3 Emergency Procedures Plan	5
2	Method Statements for Works and Services (including environment)	Assesses the adequacy, practicality, safety, environmental soundness, and lot-specific relevance of the Bidder's proposed methods for executing major works and services including the demonstrated understanding of project-specific ES risks and context, and requirements established in the ESCOP, LMP, Chance find procedures, SEA/SH plans. The method statements shall describe construction and maintenance	Appendix A to Technical Part: Technical Proposal – 3. Method Statements; Method Statement Form; Local Labor Method Statement; reference to Appendix B Equipment only for deployment approach	45

		methods, sequencing, labour and plant deployment, sources of materials, quality control, traffic safety, environmental protection, inspections, reporting, and response procedures.		
2.1	Road Safety Works	Assesses the lot-specific methodology for road safety works, including sequencing, traffic safety during execution, installation quality, road-user protection, and coordination with traffic management requirements.	Appendix A – 3.1 Road Safety Works; Method Statement	5
2.2	Climate Change Resilience Works	Assesses the lot-specific methodology for climate resilience works, including slope protection, drainage improvement, erosion control, climate-risk response, sequencing, materials, equipment use, and quality control.	Appendix A – 3.2 Climate Change Resilience Works; Method Statement	5
2.3	Periodic Maintenance	Assesses the lot-specific methodology for periodic maintenance activities, including work planning, construction methods, material sources, quality control, equipment deployment, traffic management, and compliance with performance standards.	Appendix A – 3.3 Periodic Maintenance; Method Statement	5
2.4	Emergency Works	Assesses the lot-specific approach to emergency works, including response time, mobilization arrangements, communication protocol, emergency resources, reporting, traffic safety, and restoration of serviceability.	Appendix A – 3.4 Emergency Works; Method Statement; Emergency Procedures Plan	5

2.5	Initial Repairs	Assesses the methodology for initial repairs, including defect identification, prioritization, construction methods, materials, quality control, programme, and readiness for performance-based maintenance.	Appendix A – 3.5 Initial Repairs; Method Statement	5
2.6	Maintenance and Management Services	Assesses the approach for routine maintenance, inspection, patrolling, service-level monitoring, defect recording, planning and scheduling of maintenance activities, monthly reporting, performance compliance, and continuous improvement throughout the contract period.	Appendix A – 3.6 Maintenance and Management Services; Method Statement; Management Plans	20
3	Contractor's Organization and Schedules	Assesses the completeness and realism of the Bidder's proposed site organization, reporting lines, mobilization arrangements, construction schedule, activity sequencing, Gantt chart, coordination arrangements, and deployment locations for the relevant lot.	Appendix A to Technical Part: Technical Proposal – 4. Contractor's Organization and Mobilization and Construction Schedules; Site Organization; Mobilization Schedule; Construction Schedule	10
3.1	Contractor's Organization	Assesses the proposed organization structure, reporting lines, division of responsibilities, site management arrangements, local community engagement arrangements, and organization for works, maintenance, and management services.	Appendix A – 4.1 Site Organization; Site Organization Form	4

3.2	Mobilization and Construction Schedules	Assesses mobilization schedule, construction schedules, sequencing of major activities, Gantt chart, compliance with completion dates, and readiness to undertake initial repairs, road safety works, climate resilience works, emergency response, and maintenance services.	Appendix A – 4.2 Mobilization and Construction Schedules; Mobilization Schedule; Construction Schedule	6
4	Key Personnel Deployment and Competency	Assesses the quality, relevance, role allocation, and deployment approach of the proposed key personnel for managing and delivering the relevant lot. Minimum personnel qualifications and availability shall remain pass/fail requirements. Scoring shall focus only on quality and relevance of team arrangement, clarity of responsibilities, PBMC/road maintenance relevance of experience, continuity of personnel, and adequacy of deployment for the lot.	Appendix C to Technical Part: Key Personnel; Form PER-1: Key Personnel Schedule; Form PER-2: Resume and Declaration; Section III Qualification Criteria for minimum personnel requirements	15
4.1	Contract Manager	Assesses the relevance of the proposed Contract Manager's experience in road maintenance, performance-based contracts, contract management, coordination, reporting, and management of multi-disciplinary teams.	Appendix C; Form PER-1; Form PER-2	5
4.2	Site Engineer	Assesses the relevance of the proposed Site Engineer's experience in road works, maintenance supervision, quality control, site coordination, and implementation of technical requirements.	Appendix C; Form PER-1; Form PER-2	5

4.3	Maintenance Manager	Assesses the relevance of the proposed Maintenance Manager's experience in routine maintenance planning, inspection, service-level monitoring, emergency response, and maintenance reporting.	Appendix C; Form PER-1; Form PER-2	5
5	Key Equipment Deployment Strategy	Assesses the adequacy, practicality, and reliability of the Bidder's proposed equipment deployment for the relevant lot. This factor shall not re-score the minimum ownership/access requirement. It shall assess only how the proposed equipment will be mobilized, stationed, operated, maintained, backed up, and deployed to meet service levels, response times, safety, quality, and work programme requirements.	Appendix B to Technical Part: Equipment; Form EQU; Method Statement; Mobilization Schedule; Construction Schedule; Equipment Deployment Plan	15
5.1	Routine Maintenance and Patrolling Equipment Deployment	Assesses whether the Bidder has a practical plan for deploying routine maintenance equipment such as patrol vehicles, mini tippers, grass cutters, blowers, compactors, pavement cutting machines, and scarifying machines for day-to-day service-level compliance.	Appendix B; Form EQU; Method Statement for Maintenance and Management Services	4
5.2	Periodic Maintenance and Construction Equipment Deployment	Assesses whether the Bidder has a realistic plan for deploying paver, roller, asphalt plant, tippers, road marking machine, concrete mixer, and related equipment for periodic maintenance and construction-related works.	Appendix B; Form EQU; Method Statement for Periodic Maintenance; Construction Schedule	4

5.3	Emergency Equipment Readiness and Response	Assesses the availability, location, mobilization time, backup arrangements, and emergency deployment plan for wheel excavators, backhoe loaders, chain excavators, air compressor with jack hammer, and other emergency response equipment.	Appendix B; Form EQU; Emergency Procedures Plan; Method Statement for Emergency Works	4
5.4	Equipment Sharing, Backup, Maintenance, and Traffic Control Arrangements	Assesses the Bidder's equipment maintenance plan, backup arrangements, operator availability, traffic control equipment deployment, and, where bidding for both lots, the adequacy of the equipment-sharing plan between lots.	Appendix B; Form EQU; Traffic Management Plan; Mobilization Schedule	3
Total Technical Score for Each Lot				100

1.1.3 Technical Proposal Scoring Methodology

Each rated criterion shall be scored using the following scoring bands:

Rating	Score Range	Scoring Description
Excellent	90–100% of available points	The proposal is highly project-specific, comprehensive, practical, measurable, and fully aligned with the works' requirements. It clearly demonstrates how performance standards will be achieved and sustained, with strong implementation arrangements, monitoring systems, resources, and risk controls.
Good	70–89% of available points	The proposal is substantially complete and relevant to the project. It demonstrates a sound approach with only minor gaps or areas requiring clarification.
Adequate	50–69% of available points	The proposal generally addresses the requirement but is basic, partly generic, or lacks sufficient detail in some areas. It may require close supervision during implementation.
Poor	1–49% of available points	The proposal is weak, generic, incomplete, or insufficiently linked to the specific PBMC requirements. Major implementation risks remain.
Non-responsive / Not Provided	0	The proposal is missing, materially non-responsive, or fails to address the requirement.

The total of all factor scores shall be the Bidder's Technical Score out of 100 for the relevant lot.

1.1.4 Lot-Wise Combined Evaluation

The final combined score shall be calculated separately for each lot as follows:

Final Combined Score for Lot = $0.40 \times \text{Technical Score for Lot} + 0.60 \times \text{Financial Score for Lot}$

1.2 Alternative Technical Solutions for specified parts of Works

The acceptability of technical alternatives for parts of the Works, if permitted under ITB 13.4, will be determined as follows:

Not Applicable.

1.3 Specialized Subcontractors

If permitted under ITB 33, only the specific experience of Subcontractors for specialized works permitted by the Employer will be considered. The general experience and financial resources of the Specialized Subcontractors shall not be added to those of the Bidder for purposes of qualification of the Bidder.

Not Applicable

1.4 Qualification Criteria

Pursuant to ITB 31.1, the Employer shall assess each Bid against the following Qualification Criteria. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

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

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
		with UN Security Council resolution, both in accordance with ITB 4.8 and Section V.					
1.6	Minimum Technical Score	The bidder must score minimum 70% in technical score	Must meet requirement	Must meet requirement	N/A	N/A	
2. Historical Contract Non-Performance							
2.1	History of Non-Performing Contracts	Non-performance of a contract ⁸ did not occur as a result of contractor default since 1st January 2021.	Must meet requirement ^{1 and 2}	Must meet requirements	Must meet requirement ⁹	N/A	Form CON-2
2.2	Suspension Based on Execution of Bid/Proposal Securing Declaration by the Employer	Not under suspension based on execution of a Bid/Proposal Securing Declaration pursuant to ITB 4.7 and ITB 19.9.	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid
2.3	Pending Litigation	Bidder's financial position and prospective long term profitability sound according to	Must meet requirement	N/A	Must meet requirement	N/A	Form CON – 2

⁸ Nonperformance, as decided by the Employer, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Nonperformance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Nonperformance must be based on all information on fully settled disputes or litigation, i.e., dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

⁹ This requirement also applies to contracts executed by the Bidder as JV member.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
		criteria established in 3.1 below and assuming that all pending litigation will be resolved against the Bidder					
2.4	Litigation History	No consistent history of court/arbitral award decisions against the Bidder ¹⁰ since 1st January 2021.	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Form CON – 2
2.5	Declaration: Environmental and Social (ES) past performance	Declare any civil work contracts that have been suspended or terminated and/or performance security called by an employer for reasons of breach of environmental or social (including Sexual Exploitation and Abuse)) contractual obligations in the past five years. ¹¹	Must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also make the declaration.	N/A	Each must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also make the declaration.	N/A	Form CON-3 ES Performance Declaration
2.6	Bank's SEA and/or SH Disqualification	At the time of Contract Award, not subject to disqualification by the Bank for non-compliance with SEA/ SH obligations	Must meet requirement (including each subcontractor proposed by the Bidder)	N/A	Must meet requirement (including each subcontractor proposed by the Bidder)	N/A	Letter of Bid, Form CON-4

¹⁰ The Bidder shall provide accurate information on the letter of Bid about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of court/arbitral awards against the Bidder or any member of a joint venture may result in disqualifying the Bidder.

¹¹ The Employer may use this information to seek further information or clarifications in carrying out its due diligence.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
		If the Bidder had been subject to disqualification by the Bank for non-compliance with SEA/SH obligations, the Bidder shall either (i) provide evidence of an arbitral award on the disqualification made in its favour; or (ii) demonstrate that it has adequate capacity and commitment to comply with SEA/SH prevention and response obligations; or (iii) provide evidence that it has already demonstrated such capacity and commitment on another bank-financed works contract.	Must meet requirement (including each subcontractor proposed by the Bidder)	N/A	Must meet requirement (including each subcontractor proposed by the Bidder)	N/A	Letter of Bid, Form CON-4
3. Financial Situation and Performance							
3.1	Financial Capabilities	(i) The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow	Must meet requirement	Must meet Requirement	N/A	N/A	Form FIN – 3.1, with attachments

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
		requirements estimated as given below for the subject contract(s) net of the Bidders other commitments. Where the Bidder bids for both lots, the bidder must submit the financial resources separately for each lot.					
		(ii) The Bidder shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments. (iii) The audited balance sheets or, if not required by the laws of the Applicant's country, other financial statements acceptable to the Employer, for the last five (05) years starting from	Must meet requirement	Must meet requirement	N/A	N/A	
			Must meet requirement	N/A	Must meet requirement	N/A	

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
		January 2021 shall be submitted and must demonstrate the current soundness of the Applicant's financial position and indicate its prospective long-term profitability. The minimum requirement as per (i) above; BTN 15.30 million for Lot 1 & BTN 14.86 million for Lot 2					
3.2	Average Annual Construction Turnover	Minimum average annual construction turnover of BTN 58.88 million for Lot 1 & BTN 58.68 million for Lot 2, calculated as the total certified payments received for contracts in progress and/or completed within the last five (5) years, divided by five (5) years. Where the Bidder bids for both lots, the bidder must submit the average annual	Must meet requirement	Must meet requirement	NA	NA	Form FIN – 3.2

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
		construction turnover separately for each lot.					
4. Experience							
4.1 (a)	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last five (5) years, starting 1st January 2021 , for each lot.	Must meet requirement	N/A	Must meet requirement	N/A	Form EXP – 4.1
4.2 (a)	Specific Construction & Contract Management Experience	(i) A minimum number of similar contracts specified below that have been satisfactorily and substantially ¹² completed as a prime contractor, joint venture member ¹³ ,	Must meet requirements	Must meet requirement ¹⁴	Must meet requirements	N/A	Form EXP 4.2(a)

¹² Substantial completion shall be based on 80% or more works completed under the contract.

¹³ For contracts under which the Applicant participated as a joint venture member or sub-contractor, only the Applicant's share, by value, and role and responsibilities shall be considered to meet this requirement.

¹⁴ In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
		management contractor or subcontractor between 1st January 2021 and Bid submission deadline: Similar contracts shall mean construction of roads, involving formation cutting, resurfacing works, construction of culverts, drainage systems, periodic maintenance, road safety works in the mountainous, steep, difficult or geologically challenging terrain, including works involving steep gradients, landslide-prone areas, unstable slopes. Experience in road works undertaken under cold climatic conditions comparable to those prevailing in Bhutan, including heavy rainfall and monsoon conditions. Where the Bidder bids for both lots, the bidder must					

determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
		submit the specific contract experience for each lot: i) Two (2) contracts, each of minimum value BTN 75 million for lot 1 & BTN 64 million for lot 2. OR (ii) Up to three (3) contracts, each of minimum value BTN 50 million for lot 1 & up to three (3) contracts, each of minimum value BTN 43 million for lot 2. Out of the above contracts: At least one contract shall include formation cutting, cross drainage works, asphalt pavement, and resurfacing works undertaken under cold climatic conditions comparable to those prevailing in Bhutan,					

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
		including heavy rainfall and monsoon conditions. OR At least one contract shall include resurfacing/blacktopping works of asphalt pavement more than 5.0 km undertaken under cold climatic conditions comparable to those prevailing in Bhutan, including heavy rainfall and monsoon conditions.					
4.2 (b)		For the above and any other contracts [substantially completed and under implementation] as prime contractor, joint venture member, or sub-contractor between 1st January 2016 and Bid submission deadline, a minimum construction experience in the following key activities	Must meet requirements	Must meet requirements	N/A	N/A	Form EXP – 4.2 (b)

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
		successfully completed¹⁵. The activities indicating volume, number or rate of production as applicable¹⁶. The rate of production given below should have been achieved for anyone years during last ten years (2016-2025) for each lot: 1. Retaining structures: 1500Cu.m 2. Drainage: 3Km 3. Concrete works: 10Cu.m 4. Asphalt works: 10,000Sq.m/year. Where the Bidder bids for both lots, the bidder must submit the key activity experience for each lot.					
4.2 (c)	Specific Experience in	For the contracts in 4.2 (a) above and/or any other	Must meet requirements	Must meet requirements	N/A	N/A	Form EXP – 4.2 (c)

¹⁵ Volume, number or rate of production of any key activity can be demonstrated in one or more contracts combined if executed during same time period.

¹⁶ The minimum experience requirement for multiple contracts will be the sum of the minimum requirements for respective individual contracts, unless specified otherwise.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All members Combined	Each member	At least one member	
	managing ES aspects	contracts substantially completed and under implementation as prime contractor, joint venture member, or Subcontractor between 1st January 2021 and Bid submission deadline, experience in managing ES risks and impacts in the following aspects: The experience shall include implementation of environmental, health and safety, waste management, traffic safety, or other environmental and social (ES) management practices during project execution. The bidder shall submit supporting documents such as completion certificates, client certificates, contract documents, or project reports for each lot.					

11.5. Key Personnel

The Bidder must demonstrate that it will have suitably qualified (and in adequate numbers) Key Personnel for each lot as described below. Where the Bidder bids for both lots, the bidder must submit the Key Personnel separately for each lot.

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

Position	Qualification	Experience
Contract Manager	BE/BTech in Civil Engineering Or Diploma in Civil Engineering	Minimum 5 years in road construction works for BE/BTech or Minimum of 8 years in road construction works for Diploma
Maintenance Manager	BE/BTech in Civil Engineering Or Diploma in Civil Engineering	Minimum 5 years in road construction and maintenance for BE/BTech or Minimum of 8 years in road maintenance works for Diploma
Site Engineer	Diploma in Civil Engineering	Minimum 3 years of experience in road works.
The bidder must commit to deploying personnel as required by the employer during the project execution.		
Lab Technician	VTI in Civil engineering	Minimum of 3 years of experience in roadworks.
Construction Safety Supervisor & ES safeguard officer	Graduate Engineer	Minimum Certified in OHS

11.6. Equipment

The Bidder must demonstrate that it has access to the key equipment listed hereafter for each lot:

The Bidder must demonstrate access to the following minimum key equipment for each lot for which it bids. These requirements shall be evaluated on a pass/fail basis and shall not be scored again under the Rated Technical Criteria.

Where a Bidder bids for both lots, the Bidder shall demonstrate that the equipment is sufficient for both lots. The same equipment shall not be counted twice.

Minimum Key Equipment Requirement

Sl. No.	Equipment Type	Minimum Requirement per Lot	Remarks / Evidence Required
A	Routine Maintenance Equipment		
1	Backhoe Loader	1	Form EQU; RC/ownership/lease/hire agreement; valid insurance where applicable
2	Mini Tipper	1	Form EQU; RC/ownership/lease/hire agreement; valid insurance where applicable
4	Compactor	1	Form EQU; RC/NRE/invoice as applicable
5	Utility or Patrol Vehicle, Bolero or equivalent	1	Form EQU; RC/ownership/lease/hire agreement; valid insurance
B	Periodic Maintenance and Construction Works Equipment		
6	Road Marking Machine	1	Form EQU; RC/NRE/invoice as applicable
7	Paver	1	Form EQU; RC/NRE/ownership/lease/hire evidence
8	Road Roller	1	Form EQU; RC/NRE/ownership/lease/hire evidence
9	Asphalt Plant	1	Form EQU; ownership/lease/hire agreement; plant availability evidence
10	Tipper Truck	3	Form EQU; RC/ownership/lease/hire agreement; valid insurance
C	Emergency Maintenance Equipment		
11	Wheel Excavator	1	Form EQU; RC/NRE/ownership/lease/hire evidence
12	Backhoe Loader	1	Form EQU; RC/ownership/lease/hire agreement; valid insurance
13	Chain Excavator	1	Form EQU; RC/NRE/ownership/lease/hire evidence
14	Air Compressor with Jack Hammer	1	Form EQU; invoice/ownership/lease/hire evidence

Commitment of bidder to deploy the machineries, if awarded the work

Sl. No.	Equipment Type	Minimum Requirement per Lot	Remarks
A	Routine Maintenance Equipment		
1	Grass Cutter	5	The bidder must submit commitment letter to deploy the machinery
2	Blower	3	The bidder must submit commitment letter to deploy the machinery
3	Road Pavement Cutting Machine	1	The bidder must submit commitment letter to deploy the machinery
4	Pavement Scarifying Machine	5	The bidder must submit commitment letter to deploy the machinery
B	Periodic Maintenance and Construction Works Equipment		
5	Concrete Mixer	1	The bidder must submit commitment letter to deploy the machinery
6	Basic mobile lab equipment for gradation, compaction, and bitumen testing.		The bidder must submit commitment letter to deploy the machinery
D	Traffic Control Equipment		
7	Traffic Control Signs and Cones	Minimum 3 sets	The bidder must submit commitment letter to deploy the machinery

Note:

For the award of both lots, the Employer shall verify whether the Bidder has sufficient equipment capacity for both lots. Therefore, the bidder must submit a different set of machinery for both lots.

- i) Minimum key equipment shall be checked under qualification requirements on a pass/fail basis.
- ii) Rated scoring for equipment shall be limited to the **deployment strategy**, including availability, location, mobilization, backup, equipment maintenance, operator availability, and suitability for the lot-specific work programme.
- iii) A Bidder shall not receive additional score merely for owning more equipment than the minimum requirement.
- iv) Where equipment is leased or hired, the Bidder shall provide evidence of access, such as lease agreement, hire commitment, ownership arrangement, or other acceptable documentary evidence.
- v) For award of both lots, the Bidder shall demonstrate separate equipment capacity. The same equipment shall not be counted twice.
- vi) The Employer may verify the availability, ownership, lease, registration, insurance, and physical condition of key equipment before award through eRALIS.

The Bidder shall provide further details of proposed items of equipment using Form EQU in Section IV, Bidding Forms.

2. Financial Part

2.1 Margin of Preference (NOT APPLICABLE)

If BDS so specifies, the Employer will grant a margin of preference of 7.5% (seven and one-half percent) to domestic contractors, in accordance with, and subject to, the following provisions:

- (a) Contractors applying for such preference shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Borrower and accepted by the Bank, a particular contractor or group of contractors qualifies for a domestic preference. The bidding document shall clearly indicate the preference and the method that will be followed in the evaluation and comparison of Bids to give effect to such preference.
- (b) After Bids have been received and reviewed by the Employer, responsive Bids shall be classified into the following groups:
 - (i) Group A: Bids offered by domestic contractors eligible for the preference.
 - (ii) Group B: Bids offered by other contractors.

All evaluated Bids in each group shall, as a first evaluation step, be compared to determine the Most Advantageous Bid, and the Most Advantageous Bid in each group shall be further compared with each other. If a result of this comparison, a Bid from Group A is the Most Advantageous Bid, it shall be selected for the award, if the Bidder is qualified. If a Bid from Group B is the Most Advantageous Bid, as a second evaluation step, all Bids from Group B shall then be further compared with the Most Advantageous Bid from Group A. For the purpose of this further comparison only, an amount equal to 7.5% (seven and one-half percent) of the respective Bid price corrected for arithmetical errors, including unconditional discounts but excluding provisional sums and the cost of day works, if any, shall be added to the evaluated cost offered in each Bid from Group B. If the Bid from Group A is the Most Advantageous Bid, it shall be selected for award. If not, the Most Advantageous Bid from Group B based on the first evaluation step shall be selected.

In addition to the criteria listed in ITB 35.1 (a) – (e) the following criteria shall apply

2.2 Alternative Completion Time

An alternative Completion Time, if permitted under ITB 13.2, will be evaluated as follows:

Not Applicable

2.3 Alternative Technical Solutions for specified parts of the Works

If the alternative technical solutions of parts of the Works, if permitted under ITB 13.4, were accepted in the evaluation of the Technical Part, the Financial Part of the Bid shall be evaluated as follows:

Not Applicable

3. Combined Evaluation

The Employer will evaluate and compare the Bids that have been determined to be substantially responsive.

An Evaluated Bid Score will be calculated for each responsive Bid using the following formula, which permits a comprehensive assessment of the evaluated cost and the technical merits of each Bid:

$$\text{Final Combined Score for Lot} = 0.40 \times \text{Technical Score for Lot} + 0.60 \times \text{Financial Score for Lot}$$

The Employer shall award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the Bidding Documents and qualified and whose bid has been found to be the most advantageous bid.

The Bidder with the highest Final Combined Score for each lot shall be ranked first for that lot, subject to meeting the mandatory qualification requirements.

4. Multiple Contracts

Award Criteria for Multiple Contracts [ITB 35.3]:

If in accordance with ITB 1.1 Bids are invited for more than one lot or package, the contract will be awarded to the Bidder or Bidders with the Most advantageous Bid for the individual lots.

Cross discounts for the award of multiple lots will not be considered.

Note: Qualification for Award of More Than One Lot

Each lot shall initially be evaluated separately, and the Bidder shall meet the qualification requirements specified for each individual lot.

Where the same Bidder is considered for award of both lots, it shall meet the applicable requirements separately for each lot and cumulatively for both lots. Financial resources, average annual construction turnover and key-activity requirements shall be assessed cumulatively by adding the respective requirements for Lot 1 and Lot 2. Specific contract experience shall be assessed against the requirements of both lots; the same reference contract may be counted only where its value, scope and relevant activities are sufficient to satisfy the combined requirements. Separate Key Personnel and equipment shall be proposed for each lot.

A Bidder that does not meet the combined qualification requirements shall not be awarded both lots. In such case, the award shall be determined in accordance with the evaluation and award methodology specified in this Section, based on the Bidder's qualification capacity and the combined technical and financial evaluation, without considering cross-lot discounts.

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Letter of Bid - Technical Part

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

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

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

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

Request for Bid No.: *[insert identification]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Employer]*

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

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

In submitting our Bid, we make the following declarations:

- (a) **No reservations:** We have examined and have no reservations to the bidding document, including Addenda issued in accordance with Instructions to Bidders (ITB 8);
- (b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) **Bid-Securing Declaration:** We have not been suspended nor declared ineligible by the Employer based on execution of a Bid-Securing Declaration or Proposal-Securing Declaration in the Employer's country in accordance with ITB 4.7;
- (d) **Exploitation and Abuse (SEA) and/or Sexual Harassment (SH):** *[select the appropriate option from (i) to (v) below and delete the others].*

We *[where JV, insert: "including any of our JV members"]*, and any of our subcontractors:

- i. *[have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.]*
- ii. *[are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.]*
- iii. *[had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. An arbitral award on the disqualification case has been made in our favor.]*

- iv. [had been subject to disqualification by the Bank for non-compliance with SEA/SH obligations for a period of two years. We have subsequently provided and demonstrated that we have adequate capacity and commitment to comply with SEA and SH prevention and response obligations.]
- v. [had been subject to disqualification by the Bank for non-compliance with SEA/SH obligations for a period of two years. We have attached documents demonstrating that we have adequate capacity and commitment to comply with SEA and SH prevention and response obligations.]
- (e) **Conformity:** We offer to execute in conformity with the bidding document the following Works: *[insert a brief description of the Works]*_____;
- (f) **Bid Validity:** Our Bid shall be valid until *[insert day, month and year in accordance with ITB 18.1]*, and it shall remain binding upon us and may be accepted at any time on or before this date;
- (g) **Performance Security:** If our Bid is accepted, we commit to obtain a Performance Security in accordance with the bidding document;
- (h) **One Bid Per Bidder:** We are not submitting any other Bid(s) as an individual Bidder or as a subcontractor, and we are not participating in any other Bid(s) as a Joint Venture member, and meet the requirements of ITB 4.3, other than alternative Bids submitted in accordance with ITB 13;
- (i) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Employer's country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (j) **State-owned enterprise or institution:** *[select the appropriate option and delete the other]* *[We are not a state-owned enterprise or institution]* / *[We are a state-owned enterprise or institution but meet the requirements of ITB 4.6]*;
- (k) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- (l) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Bid, the Most Advantageous Bid or any other Bid that you may receive;
- (m) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption;
- (n) **Adjudicator:** We accept the appointment of *[insert name proposed in Bid Data Sheet]* as the Adjudicator.

[or]

We do not accept the appointment of *[insert name proposed in Bid Data Sheet]* as the Adjudicator and propose instead that *[insert name]* be appointed as Adjudicator, whose daily fees and biographical data are attached.

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

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

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

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

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

Date signed _____ day of _____,

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

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

Appendix A to Technical Part: Technical Proposal

Site Organization

The Bidder shall give a brief description of the organization it proposes to establish, direct, and administer the performance of the Contract. In particular, the Bidder shall indicate:

1. Site organization chart and narrative description for the Road Safety Works, Climate Change Resilience Works and Periodic Maintenance components of the Contract.
2. Site organization chart and narrative description for the Initial Repairs and Maintenance and Management Services components of the Contract.
3. Additional narrative description of employment arrangements with local community groups.

It is suggested that the Bidder's description of its proposed Site Organization should not exceed 10 pages.

Method Statement

The Bidder shall provide a brief narrative description of the approach and methods it shall employ to execute the following components of the Contract:

1. Road Safety Works;
2. Climate Change Resilience Works;
3. Periodic Maintenance;

under the following headings, in order to demonstrate its understanding of the scope of the Contract and the Specifications:

- i. Deployment of plant and equipment for execution of the works;
- ii. Sources of materials;
- iii. Quality control over materials and execution of the works;
- iv. Deployment of personnel and equipment covering implementation of the Contractor's plans as follows:
 - Quality Management Plan
 - Management strategies and implementation plans (MSIPs) for ES
 - Occupational Health and Safety Management Plan
 - Traffic Management Plan
 - Emergency preparedness and Procedures Plan.

In addition, the Bidder shall provide a separate brief narrative description of the approach and methods to execute the Initial Repairs and Maintenance and Management Services components under the following headings:

1. Deployment and location of facilities, plant, equipment and personnel;
2. Sources of materials;
3. Patrolling and monitoring of road conditions;
4. Planning and scheduling road maintenance activities;
5. Response and reporting of Emergency Maintenance requirements;
6. Monthly inspections and reports.

Notes to Bidders:

Bidders are required to submit adequate narrative descriptions of their proposed Method Statement. Bids that fail to contain sufficient information may be deemed unresponsive.

Bidders shall be required to present and clarify, where necessary, their Technical Proposals to the Employer as indicated under Qualification. 4.2.

Mobilization Schedule

The Bidder shall provide a Mobilization Schedule that clearly demonstrates the mobilization activities, locations, and times for each of the major Contract activities including: Initial Repairs, Road Safety Works, Climate Change Resilience Works and Maintenance and Management Services.

Construction Schedule

The Bidder shall provide separate Construction Schedules for each group of Works i.e. Initial Repairs, Road Safety Works and Climate Change Resilience Works. The Construction Schedules should comply with the completion dates specified in Section VII Works Requirements. It is not necessary to include a Construction Schedule for Periodic Maintenance in the Bid.

Environmental and Social, Health Management Strategies and Implementation Plans (ES-MSIP)

This form provides the outline for the Management Strategies and Implementation Plan (MSIP) required under ITB 11.2(h). The Bidder shall use this outline to structure the MSIP and shall address all four elements specified below. The MSIP shall be limited to a maximum of ten (10) pages, excluding CVs of proposed ES personnel. CVs shall be submitted as a separate attachment to the MSIP and are not counted against the page limit.

The MSIP will be evaluated and scored by the Evaluation Committee under Item 2.3 of the Technical Evaluation Table in Section II (Bid Data Sheet). Responses that are generic, template-based, or not tailored to the specific context of this Contract will receive a low score. Bidders are strongly encouraged to review the ES instruments provided in Section VII (ESCOPs, LMP, Chance Find Procedures, and SEA/SH Plan) and any additional project information available on the project website before preparing the MSIP.

The bidder shall comply with all applicable Environmental and Social (E&S) requirements, obligations and provisions of the Contract. The bidder shall prepare, implement, maintain and update, as necessary, Management Strategies and Implementation Plans (MSIPs) to identify, manage, monitor and mitigate E&S risks and impacts associated with the Works. As a minimum, the MSIPs shall include the following:

- Occupational and Community Health and Safety Management Plan;
- Labor and Workers' Camp Management Plan;
- Pollution Prevention and Waste Management Plan, covering solid, liquid, and gaseous emissions and wastes;
- Spill Prevention and Hazardous Materials Management Plan;
- Emergency Preparedness and Response Plan;
- Traffic Management Plan; and
- Standalone Contractor's Environmental and Social Management Plans (CESMPs) for asphalt plants, crusher plants, and quarry sites.

If the bidder plans to setup its own Asphalt plants, Crusher plants, and Quarry sites, prior clearances shall be obtained from the Competent Authorities based on the National Legal Frameworks/Regulations such as the EA Act 2000, NEPA 2007, and RECOP 2016.

Confirmation of Understanding (Maximum 1 page)

The Bidder shall provide a statement signed by a senior representative of the organization (Director, Managing Director, Chief Executive Officer, or equivalent) confirming the following:

The Bidder has read and understood in full the ES instruments applicable to this Contract, including: the Environmental and Social Codes of Practice (ESCOPs); the Labour Management Procedures (LMP); the Chance Find Procedures; and the SEA/SH Plan, all of which are provided in Section VII of the Bidding Documents.

The Bidder commits to implementing the requirements of these instruments in full upon contract award, and to ensuring that all subcontractors and casual workers engaged under the Contract are equally bound by these obligations.

The Bidder understands that compliance with these instruments is a contractual obligation and that non-compliance may result in suspension of works, withholding of payments, or contract termination in accordance with the Conditions of Contract.

The Confirmation of Understanding must be signed. An unsigned or undated statement will receive a zero score for this element.

Implementation Methodology

(Maximum 4 pages)

The Bidder shall provide a concise description of its proposed approach for managing the key environmental, social, and occupational health and safety (ES) risks associated with the works under this Contract. The description should demonstrate that the Bidder has understood the specific ES context of this PBMC and has a credible approach to implementing the requirements of the ES instruments.

The Bidder should address, at a minimum, the following risk areas. For each, the Bidder should describe the proposed approach in practical, site-specific terms — not repeat the language of the ESCOPs:

a) Occupational Health and Safety on a Live Highway

Describe the proposed approach to managing OHS risks for workers carrying out maintenance and improvement works on PNH-01 and the Phobjikha Dzongkhag Road while these roads remain open to traffic. Address: workzone traffic management; PPE provision and enforcement; emergency response; and compliance with DoST OHS Specifications OHS-001 and OHS-002.

b) Community and Road User Safety

Describe the proposed approach to protecting road users and communities along the 91.3 km combined road section during active works, including the proposed traffic management arrangements for each major work category (overlay, barrier installation, slope protection, drainage works).

c) Environmental Protection

Describe the proposed approach to preventing dust, noise, stormwater runoff, and waste from affecting communities and the Puna Tsangchu waterway, which is part of the Ada lake / Puna Tsangchu Key Biodiversity Area (KBA). Address fuel and chemical spill prevention. If the Bidder proposes to establish an asphalt plant, describe the proposed plant siting criteria and environmental controls.

d) Biodiversity and Ecologically Sensitive Areas

Describe the proposed approach to managing works in sections of the road adjacent Biological Corridor 8, including: compliance; prevention of worker hunting, fishing, and plant collection; and invasive alien species prevention measures.

e) Labour Management and Worker Welfare

Describe the proposed approach to: local labour recruitment; prevention of child and forced labour; worker grievance management; and worker accommodation (if accommodation is to be established at remote locations along the route).

f) SEA/SH Prevention

Describe the proposed approach to preventing and responding to SEA/SH incidents, including: how the Code of Conduct will be introduced to all workers; the proposed SEA/SH sensitization training approach; and how the SEA/SH Focal Person will be accessible to workers and community members.

3 — ES Management Structure and Key ES Personnel

(Maximum 2 pages, excluding CVs)

The Bidder shall describe the proposed ES management structure for the Contract, including:

a) Organizational chart showing the ES management structure, lines of reporting between field ES personnel, the site management team, and the Bidder's senior management. The chart must show clearly that the ESHS Specialist reports to a level of management with authority to act on ES matters without delay.

b) Proposed Environmental and Safety Specialist: Provide the name, academic qualifications, and a brief summary (maximum half a page) of relevant experience of the proposed Environmental Specialist. The summary must address, specifically: (i) ES management experience on road works; (ii) prior experience with World Bank or MDB ES requirements; and (iii) OHS and labour management experience on civil works contracts. A full CV must be submitted as a separate attachment.

4 — Relevant ES Experience

(Maximum 3 pages)

The Bidder shall provide a summary of its organizational experience in implementing environmental, social, and occupational health and safety measures on comparable contracts. The summary must be specific — generic statements of commitment to ES management without reference to specific contracts will receive a low score.

Management Plans

Management Plans shall apply to all components of the Contract including Works, Maintenance and Management Services. Including the ES risk management plans, separate Management Plans are required as follows:

- Quality Assurance Plan
- Traffic Management Plan
- Emergency preparedness and Procedures Plan.

The Bidder is not required to submit completed Management Plans with its Bid. But the Bidder shall submit an outline of each Management Plan and briefly descriptions of the

contents of each, sources of regulations and other information, personnel and equipment resources, and engagement of specialists if required. The Bidder shall be prepared to make a presentation on each Management Plan to the Employer as indicated in Section III 1.4 Qualification Criteria.

The successful Bidder shall be required to complete detailed Management Plans as described in Section VII Works Requirements.

Sustainable Procurement Proposal

Not Applicable.

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

Note to the Bidder:

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

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

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

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

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

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

REQUIRED CONDUCT

Contractor's Personnel shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
3. maintain a safe working environment including by:
 - a. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
 - b. wearing required personal protective equipment;
 - c. using appropriate measures relating to chemical, physical and biological substances and agents; and
 - d. following applicable emergency operating procedures.

4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. not engage in Sexual Harassment, which means unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;
8. not engage in Sexual Abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;
9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation, and Abuse (SEA) and Sexual Harassment (SH);
11. report violations of this Code of Conduct; and
12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the grievance mechanism for Contractor's Personnel or the project's Grievance Redress Mechanism.

RAISING CONCERNS

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

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

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

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

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

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

FOR CONTRACTOR'S PERSONNEL:

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

Name of Contractor's Personnel: [insert name]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Contractor:

Signature: _____

Date: (day month year): _____

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

ATTACHMENT 1 TO THE CODE OF CONDUCT FORM
BEHAVIORS CONSTITUTING SEXUAL EXPLOITATION AND ABUSE (SEA) AND
BEHAVIORS CONSTITUTING SEXUAL HARASSMENT (SH)

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

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

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

(2) Examples of sexual harassment in a work context

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

Local Labor Method Statement

This Method Statement demonstrates Bidder's approach and methodology to engaging local labor¹⁷ during the execution of the contract in accordance with the requirement specified in ITB 16.2(ii).

In developing this Method Statement, the Bidder shall exercise its best efforts to present its approach and methodology for the engagement of local labor that the Bidder will be able to deliver during contract execution and comply with the requirement for allocating not less than 30% of total labor cost¹⁸ to local labor. This Method Statement will be part of the contract and updated as appropriate during contract execution, subject to the Engineer's approval.

The Bidder's approach and methodology for the engagement of local labor, will include but not be limited to the following aspects:

- The total number of laborers employed by skill category, expressed as Full-time Equivalent (FTE)¹⁹ over the duration of the contract. Please use the formula below to calculate the FTE over the duration of the contract for each skill category²⁰:

$$\text{FTE Skill Category (X) over the duration of the contract} = \frac{\text{Total estimated labor hours over the duration of the contract in Skill Category (X)}}{\text{Number of available full-time labor hours estimated per year multiplied by the estimated duration of the contract (in years)}}$$

- The percentage of total FTE to be filled by local labor per skill category;
- The proposed hiring strategy (e.g., direct hiring, subcontracting);
- Any plans and programs for training, skills development, or upskilling of local labor.

This Method Statement shall not include any financial information (e.g., wages in dollar terms).

¹⁷**Notes for Bidders:**

¹⁸Local labor excludes Contractor's foreign personnel. Foreign personnel who are already working in the Borrower's country on another project/contract shall also not be treated as local labor.

¹⁸ For the purpose of this requirement, the Bidder should consider "costs" as only wages.

¹⁹ FTE should be calculated for each skill category. Skill categories are Skilled, Semi-skilled, and Unskilled labor.

²⁰ In the formula, the number of available full-time labor hours per worker per year can be estimated based on the specifics of the contract, using a calculation such as: 40 hours/week x 52 weeks/year = 2080 hours/year. This can be multiplied by the estimated duration (in years) of the contract.

Appendix B to Technical Part: Equipment

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

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 (a) ☐ Owned ☐ Rented ☐ Leased ☐ 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	

Appendix C to Technical Part: Key Personnel

Form PER -1: Key Personnel Schedule

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

Key Personnel

1.	Title of position: Contract Manager	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
2.	Title of position: Site Engineer	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
3.	Title of position: Maintenance Manager	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
4.	Title of position: Lab Technician	
	Name of candidate:	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g., attach high level Gantt chart)]</i>
5.	Title of position: Construction safety Supervisor (he/she shall also serve as ES safeguard officer)	
	Name of candidate	

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

Form PER-2: Resume and Declaration Key Personnel

Name of Bidder		
Position [#1]: <i>[title of position from Form PER-1]</i>		
Personnel information	Name:	Date of birth:
	Address:	E-mail:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: <i>[language and levels of speaking, reading and writing skills]</i>	
details		
	Address of employer:	
	Telephone:	Contact (manager / personnel officer):
	Fax:	
	Job title:	Years with present employer:

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

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

Declaration

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

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

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

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

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

Name of Key Personnel: *[insert name]*

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Bidder:

Signature: _____

Date: (day month year): _____

Appendix D to Technical Part: Bidder's Qualification

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

Form ELI -1.1
Bidder Information Form

Date: _____

RFB No. and title: _____

Page _____ of _____ pages

Bidder's name

In case of Joint Venture (JV), name of each member:

Bidder's actual or intended country of registration:

[indicate country of Constitution]

Bidder's actual or intended year of incorporation:

Bidder's legal address [in country of registration]:

Bidder's authorized representative information

Name: _____

Address: _____

Telephone/Fax numbers: _____

E-mail address: _____

1. Attached are copies of original documents of

☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4.

☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1.

☐ In case of state-owned enterprise or institution, in accordance with ITB 4.6 documents establishing:

- Legal and financial autonomy
- Operation under commercial law
- Establishing that the Bidder is not under the supervision of the Employer

2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. The successful Bidder shall provide additional information on beneficial ownership, using the Beneficial Ownership Disclosure Form.

Form ELI -1.2
Bidder's JV Information Form

(to be completed for each member of Bidder's JV)

Date: _____

RFB No. and title: _____

Page _____ of _____ pages

Bidder's JV name:

JV member's name:

JV member's country of registration:

JV member's year of constitution:

JV member's legal address in country of constitution:

JV member's authorized representative information

Name: _____

Address: _____

Telephone/Fax numbers: _____

E-mail address: _____

1. Attached are copies of original documents of

☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4.

☐ In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Employer, in accordance with ITB 4.6.

2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. The successful Bidder shall provide additional information on beneficial ownership for each JV member using the Beneficial Ownership Disclosure Form.

Form CON – 2

Historical Contract Non-Performance, Pending Litigation and Litigation History

Bidder's Name: _____

Date: _____

JV Member's Name _____

RFB No. and title: _____

Page _____ of _____ pages

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
☐ Contract non-performance did not occur since 1 st January <i>[insert year]</i> ☐ Contract(s) not performed since 1 st January <i>[insert year]</i>			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for nonperformance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
☐ No pending litigation ☐ Pending litigation.			

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), USD Equivalent (exchange rate)
		Contract Identification: _____ Name of Employer: _____ Address of Employer: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	
		Contract Identification: Name of Employer: Address of Employer: Matter in dispute: Party who initiated the dispute: Status of dispute:	
Litigation History in accordance with Section III, Evaluation and Qualification Criteria ☐ No Litigation History ☐ Litigation History			
Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (currency), USD Equivalent (exchange rate)
<i>[insert year]</i>	<i>[insert percentage]</i>	Contract Identification: <i>[indicate complete contract name, number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate "Employer" or "Contractor"]</i> Reason(s) for Litigation and award decision <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

Form CON – 3: Environmental and Social (ES) Performance Declaration

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

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

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

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

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

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

Environmental and Social, Performance Declaration in accordance with Section III, Evaluation and Qualification Criteria			
☐ No suspension or termination of contract: An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental, or Social (ES) performance since the date specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.5.			
☐ Declaration of suspension or termination of contract: The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental or Social (ES) performance since the date specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.5. Details are described below:			
Year	Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s) e.g., for gender-based violence; sexual exploitation or sexual abuse breaches]</i>	<i>[insert amount]</i>
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

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

Form CON – 4

Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment Performance Declaration

[The following table shall be filled in by the Bidder, each member of a Joint Venture and each subcontractor proposed by the Bidder]

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

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

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

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

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

SEA and/or SH Declaration in accordance with Section III, Evaluation and Qualification Criteria
We: ☐ (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations ☐ (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations ☐ (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. An arbitral award on the disqualification case has been made in our favor. ☐ (d) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations for a period of two years. We have subsequently demonstrated that we have adequate capacity and commitment to comply with SEA/ SH obligations. ☐ (e) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations for a period of two years. We have attached evidence demonstrating that we have adequate capacity and commitment to comply with SEA/ SH obligations.
<i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i>
<i>[If (d) or (e) above are applicable, provide the following information:]</i>
Period of disqualification: From: _____ To: _____
If previously provided on another Bank financed works contract, details of evidence that demonstrated adequate capacity and commitment to comply with SEA/ SH obligations (as per (d) above) Name of Employer: _____ Name of Project: _____ Contract description: _____ Brief summary of evidence provided: _____ _____ Contact Information: (Tel, email, name of contact person): _____ _____

As an alternative to the evidence under (d), other evidence demonstrating adequate capacity and commitment to comply with SEA/ SH obligations (**as per (e) above**) *[attach details as appropriate]*.

Form FIN – 3.1

Financial Situation and Performance

Bidder's Name: _____

Date: _____

JV Member's Name _____

RFB No. and title: _____

Page _____ of _____ pages

1. Financial data

Type of Financial information in (currency)	Historic information for previous _____ years, (amount in currency, currency, exchange rate*, USD equivalent)				
	Year 1	Year 2	Year 3	Year 4	Year 5
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

*Refer to ITB 37.1 for the exchange rate

2. Sources of Finance

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

No.	Source of finance	Amount (US\$ equivalent)
1		
2		
3		

2. Financial documents

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

3.1. The financial statements shall:

- (a) reflect the financial situation of the Bidder or in case of JV member, and not an affiliated entity (such as parent company or group member).
 - (b) be independently audited or certified in accordance with local legislation.
 - (c) be complete, including all notes to the financial statements.
 - (d) correspond to accounting periods already completed and audited.
- ☐ Attached are copies of financial statements²¹ for the _____ years required above; and complying with the requirements

²¹ If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified.

Form FIN – 3.2
Average Annual Construction Turnover

Bidder's Name: _____

Date: _____

JV Member's Name _____

RFB No. and title: _____

Page _____ of _____ pages

		Annual turnover data (construction only)	
Year	Amount Currency	Exchange rate	USD equivalent
<i>[indicate year]</i>	<i>[insert amount and indicate currency]</i>		
Average Annual Construction Turnover *			

* See Section III, Evaluation and Qualification Criteria, Sub-Factor 3.2.

Form FIN – 3.3
Financial Resources

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

Financial Resources		
No.	Source of financing	Amount (US\$ equivalent)
1		
2		
3		

Form FIN – 3.4

Current Contract Commitments / Works in Progress

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

Current Contract Commitments

No.	Name of Contract	Employer's Contact Address, Tel, Fax	Value of Outstanding Work [Current US\$ Equivalent]	Estimated Completion Date	Average Monthly Invoicing Over Last Six Months [US\$/month]
1					
2					
3					
4					
5					

Form EXP - 4.1

General Construction Experience

Bidder's Name: _____

Date: _____

JV Member's Name _____

RFB No. and title: _____

Page _____ of _____ pages

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

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

Bidder's Name: _____

Date: _____

JV Member's Name _____

RFB No. and title: _____

Page _____ of _____ pages

Similar Contract No.	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount			US\$	
If member in a JV or sub-contractor, specify participation in total Contract amount				
Employer's Name:				
Address:				
Telephone/fax number				
E-mail:				

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

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

Form EXP - 4.2(b)

Construction Experience in Key Activities

Bidder's Name: _____

Date: _____

Bidder's JV Member Name: _____

Sub-contractor's Name²² (as per ITB 34.2 and 34.3): _____

RFB No. and title: _____

Page _____ of _____ pages

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

1. Key Activity No One: _____

	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contract or ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount			US\$	
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year	Total quantity in the contract (i)	Percentage participation (ii)	Actual Quantity Performed (i) x (ii)	
Year 1				
Year 2				
Year 3				
Year 4				
Employer's Name:				

²² If applicable

	Information
Address:	
Telephone/fax number	
E-mail:	

2. Activity No. Two

3.

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

Form EXP - 4.2(c)
**Specific Experience in Managing ES aspects and any additional
sustainable procurement aspects**

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

Bidder's Name: _____

Date: _____

Bidder's JV Member Name: _____

RFB No. and title: _____

Page _____ of _____ pages

1. Key Requirement no 1 in accordance with 4.2 (c): _____

Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Subcontracto r ☐
Total Contract Amount			US\$	
Details of relevant experience				

2. Key Requirement no 2 in accordance with 4.2 (c): _____

3. Key Requirement no 3 in accordance with 4.2 (c): _____

Appendix E to Technical Part: Bid Security

Form of Demand Guarantee

Beneficiary: _____

Request for Bids No: _____

Date: _____

BID GUARANTEE No.: _____

Guarantor: _____

We have been informed that _____ (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its Bid (hereinafter called "the Bid") for the execution of _____ under Request for Bids No. _____ ("the RFB").

Furthermore, we understand that, according to the Beneficiary's conditions, bids must be supported by a bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) has withdrawn its Bid prior to the Bid validity expiry date set forth in the Applicant's Letter of Bid, or any extended date provided by the Applicant; or
- (b) having been notified of the acceptance of its Bid by the Beneficiary prior to the expiry date of the Bid validity or any extension thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the performance security, and, if required, the Environmental and Social (ES) Performance Security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's bidding document.

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, if required, the Environmental and Social (ES) Performance Security, issued to the Beneficiary in relation to such contract agreement; or (b) if the Applicant is not the successful Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Bidding process; or (ii) twenty-eight days after the expiry date of the Bid validity.

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

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[Signature]

Form of Bid Security – Bid Bond

[The Surety shall fill in this Bid Bond Form in accordance with the instructions indicated.]

BOND NO. _____

BY THIS BOND *[name of Bidder]* as Principal (hereinafter called “the Principal”), and *[name, legal title, and address of surety]*, authorized to transact business in *[name of country of Employer]*, as Surety (hereinafter called “the Surety”), are held and firmly bound unto *[name of Employer]* as Obligee (hereinafter called “the Employer”) in the sum of *[amount of Bond]*²³ *[amount in words]*, for the payment of which sum, well and truly to be made, we, the said Principal and Surety, bind ourselves, our successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has submitted a written Bid to the Employer dated the ____ day of _____, 20__, for the execution of *[name of Contract]* (hereinafter called the “Bid”).

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal:

- (a) has withdrawn its Bid prior to the Bid validity expiry date set forth in the Principal’s Letter of Bid, or any extension thereto provided by the Principal; or
- (b) having been notified of the acceptance of its Bid by the Employer prior to the expiry date of the Bid validity or any extension thereto provided by the Principal: (i) failed to execute the contract agreement; or (ii) has failed to furnish the Performance Security, and, if required, the Environmental and Social (ES) Performance Security, if required, in accordance with the Instructions to Bidders (“ITB”) of the Employer’s bidding document.

then the Surety undertakes to immediately pay to the Employer up to the above amount upon receipt of the Employer’s first written demand, without the Employer having to substantiate its demand, provided that in its demand the Employer shall state that the demand arises from the occurrence of any of the above events, specifying which event(s) has occurred.

The Surety hereby agrees that its obligation will remain in full force and effect up to and including the date 28 days after the date of expiration of the Bid validity set forth in the Principal’s Letter of Bid or any extension thereto provided by the Principal.

IN TESTIMONY WHEREOF, the Principal and the Surety have caused these presents to be executed in their respective names this ____ day of _____ 20__.

Principal: _____ Surety: _____
Corporate Seal (where appropriate)

²³ The amount of the Bond shall be denominated in the currency of the Employer’s country or the equivalent amount in a freely convertible currency.

(Signature)

(Printed name and title)

(Signature)

(Printed name and title)

Form of Bid-Securing Declaration

Date: _____
RFB No.: _____
Alternative No.: _____

To:

We, the undersigned, declare that:

We understand that, according to your conditions, bids must be supported by a Bid-Securing Declaration.

We accept that we will automatically be suspended from being eligible for Bidding or submitting proposals in any contract with the Employer for the period of time specified in Section II – Bid Data Sheet if we are in breach of our obligation(s) under the Bid conditions, because we:

- (a) have withdrawn our Bid prior to the expiry date of the Bid validity specified in the Letter of Bid or any extended date provided by us; or
- (b) having been notified of the acceptance of our Bid by the Employer prior to the expiry date of the Bid validity in the Letter of Bid or any extended date provided by us, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, and, if required, the Environmental and Social (ES) Performance Security, in accordance with the ITB.

We understand this Bid-Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight days after the expiry date of the Bid validity.

Name of the Bidder* _____

Name of the person duly authorized to sign the Bid on behalf of the Bidder**

Title of the person signing the Bid

=

Signature of the person named above

=

Date signed _____ day of _____,

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

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

[Note: In case of a Joint Venture, the Bid-Securing Declaration must be in the name of all members to the Joint Venture that submits the Bid.]

Letter of Bid - Financial Part

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

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

Note: All italicized text in black font is to help Bidders in preparing this form.

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

Request for Bid No.: *[insert identification]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Employer]*

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

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

- (a) **Bid Validity:** Our Bid shall be valid until *[insert day, month and year in accordance with ITB 18.1]*, and it shall remain binding upon us and may be accepted at any time on or before this date;
- (b) **Total Price:** The total price of our Bid, excluding any discounts offered in item (f) below is: *[Insert one of the options below as appropriate]*

[Option 1, in case of one lot:] Total price is: [insert the total price of the Bid in words and figures, indicating the various amounts and the respective currencies];

Or

[Option 2, in case of multiple lots:] (a) Total price of each lot [insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]; and (b) Total price of all lots (sum of all lots) [insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies];

- (c) **Discounts:** The discounts offered and the methodology for their application are:

(i) The discounts offered are: *[Specify in detail each discount offered]*

(ii) The exact method of calculations to determine the net price after application of discounts is shown below: *[Specify in detail the method that shall be used to apply the discounts]*;

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

Name of Recipient	Address	Reason	Amount

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

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

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

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

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

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

*: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.

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

Appendix A to Financial Part: Schedules Bill of Quantities

Separate BoQ for each lot consists of:

1. Initial Repairs – quantities x rates x amounts,
2. Road Safety Works – quantities x rates x amounts,
3. Climate Change Resilience Works – quantities x rates x amounts,
4. Periodic Maintenance – quantities x rates x amounts,
5. Maintenance and Management Services – 60 x km x fixed monthly rate per km:
This Bill of Quantities is the basis for payment of Maintenance and Management Services that are to be provided on a lump sum per km basis for maintaining the roads covered under the Contract, at the Service Levels defined in the Specifications. The rate(s) given by the Bidder shall, except insofar as is otherwise provided under the Contract, include all plant, equipment, labour, management and supervision, materials, erection, maintenance, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract. The rate(s) shall include the implementation of Management Services as defined in the Specification, namely the establishment and operation of the Self Control Unit as described in the Specifications, and the implementation of the approved Quality Management Plan, Contractor's Environmental and Social Management Plan, Occupational Health and Safety Plan, Traffic Management Plan and Emergency Procedures Plan for the period of the Contract. Payment shall be made in accordance with the actual performance of the Contractor and compliance with the Service Level criteria given in the Specifications. Failure to meet the Service Levels will result in payment reductions in accordance with GCC Clause 44.10. Payment shall be made for each month beginning from the Start Date and will be subject to change in the event that the road lengths or the duration of the Contract are changed by the Employer.
6. Occupational Health & Safety and Site Facility,
7. Emergency Works – provisional quantities x rates x amounts.
8. Day Works – provisional quantities x rates x amounts.
9. Bid Summary – 1-6 plus Provisional Amounts for:
 - Emergency Works
 - Day Works

1. Bill of Quantities²⁴

The Bill of Quantities for: 1. Initial Repairs, 2. Road Safety Works, 3. Climate Change Resilience Works, and 4. Periodic Maintenance, 5. Maintenance and Management Services, 6. Occupational Health and Safety, 7. Emergency Works 8. Day Works and 9. Bid Summary for both the lots is attached in the **Annex 1**.

²⁴ In case of Lump-sum Contract, use Sample Activity Schedule.

Schedule of Payment Currencies

Not Applicable.

All payments All payments shall be made in: Bhutanese Ngultrum (BTN).

Section V - Eligible Countries

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

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

Under ITB 4.8 (a) and ITB 5.1: “*none*”

Under ITB 4.8 (b) and ITB 5.1: “*none*”

Section VI - Fraud and Corruption

(Section VI shall not be modified)

1. Purpose

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

2. Requirements

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

2.2 To this end, the Bank:

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

- f. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- g. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;²⁵ (ii) to be a nominated²⁶ sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- h. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents, personnel, permit the Bank to inspect²⁷ all accounts, records and other documents relating to the procurement process, selection and/or contract execution,, and to have them audited by auditors appointed by the Bank.

²⁵ For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

²⁶ A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

²⁷ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

PART 2 – Works' Requirements

Section VII - Works’ Requirements

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Definitions

General	
Contractor's Environmental and Social Management Plan (C-ESMP)	Contractor's plan for meeting the contract's environmental and social safeguard requirements.
Payment Reduction	A reduction in the payment to the Contractor when a non-compliance with OPM or MPM is first detected during a Formal Inspection or, where applicable, an Informal Inspection.
Grace Period	The time given to the Contractor to remedy a non-compliance with an OPM or MPM without further payment reductions being applied during the Grace Period.
GCC	General Conditions of Contract.
Management Performance Measure (MPM)	Contractual requirements that are not directly related to the physical condition of the road but instead relate to required tasks for managing the roads included in the contract.
Monthly Compliance Tables for Maintenance Services	The Contractor's monthly presentation on his own compliance with contractual requirements for Maintenance Services. It is a required supporting document for the Monthly Statement.
Monthly Progress Report	The Contractor's estimate of progress of all Works under execution and of the volumes of works carried out during the corresponding calendar month. It is a required supporting document for the Monthly Statement.
Monthly Statement	The Contractor's estimate of amounts owed to him by the Employer related to all works and services carried out by him during the calendar month. It is the basis for the Contractor's monthly invoice to the Employer.
OHS Management Plan (OHSMP)	Contractor's plan for meeting the contract's Occupational Health and Safety (OHS) requirements.
Operational Performance Measure (OPM)	Contractual requirement related directly to the quality of the road and therefore to the result of the Contractor's maintenance activities. The required minimum acceptable road conditions and Service Levels are defined through several OPM's.
PBMC	Performance-Based Maintenance Contract.
Program of Performance	The Program of Performance states the sequence of works and operations by which the Contractor intends to attain and maintain the required Service Levels and complete the required works.
Quality Assurance Plan (QAP)	Contractor's plan defining his work methods, the procedures to be followed and activities to be undertaken in order to ensure compliance with the full range contractual requirements and provisions.
Right-of-way (ROW)	The area of the roadway and an additional area extending alongside the road, as specified by legislation or by any provisions issued by the Employer, or by the authority in charge of the roads.
Road	The roadway and all other road-related infrastructure located within the right-of-way of the road.
Road Section	A sub-section of the road located between two identified points.
Service Level	Specific outcomes defined in the contract that are related to the expected functional and operational performance of the road.
Site	All roads included in the contract, including their right-of-way.

Traffic Management Plan (TMP)	A plan prepared by the Contractor describing the traffic management arrangements to be applied in during the typically occurring maintenance or construction activities on the road.
Roles and Responsibilities	
Contractor	The firm (or partnership, or Joint Venture) taking on the responsibility for carrying out the contract and fulfilling its requirements.
Employer	The organization representing the State as owner of the roads (typically the Road Agency) which enters into the PBMC with the Contractor.
Project Manager	The person within the Employer's organization who has been appointed to be in charge of managing the PBMC for the Employer.
Project Manager's Representative	The person(s) or consulting firm selected and appointed by the Employer to control and verify compliance by the Contractor with the provisions and requirements of the Contract. The Project Manager's Representative carries out responsibilities of the Employer and of the Project Manager that have been delegated to him through his Terms of Reference.
Contractor's Representative	The person appointed by the Contractor to represent and act for the Contractor at all times during the period of the Contract and to be in charge of the day-to-day management of the works and services. Has legal and all other faculties to take all necessary decisions related to the execution of the contract.
Self-Control Unit (SCU)	A special unit within the Contractor's organizational structure, staffed with qualified persons, whose role is to plan and implement the Maintenance and Management Services component of the Contract. The SCU is responsible for reporting to the Project Manager the data and information that demonstrate the Contractor's compliance (or non-compliance) with agreed Service Levels and other requirements.
Types of Activities	
Emergency Works	Measures to remedy damages caused to the roads by unforeseeable events and extraordinary natural phenomena (typically weather-related) and which affect the normal use of the road or the safety and security of the users
Improvement Works	Physical works adding new characteristics to the road in response to changes in climate conditions, traffic volumes, or to improve traffic safety
Initial Repairs	Repair of existing road assets carried at the start of the contract in order to restore their condition to equal or exceed the Operational Performance Measures Service Levels defined in the contract.
Periodic Maintenance	Larger measures of a less frequent nature designed to avoid road degradation (such as resurfacing, pavement strengthening, repairs to structures such as bridges, etc.)
Routine Maintenance	Physical interventions that are frequently necessary to maintain the function of the road (such as pothole repairs, cleaning of drainage, sealing of cracks, cutting of vegetation, snow/ice clearing etc.) and to comply with the required Service Level
Winter Maintenance	Snow plowing and removal are included and paid as part of Maintenance and Management Services. Salt and sand supplies are paid through Day Works.

1. Works and Services Requirements

1.1 Contract Roads

The Department of Surface Transport (DoST) of the Ministry of Infrastructure and Transport (MoIT) and the Government Technology Agency (GovTech) is implementing the Accelerating Trade and Transport in Eastern South Asia (ACCESS) Project—Bhutan with the support of the World Bank. The Project's objective is to increase the efficiency and resilience of trade and transport along selected corridors in Bhutan. A component of the Project is the introduction of a Performance-Based Maintenance Contract (PBMC) covering the following road sections:

1. **Lot 1:** Wangdue Zam - Chuserbu (chainage 59.70 to 105.00) PNH01 (45.30 km);
2. **Lot 2:** Wangdue Zam - Chuserbu (chainage 105.00 to 136.00) PNH01 (31 km) and Lawala – Gangtey – Phobjikha Dzongkhag Road including Tabading Access Road (chainage 0 to 17.43 km).

The Contract shall include: repair of existing road assets where required; road improvements; periodic maintenance; emergency works if required; routine maintenance and supporting management services over a Contract Period of five (5) years.

The Contract shall cover all road assets in the right-of-way (ROW) including pavements, shoulders, side drainage, culverts retaining structures, slopes, crash barriers, signs, reflectors, pavement markings and bridges.

Both Contract roads have received various improvements and pavement overlays over the past 10 or more years. However, the conditions of road assets vary due to the combined effects of age, traffic, weather and environmental factors. DoST conducted field surveys of the two roads in October-December 2025 to update the inventory and conditions of the road assets. The survey results and other information including the history of periodic maintenance and improvements are summarized in **Annex 3: Existing Road Assets and Conditions**.

A road safety inspection was conducted by an international road safety specialist in December 2025. It identified the requirement for additional crash barriers, traffic signs, road markings, reflectors, delineators and traffic calming measures. The survey results are summarized in **Annex 4: Road Safety Works**.

In addition to road maintenance and road safety requirements, DoST has identified and prepared designs for a series of works that are needed to adapt against increased flooding and debris flow expected from climate changes. The proposed works are described in Scope of works and services, sub section 1.2.2.

The Contractor shall note that DoST takes no responsibility for the accuracy of the data presented in Annexes 3, 4 and 5 and it is the Contractor's responsibility to check and update the quantities and conditions as needed to fulfil the requirements of the Contract.

DoST is currently executing periodic maintenance, monsoon restoration and minor road widening works on sections of the two roads as summarized in Table 1. The affected road sections are included in the Contract but maintenance services are suspended until the works are completed as described further in Section 3 of these Specifications.

Table 1. Current Works on Project Roads

Road	Chainage	Works	Planned Completion
Phojikha DR	0.00-6.60 km	Widening & improvement	December 2026

1.2 Scope of Works and Services

The Contract Works and Maintenance and Management Services shall comprise:

1. **Road Safety Works** to install additional road safety furniture including guardrails, signs, reflectors and pavement markings;
2. **Climate Change Resilience Works** to provide additional slope protection and drainage;
3. **Periodic Maintenance** that will include pavement repairs and overlays;
4. **Initial Repairs** needed to restore all existing road assets to the Service Levels defined in Section 3 of these Specifications
5. **Maintenance and Management Services** to maintain and manage the road assets in compliance with Section 3 of these Specifications.
6. **Emergency Works** to repair damage to the road assets caused by unforeseen weather or other events beyond the control of the Contractor as described in Section 4 of these Specifications.

1.2.1 Road Safety Works

Road Safety Works include the following works:

- Installation of new W-beam guard rail;
- Installation of new traffic signs;
- Installation of new reflectors in the pavement and delineators along the shoulders;
- Pavement and traffic calming markers;
- Improvement in sight distances.

The basis for payment for Road Safety Works shall be measured quantities of works completed by the Contractor and verified by the Project Manager and the unit prices stated in the Bill of Quantities

1.2.2 Climate Change Resilience Works

Climate Change Resilience Works include the following works:

- Construction of new breast and retaining walls;
- Construction of a check dam;
- Construction of additional side drains, culvert extensions and French drains.

The basis for payment for Climate Change Resilience Works shall be measured quantities of works completed by the Contractor and verified by the Project Manager and the unit prices stated in the Bill of Quantities

1.2.3 Periodic Maintenance

Periodic Maintenance includes overlaying of 16 km on Lot 1 and 15 km on Lot 2 programmed over years 2-5 of the Contract. The exact lengths to be completed in each year shall be determined following annual inspections of pavement age and conditions conducted jointly by the Project Manager and the Contractor.

The basis for payment for Periodic Maintenance shall be measured quantities of works completed by the Contractor and verified by the Project Manager and the unit prices stated in the Bill of Quantities.

1.2.4 Initial Repairs

Initial Repairs are required to restore all road assets to a satisfactory condition and in compliance with the Service Levels specified in Section 3 of these Specifications. They shall apply to all road assets over the entire length of the road and shall be coordinated with Road Safety and Climate Change Resilience Works and Periodic Maintenance where necessary. The works shall include but are not limited to:

- Repair of potholes and sealing or patching of cracking in the carriageway;
- Reinstatement of full carriageway dimensions where there are edge breaks or loose edges;
- Repair of pavement deformations, ravelling and rutting;
- Repair of shoulders and restoring levels and slopes;
- Repair of drains and culverts;
- Repair of retaining structures;
- Repair of parapets;
- Repair and cleaning of bridges and embankments.

The proposed Initial Repairs are summarized in **Annex 5: Initial Repairs**. These Initial Repairs shall be completed following the program contained in Table 3 below. Thereafter the Contractor is expected to comply with the Service Levels through its Maintenance and Management Services.

The basis for payment for Initial Repairs shall be measured quantities of works completed by the Contractor and verified by the Project Manager and the unit prices stated in the Bill of Quantities.

1.2.5 Maintenance and Management Services

Maintenance and Management Services consist of all interventions on the road assets and right-of-way that are to be carried out on a routine or occasional basis by the Contractor in order to maintain the defined Service Levels for the roads included in the Contract. They also include numerous required activities related to the management and patrolling of the roads included in the Contract, throughout the entire Contract duration.

Maintenance activities include but are not limited to the following:

- Repair of pavement defects (e.g .potholes, cracking, edge breaks, deformations);
- Maintenance of shoulders;
- Cleaning of road surfaces and right-of-way;
- Cleaning and repair of drainage systems;
- Repair of retaining structures and maintenance of slopes and embankments;
- Cleaning, repair and replacement of road signs, crash barriers, pavement markings and reflectors;
- Vegetation control;
- Cleaning of bridges and riverbeds and repair of embankments;
- Winter maintenance.

Management of maintenance activities include:

- Establishment and operation of the Contractor's Self-Control Unit;
- Routine patrolling and inspection of all road assets;

- Reporting major damage to the Project Manager;
- Road condition data collection and monthly reporting;
- Other types of reporting as required by the Contract;
- Implementation of quality, health and safety, traffic, and environmental and social management plans;
- Assistance to road users in emergency situations resulting from road crashes, extreme weather events or natural disasters.

The basis for payment for Maintenance and Management Services shall be a monthly lump sum per kilometre multiplied by the length of road being maintained each month, subject to payment reductions if the Service Levels, reporting and other requirements are not achieved as described in Section 3 of these Specifications. The monthly lump sum price per kilometre stated in the Bill of Quantities shall include all the personnel, equipment and materials resources required to provide the Maintenance and Management Services estimated by the Contractor based on its assessment of the road assets, traffic, topography and environmental conditions, and other Contract requirements.

1.2.6 Emergency Works

Emergency Works are repairs to damage to road assets that are caused directly by unforeseen events beyond the control of the Contractor occurring either in the area of the road or elsewhere, but with a direct impact on the road. The quantities of damages must exceed the thresholds specified in Section 4 Specifications to qualify as Emergency works; quantities of damages below the thresholds shall be repaired as part of Maintenance and Management Services.

The basis for payment for Emergency Works shall be measured quantities of works completed by the Contractor and verified by the Project Manager and the unit prices stated in the Bill of Quantities, or otherwise at such unit rates and prices as may be agreed or determined by the Project Manager under the provisions of the Contract.

1.3 Employer's Program

The Employer's Program for completion of Initial Repairs and all Works is summarized in Table 2 and Table 3. The Contractor shall prepare its own detailed programs to comply with the completion times shown and submit to the Project Manager for approval as described in Section 1.4 below.

Table 2. Road Safety, Climate Change Resilience and Periodic Maintenance Works Completion

Type of Works	Quantity to be Completed	Completion from Start Date
Road safety works (new guard rails, safety bunds, signs, reflectors)	Both Lots 50% of total works 100% of total works	12 months 24 months
Climate change resilience works (retaining structures, culverts)	Both Lots 50% of total works 100% of total works	12 months 24 months
Periodic maintenance	Lot 1:	
	Estimated up to 5 km	24 months
	Estimated up to 10 km	36 months
	Estimated up to 16 km	48 months
	Lot 2:	
	Estimated up to 5 km	24 months
	Estimated up to 10 km	36 months
	Estimated up to 16 km	48 months

Table 3. Initial Repairs Completion

Type of Initial Repairs	Completion from Start Date
Pothole patching	100%: 4 months
Cracking patching and sealing	50% of road length: 6 months 100% of road length: 10 months
Edge break repair	100%: 4 months
Pavement depressions repair	50% of road length: 6 months 100% of road length: 10 months
Shoulder repair	100%: 4 months
Side drains repair and reshaping	100%: 6 months
Retaining walls and gabions	50% of road length: 6 months 100% of road length: 10 months
Parapet and bund repairs	100%: 6 months
Km post painting and lettering	100%: 4 months
Bridge cleaning and embankment repairs	100%: 4 months
Other damage identified in the Initial Inspection	To be determined by the Project Manager after the Initial Inspection
Cleaning (pavement, drains, culverts, retaining structures, riverbeds) and vegetation control	100%: 3 months (to be paid under Maintenance and Management Services)

1.4 Contractor's Program

1.4.1 Road Safety and Climate Change Resilience Works

The Contractor shall submit a Program of Performance for the Road Safety Works and Climate Change Resilience Works and the Project Manager shall provide comments within the times prescribed in GCC Clause 30.1. The Program shall be updated in accordance with GCC 30.1.

1.4.2 Initial Repairs, Periodic Maintenances, Emergency Works and Maintenance and Management Services

An Initial Inspection shall be conducted jointly by the Contractor and the Project Manager to confirm, and update where necessary, the existing road asset inventory and condition data. The quantities of Initial Repairs including any Emergency Works shall be updated.

The Initial Inspection shall commence following issuance of the Letter of Acceptance/Award. Based on the Initial Inspection, the Contractor shall prepare its Program of Performance for executing all Initial Repairs and any Emergency Works and submit to the Project Manager for approval and the Project Manager shall provide comments within fourteen (14) days.

Annual Inspections shall be conducted jointly by the Contractor and Project Manager to identify the road sections that will receive Periodic Maintenance in the following year. The Contractor shall submit a Program of Periodic Maintenance and any other major repairs that may be required in the following year and submit to the Project Manager following the same timeline as the Initial Inspection.

In addition to the Annual Inspection, the Project Manager will conduct surveys to measure International Roughness Index (IRI) to provide information that will assist in preparing and approving the scope of Periodic Maintenance.

1.4.3 Liquidated Damages

Liquidated damages for failure to complete the Road Safety Works, Climate Change Resilience Works and Periodic Maintenance Works as contained in the Contractor's approved Programs shall be imposed in accordance with GCC Clause 51.1.

Liquidated Damages shall not apply for failure to complete the Initial Repairs as contained in the Contractor's approved Program. Instead, beginning in the month following the approved completion date(s) for Initial Repairs, reductions shall be applied to payments for Maintenance and Management Services where the Service Levels described in Section 3 of these Works Requirements are not achieved.

1.5 Management Plans

In accordance with the requirements of GCC Clause 16.2 and GCC Clause 18 and these Specifications, the Contractor shall prepare and implement the following Management Plans as part of the Works and Services provided under the Contract:

1. Quality Management Plan;
2. Contractor's Environmental and Social Management Plan;
3. Occupational Health and Safety Plan;
4. Traffic Management Plan;
5. Emergency Procedures Plan;
6. Labor and Camp Management Plan;
7. Pollution Prevention Management Plan (Solid, Liquid and Gas);
8. Spill Prevention and Hazardous Material Management Plan.

The Contractor shall be responsible for preparing the Management Plans, submitting them to the Project Manager for comment, amending and finalizing to account for comments, and submitting for approval. The approved Management Plans shall be implemented throughout the Works and Services.

The Contractor shall submit each of the Management Plans and the Project Manager shall provide comments for each plan within fourteen (14) days.

The Contractor shall include the implementation of the Management Plans over the period of the Contract in its bid prices for the Works and Services contained in the Bill of Quantities.

1.5.1 Quality Management Plan

The purpose of the Quality Management Plan (QMP) is to integrate the requirements of the Contract and the Contractor's quality assurance systems to deliver the Services. The QAP describes the methods and procedures that the Contractor will apply for the execution of the Contract, including how the Contractor will:

1. Identify the quality requirements specific to the contract;
2. Plan and execute the work to satisfy those requirements;
3. Inspect and/or test the work to ensure compliance with the quality requirements;
4. Record and monitor the results as evidence of compliance; and
5. Ensure that prompt action is taken to correct non-compliance.

The QAP must clearly describe the systems, procedures and methods that will be used to deliver and monitor compliance of the Services.

1.5.2 Occupational Health and Safety Management Plan

The Contractor shall prepare and implement an Occupational Health and Safety Plan (OSHMP) in accordance with GCC Clause 18.2. The purpose of the OSHMP is to foster a responsible attitude towards occupational health and safety and to comply with the provisions of the national workplace health and safety legislation and regulations. Because of the nature of the Services, the Contractor may occasionally be exposed to hazardous situations that could involve risk of various degrees of harm, to the contracting staff and/or the public. Situations will arise when it is not practical to eliminate or isolate significant hazards. In these situations, the hazards must be minimized by ensuring planned protection systems (e.g., equipment, clothing) are actually used.

The OHSMP must be complied with by the Contractor's personnel and all subcontractors at all times. When implemented, the OHSMP shall:

1. Ensure the systematic identification of existing and new hazards on the work site(s);
2. Ensure the minimization of significant hazards, where elimination and isolation are both impractical;
3. Ensure the provision and use of appropriate protective measures;
4. Include emergency procedures for dealing with accidental spillage, pollution or imminent danger;
5. Ensure regular review and assessment of each hazard identified and monitor employees exposure to these hazards;
6. Ensure reporting and recording of work site safety incidents so health and safety problems can be addressed quickly and regularly. It is a requirement of this Contract that any such incident be advised promptly to the Project Manager.

1.5.3 Emergency Procedures Plan

The Contractor shall prepare and implement an Emergency Procedures Plan that shall establish the roles, practices and procedures during specific types of emergency events identified in the plans and contingency plans associated with the closure of roads. The purpose of the Emergency Procedures Plan is to ensure the safety of the Contractor's personnel and road users in the case of emergency and/or road closure. It should include:

1. An effective communication and event recording system;
2. Name, contact number and specific duties of the contractor's personnel nominated to respond to an emergency event;
3. Contact number of other parties who need to be notified in cases of emergency events, e.g. police;
4. Detailed response procedures for all emergency events;
5. Possible detour routes in the event of road closure.

1.5.4 Environmental and Social Management Strategies and Implementation Plan

The Contractor shall prepare and implement an Environmental and Social Management Strategies and Implementation Plan (ES-MSIP) in accordance with GCC Clause 18.3. The ES-MSIP shall comply with these Specifications and all applicable legislation and regulations administered by RGoB.

All construction and maintenance activities must be covered by the ES-MSIP including hours of operation, temporary structures, equipment operation, storage of materials, handling of hazardous materials in particular the storage and usage of fuels so as to avoid any spillage in the ground, disposal of spoil, contaminants and refuse, noise and dust control, water quality, protection of plants and wildlife, drainage, erosion and sedimentation, land contamination, monitoring, response to environmental complaints and incidents, and training of Contractor's personnel.

1.5.5 Traffic Management Plan

The Contractor shall prepare and implement a Traffic Management Plan that establishes the practices for traffic control at work sites. Provision of personnel, transport and fuel required to implement the Traffic Management Plan shall be included in the price for Maintenance and Management Services.

1.6 Progress Reports

The Contractor shall prepare and submit Progress Reports on the execution of the Road Safety Works, Climate Change Resilience Works, Periodic Maintenance Works and Emergency Works in accordance with GCC Clause 30.3.

In addition, the Contractor shall prepare and submit Monthly Reports and additional reports as required on the provision of Maintenance and Management Services as described in Section 3 of these Specifications.

2 Specifications for Road Works

2.1 Technical Specifications for Road Works

All works shall be constructed in compliance with:

Technical Specifications for Road Works, Revised Edition September 2025, Department of Surface Transport as supplemented by the Additional Specifications apply to this Contract.

This document is not bound together with the Bidding Document, but may be obtained from the Ministry of Infrastructure and Transport website.

2.2 Additional Applicable Standards and Guidelines

The following standards and guidelines shall apply:

- Bhutan Standard, Road – Geometric Design and Alignment Requirements ICS93.080.10, Bhutan Standards Bureau, July 2021.
- Bhutan Standard, Road Safety Signs and Symbols, Bhutan Standards Bureau ICS01.080.99, April 2017.
- Guidelines on Installation of Crash Barrier, Department of Surface Transport, August 2025.

3 Specifications for Maintenance and Management Services

3.1 Self-Control Unit

3.1.1 General

The Contractor shall establish, within its organizational structure, a specific Self-Control Unit (SCU) staffed with qualified personnel that shall be responsible for completion of the Initial Repairs and delivery of the Maintenance and Management Services. The SCU shall:

1. Maintain at all times complete knowledge and database of the condition of the roads included in the Contract;

2. Patrol the roads included in the contract and inspect the condition of road assets on a regular and frequent basis as defined in Table 5 unless other patrolling frequencies are agreed in writing with the Project Manager;
3. Prepare a program for executing and completing the Initial Repairs in compliance with the requirements of the Contract;
4. Prepare and update as needed a program for executing recurrent and responsive maintenance and repair of all road assets to ensure compliance with the Service Levels described in Table 5.
5. Direct the Contractor's maintenance personnel, equipment and materials resources to carry out the necessary maintenance activities and repairs to complete the Initial Repairs and maintain the road assets in compliance with the Service Levels contained in these Specifications.
6. Prepare the Contractor's Monthly Report on Maintenance and Management Services including the Monthly Compliance Tables and submit to the Project Manager within seven (7) days of each month end.
7. Participate in the Formal Inspections scheduled by the Project Manager in accordance with the Operational Procedures.
8. Investigate damage resulting from weather events (e.g., slope failures, severe scouring), other natural phenomena and road crashes and, if Emergency Works are required, prepare and submit a remedial plan to the Project Manager as specified in Section 4 of these Specifications.
9. Investigate all bridges after severe weather events and report damages to the Project Manager within 48 hours of the event.
10. Report promptly any illegal construction or other illegal activities to the Project Manager.

3.1.2 Personnel

The SCU shall be staffed with qualified and/or experienced individuals. Full time technical staff shall include:

1. SCU Manager: civil engineer with experience in road construction and pavement maintenance;
2. Programmer: engineer or technician with experience in works programming and database management;
3. Works Supervisor(s): technician(s) with experience in road works construction and maintenance;

The SCU shall have access as required to the following specialists:

4. Materials Testing Technician: technician with experience in laboratory testing of road construction materials;
5. Geotechnical Engineer: civil engineer or geoscientist with experience in slope failures and design of climate change resilience measures;
6. Environmental Specialist: environmental specialist with experience in road planning and construction projects.

3.1.3 Facilities and Equipment

The Contractor shall establish one or more SCU field offices on the Contract road and provide the necessary equipment to allow continual communications among all parties involved including the Contractor's head office, SCU, additional field offices, maintenance work teams, construction works teams as well as the Project Manager and its appointed representatives. The Contractor shall

ensure the SCU is contactable 24 hours per day, 7 days per week; and shall establish an emergency phone line, free of charge for emergency contact purposes. This number shall appear in the Contractor's Emergency procedures, as well as in the Emergency Response Plan and will be provided to the Police, Emergency Services and to the heads of local community organizations.

The SCU shall operate a sufficient number of vehicles for patrolling and maintenance supervision activities. Each vehicle shall carry traffic cones and warning signs to manage traffic in the event of a road safety hazard, and hand tools, parts and materials to make temporary repairs, especially in the event of a road safety hazard.

The SCU shall be equipped with the necessary instruments and devices for conducting all inspections including: tape measure, straight edge, transparent crack width measure, inclinometer, GPS and topographical survey equipment.

3.2 Maintenance Services

The Contractor shall make an independent estimate of the routine maintenance works that are necessary for maintaining the road assets throughout the period of the contract, and include the cost for those works in the lump sum price for Maintenance and Management Services in the Bill of Quantities. The Contractor is responsible for estimating the type and quantity of works needed to meet the requirements of the Contract. During the execution of the Contract the Contractor shall not be entitled to make claims for any works that were not foreseen at the time of bid preparation or are not included in the bidding document, other than those works specifically included under Initial Repairs Works, Road Safety Works, Climate Change Resilience Works, Periodic Maintenance and Emergency Works.

3.3 Operational Performance Measures and Service Levels

Operational Performance Measures (OPMs) are a set of performance criteria for the road assets listed below which relate to the physical condition of roads and measure the Contractor's compliance with Service Level requirements. The OPMs that apply in the Contract are:

1. Road Usability
2. Pavement
3. Shoulders
4. Drainage
5. Retaining Structures and Slopes
6. Road Safety Furniture
7. Bridges
8. Vegetation and ROW Control
9. Winter Maintenance.

Each OPM is listed in Table 4 and described in terms of:

1. One or more specific Performance Indicators
2. Corresponding Service Levels
3. Method of measurement
4. Reduction in monthly payment for non-compliance
5. Time allowed for rectification of a non-compliance before Liquidated Damages are applied.

The Contractor shall monitor road asset conditions regularly and measure compliance with the Service Levels monthly as described herein and in the Contractor's Quality Assurance Plan. Results shall be expressed and reported as either being "in compliance", or otherwise as "not in compliance" until the non-compliance has been rectified by the Contractor.

Service Levels for PNH01 and the Dzongkhag Roads are the same except for any differences shown in Table 4. The maximum times allowed for rectification of non-compliances of the Dzongkhag Roads are longer, recognizing these roads carry lower traffic and in the interests of economy.

3.3.1 Road Usability

The Contractor shall ensure the road is open to traffic at all times, including during Initial Repairs, Improvement Works, Periodic Maintenance Works and Maintenance Services. The permitted exceptions are listed in Table 4.

3.3.2 Pavement, Shoulders, Drainage, Retaining Structures and Slopes, Road Safety Furniture, Vegetation and ROW Control, Winter Maintenance

The Contractor shall ensure the conditions of these road assets equal or exceed the Service Levels listed in Table 4 when the Monthly Formal Inspection is conducted.

3.3.3 Bridges

The Contract bridge maintenance activities are limited to bridge deck and superstructure cleaning, riverbed clearing and inspections after extreme weather events as described by the Service Levels in Table 4. Other inspections, repairs, parts replacement and painting shall to be done by the Employer separately from the Contract, or ordered as Dayworks under the Contract.

Table 4. Operational Performance Measures

Operational Performance Measure (OPM)	Performance Indicator	Service Level	Method of Measurement/ Detection	Reduction from Monthly Payment per km for Non-Compliance (Unless Otherwise Specified)	Time Allowed Before Liquidated Damages Are Applied
1. Road Usability	1.1 Road Availability	The Contractor shall ensure that the road is open to traffic and free of interruptions at all times. Permitted exceptions are: - Lane closures following a road crash or event resulting in hazardous material on the carriageway for up to 8 hours for the NH and up to 24 hours for DRs; - Restrictions on traffic flow needed to carry out scheduled road maintenance works; - Slope failures or flood damage exceeding the thresholds for Emergency Works (refer Section 4 of these Specifications); - Restrictions on traffic flow ordered by Traffic Police.	Reported by Contractor, Employer or the public.	5% per 24-hour period applied to affected road section	NH: 2 days DR: 4 days
2. Pavement	2.1 Pothole Size and Number	For any single pothole, the maximum permitted diameter is 30 cm and the maximum permitted depth is 4 cm.	Visual inspection and tape measure.	50%	NH: 28 days DR: 56 days
		The maximum number of potholes permitted in any continuous 1 km section is five.			NH: 56 days DR: 112 days
	2.2 Pavement Cracks	Linear cracks >5 mm wide shall be sealed. Previously sealed cracks where re-cracking has occurred shall be resealed.	Crack widths measured with a small transparent ruler. Area is	10%	NH: 28 days for multiple cracks >3mm wide. 56 days for other cracks.

	Multiple cracks >3mm wide shall be sealed. For multiple cracks <3 mm wide the maximum total area permitted in any 1 km road section is 10% of the pavement surface. Previously sealed cracks where re-cracking has occurred shall be resealed.	measured by a rectangle parallel to the centerline that fully encloses multiple cracks.		DR: 56 days for multiple cracks >3mm wide. 112 days for other cracks.
2.3 Ravelling	Maximum area of ravelling or stripping with distinct lost of aggregate or disintegration of bituminous layer permitted in any 1 km section of road surface is 10% of the pavement surface.	Area is measured by a rectangle parallel to centreline that fully encloses the ravelled, stripped or disintegrated section.	10%	NH and DR: 56 days
2.4 Pavement Deformation	Maximum depth of pavement deformation (depressions, subsidence, shoving) permitted is 50 mm for the NH and 75 mm for the DRs.	Maximum depth under a 1.8 m straight edge.	10%	NH: 56 days DR: 112 days
2.5 Edge Breaks	There shall be no loose pavement edges, or pieces of pavement breaking off at the edges >5 m in length. Maximum width of an edge break on either side is 10 cm	Visual inspection and tape measure.	10%	NH: 56 days DR: 112 days
2.6 Patching	Patches (i) shall be square or rectangular, (ii) must have squared edges cut with a blade or a similar tool, (iii) shall be level with the surrounding pavement, (iv) shall be made using materials similar to those used for the surrounding pavement, and (v) shall not have cracks >3 mm width. Non-compliant patches shall be removed and replaced.	Visual inspection and straight edge.	10%	NH: 56 days DR: 112 days

	2.7 Cleanliness of Pavement and Shoulders	Road surface, shoulders and drainage shall be free of soil, rocks, debris, road kill, damaged vehicles and fuel/oil spillages.	Visual inspection.	10%	NH and DR: 28 days
	2.8 Hazardous Material on Pavement and Shoulders	Soil, rocks, debris, road kill, damaged vehicles and fuel/oil spillages that present a road safety hazard shall be removed to allow traffic on a single lane within 8 hours for the NH and 24 hours for the DRs and from the carriageway and shoulders up to 1 m from the pavement edge within 24 hours for the NH and 48 hours for the DRs.	Reported by Contractor, Employer or the public.	100%	NH: 24 hours DR: 48 hours
3. Shoulders	3.1 Shoulder Condition	Shoulders shall be free of depressions that would allow water to penetrate into the carriageway base course. Any loss of shoulder width or side slope due to erosion, scouring, landslips or vehicle damages shall be restored to the original dimensions.	Visual inspection and tape measure.	10%	NH: 56 days DR: 112 days
4. Drainage	4.1 Drain Condition	All side and vertical drainage elements shall be undamaged, free from erosion and firmly anchored by the surrounding soil.	Visual inspection.	10%	NH: 56 days DR: 112 days
	4.2 Drain Obstruction	All drainage elements shall be free-flowing and free of vegetation and the maximum obstruction permitted at any point is 20% of the cross-section.	Visual inspection and tape measure.	10%	NH: 28 days DR: 56 days
	4.3 Culvert Condition	Culvert pipes, headwalls, wingwalls, aprons and embankment protection such as gabions shall be undamaged and firmly anchored by the surrounding soil.	Visual inspection.	10% per culvert	NH: 56 days DR: 112 days

	4.4 Culvert Obstruction	Maximum obstruction of the culvert cross-section permitted at any point is 20%.	Visual inspection and tape measure.	10% per culvert	NH: 28 days DR: 56 days
5. Retaining Structures and Slopes	5.1 Retaining Structures	Structures shall be undamaged, free of debris and vegetation.	Visual inspection.	10% per structure	NH and DR: 56 days
	5.2 Removal of Slope Failure Materials	Rocks, debris and soil from slope failures, landslides and debris flows shall be removed from pavements, shoulders, drains, culverts and retaining structures.	Visual inspection.	10% per event	NH and DR: 28 days
	5.3 Emergency Removal of Slope Failure Materials	Where the quantity of slope failure materials exceeds the thresholds for Emergency Works as defined in Section 4 of these Specifications, the Contractor shall estimate the quantities, prepare an Emergency Works plan and cost estimates and submit to the Employer for approval within 2 days.	Visual inspection, tape measure and other equipment as needed.	100%	NH and DR: 2 days
6. Road Safety Furniture	6.1 Road Signs	All road signs and km markers shall be present, clean, legible, structurally sound and clearly visible day and night.	Visual inspection.	10% per sign	NH: 56 days DR: 112 days
		Existing road signs that are not structurally sound, destroyed or removed shall be replaced or repaired. New signs shall comply with Bhutan Standard Road Safety Signs and Symbols ICS01.080.99.			
	6.2 Reflectors and Delineators	All reflectors and delineators shall be present, clean, legible,	Visual inspection.	5% per unit	NH: 56 days DR: 112 days
	6.3 Pavement Markings	All pavement markings shall be clearly visible to the vehicle operator from 100m as permitted by vertical and horizontal sight distances.	Visual inspection.	10%	NH: 56 days DR: 112 days

	6.4 Crash Barriers	Existing guardrails and parapets that structurally unsound, destroyed or removed shall be replaced or repaired. New crash barriers shall comply with DoST Guidelines on Installation of Crash Barriers.	Visual inspection and tape measure.	10% per barrier	NH: 56 days DR: 112 days
		Earth bunds shall conform to the DoST Guiding Principles for Construction of Roadside Earth Bund as Safety Barrier.			
7. Bridges	7.1 Bridge Deck and General	Road surface, kerbs, footpaths, guardrails, barriers and signs shall be in sound condition and free of vegetation, debris and litter. Drains and scuppers shall be clean allowing free flow of water from the deck. Expansion joints shall be clean and in good condition.	Visual inspection.	20% per bridge	NH and DR: 28 days
	7.2 Retaining Structures and Embankments	Inspect river banks, abutments and piers for scour damage after heavy rains and report any damage to the Project Manager within seven (7) days.	Visual inspection.	10% per bridge	NH and DR: 14 days
	7.3 Riverbed Obstructions and Scouring	Free flow of water under bridge and up to 100 m upstream and downstream. Design clearance under bridge shall be maintained and abutments and piers shall be free of trees and other debris.	Visual inspection.	10% per bridge	NH and DR: 28 days
8. Vegetation and ROW Control	8.1 Vegetation Control	The Vegetation Free Zone includes a carriageway. Shoulders and an area 10m either side of culvert inlets and outlets to be clear of dense bush and maximum height permitted is 100 mm.	Visual inspection and tape measure.	10%	NH: 28 days DR: 56 days

		ROW includes side slopes, ditches, and backslopes up to 3 m from edge of carriageway: to be clear of dense bush and maximum height of 300 mm.			
		Overhead includes carriageway, shoulders and side slopes: limb trees to provide 6 m clearance above ground.			
	8.2 ROW Control	ROW shall be cleared of debris, damaged vehicles and illegal structures.	Visual inspection.	10%	NH: 56 days DR: 112 days
9. Winter Maintenance	9.1 Snow Clearance and De-icing	The Contractors shall mobilize its snow removal and salt/sand distributing equipment and take all reasonable actions to keep at least one lane open to traffic at all times and re-open the road to two-way traffic within 24 hours.	Visual inspection.	10% per 24-hour period	NH and DR: 2 days
		Both lanes shall be salted and/or sanded within 24 hours from the end of snowfall.			

1.1 Management Performance Measures and Service Levels

Management Performance Measures (MPMs) are a set of performance criteria to be fulfilled by the Contractor that relate to the management of Maintenance and Management Services under the Contract, including the collection and reporting of various types of data and timely information to the Project Manager, which may be needed as input to the Employer's road asset management system. The applicable MPMs for this Contract are summarized in Table 5.

Compliance with MPM's is measured either monthly or as otherwise defined in the Contract. Results are to be expressed as either being "in compliance" or "non-compliant". In case of non-compliance, such non-compliance will continue to be recorded until compliance has been established by the Contractor to the satisfaction of the Project Manager.

Table 5. Management Performance Measures

MPM No.	Performance Indicator	Service Level	Reduction from Total Monthly Payment for Non-Compliance
1	1.1 SCU Personnel and Equipment	The Contractor shall operate the Self-Control Unit with the personnel and equipment as defined in the Specifications at all times.	5%
	1.2 Patrols	SCU shall patrol all roads in the Contract a minimum of once per week, conducting visual inspections as needed. The number of patrols shall be increased to a minimum of twice per week during periods of heavy rains, winds or snowfall.	
2	Program of Performance	The contractor shall submit by due dates per the Specifications. In the case of comments, the revised document shall be resubmitted within fourteen (14) days after the issuance of written comments by Project Manager.	5%
3	Contractor's Quality Assurance Plan (QAP)	The contractor shall submit by due dates per the Specifications. In the case of comments, the revised document shall be resubmitted within fourteen (14) days after the issuance of written comments by Project Manager. The contractor shall be in compliance with each management plan at all times. Payment reduction is applied for each separate non-compliance, and for each day during which non-compliance continues.	5%
4	Contractor's Environmental and Social Management Plan (C-ESMP)		5%
5	Occupational Health and Safety Plan (OHSMP)		5%
6	Traffic Management Plan		5%
7	Emergency Procedures Plan		5%
8	Monthly Report (including compliance tables for Maintenance Services)	Contractor shall complete and submit by the due dates per the Specifications.	5%
9	Asset Inventory Reports	Contractor shall complete and submit by due dates per the Specifications. In the case of comments, the revised document shall be resubmitted within fourteen (14) days after the issuance of written comments by Project Manager.	2%

1.2 Reports

1.2.1 Contractor's Monthly Report on Maintenance and Management Services

The compliance (and any non-compliance) of the Contractor will be reported by the Self-Control Unit to the Project Manager in a Contractor's Monthly Report on Maintenance and Management Services. The table of contents and information required in the report are presented in Table 6. The Contractor is permitted to organize and present the required information at its discretion provided the required information is contained in the report. The Contractor shall propose a format of the Monthly Report to be approved by the Project Manager. In addition, the Contractor shall provide photographs with location coordinates (chainage and GPS) showing significant damage affecting usability, road safety, usability and durability and the repairs made that should be drawn to the attention of the Project Manager.

1.2.2 Monthly Statements

The Monthly Report shall include a Monthly Statement containing any non-compliances with both the Maintenance and Management Services for each Performance Indicator and each km length included in the Contract. The Contractor shall propose a format for reporting details of the non-compliances, to be approved by the Project Manager, but the Monthly Statement shall summarize the non-compliances following the format is provided in Table 7 Monthly Statement for Maintenance Services.

A second Monthly Statement shown in Table 8 Monthly Statement for Management Services will be prepared by the Project Manager based on his formal and informal inspections.

1.2.3 Road User Response Report

The Contractor shall maintain a log containing the date and time of calls received from road users, date and time of response and action taken to resolve issues. The Contractor shall propose a format of the Road User Response Report to be approved by the Project Manager.

1.2.4 Road Asset and Condition Reporting

The Contractor shall prepare a base strip map of the road at a suitable scale noting all significant Road Assets and other features including the carriageway, shoulders, junctions, bridges, drainage, road furniture, settlements, schools and health facilities as contained in the Annexes and showing the kilometre and 200m chainages during the Initial Inspection. The strip map will be used to record road conditions by the Self-Control Unit and the Project Manager during daily, informal and formal inspections. The base strip map shall be easily reproduced and the Project Manager shall be given a copy in electronic format so he may print additional copies as needed.

The Contractor shall prepare a database in electronic format of the Road Assets, their condition and the works conducted by the Contractor following the inventory system shown in Annex 3: Road Assets and Conditions. The Contractor shall verify the Road Assets and their location by chainage and GPS coordinates, and record their condition at the time of the Initial Inspection. Thereafter, the Contractor shall record any defects, with GPS coordinates, for each of the Performance Indicators shown in Table 4 existing at the end of each month, keeping 12 separate monthly records. The records will be in the form of Excel/Access spreadsheet. The Contractor shall also update the database to show changes in the road assets following the Road Safety Works, Climate Change Resilience Works and Periodic Maintenance Works noting the works completed, location data and dates of completion in a format that is consistent with and facilitate transfer of data to DoST's road asset management system.

The Contractor shall provide the Project Manager with a printed and electronic copy of the database at the completion of the Initial Inspection, at the end of Month 12 and thereafter at annual intervals until the completion of the contract. The cost of data collection, compilation and transfer to the

Employer shall be included in the Contractor's bid price for Maintenance and Management Services.

1.2.5 Maintenance and Management Services Handover Report

Immediately prior to the completion of the Contract the Contractor shall prepare a Handover Report. The purpose of the Handover Report is to provide a smooth transition to the next contract and ensure that the next contractor is aware of any outstanding issues. The Report will:

1. Punch list of any defects from the Periodic Maintenance Works;
2. Include the most recent complete set of data on the roads covered by the Contract; and
3. Provide the following details:
 - i. schedule of outstanding defects and liabilities;
 - ii. any unresolved issues, especially those that may impact on the next contractor;
 - iii. up-to-date strip map;
 - iv. any ongoing special monitoring/maintenance needs.

The Delivery Time for the Handover Report shall be not later than 14 days before the Completion Date.

1.3 Employer Inspections

1.3.1 Formal Inspections of Service Levels

Formal inspections are those scheduled in advance by the Project Manager, and carried out by the Contractor (through its Self-Control Unit) under the supervision of the Project Manager. The main purpose of the formal inspections is to enable the Project Manager to verify the information presented in the Contractor's Monthly Statement and to issue the Monthly Payment Certificate. The Project Manager must inform the Contractor of its intention to carry out a formal inspection at least 48 hours in advance, indicating the exact date, hour and location where the formal inspection is to begin. The Contractor is obliged to be present at the date, hour and location specified by the Project Manager, providing the physical means needed for the inspection as indicated further below. Formal inspections will normally, but not necessarily, be scheduled to begin within less than five (5) days after the presentation by the Contractor of the Monthly Statement to the Project Manager; and they should normally be completed within a maximum of three (3) days.

The formal inspections allow the comparison of the information on compliance provided by the Contractor in the standard tables that are part of its Monthly Statement, with actual measurements taken in locations to be determined by the Project Manager. During the formal inspections, the Project Manager will prepare a brief Memorandum describing (i) the general circumstances of the site visit, including date, road sections visited, persons present, etc., (ii) any non-compliance which may have been detected, and (iii) the maximum time allowed the Contractor to remedy non-compliances.

Based on the outcome of the formal inspection, the Project Manager will immediately correct any possible errors or misrepresentations in the Contractor's statement, countersign it and present it to the Employer for payment, and to the Contractor for information.

Formal inspections will also be scheduled for the follow-up site visits, whose purpose is to verify if the Contractor has remedied the causes of earlier non-compliance, within the time frame granted by the Project Manager and recorded in the Memorandum.

For the formal inspections of compliance with Service Levels, the Contractor's SCU will work in close collaboration with, and under supervision of the Project Manager. The physical means needed for the inspections will be provided by the Contractor; they are the same which are normally used by the SCU for the continuous self-evaluation of the Contractor's compliance.

1.3.2 Informal Inspections of Service Levels

The Project Manager may carry out informal inspections of Service Levels as part of its general mandate given by the Employer at anytime and anywhere on the roads included in the Contract. He shall use his own transport and means of measurement for those inspections. If he detects any road sections where the Service Level criteria are not met, he is obliged to inform the Contractor within 24 hours in writing, in order to enable the Contractor to take remedial action as soon as possible. The results of informal inspections may not be used by the Project Manager for purposes of correcting the Contractor's monthly statements or applying penalties, except for: (i) cases in which the road has been completely interrupted and the criteria of Road Usability have not been met and (ii) non-compliance with the Contractor's safety, health, traffic management and environmental management plans described in Section 3.4 above.

1.3.3 Other Inspections

Inspections for Environmental and Social Assessment: The Contractor shall carry out the inspections required under the relevant legislation, these Specifications, and the Contract, and submit any required assessment reports.

Other Joint Inspections: The Project Manager or the Contractor may ask the other party at any time to undertake other joint inspections, including during nighttime, with the objective to:

1. Seek solution of Contract-related issues affecting all parties;
2. Identify and investigate any necessary works which were not previously identified;
3. Confirm actual progress on site towards the Contractor's current Programme of Performance; and
4. Confirm that the social and environmental requirements have been complied with during the execution of the Contract.

End-of-Contract Inspection: The Project Manager and the Contractor shall undertake joint inspections as needed, at the following times:

1. No later than three (3) months before the end of the Contract, with the purpose of identifying any additional remedial works that need to be completed before the end of the contract period;
2. No later than one (1) month before the expiration of any Defects Liability Period, in order to confirm that all required remedial works have been adequately completed.
3. Any other inspections found necessary by the Project Manager.

The Contractor's costs in participating in all inspections and preparing and making available reports thereon shall be deemed to be included in rates and prices included in his Bid.

1.4 Payment for Maintenance and Management Services

Payment for Maintenance and Management Services shall be the monthly lump sum per kilometre contained in the priced Bill of Quantities for each road class multiplied by the length of each road class being maintained under the Contract during the payment month. The monthly payment for each road class shall be subject to payment reductions if the specified Service Levels are not achieved as described below. Payments shall commence from the Start Date.

1.4.1 Payment Procedure

The results of each Formal Inspection of the Service Levels and additional Informal Inspections conducted by the Project Manager will be recorded by the Project Manager in the form of a Memorandum.

For all non-compliances either reported by the Contractor or determined by the Project Manager, the Contractor will be subject to Payment Reductions in the Monthly Payment as listed in Table 4 and Table 5. There are three categories of Payment Reduction:

1. OPM-1 Road Usability: Where any obstruction of the road causes non-compliance with the road usability Service Level for a period of greater than 8 hours for the NH section or 24 hours for the DR sections a reduction of 5% shall be applied to the full monthly payment for the entire affected road section. This reduction shall be repeated for every 24-hour period in which the obstruction is not removed and road usability restored. Unlike inspections of other performance indicators, inspection of road usability may be carried by the Project Manager out at any time.
2. OPM-2 to OPM-9 Remaining Operational Performance Measures: For each instance of non-compliance the Employer is entitled to impose reduction from the monthly payment for each affected one-km section by the percentage for each Performance Indicator as shown in Table 4.
3. MPM-1 to MPM 10: Management Performance Measures: For each instance of non-compliance the Employer is entitled to reduce the total monthly lump-sum payment for the entire road length by the amounts or percentages shown in Table 5.

The Memorandum shall summarize all non-compliances and payment reductions for Maintenance and Management Services as presented in Table 7 and Table 8.

1.4.2 Liquidated Damages for Maintenance and Management Services

Payment reductions for any non-compliance shall continue each month. In the event that the Contractor fails to rectify any non-compliance within the times specified in Table 4 Column “Time Allowed Before Liquidated Damages Are Applied” or otherwise permitted by the Project Manager, the Liquidated Damages as prescribed in GCC Clause 51.1 shall be applied for each occurrence and continue for each month until the non-compliance is rectified.

1.4.3 Start of Maintenance Services Payment Reductions

The Contractor shall be given the time periods in the Program for Initial Repairs approved by the Project Manager during which no Payment Reductions in Monthly Payments for Maintenance and Management Services will be made. Payment Reductions for non-compliances for individual road assets shall apply beginning in the month following the completion of the Initial Repairs of those individual road assets contained in the approved Program for Initial Repairs. The following exceptions apply:

1. OPM 1.1 Road Availability shall apply beginning one month from the Start Date.
2. OPM 2.9 Hazardous Material on Pavement shall apply beginning one month from the Start Date.

1.4.4 Start of Management Services Payment Reductions

The Contractor shall provide all Management Services beginning from the Start Date of the Contract. No Payment Reductions will be made at the end of the first month from the Start Date for non-compliances associated with Management Services. The following exception applies:

1. MPM 1.1 SCU Personnel and Equipment shall apply from the Start Date.
2. MPM 1.2 Patrols shall apply from the Start Date.

Table 6. Contents of Monthly Report on Maintenance and Management Services

Contract No: Contractor: Month and Year: Date of Inspection:	
Report Section	Description of Activities During Reporting Month

1. Road Usability	Road closures: date, location, details, cause, times of closing and re-opening.
2. Road Safety	Road crashes: date, location, details, time, time of removal of vehicles, date of completion of repairs.
3. Weather-Related Events	Flooding: date, location, damage details, date of completion of repairs, report on bridge inspections.
4. Other Events	Civil disturbances or other events: date, location, details, actions taken by Contractor.
5. Maintenance Services	For each performance indicator: Quantities of repairs in each km section Quantities of defects remaining but programmed for repair in each km section For repairs of pavement performance indicators 2.1 to 2.7, provide GPS coordinates in XLS file format (2 times/year).
6. Management Services	Compliance check in each management plan. Outputs completed for Social and Gender Awareness Plan, Health and Safety Program, HIV/AIDs Awareness Program, Emergency Procedures Plan. Summary of Self-Control Unit patrols, response to public calls. Present patrol and public call logs for inspection by Project Manager.
7. Initial Repairs	Report format and details required in support of requests for payment will be agreed between the Contractor and Project Manager and shall follow conventions used in works paid by measured quantities.
8. Periodic Maintenance	
9. Emergency Works	
Prepared by Contractor's Self-Control Unit	Signed: Name:
Certified by Project Manager	Signed: Name:

Table 7. Monthly Statement for Maintenance Services

Contract:		Month:	
Contractor:		Date:	
Road Length Applicable:			
Performance Indicator	Total Equivalent Non-Compliant Length, km	% Reduction for Non-Compliance	Payment Reduction, km
1.1 Road Availability		5% per day applied to affected road section	
2.1 Pothole Size and Number		50%	
2.2 Pavement Cracks		10%	
2.3 Ravelling		10%	
2.4 Pavement Deformation		10%	
2.5 Edge Breaks		10%	
2.6 Patching		10%	

2.7 Cleanliness of Pavement and Shoulders		10%	
2.8 Hazardous Material on Pavement and Shoulders		100%	
3.1 Shoulder Condition		10%	
4.1 Drain Condition		10%	
4.2 Drain Obstruction		10%	
4.3 Culvert Condition		10%	
4.4 Culvert Obstruction		10%	
5.1 Retaining Structures		10%	
5.2 Removal of Slope Failure Materials		10%	
5.3 Emergency Removal of Slope Failure Materials		100%	
6.1 Road Signs		10%	
6.2 Reflectors and Delineators		5%	
6.3 Pavement Markings		10%	
6.4 Crash Barriers		10%	
7.1 Bridge Deck and General		20%	
7.2 Retaining Structures and Embankments		10%	
7.3 Riverbed Obstructions and Scouring		10%	
8.1 Vegetation Control		10%	
8.2 ROW Control		10%	
9.1 Snow Clearance and De-icing		10%	
Total Payment Reduction for Maintenance Services, km			
Contractor's Representative: Signed: Name:	Project Manager: Signed: Name:		

Table 8. Monthly Statement for Management Services and Combined Maintenance and Management Services

Contract:	Month:	
Contractor:	Date:	
Road Length Applicable:		
Performance Indicator	% Reduction for Non-Compliance	Payment Reduction, km
1.1 SCU Personnel and Equipment	5%	
1.2 Patrols		
2. Program of Performance	5%	
3. Contractor's Quality Assurance Plan (QAP)	5%	
4. Contractor's Environmental and Social Management Plan (C-ESMP)	5%	
5. Occupational Health and Safety Management Plan (OHSMP)	5%	
6. Traffic Management Plan	5%	
7. Emergency Procedures Plan	5%	
8. Monthly Report	5%	
9. Asset Inventory Reports	2%	

Total Payment Reduction for Management Services, km		X
Total Payment Reduction for Maintenance Services from Table 7, km		Y
Total Reduction from Monthly Payment for Maintenance and Management Services, km		X+Y
Contractor's Representative: Signed: Name:	Project Manager: Signed: Name:	

2 Specifications for Emergency Works

2.1 Justification for Emergency Works

Emergency Works are works carried out to repair damage to the roads in the Contract that are caused by unforeseeable events or natural phenomena against which an experienced contractor could not reasonably have been expected to take precautions. The damage may have occurred either on the road itself, in the Right-of-Way or elsewhere, but with a direct impact on the road.

Damage due to unforeseeable events or natural phenomena do not include “normal” damage, such as trees falling on the road, normal erosion of the road and embankments due to normal rain and minor flooding (less than specified in this document), pavement deterioration that may result from periodic inundation of adjacent field crops due to seasonal rains, or irrigation practices, or any consequential pavement deterioration that may arise beyond the actual period of flooding, minor damages caused by traffic accidents, blockages from landslides where the volume of material requiring to be moved is less than the threshold indicated in these Specifications, or snowfall of any amount. Those damages must be remedied by the Contractor as a part of the normal obligations under the Contract.

Natural phenomena or unforeseeable events may include but are not limited to:

- Localized rainfall events within the contract area exceeding once in ten years 24-hour rainfall duration intensity.
- Flood events within the Right-of-Way, defined as being either (i) submersion of the carriageway by at least 20 cm of water for a minimum of 12 hours extending over the carriageway centreline; and/or (ii) a breach/washout due to flooding of the carriageway extending over the carriageway centreline.
- Earthquakes sufficient to cause serious damage to road assets and bridges.
- Oil and chemical spill situations (unless the spillage is related to any action or inaction by the Contractor himself), defined as those situations occurring due to abnormal spillage in terms of quantity of the discharge, and/or the severity of hazard presented to the safe operation of the roads, to road users, local communities or the general environment. Such spillage may be from a structure, pipe, vehicle, or container.
- Slope and embankment failure emergency situations, defined as being (i) a subsidence or complete failure that restricts the safe passage of vehicles, (ii) landslides causing a blockage of the road and requiring the removal of more than the threshold volume of material to restore the road to a safe operating and maintainable condition, except where the washouts or slides are the result of insufficient maintenance by the Contractor of that system or of drainage structures.

Other situations may also qualify as requiring Emergency Works and the Project Manager will have the sole decision-making power on accepting other works proposed by the Contractor as Emergency Works. An event requiring Emergency Works may also be notified by the Project Manager to the Contractor, jointly with a request to the Contractor to propose Emergency Works.

Emergency Works may be used to repair damages if those damages exceed the quantities listed in Table 9; otherwise, the damages shall be repaired as part of the Contractor's Maintenance Services.

In addition, there are damages that may qualify as Emergency Works where minimum physical quantities cannot be defined but the estimated cost exceeds the amount provided in the additional clause in PCC.

Table 9. Threshold Values for Emergency Works

Activity	Unit	Minimum Quantity per Emergency Event
Removal of slide material from road and side drains	m ³	50

2.2 Procedure for Requesting Emergency Works

The procedure described below is to be applied.

As soon as practicable after such an Emergency event occurring, the Contractor shall submit to the Project Manager its formal request to carry out works under the category of "Emergency Works", along with any information needed to justify such request, including documentation on the circumstances of the event and the damages caused, through photographs, video and other suitable means.

The Project Manager shall evaluate the request made by the Contractor. The evaluation may include a site visit which should ideally take place jointly with the Contractor.

Within seven (7) days after having received the Contractor's request, the Project Manager shall inform the Contractor in writing if his request to classify the damages as requiring Emergency Works is accepted or not.

If the request to classify the works as Emergency Works is accepted, the Contractor is required to submit to the Project Manager within seven (7) calendar days a "Proposal for Emergency Works" which must include (i) the Design of the proposed Emergency Works, (ii) a priced Bill of Quantities showing the estimated quantities, (iii) the estimate of the total cost of the Emergency Works and (iii) the proposed time for completion of the works. The Project Manager may extend the seven-day period if the scale and scope of the Emergency Works require a more time-consuming design.

Within 14 calendar days of the receipt of the Contractor's Proposal for Emergency Works, the Project Manager shall review the Contractor's Proposal for Emergency Works and shall either (i) issue a Work Order to the Contractor, or (ii) explain to the Contractor in writing any shortcomings of the Proposal which the Contractor needs to remedy, along with the time granted to the Contractor for submitting a revised Proposal.

Emergency Works will be carried out on the basis of a Work Order issued by the Project Manager. The Work Order will (i) specify and describe the works, including design drawings, (ii) include the Bill of Quantities showing the estimated quantities and corresponding unit rates, and the total estimated cost, (iii) include any specific instructions which may be applicable, such as for the quality of materials to be used and the testing of the works, and (iv) indicate the time allowed for their execution. The order may also indicate a requirement for an engineering/geotechnical assessment of the options for the permanent repairs to the site, for a detailed design of the permanent works and for the preparation of a priced Bill of Quantities.

2.3 Payment for Emergency Works

Payments for Emergency Works shall be in accordance with GCC Clauses 44 and GCC Clause 45.

Routine repairs within the thresholds specified in Additional clause of PCC (3) for pavement and drainage, and Table-9 under sub-section 2.1 removal of slide material from road and side drain shall be deemed included in the monthly Maintenance and Management Services payment and shall not be separately payable. Where damage arising from an eligible emergency event exceeds the applicable threshold, the Project Manager may classify the required repairs as Emergency Works and issue a written Work Order. The applicable threshold shall be assessed per event/per kilometre/per month, as determined by the Employer. The Work Order shall specify whether the entire verified repair scope or only the portion exceeding the applicable threshold is separately payable. No amount classified and paid as Emergency Works shall also be deducted from the Maintenance and Management Services payment.

2.4 Obligations During Emergency Events

Given the nature of this contract and the fact that Emergency Works are remunerated separately, the Contractor will, during the execution of Emergency Works, continue to be responsible for assuring the normal Service Levels on all roads included in the contract. In particular, the Contractor will do everything reasonably possible to ensure the normal use of all the roads under contract, including the sections affected by emergencies.

If road traffic has been interrupted because of an emergency, the Contractor will follow the provisions of the Traffic Management Plan included in his Quality Assurance Plan and take the measures necessary (i) to reopen the road to traffic in the shortest time possible, and (ii) to maintain the road open during emergency works, without being entitled to a specific compensation for those measures. This relates particularly to trees or other objects which may have fallen on the road, damage to access ramps to bridges, erosion of embankments, collapse of slopes, traffic accidents, flooding, etc.

The Contractor will not be subject to payment reductions for the partial or full traffic interruption on roads that are caused by events necessitating the use of Emergency Works for rectification, provided that he acts according to these Specifications.

3 Supplementary Information

The following external annexes contain background information assembled by the Employer in preparing the scope of work and maintenance requirements:

- Annex 1: Bill of Quantities
- Annex 2: Drawings
- Annex 3: Existing Road Assets and Conditions
- Annex 4: Road Safety Works
- Annex 5: Initial Repairs
- Annex 6: Monitoring Checklist for OHS001 and OHS002

The Contractor shall note that the Employer takes no responsibility for the accuracy of the data presented in these Annexes and it is the Contractor's responsibility to check and update the quantities and conditions as needed to fulfil the requirements of the Contract.

Environmental and Social (ES) Requirements

In this Section and throughout the Contract, including:

- The laws, regulations, and standards of the Kingdom of Bhutan applicable to the Works, including but not limited to the National Environment Protection Act 2007, the Labour and Employment Act 2007, the Mines and Minerals Management Act 1995, the Occupational Health and Safety Regulations 2022, and any permits, consents, and clearances issued by the National Environment Commission (NEC) and other competent authorities for the Project;
- The applicable World Bank Environmental and Social Standards (ESS) under the Environmental and Social Framework (ESF);
- The World Bank Group Environmental Health and Safety Guidelines (EHSGs), including the General EHS Guidelines of Toll Roads

This contract is subject to mandatory environmental and social (ES) requirements established by the Employer in accordance with the Government of Bhutan environmental regulations. An Environmental and Social Screening of this subproject has been conducted by the DoST Project Management Unit. The operative E&S requirements arising from that screening are set out in the following Annexes to this Section, which form an integral and legally binding part of this contract. The Contractor and all subcontractors must strictly comply with all applicable provisions.

- **Annex 1: Environmental and Social Codes of Practice (ESCoPs):** These Codes of Practice define the mandatory environmental, occupational health and safety, and waste management measures applicable to all supply, installation, commissioning, and civil works activities under this contract.
- **Annex 2: Labor Management Procedures (LMP):** These procedures define labor standards and worker rights requirements applicable to all contracted workers, subcontractor workers, and primary supply chain workers engaged under this contract, including the Code of Conduct.
- **Annex 3: Chance Find Procedure:** They are triggered by discovery and require immediate action, without waiting for Engineer instruction.
- **Annex 4: Sexual Exploitation, Abuse, and Sexual Harassment (SEA/SH) Requirements:** This Annex sets out the mandatory requirements for the prevention of, and response to, Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) under this contract. These requirements apply to the Supplier and all subcontractors, and to all personnel engaged under this contract.
- **Annex 5: Management Strategies and Implementation Plans (MSIPs) which MSIPs shall include the following:**
 - i. Occupational and Community Health and Safety Management Plan;
 - ii. Labor and Workers' Camp Management Plan;
 - iii. Pollution Prevention and Waste Management Plan, covering solid, liquid, and gaseous emissions and wastes;
 - iv. Spill Prevention and Hazardous Materials Management Plan;
 - v. Emergency Preparedness and Response Plan;

- vi. Traffic Management Plan; and
 - vii. Standalone Contractor's Environmental and Social Management Plans (CESMPs) for asphalt plants, crusher plants, and quarry sites.
- **Annex 6 Monthly Report:** defines the minimum content of the Contractor's monthly ES progress reports. This report must be submitted to the Engineer no later than the 5th working day of each month, covering the preceding calendar month. All sections must be completed. Where a field is not applicable for the reporting month, enter "N/A" and briefly explain why. Do not leave fields blank. Section I (Major ESHS Issues and Corrective Actions) is the most important section and must be completed with care and specificity — generic entries will not be accepted. Photographic evidence must be attached as an Annex for all sections where indicated. The report must be signed by the Contractor's ES Specialist and countersigned by the Contract Manager before submission.

Code of Conduct

The Contractor shall ensure that **every person** engaged under the Contract — including all direct workers, subcontractor workers, and casual or daily labourers — signs the Contractor's Code of Conduct before commencing any activity under the Contract.

Traffic Management Plan

Given that all works under this Contract are carried out on live roads open to traffic throughout the five-year contract period, the Contractor shall prepare and submit a Traffic Management Plan (TMP) to the Engineer by the 5th working day of each month, covering all works planned for the forthcoming month across all active road sections. The TMP shall clearly demonstrate how the Contractor will maintain safe and uninterrupted traffic flow while meeting its performance obligations, covering all categories of planned works — routine maintenance, periodic maintenance, road safety works, climate resilience works, and emergency services. For each active section, the TMP shall specify the traffic control measures to be applied (advance warning signage, flag person deployment, lane closure arrangements, overnight workzone demarcation), the planned works schedule and chainages, and the arrangements for maintaining unobstructed access for emergency vehicles and local communities at all times.

Worker Training

The Contractor shall provide mandatory training to all workers before they commence activities under the Contract. Training shall cover, at a minimum:

Training Module	Audience	Frequency	Language
ES Induction: scope of works, site rules, ESCOPs overview, emergency contacts	All workers	Before first deployment; re-induction for new workers	Dzongkha and/or other relevant language; visual formats for low-literacy workers
OHS and PPE: hazard identification, PPE use, incident reporting, DoST OHS001 requirements	All workers	Before deployment; refresher every 6 months	As above

Workzone Traffic Safety: Traffic Management Plan, flagging procedures, work-zone demarcation	All workers on or adjacent to live carriageway	Before deployment to any live-road worksite; refresher when new road section commences	As above
SEA/SH Sensitization: definitions, prohibited conduct, reporting channels, survivor-centered principles, sanctions	All workers	Before deployment; refresher every 6 months	As above
Code of Conduct: content, signing, sanctions for breach	All workers	Before deployment	As above
Biodiversity and Sensitive Areas: Biological Corridor context, prohibited conduct, seasonal restrictions, wildlife encounter procedure	Workers deployed in sections adjacent to Biological Corridor 8	Before commencement of works in those sections	As above
Chance Find Procedures: recognition, stopping work, reporting chain	All workers engaged in earthworks, drainage, or excavation activities	Before commencement of relevant works	As above
Management of waste and hazardous waste, Spill Prevention and Control Measures, Community health and safety and Management of Construction Induced Impacts	All workers	Before first deployment; re-induction for new workers	As above

PAYMENT FOR ES REQUIREMENTS

The costs of compliance with all ES requirements under this Contract are deemed included in the Contract Price and shall not be subject to separate payment, except as expressly provided below.

OHS001 (Worksite Health and Safety). The cost of compliance with DoST OHS Specification OHS-001 — including all mandatory PPE, worksite safety infrastructure, first aid facilities, OHS inductions, and daily safety monitoring — is included in the unit rates throughout the Bill of Quantities. Payment against OHS-001 items in the Bill of Quantities shall be made on a quarterly basis for the duration of the Contract. No separate or additional

payment will be made for OHS-001 compliance, and no variation claim arising solely from OHS-001 compliance costs will be entertained.

OHS002 (Temporary Living Accommodation). Where the Contractor is required to establish worker accommodation, payment for OHS-002 compliance is made against the dedicated accommodation item in the Bill of Quantities, also estimated using the standard DID formula. The Contractor has the option to either construct accommodation or to rent suitable accommodation from a third-party house owner, provided: (i) a formal rental agreement with the house owner is submitted to the Engineer before occupation; and (ii) the total amount paid for rented accommodation does not exceed the BoQ quoted rate for OHS-002. Whether accommodation is constructed or rented, the standards of DoST OHS Specification OHS-002 apply in full. Payment is structured as specified in PCC 45.3.

PENALTIES FOR NON-COMPLIANCE WITH ES REQUIREMENTS

Non-conformances identified through any of the monitoring mechanisms in A7.1 shall be addressed through the following graduated procedure:

Step 1 — Verbal Notification (Immediate)

Upon identifying an ES non-conformance during a site visit, inspection, or patrol, the monitoring party of the Engineer shall verbally notify the Contractor's ES Specialist and Contract Manager immediately. For serious non-conformances, the Engineer shall also notify the Employer (DoST PMU) within 24 hours.

Step 2 — Written Non-Conformance Notice (within 48 hours of identification)

The Engineer shall issue a written Non-Conformance Notice (NCN) to the Contractor specifying:

- The nature and location of the non-conformance.
- The specific contractual provision, ESCOP clause, LMP requirement, SEA/SH obligation, or Chance Find Procedure that has been breached.
- The required corrective action, described in specific and measurable terms.
- The deadline for corrective action, determined in accordance with the severity categories in A7.3 below.

Step 3 — Corrective Action Response

The Contractor shall implement the required corrective action and submit a written Corrective Action Response to the Engineer within the deadline specified in the NCN, confirming the measures implemented. Where the corrective action cannot be completed within the specified deadline, the Contractor shall submit a written explanation and a revised corrective action schedule for the Engineer's acceptance before the deadline expires. Failure to submit a Corrective Action Response by the deadline will itself be treated as a non-conformance.

Step 4 — Payment Withholding and Assessed Amounts

Where the Contractor fails to implement the required corrective action within the specified deadline, the Engineer may withhold an amount from the Contractor's next interim payment

certificate in accordance with GCC Sub-Clause 44.7. The withheld amount shall be released only upon satisfactory completion of the corrective action as confirmed in writing by the Engineer.

In addition to general withholding under GCC 44.7, the following specific assessed amounts apply for the non-conformances listed. All deductions shall be made from the Contractor's Running Account (RA) bills:

Non-Conformance	Assessed Amount	Basis
Worker found without mandatory PPE for all workers — safety helmet, safety shoes, protective gloves, high-visibility vest, or dust mask	Nu. 100 per person per instance. A photograph of the worker without safety gear at the worksite is sufficient evidence.	OHS001; SCC GCC 18.3
Worker found without task-specific PPE — safety belt/harness, safety goggles, ear muffs/plugs, or welding shield — where required for the activity	Nu. 100 per person per instance	OHS001; SCC GCC 18.3
Client directly engages safety personnel due to Contractor's failure to deploy	An additional 2% per month of the contract value, deducted incrementally from RA bills, for each month the Employer is required to engage personnel on the Contractor's behalf	SCC GCC 11.1
Failure to provide PPE and first aid boxes within one month of contract commencement	Deduction to be assessed by the Engineer from RA bill; OHS-001 provisions apply	OHS001

Annex 1: E&S Codes of Practice (ESCOPs)

These ESCOPs are mandatory for the Contractor and all subcontractors engaged under the Performance-Based Maintenance Contract for PNH-01 and Phobjikha Dzongkhag Road. They must be complied with during all phases of the contract, including mobilization, periodic maintenance works, routine maintenance, emergency works, Initial Repairs, Road Safety Works, Climate Change Resilience works and demobilization.

Issue	Environmental Prevention/Mitigation Measures
1. Noise during construction	a) Plan activities in consultation with communities so that the noisiest activities are undertaken during periods that will result in the least disturbance. (Planning phase)

Issue	Environmental Prevention/Mitigation Measures
	b) Use when needed and feasible noise-control methods such as fences, barriers or deflectors (such as muffling devices for combustion engines or planting of fast-growing trees). (Implementation phase) c) Minimize project transportation through community areas. Maintain a buffer zone (such as open spaces, rows of trees or vegetated areas) between the project site and residential areas to lessen the impact of noise on the living quarters. (Implementation phase) d) Construction activities generating significant noise must not be scheduled between 10:00 PM and 6:00 AM in proximity to settlements, schools, health facilities, monasteries, or other community institutions. (Implementation phase) e) Provide advance notice of at least 3 working days to affected communities and local authorities before highly disruptive noise-generating activities commence. (Implementation phase) f) Faulty or excessively noisy equipment shall be removed from service until repaired. (Implementation phase) g) In sections passing through or adjacent to Biological Corridor 8 or other wildlife-sensitive stretches, operation of noisy equipment shall be confined to daytime hours to minimize disturbance to wildlife. (Implementation phase)
2. Soil erosion	a) Schedule construction during the dry season. (Planning phase) b) Contour and minimize the length and steepness of slopes. (Implementation phase) c) Use mulch, grasses or compacted soil to stabilize exposed areas. (Implementation phase) d) Install silt traps, sediment fences, or other appropriate erosion and sediment control measures at earthwork locations before works commence, particularly for slope protection and retaining wall construction. (Implementation phase) e) Disturbed drainage channels, shoulders, and slopes shall be restored promptly after works, and all disturbed drainage channels shall be returned to functional condition within 24 hours of disturbance wherever practicable. (Implementation phase) f) Cover with topsoil and re-vegetate construction areas quickly once work is completed, using locally appropriate native species. (Post-implementation phase) g) Design channels and ditches for post-construction flows and line steep channels or slopes, as necessary, to prevent erosion. (Post-implementation phase) h) Side-casting of spoil on slopes is prohibited. (Implementation phase)
3. Air quality	a) Minimize dust from exposed work sites by applying water on the ground regularly during dry season. (Implementation phase)

Issue	Environmental Prevention/Mitigation Measures
	b) Avoid burn site clearance debris (trees, undergrowth) or construction waste materials. (Implementation phase) c) Keep stockpile of aggregate materials covered to avoid suspension or dispersal of fine soil particles during windy days or disturbance from stray animals. (Implementation phase) d) Reduce the operation hours of generators /machines /equipment /vehicles. (Implementation phase) e) Control vehicle speed when driving through community areas is unavoidable so that dust dispersion from vehicle transport is minimized. (Implementation phase) f) All dust-generating activities, including asphalt overlay, shoulder cutting, slope protection works, and material haulage, shall be managed to minimize impacts on road users, communities, and ecological receptors. (Implementation phase) g) Keep stockpiles of aggregate materials covered to avoid suspension or dispersal of fine particles during windy days or disturbance from animals. (Implementation phase) h) Reduce the operating hours and unnecessary idling of generators, machines, equipment, and vehicles. (Implementation phase) i) Control vehicle speed when driving through community areas and impose a maximum speed of 20 km/h through active worksites. (Implementation phase) j) Equipment shall be maintained in proper working condition to minimize exhaust emissions. (Implementation phase) k) Asphalt paving and overlay operations shall be conducted with proper temperature control to minimize bitumen fume generation. Workers at paving operations shall be provided with appropriate respiratory protection. (Implementation phase) l) If a new asphalt plant is established, it shall be sited at least 500 meters from the nearest watercourse, community settlement, school, or health facility, and shall comply with applicable national standards and relevant WBG EHS Guidelines. (Planning/Implementation phase) m) No open burning of site clearance debris, vegetation, or construction waste materials is permitted at any time. (Implementation phase)
4. Water quality and availability	a) Activities should not affect the availability of water for drinking and hygienic purposes. (Implementation phase) b) No soiled materials, solid wastes, toxic or hazardous materials should be stored in, poured into or thrown into water bodies for dilution or disposal. (Implementation phase) c) Avoid the use of wastewater pools, particularly without impermeable liners. d) Provision of toilets with temporary septic tank. (Implementation phase)

Issue	Environmental Prevention/Mitigation Measures
	e) The flow of natural waters should not be obstructed or diverted to another direction, which may lead to drying up of river beds or flooding of settlements. (Implementation phase) f) Separate concrete works in waterways and keep concrete mixing separate from drainage leading to waterways. Concrete mixing shall be undertaken on impermeable surfaces with containment, and washout water shall not be discharged to drains or watercourses. (Implementation phase) g) No materials, including soil, aggregates, asphalt, cement, fuel, lubricants, or waste, may be stored, deposited, or discharged within 50 meters of any watercourse, drainage channel, or wetland. (Implementation phase) h) Fuel and lubricant storage areas shall be bunded and located at least 100 meters from any watercourse. Spill kits shall be maintained at all equipment staging areas and at any asphalt plant. Any spill shall be contained, cleaned up immediately, and reported to DoST within 24 hours. (Implementation phase) i) Works within or adjacent to watercourses shall, where practicable, be scheduled outside the monsoon season and shall not block fish passage or natural drainage for extended periods. (Planning/Implementation phase)
5. Solid and hazardous waste	a) Segregate construction waste as recyclable, hazardous and non-hazardous waste. (Implementation phase) b) Collect, store and transport construction waste to appropriately designated/ controlled dump sites. (Implementation phase) c) On-site storage of wastes prior to final disposal (including earth dug for foundations) should be at least 300 metres from rivers, streams, lakes and wetlands. (Implementation phase) d) Use a secured area for refuelling and the transfer of other toxic fluids, located distant from the settlement area (and at least 50 metres from drainage structures and 100 metres from important water bodies); ideally on a hard/non-porous surface. (Implementation phase) e) Train workers on the correct transfer and handling of fuels and other substances, and require the use of gloves, boots, aprons, eyewear, and other protective equipment when handling highly hazardous materials. (Implementation phase) f) Collect and properly dispose of small amounts of maintenance materials such as oily rags, oil filters, used oil, etc. Never dispose of spent oils on the ground or in watercourses, as they can contaminate soil and groundwater. (Implementation phase) g) Hazardous waste shall be collected, labelled, and transported to a licensed disposal facility. It shall not be buried, burned, or discharged into drains or watercourses. (Implementation phase)

Issue	Environmental Prevention/Mitigation Measures
	h) Asphalt milling waste and used aggregate shall be reused in road construction activities where technically feasible; surplus shall be disposed of at an authorized site. (Implementation phase) i) No stockpiling of waste material is permitted within Biological Corridor 8, within the KBA, or within 50 meters of any watercourse. (Implementation phase) j) Domestic waste from worksites and worker accommodation areas shall be removed regularly. After each construction site is decommissioned, all debris and waste shall be cleared. (Implementation/Post-implementation phase) k) Contractors are required to adhere to best practices for the collection, storage, and disposal of waste materials to minimize health risks and environmental pollution. Contractors shall establish a comprehensive solid waste management system that ensures the appropriate collection, segregation, and disposal of solid waste. This system should prevent soil contamination, protect nearby water bodies, and prevent public health issues. All industrial and hazardous waste encompasses all chemicals, including but not limited to diesel, gasoline, gases, lubricants, paints, and cement. Such wastes must be directed to a waste management facility approved by The Ministry of Energy and Natural Resources (MoENR) or disposed of in accordance with international best practices. In cases where excess quantities of hazardous materials require disposal, the contractor must prepare a disposal plan and obtain approval from the Engineer prior to implementation.
6. Health and Safety	a) When planning activities of each subproject, discuss steps to avoid people getting hurt. (Planning phase) It is useful to consider: ● Construction place: Are there any hazards that could be removed or should warn people about? ● The people who will be taking part in construction: Do the participants have adequate skill and physical fitness to perform their works safely? ● The equipment: Are there checks you could do to make sure that the equipment is in good working order? Do people need any particular skills or knowledge to enable them to use it safely? ● Electricity Safety: Do any electricity good practices such as use of safe extension cords, voltage regulators and circuit breakers, labels on electrical wiring for safety measure, aware on identifying burning smell from wires, etc. apply at site? Is the worksite stocked with voltage detectors, clamp meters and receptacle testers?

Issue	Environmental Prevention/Mitigation Measures
	b) Mandate the use of personal protective equipment for workers as necessary (gloves, dust masks, hard hats, boots, goggles). (Implementation phase) c) Follow the below measures for construction involve work at height (e.g. 2 meters above ground (Implementation phase): ● Do as much work as possible from the ground. ● Do not allow people with the following personal risks to perform work at height tasks: eyesight/balance problem; certain chronic diseases – such as osteoporosis, diabetes, arthritis or Parkinson's disease; certain medications – sleeping pills, tranquillisers, blood pressure medication or antidepressants; recent history of falls – having had a fall within the last 12 months, etc. ● Only allow people with sufficient skills, knowledge and experience to perform the task. ● Check that the place (eg a roof) where work at height is to be undertaken is safe. ● Take precautions when working on or near fragile surfaces. ● Clean up oil, grease, paint, and dirt immediately to prevent slipping; and ● Provide fall protection measures e.g. safety harness, simple scaffolding/guard rail for works over 4 meters from ground. d) Keep worksite clean and free of debris on daily basis. (Implementation phase) e) Provision of first-aid kits with bandages, antibiotic cream, etc., or health care facilities, and enough drinking water. (Implementation phase) f) Keep corrosive fluids and other toxic materials in properly sealed containers for collection and disposal in properly secured areas. (Implementation phase) g) Ensure adequate toilet facilities for workers from outside of the community. (Implementation phase) h) Rope off construction areas and secure materials stockpiles/storage areas from the public, and display warning signs, including at unsafe locations. Do not allow children to play in construction areas. (Implementation phase) i) Ensure structural openings are covered/protected adequately. (Implementation phase) j) Secure loose or light material that is stored on roofs or open floors. (Implementation phase) k) Keep hoses, power cords, welding leads, etc., from lying in heavily travelled walkways or areas. (Implementation phase)

Issue	Environmental Prevention/Mitigation Measures
	l) If school children are in the vicinity, include traffic safety personnel to direct traffic during school hours, if needed. (Implementation phase) m) Control vehicle speed, particularly when passing through communities or near schools, health centers, or other sensitive areas. (Implementation phase) n) Follow safe work-at-height measures for activities above 2 meters. Do as much work as possible from the ground; only allow fit, trained, and experienced workers to perform height-related tasks; ensure the working surface is safe; take precautions near fragile surfaces; clean up slip hazards immediately; and provide fall protection, such as harnesses, simple scaffolding, or guardrails. (Implementation phase) o) Excavations deeper than 1.2 meters shall be shored or battered to prevent collapse, and access around excavations shall be controlled. A buddy system shall be used for work at height or in remote sections. (Implementation phase) p) Do not assign workers with medical conditions affecting balance, eyesight, or physical fitness to height-related tasks. (Implementation phase) q) During heavy rains or other emergencies, suspend all work. Fill in earth borrow pits once construction is completed to avoid standing water and drowning hazards. (Implementation/Post-implementation phase) r) Brief all workers on wildlife awareness in sections near Biological Corridor 8 or other sensitive areas; prohibit workers from approaching, feeding, or disturbing wildlife; maintain clean sites free of food waste that could attract wildlife; and suspend work if a large carnivore is sighted in the immediate worksite vicinity. (Implementation phase) s) Emergency contact numbers shall be posted at worksites and accommodation facilities, and workplace injuries, near-misses, and serious incidents shall be reported promptly to DoST in accordance with contractual reporting requirements. (Implementation phase)
7. Workers' Facilities	a) The Contractor shall provide, operate, maintain, and decommission, as applicable, all necessary worker accommodation and welfare facilities for personnel engaged in execution of the Works (all phases) b) Worker accommodation shall be provided with adequate potable water supply, sanitation facilities, drainage, waste collection and disposal arrangements, lighting, ventilation, sleeping space, washing facilities, and other basic welfare amenities necessary for safe and healthy living conditions. (Implementation phase) c) Potable water supplied at worker accommodation shall be fit for human consumption, and water quality shall be checked periodically where relevant. (Implementation phase)

Issue	Environmental Prevention/Mitigation Measures
	d) The Contractor shall ensure that worker accommodation and welfare areas are kept clean, safe, and hygienic at all times. (Implementation phase) e) The Contractor shall provide safe and reliable transport arrangements for workers travelling between accommodation camps and active work sites, where such transport is required. (Implementation phase) f) All the above requirements shall apply equally to all subcontractors. (Implementation phase) g) The Contractor shall be responsible for ensuring that all subcontractor personnel are provided with accommodation and welfare facilities meeting the same standards as those provided for the Contractor's direct workers. (Implementation phase)
8. Traffic management and community safety	a) Before commencing work on any section on any working day, ensure that warning signs, barricades, cones, reflectors, temporary speed control, trained flag persons, and pedestrian safety arrangements are in place and maintained until the work area is made safe for normal use. (Implementation phase) b) Traffic control personnel with appropriate training, PPE, and communication arrangements shall be stationed at both ends of every active worksite on the carriageway. (Implementation phase) c) Advance warning signs shall be placed well in advance of all worksites, with additional placement before blind curves and other high-risk locations. (Implementation phase) d) Maintain safe passage for vehicles and pedestrians at all times. Where works interrupt normal access, provide safe alternative crossings and access arrangements to homes, farms, shops, schools, monasteries, health facilities, and other community locations. (Implementation phase) e) If school children are in the vicinity, include traffic safety personnel to direct traffic during school hours, if needed. Control the driving speed of vehicles, particularly when passing through communities, schools, health centers, or other sensitive areas. (Implementation phase) f) All material stockpiles and equipment parked adjacent to the live carriageway shall be delineated with reflective markers and barriers. No stockpiling is permitted on the carriageway outside active work periods. (Implementation phase) g) Works requiring single-lane operation with alternating traffic shall be coordinated to minimize queues and delays. (Implementation phase) h) Notify affected communities and local authorities in advance regarding the nature of works, expected duration, traffic arrangements, and contact details for complaints and emergencies. (Implementation phase)
9. Biodiversity and protected	a) All works shall remain strictly within the existing road carriageway, shoulders, and established right-of-way. No clearing of natural vegetation, stockpiling of materials, worker camps, or equipment

Issue	Environmental Prevention/Mitigation Measures
area measures	staging is permitted outside the existing footprint without prior approval. (Implementation phase) b) Within or adjacent to Biological Corridor 8 and the Ada Lake/Puna Tsangchu KBA, avoid noisy operations at night and confine such works to daytime hours. (Implementation phase) c) No material stockpiles, spoil, waste, or worker camps may be placed within 100 meters of any watercourse, wetland, or mapped natural habitat in Biological Corridor 8. (Implementation phase) d) Where culverts or drainage structures function as wildlife crossing points, they shall not be blocked or obstructed for extended periods during works. (Implementation phase) e) Avoid significant noise and light disturbance in the Phobjikha section during the Black-necked Crane wintering period. Night work in this section shall be avoided during the crane season. (Implementation phase) f) All equipment and vehicles arriving from outside the district shall be cleaned to remove soil and seed material that could introduce invasive alien species. Maintain cleaning records for inspection. (Implementation phase) g) Use locally native species for the revegetation of disturbed areas. No exotic or non-native species shall be used for slope stabilization without approval. (Post-implementation phase) h) Workers are strictly prohibited from hunting, trapping, harming wildlife, fishing, collecting plants, or collecting firewood from natural habitats. These prohibitions shall be included in the worker code of conduct. (Implementation phase) i) Any wildlife mortality, wildlife conflict, or sighting of a threatened species in the immediate work area shall be reported promptly to DoST and the relevant forestry authority. (Implementation phase)
10. Cultural Heritage	a) When works are planned near religious sites, schools, or other culturally sensitive locations, the contractor shall consult the local authority and schedule works to minimize disruption. (Planning/Implementation phase)
11. Environmental reporting and incident notification	a) The contractor shall maintain records of compliance with these ESCOPs, including worker inductions, PPE provision, incidents, spills, grievances, waste disposal, and corrective actions, and shall make them available for inspection. (Implementation phase) b) Environmental incidents, including significant spills, erosion events, wildlife incidents, and serious dust or noise complaints, shall be reported promptly in accordance with the contract reporting requirements. (Implementation phase) c) Monthly progress reports shall include a consolidated summary of E&S compliance, including incidents, near-misses, grievances, non-

Issue	Environmental Prevention/Mitigation Measures
	compliances, corrective actions, and the status of worker code of conduct sensitization. (Implementation phase) d) After completion of works at each site, verify that debris, waste, temporary barriers, and surplus materials have been removed and that the site has been restored to a safe and stable condition. (Post-implementation phase)

Annex 2: Labor Management Procedures

1 Introduction

In accordance with the requirements of World Bank's Environmental and Social Standard 2 (ESS2) on Labor and Working Conditions, a simplified LMP has been developed for the project. The LMP sets out how the implementing agencies will manage all project workers in relation to the associated risks and impacts. The objectives of the LMP are to: Identify the different types of project workers that are likely to be involved in the project; identify, analyze and evaluate the labor-related risks and impacts for project activities; provide procedures to meet the requirements of ESS 2 on Labor and Working Conditions, ESS 4 on Community Health and Safety, and applicable national legislation.

The Labor Management Procedures apply to all project workers, irrespective of whether their contracts are full-time, part-time, temporary, or casual. The types of workers that will be included in the project are listed below:

- **Direct workers** – Government staff from DoST assigned to manage and oversee the project, and individual consultants engaged in the PMU.
- **Contracted workers** – All personnel employed by the Contractor and subcontractors, including: road maintenance technicians; equipment operators; asphalt plant operators (if applicable); unskilled workers recruited locally on a daily or short-term basis.
- **Primary supply workers** – Workers employed by suppliers of key materials (bitumen, aggregates, crash barriers, guardrails).

2 Labor Risks

The following potential labor risks are identified under the project:

- Violation of worker's rights: Terms and conditions of employment of workers may not be consistent with national legislation or World Bank standards
- Violation of worker's rights: Non-discrimination and equal opportunity of workers may not be consistent with national legislation or World Bank standards
- Use of child labor or forced labor
- Unsafe work environment and poor working conditions
- Workplace injuries and accidents, particularly when operating construction equipment, when working at height on building construction, and when handling heavy equipment and materials
- Risks from exposure to hazardous substances (dust, cement, chemicals used in construction, etc.)

- Sexual exploitation and abuse/sexual harassment (SEA/SH) risks for workers
- SEA/SH risks for community members, from workers from outside the project areas
- Conflicts between workers and communities

3 Relevant National Labor Legislation

The following are relevant national labour legislation:

- Labor and Employment Act of Bhutan (2007) – Governs employment contracts, wages, dispute resolution, and working conditions.
- Regulation on Occupational Health, Safety, and Welfare (2022) – Establishes workplace safety and health requirements.
- Regulation on Foreign Workers Management (2022) – Governs employment conditions for migrant laborers.
- The Penal Code of Bhutan (2021) – Prohibits forced labor, child labor, and workplace harassment.
- Waste Prevention and Management Act (2009) – Addresses worker safety in waste handling and disposal.
- Employment Policies and Workers' Compensation Laws – Ensures compensation for workplace injuries and workers' rights protections.

4 General Applicable Procedures

The PMUs/PIUs and contractors will apply the following guidelines when dealing with workers:

- There will be no discrimination with respect to any aspects of the employment relationship, such as: Recruitment and hiring; compensation (including wages and benefits; working conditions and terms of employment; access to training; job assignment; promotion; termination of employment or retirement; or disciplinary practices.
- Harassment, intimidation and/or exploitation will be prevented or addressed appropriately.
- Special measures of protection and assistance to remedy discrimination or selection for a particular job will not be deemed as discrimination.
- Vulnerable project workers will be provided with special protection.
- The PMUs/PIUs and contractors will provide job / employment contracts with clear terms and conditions including rights related to hours of work, wages, overtime, compensation and benefits, annual holiday and sick leave, maternity leave and family leave. Code of Conduct included in this LMP will be applicable for all project workers.
- The PMUs/PIUs will ensure compliance with the Code of Conduct including providing briefings/awareness raising on the Code.
- The PMUs/PIUs and retained contractors will ensure no person under the age of 18 shall be employed. Age verification of all workers will be conducted by the contractors.

- The PMUs/PIUs will recruit contractors and labor locally to the extent that they are available.
- Workers shall be recruited voluntarily, and no worker is forced or coerced into work.
- The PMUs/PIUs will supervise and monitor to ensure compliance with the above requirements.
- All workers will be made aware of the Worker's Grievance Mechanism (see below) to raise work related grievances, including any sensitive and serious grievances on SEA/SH.

5 Occupational Health and Safety (OHS) Procedures

The objective of the procedure is to achieve and maintain a healthy and safe work environment for all project workers (contracted workers and community workers) and the host community.

- On procurement for contractors, The PMUs/PIUs will avail the ESMF to the aspiring contractors so that contractors include the budgetary requirements for OHS measures in their respective bids.
- The contractor will develop and maintain an OHS management system that is consistent with the scope of work, which must include measures and procedures to address all the following topics listed below and in accordance with local legislation and GIIP (as defined by World Bank Group EHSs). The management system must be consistent with the duration of contract and this LMP.
- Contractor will conduct workplace hazards identification and adopt all applicable E&S risk mitigation measures in accordance with local legislation requirements and WBG EHSs.
- Contractor designates a responsible person to oversee OHS related issues at the project site and define OHS roles and responsibilities for task leaders and contract managers.
- Contractor should put in place processes for workers to report work situations that they believe are not safe or healthy, and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health, without fear of retaliation.
- Contractor provides preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances informed by assessment and plan. Whenever PPEs are required for the work, it must be provided at no cost for the workers.
- Contractors provides facilities appropriate to the circumstances of the work, including access to canteens, hygiene facilities, and appropriate areas for rest. Where accommodation services are provided to project workers, policies will be put in place and implemented on the management and quality of accommodation to protect and promote the health, safety, and well-being of the project workers, and to provide access to or provision of services that accommodate their physical, social and cultural needs.
- Contractor provides for appropriate training/induction of project workers and maintenance of training records on OHS subjects.

- Contractor documents and reports on occupational incidents, diseases and incidents as per ESMF guidance.
- Contractor provides emergency prevention and preparedness and response arrangements to emergency situations including and not limited to workplace accidents, workplace illnesses, flooding, fire outbreak, disease outbreak, labor unrest and security.
- Contractor provides remedies for adverse impacts such as occupational injuries, deaths, disability and disease in accordance with local regulatory requirements and Good International Industry Practices.
- Contractor shall maintain all such record for activities related to the safety health and environmental management for inspection by The PMUs/PIUs or the World Bank.

6 Contractor Management Procedures

The objective of this procedure is to ensure that The PMUs/PIUs has contractual power to administer oversight and action against contractors for non-compliance with the LMP.

- The PMUs/PIUs will make available relevant documentation to inform the contractor about requirements for effective implementation of the LMP.
- The PMUs/PIUs will include the provisions of the ESMF, LMP and other relevant documents into the specification section of the bidding documents. The contractors will be required to comply with these specifications.
- Contractor will raise worker awareness on the Code and Conduct.
- Contractor will show evidence of OHS and Emergency Preparedness procedures.
- The PMUs/PIUs will monitor contract's E&S performance during its regular site visits utilizing contractor reporting or external monitoring/supervision consultants where available. Where appropriate, The PMUs/PIUs may withhold contractor's payment or apply other contractual remedies as appropriate until corrective action(s) is/are implemented on significant non-compliance with the LMP, such as failure to notify [implementing agency] of incidents and accidents.

7 Procedures for Primary Suppliers

The objective of the procedure is to ensure that labor-related risks, especially child and forced labor as well as serious safety issues to the project from primary supply workers are managed. The PMUs/PIUs and all contractors will undertake the following measures:

- Procure supplies from legally constituted suppliers.
- To the extent feasible, conduct due diligence to ensure that primary suppliers conduct age verifications, employ workers without any force or coercion, and maintain basic OHS systems

8 Worker Accommodation

If accommodations are provided for workers, contractors will ensure that they are provided in good hygiene standards, with fresh drinking water, clean beds, restrooms and showers, clean bedrooms, good illumination, lockers, proper ventilation, safe electrical installation, fire and lightening protection, separate cooking and eating areas. There will be separate facilities provided for men and women. The contractors will be liable to comply with

"Workers' Accommodation: Processes and Standards: A guidance Note" by IFC and the EBRD.

9 Institutional Arrangement for Implementation of the LMP

The PMU/PIU will carry the main responsibility for the implementation and monitoring of the LMP. The E&S staff of the PMU/PIU will identify subproject activities, prepare subproject designs and bidding documents, as well as procure contractors. E&S staff of the PMU/PIU will be responsible for contractor and site supervision, technical quality assurance, certification, and payment of works. E&S staff of the PMU/PIU will ensure that labor management procedures are integrated into the specification section of the bidding documents and the procurement contracts.

10 Grievance Mechanism

There will be a specific Workers Grievance Mechanism (Worker GM) for project workers as per the process outlined below. This considers culturally appropriate ways of handling the concerns of direct and contracted workers. Processes for documenting complaints and concerns have been specified, including time commitments to resolve issues. Workers will be informed about the relevant Worker GM upon their recruitment and their right to redress, confidentiality and protection against any reprisals from the employer will be stated in the contract.

Routine Grievances

The process for the Worker GM is as follows:

- Any worker may report their grievance in person, by phone, text message, mail or email (including anonymously if required) to the contractor as the initial focal point for information and raising grievances. For complaints that were satisfactorily resolved by the aggrieved worker or contractor within one week of receipt of complaint, the incident and resultant resolution will be logged and reported monthly to the E&S staff of the PMU/PIU.
- If the grievance is not resolved within one week, the contractor (or the complainant directly) will refer the issue to the E&S staff of the PMU/PIU. The E&S staff of the PMU/PIU will work to address and resolve the complaint and inform the worker as promptly as possible, in particular if the complaint is related to something urgent that may cause harm or exposure to the person, such as lack of PPE needed to work safely. For non-urgent complaints, E&S staff of the PMU/PIU will aim to resolve complaints within 2 weeks. For complaints that were satisfactorily resolved by the E&S staff of the PMU/PIU, the incident and resultant resolution will be logged and reported monthly as part of regular reporting. Where the complaint has not been resolved, the E&S staff of the PMU/PIU will refer to Project Director at the PMU/PIU for further action or resolution.

The workers will preserve all rights to refer matters to relevant judicial proceedings as provided under national labor law.

Each grievance record should be allocated a unique number reflecting year, sequence and township of received complaint. Complaint records (letter, email, record of conversation) should be stored together, electronically or in hard copy. The PMU/PIU will appoint a Worker GM Focal Person, who will be responsible for undertaking a monthly review of all grievances to analyze and respond to any common issues arising. The Focal Person will also be responsible for oversight, monitoring and reporting on the Worker GM.

Serious Grievances

In case a worker experiences serious mistreatment such as harassment, intimidation, abuse, violence, discrimination or injustice at the workplace, the worker may raise the case, verbally or in writing directly to the contractor or PMU/PIU. The contractor will immediately refer the case to PMU/PIU. The PMU/PIU will immediately investigate the case respecting confidentiality and anonymity of the worker.

Upon project effectiveness, the PMU/PIU will designate a Focal Person or Persons for Serious Grievances. These Focal Persons will receive training in investigating serious grievances, relevant laws and regulations, and World Bank standards including the rights of people who file a grievance. The PMU/PIU and the World Bank will jointly develop culturally-sensitive and locally-appropriate roles and responsibilities, and procedures.

In case a direct worker or civil servant has a serious grievance, the staff may directly contact verbally or in writing the Focal Person for Serious Grievances.

All complaints received will be filed and kept confidential. For statistical purposes, cases will be anonymized and bundled to avoid identification of persons involved.

11 Code of Conduct

All Project workers must adhere to a code of conduct that:

- Treat women, children (persons under the age of 18), and men with respect regardless of ethnicity, language, religion, political or other opinion, national, social origin, citizenship status, property, disability, birth or other status.
- Do not use language or behavior towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- Do not participate in sexual activity with community members.
- Do not engage in sexual favors or other forms of humiliating, degrading or exploitative behavior.
- Do not engage in any activity that will constitute payment for sex with members of the communities surrounding the workplace.
- Report through the Worker GM suspected or actual gender-based violence against a person of any gender by a fellow worker or any breaches of this Code of Conduct.
- Use any computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass women, children or a vulnerable person through these mediums.
- Comply with all relevant local legislation.
- Engaging in any of the prohibited activities above can be cause for termination of employment, criminal liability, and/or other sanctions.

Annex 3: Chance-Find Procedures

Cultural heritage encompasses tangible and intangible heritage which may be recognized and valued at a local, regional, national or global level. Tangible cultural heritage, which includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural,

religious, aesthetic, or other cultural significance. Tangible cultural heritage may be located in urban or rural settings, and may be above or below land or under the water. Intangible cultural heritage, which includes practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artefacts and cultural spaces associated therewith—that communities and groups recognize as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history.

In the event that during construction, sites, resources or artifacts of cultural value are found, the following procedures for identification, protection from theft, and treatment of discovered artefacts should be followed and included in standard bidding documents. These procedures take into account requirements related to Chance Finding under national legislation including the Moveable Cultural Property Act of Bhutan (2005) and the Cultural Heritage Bill (Draft, 2016).

Implement the following procedures in case of chance finds of any physical cultural resources (PCR).

Upon Discovery:

Immediate Halt: Construction activities must cease immediately near the discovered PCR to prevent any potential damage.

Secure the Area: The site supervisor or engineer should secure the area to prevent access and potential looting or damage to the PCR.

Notification: The site engineer or representative should promptly notify the Department of Culture and Dzongkha Development (DoCDD) about the discovery.

Documentation: Document the find with photographs and, if possible, mark the exact GPS coordinates for the record.

Assessment:

Initial Assessment: The site supervisor should make a preliminary assessment to determine if the find appears to be of potential significance.

Expert Evaluation: If deemed potentially significant, an expert from the DoCDD or a designated cultural heritage specialist should be invited to conduct a thorough evaluation.

Action Plan: Based on the expert's assessment, decide whether to adjust project plans to accommodate the preservation of the PCR or to proceed with an approved mitigation strategy, such as careful excavation or reburial.

Reporting

Chance Find Report: Prepare a detailed report outlining the nature of the find, the actions taken upon discovery, and the outcomes of the expert assessment. This report should include photographs, GPS coordinates, and other relevant documentation.

Submission: Submit the Chance Find Report to the PIU, who will forward it to the DoCDD for official records.

Inclusion in Monitoring Reports: Include a summary of the chance find and the subsequent actions taken in the quarterly environmental monitoring reports submitted to oversight bodies, such as the World Bank or other funding agencies.

Workers Training. Contractors are mandated to train workers, particularly those involved in excavation, to recognize potential artifacts. The training, supported technically by the

DoCDD and other relevant authorities, will inform workers about the importance of such findings and the required steps to take if they are encountered

Annex 4: SEA/SH Requirements

1 Introduction and Purpose

This Annex sets out the procedures for the prevention of and response to Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) applicable to all subprojects under the ACCESS Project. They apply to all project workers, contractors, consultants, and field personnel engaged in the subproject implementation activities.

These SEA/SH measures apply to all personnel associated with PBMC, including:

- Government staff assigned to the project
- Contractors, subcontractors, and consultants
- Daily wage workers
- Technical experts and short-term specialists

The provisions apply regardless of the scale, duration, or national E&S risk category of the subproject, as SEA/SH risk is treated as a standalone social risk under the World Bank Environmental and Social Framework.

The full SEA/SH Standard Operating Procedures (SOP), including detailed referral pathways, reporting formats, and institutional arrangements, are available at:

[https://docs.google.com/document/d/1AR82lh-lqdMCbVJcviKyBdr9owcRaKi1/edit?usp=drive_link&oid=117873173657277357107&rtpof=true&sd=true]

2 Definitions of SEA/SH

For the purpose of this Annex, and consistent with World Bank guidance and the project SEA/SH SOP, the following definitions apply:

- **Sexual Exploitation (SE)** refers to any actual or attempted abuse of a position of vulnerability, differential power, or trust, for sexual purposes. This includes, but is not limited to, situations where a person profits monetarily, socially, or politically from the sexual exploitation of another person.
- **Sexual Abuse** refers to the actual or threatened physical intrusion of a sexual nature, whether such intrusion is carried out by force or occurs under unequal or coercive conditions.
- **Sexual Harassment (SH)** refers to unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature. Sexual harassment typically occurs between personnel or staff of an organization or company and includes any unwelcome sexual advance or unwanted verbal, non-verbal, or physical conduct of a sexual nature that creates an intimidating, hostile, or offensive environment.

These definitions apply equally in workplaces, field locations, camps, community interactions, training sessions, and any project-related setting.

3 SEA/SH Risk Context in PBMC Implementation

PBMC implementation activities often involve maintenance and management of road, initial repair works, road safety works, climate change resilience works and periodic maintenance. Even where no migrant labor or labor influx is involved, SEA/SH risks may arise due to:

- Power imbalances between project personnel and community members, as project staff and workers may be perceived as having authority or influence over access to employment, project benefits, or services, which can discourage community members from refusing inappropriate behavior or reporting misconduct.
- Repeated engagement with women, youth, and vulnerable households, particularly during nursery operations, habitat restoration activities, consultations, and outreach, which can increase exposure to SEA/SH risks if professional boundaries are not clearly maintained.
- Temporary or extended presence of workers in remote locations, including forest sites, where interactions often occur in informal or unsupervised settings, increasing the risk of inappropriate conduct.
- Limited access to formal reporting mechanisms in forest and sanctuary areas, which may constrain timely reporting of SEA/SH incidents and heighten fear of retaliation or social stigma among affected individuals.

4 Guiding Principles

Implementation of SEA/SH measures under the ACCESS Project is grounded in the following guiding principles, which shall govern all prevention, reporting, and response actions:

- **Zero Tolerance:** Sexual Exploitation, Sexual Abuse, and Sexual Harassment are unacceptable under any circumstances. SEA/SH constitutes serious misconduct and is a criminal offense under the Penal Code of Bhutan (2004) and subsequent amendments.
- **Survivor-Centered Response:** All actions shall prioritize the dignity, safety, wishes, and informed consent of the survivor. Survivors shall never be pressured to report, provide evidence, or pursue legal action.
- **Confidentiality:** Information related to SEA/SH incidents shall be handled with strict confidentiality and shared only on a need-to-know basis with authorized personnel.
- **Non-Retaliation:** Any individual who reports SEA/SH or cooperates with an investigation shall be protected from retaliation, intimidation, discrimination, or loss of employment or benefits.

5 Prohibited Behaviors

All project workers and affiliated personnel engaged in the PBMC implementation are strictly prohibited from engaging in the following behaviors:

- Any form of sexual exploitation, sexual abuse, or sexual harassment.

- Soliciting, demanding, or accepting sexual favors in exchange for employment, work assignments, payments, services, or any project-related benefit.
- Retaliating against any person who reports SEA/SH or raises concerns in good faith.
- Paying for sexual services during the period of contract or while working at or near project sites.
- Trafficking, transporting, harbouring, or facilitating the movement of any person through threat, use of force, abuse of power, or coercion for the purpose of sexual exploitation.

Engaging in any of the above behaviors constitutes serious misconduct and may result in immediate removal from site, termination of employment or contract, and referral to competent authorities.

6 Institutional Responsibilities

Responsibilities of the Implementing Agency

The DoST, through the PMU/PIU and field offices, shall have overall responsibility for implementing and monitoring SEA/SH measures under PBMC subprojects. This includes responsibility to:

- SEA/SH risks are identified during subproject screening (ESS4)
- This Annex is applied and enforced for all PBMC activities
- Integrate SEA/SH obligations into contracts, work orders, and terms of reference
- Ensure availability of trained SEA/SH focal persons as identified in the main SOP
- Monitor compliance and report incidents in line with ESMF and ESCP requirements

These responsibilities remain with DoST irrespective of whether activities are implemented directly or through contractors.

Responsibilities of Contractors and Project Workers

All project workers engaged in BMP implementation—including contracted workers, daily wage laborers, gardeners, nursery staff, guards, and consultants—shall comply with SEA/SH obligations as a condition of employment or engagement.

In particular, all project workers shall:

- Sign and adhere to the Code of Conduct provided under Annex 2 (LMP)
- Participate in SEA/SH induction and refresher training
- Maintain respectful and professional behavior toward community members and colleagues
- Report suspected or actual SEA/SH incidents through designated mechanisms

Failure to comply with SEA/SH requirements constitutes serious misconduct and may result in disciplinary action, termination of engagement, and referral to competent authorities.

7 SEA/SH Prevention Measures

Code of Conduct

A Code of Conduct applicable to all project workers is included in Annex 2 (Labour Management Procedures). The Code of Conduct explicitly prohibits:

- Sexual exploitation or abuse of community members
- Sexual harassment in the workplace or field settings
- Transactional sexual activities linked to project benefits or employment
- Any form of coercion, intimidation, or abuse of authority

All workers shall sign the Code of Conduct prior to deployment, and it shall be explained in a language understood by the worker.

Training and Awareness

SEA/SH prevention is treated as an ongoing obligation throughout subproject implementation. Accordingly:

- All project workers shall receive SEA/SH induction training at the start of engagement
- Refresher training shall be provided periodically or when new workers are mobilized
- Where relevant, community awareness activities shall be undertaken using culturally appropriate methods
- Training records shall be maintained by the PMU/PIU and included in routine E&S monitoring reports.

8 Grievance and Reporting Mechanism for SEA/SH

Survivor-Centered Approach

A survivor-centered approach places the rights, safety, dignity, and well-being of the survivor at the core of all actions and requires that responses to SEA/SH allegations are guided by the survivor's wishes and informed consent. At no stage shall survivors be pressured to disclose details, confront alleged perpetrators, or pursue criminal or civil proceedings as a condition for receiving support or for the grievance to be recorded. This approach is based on:

- **Confidentiality and protection of identity:** All information related to SEA/SH allegations, including personal details of the survivor and any witnesses, shall be treated as strictly confidential and handled only by authorized personnel, in line with the confidentiality protocols set out in the SOP. Case information shall be recorded using the SEA/SH Incident Intake and Case Recording Forms provided in Annex [SOP Annex – Forms], with anonymization applied in all reporting.
- **Respect and non-judgment:** Survivors shall be treated with respect, empathy, and without judgment, regardless of the nature of the allegation, the relationship to the alleged perpetrator, or the survivor's decision to pursue further action.
- **Informed consent at all stages:** Survivors shall be fully informed of available options, including referral to medical, psychosocial, legal, or protection services, and no action—including referrals or information sharing—shall be undertaken

without the survivor's explicit consent, as detailed in the Consent and Referral Forms included in Annex [SOP Annex – Referral Forms].

- **Protection from retaliation:** Any individual who reports SEA/SH or participates in grievance handling or investigation processes shall be protected from retaliation, intimidation, discrimination, or loss of employment or project-related benefits, in line with the non-retaliation provisions described in the SOP and reinforced through the Code of Conduct in Annex 2 (LMP).

Survivors are not required to provide evidence, identify the alleged perpetrator, or pursue legal action in order to access support services or to lodge a SEA/SH complaint through project mechanisms.

Reporting Channels

SEA/SH complaints related to PBMC activities implementation may be reported through multiple, accessible, and confidential channels, as established under the ACCESS Project's SEA/SH SOP. These channels are designed to ensure that survivors can choose the reporting pathway they feel most safe and comfortable using.

SEA/SH grievances may be reported through:

- The Project Grievance Redress Mechanism (GRM), as described in the Stakeholder Engagement Plan (SEP) and the ESMF. While the GRM serves as an entry point for SEA/SH complaints, such cases are immediately flagged and handled using the specialized SEA/SH procedures outlined in the SOP, rather than being processed as routine grievances.
- Designated SEA/SH focal persons, identified at the PMU/PIU and field levels, whose roles, responsibilities, and contact details are provided in the Institutional Arrangements section and Annex [SOP Annex – Focal Persons] of the SOP. These focal persons are trained to receive SEA/SH complaints sensitively and confidentially.
- Anonymous or trusted community-based channels, including community leaders, civil society partners, or other trusted intermediaries, as described in the SOP, to ensure access for survivors in remote or protected area settings where formal reporting mechanisms may be less accessible.

All SEA/SH complaints, regardless of the intake channel used, shall be documented using the standard SEA/SH Case Intake and Incident Notification Forms provided in Annex [SOP Annex – Reporting Templates] of the SOP and managed in accordance with the survivor-centered procedures described therein.

9 Response and Referral Procedures

Upon receipt of a SEA/SH allegation, the Implementing Agency, through designated and trained personnel, shall ensure that:

- Immediate steps are taken to ensure survivor safety, including separating the survivor from the alleged perpetrator, preventing further contact or intimidation, and addressing any urgent protection needs in accordance with the immediate response procedures set out in the SEA/SH SOP.
- Survivors are informed of available medical, psychosocial, and legal support services in a clear, sensitive, and non-directive manner, allowing them to understand their options and make decisions without pressure or coercion.

- Referrals are made only with survivor consent, and such consent is informed, voluntary, and documented; survivors retain the right to decline or withdraw consent for referrals at any stage.
- No investigation is conducted by untrained personnel, and the role of project staff is limited to safe intake, documentation, and facilitation of referrals, with any administrative or disciplinary actions undertaken only by authorized and trained staff in accordance with the SEA/SH SOP and Code of Conduct.

The role of the project is to facilitate access to appropriate support services and ensure compliance with project safeguards, and not to replace judicial, law-enforcement, or protection institutions.

10 Monitoring and Documentation

Implementation of SEA/SH measures shall be monitored through:

- Records of Code of Conduct signing
- SEA/SH training attendance logs
- Anonymized grievance records
- Documentation of response actions and referrals

Monitoring results shall be included in routine E&S reporting and used to strengthen mitigation measures where necessary.

SEA/SH incidents are classified as "serious incidents" and shall be reported to the World Bank within 48 hours, in line with ESCP requirements.

Annex 5: Monthly Environmental, Social, Health and Safety (ES) Progress Report

Section A: Contract and Reporting Identification

#	Information	Details
1	Contract name	
2	Name of Contractor	
3	Name of Contract Manager	
4	Name of Environmental Specialist	
5	Name of Construction Safety Supervisor	
6	Reporting month and year	
7	Report number (sequential)	
8	Active road sections during this month	

Section B: Works Progress

#	Information	This Month	Cumulative to Date
1	Overall percentage of physical works completed (%)		
2	Key work activities carried out this month (list briefly by section and activity type)		N/A
3	Activities planned for next month		N/A

4	Are works on schedule? (Yes / No — if No, explain briefly)		N/A
5	Photographic evidence of works progress attached as Appendix A? (Yes / No — number of photos)		N/A

Section C: Workforce and Labour Management

C.1 Workforce Summary

		This Month	Cumulative to Date
1	Total number of workers engaged (all categories)		
2	— of which: Contractor's own workers		
3	— of which: Subcontractor workers		
4	— of which: Female workers (all categories)		
5	— of which: Local workers from Wangdue Phodrang Dzongkhag		
6	— of which: Workers from other districts of Bhutan		
7	— of which: Migrant / foreign workers		
8	Local workers as % of total workforce		
9	Total work-hours recorded		
10	Any workers under 18 years found engaged? (Yes / No — if Yes, describe immediate action taken)		

C.2 New Worker Induction and Code of Conduct

#	Information	This Month	Cumulative to Date
1	Number of new workers engaged this month		
2	Number of new workers who received ESHS induction before commencing work		
3	Dates of induction sessions this month		N/A
4	Topics covered in induction (tick all that apply): OHS and PPE / Traffic Safety / Code of Conduct / SEA/SH / GRM / Chance Find Procedures / Biodiversity and Wildlife / Environmental Protection		N/A
5	Number of new workers who signed the Code of Conduct before commencing work		
6	Total number of signed Codes of Conduct filed and available for inspection (all workers, cumulative)		N/A
7	Any worker who commenced work without signing the Code of Conduct? (Yes / No — if Yes, describe corrective action)		

C.3 Labour Rights and Wages

#	Information	This Month	Cumulative to Date
1	Are all workers paid at or above the national minimum wage? (Yes / No — if No, explain)		N/A
2	Are wages paid on time and in full? (Yes / No — if No, explain)		N/A
3	Are written employment contracts or engagement letters provided to all workers? (Yes / No)		N/A

4	Are all workers covered by valid insurance? (Yes / No — if No, identify workers and corrective action)		N/A
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Section D: Occupational Health and Safety (OHS)

D.1 ESHS and Safety Personnel Deployment

#	Information	This Month	Cumulative to Date
1	Was the ESHS Specialist deployed full-time throughout the month? (Yes / No — if No, number of days absent and reason)		
2	Was the Construction Safety Supervisor deployed throughout all active works periods? (Yes / No — if No, explain)		

D.2 Personal Protective Equipment (PPE)

PPE must conform to ANSI, BIS, NIOSH, or Royal Government of Bhutan approved standards (OHS-001).

#	PPE Item	Number Issued This Month	Total Issued Cumulative	% Workers with Full PPE Compliance (observed this month)
1	Safety helmets			
2	Safety shoes			
3	Protective gloves			
4	High-visibility vests			
5	Dust masks			
6	Safety belts / harnesses (height and slope works)			
7	Safety goggles / spectacles			
8	Ear muffs / ear plugs			
9	Welding shields (if welding works conducted)			
10	Heat-resistant gloves and respirator (asphalt works)			

D.3 Worker Accommodation (OHS002)

Complete this section only if worker accommodation has been established or is planned.

#	Information	This Month	Cumulative to Date
1	Is worker accommodation required under this contract? (Yes / No)		N/A
2	Type of accommodation provided (Constructed by Contractor / Rented from third party / Both)		N/A
3	Number of accommodation sites in operation		
4	Location(s) of accommodation site(s)		N/A
5	Distance from nearest settlement (minimum required: 500m)		N/A

6	Number of workers accommodated		
7	Is accommodation established within 30 days of contract signing? (Yes / No — if No, explain)		N/A
8	Space per person meets minimum 3.5 sqm standard? (Yes / No)		N/A
9	Separate toilet/bathroom facilities for male and female workers? (Yes / No)		N/A
10	Is potable water available at the accommodation site? (Yes / No)		N/A
11	Is a separate kitchen or mess facility provided? (Yes / No)		N/A
12	If rented: rental agreement submitted to Engineer? (Yes / No / N/A)		N/A
13	Photographic evidence of accommodation attached as Appendix B? (Yes / No — number of photos)		N/A

D.4 OHS Incidents

#	Incident Type	This Month	Cumulative to Date
1	First Aid Incidents (treated on site, no time lost)		
2	Recordable Injuries (medical treatment beyond first aid)		
3	Lost Time Injuries — LTI (requiring 3 or more working days off)		
4	Fatalities		
5	Vehicle accidents within workzone (property damage only)		
6	Vehicle accidents involving injury to worker or road user		
7	Dangerous occurrences / near-misses (formally reported)		
8	Lost Time Injury Frequency Rate (LTIFR) for the month		

For each LTI, fatality, or vehicle accident involving injury: attach a separate Incident Report as Appendix C, including date, location, nature, immediate actions, root cause, and corrective/preventive measures.

Section E: Traffic Management and Road User Safety

This section is specific to the PBMC live-road works context. Complete for all active road sections.

#	Information	This Month	Cumulative to Date
1	Was a Traffic Management Plan (TMP) in place for all active worksites? (Yes / No)		N/A
2	Were advance warning signs placed at least 200m before all active worksites? (Yes / No — if No, describe non-compliance)		

3	Were trained flag persons deployed at both ends of all active worksites on the live carriageway? (Yes / No — if No, describe)		
4	Number of traffic management non-conformances recorded this month		
5	Number of complaints from road users related to workzone safety or traffic disruption		
6	Were advance community notifications issued (minimum 5 working days) before works commenced in community areas this month? (Yes / No — dates and communities if Yes)		N/A
7	Any road user incidents (near-misses, complaints, conflicts) at worksites this month? (Yes / No — describe if Yes)		
8	TMP updated to reflect current active sections? (Yes / No)		N/A

Section F: Environmental Compliance

F.1 General Environmental Measures

#	Information	This Month	Cumulative to Date
1	Number of fuel or chemical spills recorded		
2	Did any spill reach a watercourse or drain? (Yes / No — describe if Yes)		
3	Were spill kits available and functional at all equipment staging areas? (Yes / No)		N/A
4	Is waste management and segregation (general / hazardous / recyclable) in place at all worksites? (Yes / No)		N/A
5	Was any waste disposed of at unauthorized locations? (Yes / No — describe if Yes)		
6	Were dust suppression measures (watering) applied at all dust-generating activities? (Yes / No)		N/A
7	Were noise-generating works confined to permitted hours (6:00 AM–10:00 PM near residential areas; 7:00 AM–6:00 PM near Biological Corridor)? (Yes / No — describe non-compliance if any)		
8	Were erosion and sediment control measures in place at all earthwork locations before works commenced? (Yes / No)		
9	Number of environmental complaints received from communities (dust, noise, water, other)		
10	Were all environmental complaints logged and responded to? (Yes / No)		

F.2 Asphalt Plant Operations (Complete only if an asphalt plant is in operation)

#	Information	This Month	Cumulative to Date
1	Is an asphalt plant in operation this month? (Yes / No)		N/A
2	Plant location (confirm minimum 500m from watercourse, settlement, school)		N/A
3	Plant siting approved by Engineer? (Yes / No / N/A)		N/A
4	Total asphalt produced this month (tonnes)		
5	Any emissions non-compliance observed? (Yes / No — describe if Yes)		
6	Bitumen and fuel storage: secondary containment in place? (Yes / No)		N/A
7	Any asphalt waste or milling waste disposed of this month? Describe method and location.		

Section G: Biodiversity and Sensitive Area Compliance

Complete for all works conducted in or adjacent to Biological Corridor 8 sections.

#	Information	This Month	Cumulative to Date
1	Were any works conducted in sections adjacent to the KBA or Biological Corridor 8 this month? (Yes / No — identify sections if Yes)		N/A
2	Were all works confined strictly to the existing road carriageway and right-of-way? (Yes / No — describe any deviation if No)		
3	Were all vehicles and equipment washed down before entering the project area from outside the district? (Yes / No — records attached?)		N/A
4	Any invasive alien plant species observed in the road corridor? (Yes / No — species and location if Yes; describe management action)		
5	Any wildlife sightings recorded at or near active worksites this month? (Yes / No — complete table below if Yes)		
6	Any wildlife mortality associated with project activities? (Yes / No — report to Engineer and DoFPS within 24 hours if Yes)		
7	Any worker found hunting, trapping, fishing, or collecting plants? (Yes / No — describe disciplinary action if Yes)		

Section H: SEA/SH Prevention and Response

#	Information	This Month	Cumulative to Date
1	SEA/SH sensitization training sessions conducted this month (number of sessions)		
2	Number of workers who attended SEA/SH training this month		
3	Language(s) used for SEA/SH training		N/A

4	Is GBV-free zone signage posted at all active worksites and accommodation areas? (Yes / No — number of sites if Yes)		N/A
5	Are helpline numbers (Pema Center 1010; Police 113; RENEW) visibly posted at all worksites and accommodation areas? (Yes / No)		N/A
6	Are separate, lockable, lit sanitation facilities provided for male and female workers at all worksites and accommodation areas? (Yes / No)		N/A
7	Is the SEA/SH Focal Person's name and contact details posted at all worksites? (Yes / No)		N/A
8	Number of SEA/SH complaints or incidents received this month		
9	Were all SEA/SH incidents referred to DoST PIU within 24 hours? (Yes / No / N/A)		N/A

Note: Individual SEA/SH incident details must NOT be included in this report. Report only the number of incidents and confirmation that referral procedures were followed. Detailed case information is managed through the confidential SEA/SH case management process.

Section I: Grievance Redress Mechanism (GRM)

I.1 Worker Grievances

#	Information	This Month	Cumulative to Date
1	Number of worker grievances received		
2	Number of grievances resolved within prescribed timeframe		
3	Number of grievances pending resolution		
4	Nature of grievances (wages / OHS / working conditions / SEA/SH / other — describe briefly)		N/A
5	Any grievances escalated to DoST PIU level? (Yes / No — describe if Yes)		
6	Any instances of retaliation against a grievance reporter? (Yes / No — describe action taken if Yes)		

I.2 Community Grievances

#	Information	This Month	Cumulative to Date
1	Number of community grievances received		
2	Number of grievances resolved within prescribed timeframe		
3	Number of grievances pending resolution		
4	Nature of grievances (traffic / dust / noise / worker behaviour / access / other — describe briefly)		N/A
5	Any grievances escalated to DoST PIU level? (Yes / No — describe if Yes)		
6	Community consultation / liaison meetings held this month (number, dates, communities, participants including female participants)		

Section J: Non-Conformance and Penalty Log

List all Non-Conformance Notices (NCNs) issued by the Engineer during the reporting month, and the status of all NCNs from previous months that remain open.

NCN No.	Date Issued	Section / Chainage	Nature of Non-Conformance	Severity Category	Corrective Action Deadline	Status (Open / Closed)	Date Closed	Penalty / Deduction Applied (Nu.)
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Total ESHS penalty deductions applied to RA bill this month: Nu. _

Section K: Chance Finds

#	Information	This Month	Cumulative to Date
1	Were Chance Find Procedures in place and workers briefed? (Yes / No)		N/A
2	Any chance finds discovered this month? (Yes / No — if Yes, complete below)		
3	Date and location of chance find (if applicable)		N/A
4	Nature of find (if applicable)		N/A
5	Were works immediately suspended and DoST PIU notified within 24 hours? (Yes / No / N/A)		N/A
6	Notification to Department of Culture, MoHCA (Yes / No / N/A)		N/A
7	Current status (works suspended / authority clearance obtained / works resumed — date)		N/A

Section L: Major ESHS Issues and Corrective Actions

This is the most important section of the report. Entries must be specific, factual, and actionable. Generic statements such as "no major issues" without supporting information are not acceptable.

#	Issue	Details
1	Summary of major ES issues identified this month (describe each issue, its location, and its significance)	
2	Summary of ES issues from previous months that remain unresolved	
3	Corrective actions implemented this month (describe each action, responsible party, and completion status)	
4	Corrective actions planned for next month (describe each action, responsible party, and target date)	
5	Any issues requiring immediate escalation to DoST PIU or the World Bank? (Yes / No — describe if Yes)	
6	Any adaptive management measures recommended (changes to EHSTP, ESCOPs implementation, TMP, or biodiversity measures)? (Yes / No — describe if Yes)	

Section M: Certification and Signatures

This report has been prepared based on direct site monitoring and records maintained during the reporting month. The information provided is accurate and complete to the best of my knowledge.

Name of ES Specialist:

Name of Contract Manager:

Signature:

Signature:

Date:

Date:

This report is submitted to: Engineer / DoST PIU by the 5th working day of the month following the reporting period.

Appendixes to Monthly ESHS Progress Report

Appendix	Content	Required?
Appendix A	Photographic record of works progress (minimum 5 photos)	Mandatory every month
Appendix B	Photographic record of worker accommodation (minimum 3 photos per site)	Mandatory when accommodation is operational
Appendix C	Incident Report(s) for any LTI, fatality, or vehicle accident involving injury	Mandatory when applicable
Appendix D	Training attendance sheets (signed) for all training conducted this month	Mandatory every month
Appendix E	Wildlife sighting log (if wildlife sightings recorded)	When applicable
Appendix F	Grievance log extract (worker and community grievances — without identifying survivor details for SEA/SH cases)	Mandatory every month

Drawings

Drawings are attached as **Annex 2:**

1. Road Safety Works:

- Crash barrier drawings
- Earthen Bunds
- Km Posts

2. Climate-resilience work drawings

- Check dams
- Drainage
- Culverts
- RCC retaining walls

3. Occupational Health & Safety

- Workforce Dwellings
- Project Office

PART 3 – Conditions of Contract and Contract Forms

Section VIII - General Conditions of Contract

These General Conditions of Contract (GCC), read in conjunction with the Particular Conditions of Contract (PCC) and other documents listed therein, should be a complete document expressing fairly the rights and obligations of both parties.

These General Conditions of Contract have been developed on the basis of considerable international experience in the drafting and management of contracts, bearing in mind a trend in the construction industry towards simpler, more straightforward language.

The GCC can be used for both smaller admeasurement contracts and lump sum contracts.

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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 23.
- (d) **Bank** means the financing institution **named in the 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 Clause 42 hereunder.
- (g) The **Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 57.1.
- (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 Sub-Clause 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 Project Manager upon correction of defects by the Contractor.
- (p) The **Defects Liability Period** is the period **named in the PCC** pursuant to GCC Sub-Clause 38.1 and calculated from the Completion Date.
- (q) **Drawings** means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, 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) **"In writing"** or **"written"** means hand-written, type-written, printed or electronically made, and resulting in a permanent record;
- (u) The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.
- (v) 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.
- (w) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- (x) **Plant** is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.
- (y) 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.
- (z) **PCC** means Particular Conditions of Contract.
- (aa) The **Site** is the area defined as such in the PCC.
- (bb) **Site Investigation Reports** are those that were included in the bidding document and are factual and

interpretative reports about the surface and subsurface conditions at the Site.

- (cc) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
- (dd) 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.
- (ee) 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.
- (ff) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- (gg) A **Variation** is an instruction given by the Project Manager which varies the Works.
- (hh) The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the PCC.
- (ii) “**Contractor’s Personnel**” refers to all personnel whom the Contractor utilizes on the Site or other places where the Works are carried out, including the staff, labor and other employees of each Subcontractor.
- (jj) “**Key Personnel**” means the positions (if any) of the Contractor’s personnel that are stated in the Specification.
- (kk) “**ES**” means Environmental and Social (including Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH)).
- (ll) “**Sexual Exploitation and Abuse**” “**(SEA)**” means the following:

Sexual Exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;

Sexual Abuse is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions.
- (mm) “**Sexual Harassment**” “**(SH)**” is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the

Contractor's Personnel with other Contractor's or Employer's Personnel; and

- (nn) “**Employer's Personnel**” refers to the Project Manager and all other staff, labor and other employees (if any) of the Project Manager and of the Employer engaged in fulfilling the Employer's obligations under the Contract; and any other personnel identified as Employer's Personnel, by a notice from the Employer or the Project Manager to the Contractor.

2. Interpretation

- 2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. 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) Agreement,
 - (b) Letter of Acceptance,
 - (c) Contractor's Bid,
 - (d) Particular Conditions of Contract,
 - (e) General Conditions of Contract, including Appendices,
 - (f) Specification,
 - (g) Drawings,
 - (h) Bill of Quantities,²⁸ and
 - (i) 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**.
- 3.1 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) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country; or

²⁸ In lump-sum contracts, delete “Bill of Quantities” and replace with “Activity Schedule.”

- (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.
4. **Project Manager's Decisions**
 - 4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.
 5. **Delegation**
 - 5.1 Unless otherwise **specified in the PCC**, the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.
 6. **Communications**
 - 6.1 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.
 7. **Subcontracting**
 - 7.1 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. The Contractor shall require that its Subcontractors execute the Works in accordance with the Contract, including complying with the relevant ES requirements and the obligations set out in Sub-Clause 28.1.
 - 7.2 Submission by the Contractor for approval of the Project Manager, addition of any Subcontractor not named in the Contract, shall also include the Subcontractor's declaration in accordance with Appendix C- Sexual exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration.
 8. **Other Contractors**
 - 8.1 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.
 - 8.2 The Contractor shall also, as stated in the Specification or as instructed by the Project Manager, cooperate with and allow appropriate opportunities for the Employer's or any other personnel, notified to the Contractor by the Employer or Project Manager, to conduct any environmental and social assessment.

9. Personnel and Equipment

- 9.1 The Contractor shall employ the Key Personnel and use the Equipment identified in its Bid, to carry out the Works 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.
- 9.2 The Project Manager may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Key Personnel (if any), who:
- (a) persists in any misconduct or lack of care;
 - (b) carries out duties incompetently or negligently;
 - (c) fails to comply with any provision of the Contract;
 - (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment;
 - (e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works;
 - (f) has been recruited from the Employer's Personnel;
 - (g) undertakes behavior which breaches the Code of Conduct for Contractor's Personnel (ES).

If appropriate, the Contractor shall then promptly appoint (or cause to be appointed) a suitable replacement with equivalent skills and experience.

Notwithstanding any requirement from the Project Manager to remove or cause to remove any person, the Contractor shall take immediate action as appropriate in response to any violation of (a) through (g) above. Such immediate action shall include removing (or causing to be removed) from the Site or other places where the Works are being carried out, any Contractor's Personnel who engages in (a), (b), (c), (d), (e) or (g) above or has been recruited as stated in (f) above.

- 9.3 The Contractor shall take all necessary safety measures to avoid the occurrence of incidents and injuries to any third party associated with the use of, if any, Equipment on public roads or other public infrastructure. The Contractor shall monitor road safety incidents and accidents to identify negative safety issues and establish and implement necessary measures to resolve them.

9.4 Labor

- 9.4.1 *Engagement of Staff and Labor.* The Contractor shall provide and employ on the Site for the execution of the Works such skilled, semi-skilled and unskilled labor as is necessary for the proper and timely execution of the Contract. As **stated in the**

PCC, the Contractor shall allocate not less than 30% of the total labor cost under the contract to the employment of local Contractor's Personnel (local labor) with appropriate skills and experience.

Unless otherwise provided in the Contract, the Contractor shall be responsible for the recruitment, transportation, accommodation and welfare facilities in accordance with GCC Sub-Clause 9.4.6, of the Contractor's Personnel, and for all payments in connection therewith.

The Contractor shall provide the Contractor's Personnel information and documentation that are clear and understandable regarding their terms and conditions of employment. The information and documentation shall set out their rights under relevant labor laws applicable to the Contractor's Personnel (which will include any applicable collective agreements), including their rights related to hours of work, wages, overtime, compensation and benefits, as well as those arising from any requirements in the Specification. The Contractor's Personnel shall be informed when any material changes to their terms or conditions of employment occur.

9.4.2 *Conditions of Labor.* The Contractor shall inform the Contractor's Personnel about:

- (a) any deduction to their payment and the conditions of such deductions in accordance with the applicable laws or as stated in the Specification; and
- (b) their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the laws of the Country for the time being in force.

The Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws.

Where required by applicable laws or as stated in the Specification, the Contractor shall provide the Contractor's Personnel written notice of termination of employment and details of severance payments in a timely manner. The Contractor shall have paid the Contractor's Personnel (either directly or where appropriate for their benefit) all due wages and entitlements including, as applicable, social security benefits and pension contributions, on or before the end of their engagement/ employment.

9.4.3 The Contractor may bring into the Country foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, if requested by the Contractor, use its best endeavors in a timely and expeditious manner to assist the Contractor in obtaining any local, state,

- national, or government permission required for bringing in the Contractor's personnel.
- 9.4.4 The Contractor shall at its own expense provide the means of repatriation to and the Contractor's Personnel employed on the Contract at the Site to their various home countries. It shall also provide suitable temporary maintenance of all such persons from the cessation of their employment on the Contract to the date programmed for their departure. In the event that the Contractor defaults in providing such means of transportation and temporary maintenance, the Employer may provide the same to such personnel and recover the cost of doing so from the Contractor.
- 9.4.5 *Disorderly conduct.* The Contractor shall at all times during the progress of the Contract use its best endeavors to prevent any unlawful, riotous or disorderly conduct or behavior by or amongst the Contractor's Personnel.
- 9.4.6 *Facilities for Staff and Labor.* Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. If stated in the Specification, the Contractor shall give access to or provide services that accommodate the physical, social and cultural needs of the Contractor's Personnel. The Contractor shall also provide similar facilities for the Employer's Personnel if stated in the Specification.
- 9.4.7 The Contractor shall, in all dealings with the Contractor's Personnel, pay due regard to all recognized festivals, official holidays, religious or other customs and all local laws and regulations pertaining to the employment of labor. The Contractor shall provide the Contractor's Personnel annual holiday and sick, maternity and family leave, as required by applicable laws or as stated in the Specification.
- 9.4.8 *Supply of Foodstuffs.* The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.
- 9.4.9 *Supply of Water.* The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.
- 9.4.10 *Measures against Insect and Pest Nuisance.* The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

- 9.4.11 *Alcoholic Liquor or Drugs.* The Contractor shall not, otherwise than in accordance with the laws of the Country, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereto by Contractor's Personnel.
- 9.4.12 *Arms and Ammunition.* The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.
- 9.4.13 *Funeral Arrangements.* The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of its local employees who may die while engaged upon the Works.
- 9.4.14 *Forced Labor.* The Contractor, including its Subcontractors, shall not employ or engage forced labor. Forced labor consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements.

No persons shall be employed or engaged who have been subject to trafficking. Trafficking in persons is defined as the recruitment, transportation, transfer, harboring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation.

- 9.4.15 *Child Labor.* The Contractor, including its Subcontractors, shall not employ or engage a child under the age of 14 unless the national law specifies a higher age (the minimum age).

The Contractor, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

The Contractor including its Subcontractors, shall only employ or engage children between the minimum age and the age of 18 after an appropriate risk assessment has been conducted by the Contractor with the Project Manager's approval. The Contractor shall be subject to regular monitoring by the Project Manager that includes monitoring of health, working conditions and hours of work.

Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work:

- (a) with exposure to physical, psychological or sexual abuse;
- (b) underground, underwater, working at heights or in confined spaces;
- (c) with dangerous machinery, equipment or tools, or involving handling or
- (d) transport of heavy loads;
- (e) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to temperatures, noise or vibration damaging to health; or
- (f) under difficult conditions such as work for long hours, during the night or in confinement on the premises of the employer.

9.4.16 *Employment Records of Workers.* The Contractor shall keep complete and accurate records of the employment of at the Site. The records shall include the name, age, gender, hours worked, category of skill (i.e. skilled, semi-skilled, unskilled), wages paid to all workers, and whether they are local labor as specified in GCC Sub-Clause 9.4.1. These records shall be submitted to the Project Manager on a monthly basis. The Employer will use the records to submit periodic reports to the Bank on local labor engagement.

9.4.17 *Workers' Organizations.* In countries where the relevant labor laws recognize workers' rights to form and to join workers' organizations of their choosing and to bargain collectively without interference, the Contractor shall comply with such laws. In such circumstances, the role of legally established workers' organizations and legitimate workers' representatives will be respected, and they will be provided with information needed for meaningful negotiation in a timely manner. Where the relevant labor laws substantially restrict 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. The Contractor shall not seek to influence or control these alternative means. The Contractor shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organizations and collective bargaining or alternative mechanisms. Workers' organizations are expected to fairly represent the workers in the workforce.

9.4.18 *Non-Discrimination and Equal Opportunity.* The Contractor shall not make decisions relating to the employment or treatment of Contractor's Personnel on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment of Contractor's Personnel on the principle of equal opportunity and fair

treatment and shall not discriminate with respect to any aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices.

Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination. The Contractor shall provide protection and assistance as necessary to ensure non-discrimination and equal opportunity, including for specific groups such as women, people with disabilities, migrant workers and children (of working age in accordance with GCC Sub-Clause 9.4.15).

- 9.4.19 *Contractor's Personnel Grievance Mechanism.* The Contractor shall have a grievance mechanism for Contractor's Personnel, and where relevant the workers' organizations stated in GCC Sub-Clause 9.4.17, to raise workplace concerns. The grievance mechanism shall be proportionate to the nature, scale, risks and impacts of the Contract. The mechanism shall address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned in a language they understand, without any retribution, and shall operate in an independent and objective manner.

The Contractor's Personnel shall be informed of the grievance mechanism at the time of engagement for the Contract, and the measures put in place to protect them against any reprisal for its use. Measures will be put in place to make the grievance mechanism easily accessible to all Contractor's Personnel.

The grievance mechanism shall not impede access to other judicial or administrative remedies that might be available, or substitute for grievance mechanisms provided through collective agreements.

The grievance mechanism may utilize existing grievance mechanisms, providing that they are properly designed and implemented, address concerns promptly, and are readily accessible to Contractor's Personnel. Existing grievance mechanisms may be supplemented as needed with Contract-specific arrangements.

- 9.4.20 *Training of Contractor's Personnel.* The Contractor shall provide appropriate training to relevant Contractor's Personnel on ES aspects of the Contract, including appropriate sensitization on prohibition of SEA and SH, and health and safety training referred to in GCC Sub-Clause 18.2.

As stated in the Specification or as instructed by the Project Manager, the Contractor shall also allow appropriate

opportunities for the relevant Contractor's Personnel to be trained on ES aspects of the Contract by the Employer's Personnel.

The Contractor shall provide training on SEA and SH, including its prevention, to any of its personnel who has a role to supervise other Contractor's Personnel.

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| 10. Employer's and Contractor's Risks | 10.1 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. |
| 11. Employer's Risks | <p>11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:</p> <ul style="list-style-type: none"> (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 <ul style="list-style-type: none"> (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. <p>11.2 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</p> <ul style="list-style-type: none"> (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. |
| 12. Contractor's Risks | 12.1 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. |
| 13. Insurance | 13.1 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.

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.

13.2 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.

13.3 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager.

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

14. Site Data

14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the PCC**, supplemented by any information available to the Contractor.

15. Contractor to Construct the Works

15.1 The Contractor shall construct and install the Works in accordance with the Specification and Drawings.

15.2 If the Contract specifies that the Contractor shall design any part of the permanent Works, the Contractor shall take into account the Employer's requirements which may include, if stated in the Specification:

- (a) designing structural elements of the Works taking into account climate change considerations;
- (b) applying the concept of universal access (the concept of universal access means unimpeded access for people of all ages and abilities in different situations and under various circumstances; and
- (c) considering the incremental risks of the public's potential exposure to operational accidents or natural hazards, including extreme weather events.

15.3 The Contractor shall not post and shall ensure that its Subcontractors/suppliers/manufacturers and Contractors'

Personnel shall not post, any signage on the Site, or in any other place where the Works will be carried out, except such signage as is required under the Contract, including by the Laws of the Country, or has been approved by the Employer. For the purposes of this sub-clause, signage shall include, inter alia, flags, billboards, advertising materials and any other similar item separately posted on the Site.

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

16.1 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.

16.2 The Contractor shall not carry out mobilization to the Site unless the Project Manager gives approval, an approval that shall not be unreasonably delayed, to the measures the Contractor proposes to address environmental and social risks and impacts, which at a minimum shall include applying the Management Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor's Personnel submitted as part of the Bid and agreed as part of the Contract.

The Contractor shall submit to the Project Manager for its approval any additional MSIPs as are necessary to manage the ES risks and impacts of ongoing Works. These MSIPs collectively comprise the Contractor's Environmental and Social Management Plan (C-ESMP). The Contractor shall review the C-ESMP, periodically (but not less than every six (6) months), and update it as required to ensure that it contains measures appropriate to the Works. The updated C-ESMP shall be submitted to the Project Manager for its approval.

17. Approval by the Project Manager

17.1 The Contractor shall submit Specification and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.

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

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

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

17.5 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.

18. Health, Safety and Protection

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

18.2 The Contractor shall:

**of the
Environment**

- (a) comply with all applicable health and safety regulations and Laws;
- (b) comply with all applicable health and safety obligations specified in the Contract;
- (c) take care for the health and safety of all persons entitled to be on the Site and other places, if any, where the Works are being executed;
- (d) keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons;
- (e) provide fencing, lighting, safe access, guarding and watching of the Works until the issue of the Contract Completion Certificate;
- (f) provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land;
- (g) provide health and safety training of Contractor's Personnel as appropriate and maintain training records;
- (h) actively engage the Contractor's Personnel in promoting understanding, and methods for, implementation of health and safety requirements, as well as in providing information to Contractor's Personnel, training on occupational safety and health, and provision of personal protective equipment without expense to the Contractor's Personnel;
- (i) put in place workplace processes for Contractor's Personnel to report work situations that they believe are not safe or healthy, and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health.
- (j) Contractor's Personnel who remove themselves from such work situations shall not be required to return to work until necessary remedial action to correct the situation has been taken. Contractor's Personnel shall not be retaliated against or otherwise subject to reprisal or negative action for such reporting or removal;
- (k) where the Employer's Personnel, any other contractors employed by the Employer, and/or personnel of any legally constituted public authorities and private utility companies are employed in carrying out, on or near the site, of any work not included in the Contract, collaborate in applying the health and safety requirements, without

prejudice to the responsibility of the relevant entities for the health and safety of their own personnel; and

- (l) establish and implement a system for regular (not less than six-monthly) review of health and safety performance and the working environment.

Subject to GCC Sub-Clause 16.2, the Contractor shall submit to the Project Manager for its approval a health and safety manual which has been specifically prepared for the Works, the Site and other places (if any) where the Contractor intends to execute the Works.

The health and safety manual shall be in addition to any other similar document required under applicable health and safety regulations and laws.

The health and safety manual shall set out all the health and safety requirements under the Contract,

- (a) which shall include at a minimum:
 - (i) the procedures to establish and maintain a safe working environment without risk to health at all workplaces, machinery, equipment and processes under the control of the Contractor, including control measures for chemical, physical and biological substances and agents;
 - (ii) details of the training to be provided, records to be kept;
 - (iii) the procedures for prevention, preparedness and response activities to be implemented in the case of an emergency event (i.e., an unanticipated incident, arising from both natural and man-made hazards, typically in the form of fire, explosions, leaks or spills, which may occur for a variety of different reasons including failure to implement operating procedures that are designed to prevent their occurrence, extreme weather or lack of early warning);
 - (iv) remedies for adverse impacts such as occupational injuries, deaths, disability and disease;
 - (v) the measures to be taken to avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases,
 - (vi) the measures to be implemented to avoid or minimize the spread of communicable diseases (including transfer of Sexually Transmitted Diseases or Infections (STDs), such as HIV virus) and non-communicable diseases associated with the execution

of the Works, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups. This includes taking measures to avoid or minimize the transmission of communicable diseases that may be associated with the influx of temporary or permanent Contract-related labor;

- (vii) the policies and procedures on the management and quality of accommodation and welfare facilities if such accommodation and welfare facilities are provided by the Contractor in accordance with GCC Sub-Clause 9.4.6; and

- (b) any other requirements stated in the Specification.

18.3 Protection of the environment

The Contractor shall take all necessary measures to:

- (a) protect the environment (both on and off the Site); and
- (b) limit damage and nuisance to people and property resulting from pollution, noise and other results of the Contractor's operations and/ or activities.

The Contractor shall ensure that emissions, surface discharges, effluent and any other pollutants from the Contractor's activities shall exceed neither the values indicated in the Specification, nor those prescribed by applicable laws.

In the event of damage to the environment, property and/or nuisance to people, on or off Site as a result of the Contractor's operations, the Contractor shall agree with the Project Manager the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Contractor shall implement such remedies at its cost to the satisfaction of the Project Manager.

19. Archaeological and Geological Findings

- 19.1 All fossils, coins, articles of value or antiquity, structures, groups of structures, and other remains or items of geological, archaeological, paleontological, historical, architectural or religious interest found on the Site shall be placed under the care and custody of the Employer. The Contractor shall:

- (a) take all reasonable precautions, including fencing-off the area or site of the finding, to avoid further disturbance and prevent Contractor's Personnel or other persons from removing or damaging any of these findings;
- (b) train relevant Contractor's Personnel on appropriate actions to be taken in the event of such findings; and
- (c) implement any other action consistent with the requirements of the Specification and relevant laws.

The Contractor shall, as soon as practicable after discovery of any such finding, notify the Project Manager of such discoveries

and carry out the Project Manager's instructions for dealing with them.

20. Possession of the Site

20.1 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.

21. Access to the Site

21.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager (including the Bank staff or consultants acting on the Bank's behalf, stakeholders and third parties, such as independent experts, local communities, or non-governmental organizations), including to carry out environmental and social audit, as appropriate, 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.

22. Instructions, Inspections and Audits

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

22.2 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.

22.3 Inspections & Audit by the Bank

Pursuant to paragraph 2.2 e. of Appendix A to the GCC- Fraud and Corruption, the Contractor shall permit and shall cause its agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit, the Bank and/or persons appointed by the Bank to inspect the site and/or the accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have such accounts, records and other documents audited by auditors appointed by the Bank. The Contractor's and its Subcontractors' and subconsultants' attention is drawn to GCC Sub-Clause 25.1 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).

23. Appointment of the Adjudicator

23.1 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.

- 23.2 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 **designated in the PCC** at the request of either party, within 14 days of receipt of such request.

24. Procedure for Disputes

- 24.1 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.
- 24.2 The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.
- 24.3 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.
- 24.4 The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place **specified in the PCC**.

25. Fraud and Corruption

- 25.1 The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Appendix A to the GCC.
- 25.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

26. Stakeholder Engagement

- 26.1 The Contractor shall provide relevant contract- related information, as the Employer and/or Project Manager may

reasonably request to conduct Stakeholder engagements. “Stakeholder” refers to individuals or groups who:

- (i) are affected or likely to be affected by the Contract; and
- (ii) may have an interest in the Contract.

The Contractor may also directly participate in Stakeholder engagements, as the Employer and/or Project Manager may reasonably request

27. Suppliers (other than Subcontractors)

27.1 *Forced Labor:* The Contractor shall take measures to require its suppliers (other than Subcontractors) not to employ or engage forced labor including trafficked persons as described in GCC Sub-Clause 9.4.14. If forced labor/trafficking cases are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

27.2 *Child Labor:* The Contractor shall take measures to require its suppliers (other than Subcontractors) not to employ or engage child labor as described in GCC Sub-Clause 9.4.15. If child labor cases are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

27.3 *Serious Safety Issues:* The Contractor, including its Subcontractors, shall comply with all applicable safety obligations, including as stated in GCC Sub-Clause 18.2. The Contractor shall also take measures to require its suppliers (other than Subcontractors) to adopt procedures and mitigation measures adequate to address safety issues related to their personnel. If serious safety issues are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

27.4 *Obtaining natural resource materials in relation to supplier:* The Contractor shall obtain natural resource *materials* from suppliers that can demonstrate, through compliance with the applicable verification and/ or certification requirements, that obtaining such materials is not contributing to the risk of significant conversion or significant degradation of natural or critical habitats such as unsustainably harvested wood products, gravel or sand extraction from riverbeds or beaches.

If a supplier cannot continue to demonstrate that obtaining such materials is not contributing to the risk of significant conversion

or significant degradation of natural or critical habitats, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to demonstrate that they are not significantly adversely impacting the habitats.

28. Code of Conduct

28.1 The Contractor shall have a Code of Conduct for the Contractor's Personnel.

The Contractor shall take all necessary measures to ensure that each Contractor's Personnel is made aware of the Code of Conduct including specific behaviors that are prohibited and understands the consequences of engaging in such prohibited behaviors.

These measures include providing instructions and documentation that can be understood by the Contractor's Personnel and seeking to obtain that person's signature acknowledging receipt of such instructions and/or documentation, as appropriate.

The Contractor shall also ensure that the Code of Conduct is visibly displayed in multiple locations on the Site and any other place where the Works will be carried out, as well as in areas outside the Site accessible to the local community and project affected people. The posted Code of Conduct shall be provided in languages comprehensible to Contractor's Personnel, Employer's Personnel and the local community.

The Contractor's Management Strategy and Implementation Plans shall include appropriate processes for the Contractor to verify compliance with these obligations.

29. Security of the Site

29.1 The Contractor shall be responsible for the security of the Site, and:

- (a) for keeping unauthorized persons off the Site;
- (b) authorized persons shall be limited to the Contractor's Personnel, the Employer's Personnel, and to any other personnel identified as authorized personnel (including the Employer's other contractors on the Site), by a notice from the Employer or the Project Manager to the Contractor.

Subject to GCC Sub-Clause 16.2, the Contractor shall submit for the Project Manager's No-objection a security management plan that sets out the security arrangements for the Site

The Contractor shall (i) conduct appropriate background checks on any personnel retained to provide security; (ii) train the security personnel adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct towards Contractor's Personnel, Employer's Personnel and affected communities; and (iii)

require the security personnel to act within the applicable Laws and any requirements set out in the Specification.

The Contractor shall not permit any use of force by security personnel in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.

In making security arrangements, the Contractor shall also comply with any additional requirements stated in the Specification.

B. Time Control

30. Program and Progress Reports

- 30.1 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. 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. The Program and each of its revisions shall include the engagement plan for local labor, taking into account the order in which the Contractor intends to carry out the Works.
- 30.2 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.
- 30.3 The Contractor shall monitor progress of the Works and submit to the Project manager progress report and any updated Program showing the actual progress achieved and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities, 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 lump-sum Contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.
- 30.4 Unless otherwise stated in the Specification, each progress report shall include the Environmental and Social (ES) metrics set out in Appendix B. If **stated in the PCC**, progress report shall

include status of compliance to cyber security risks management, and any foreseeable cyber security risk and mitigation.

- 30.5 In addition to the progress reports, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, Project Manager's personnel or Contractor's Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; any cyber security incidents **as specified in the PCC**; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information.

The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Project Manager of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel, or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager.

The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the Contractor of any incidents or accidents referred to in this Subclause.

31. Extension of the Intended Completion Date

- 31.1 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.
- 31.2 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.

32. Acceleration

- 32.1 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.

32.2 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.

**33. Delays Ordered
by the Project
Manager**

33.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

**34. Management
Meetings**

34.1 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.

34.2 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.

35. Early Warning

35.1 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.

35.2 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.

C. Quality Control

**36. Identifying
Defects**

36.1 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.

37. Tests

37.1 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.

38. Correction of Defects

38.1 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.

38.2 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.

39. Uncorrected Defects

39.1 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.

D. Cost Control

40. Contract Price²⁹

40.1 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.

41. Changes in the Contract Price³⁰

41.1 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 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change. The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer.

41.2 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.

²⁹ In lump-sum contracts, replace GCC Sub-Clauses 40.1 as follows:

40.1 The Contractor shall provide updated Activity Schedules within 14 days of being instructed to by the Project Manager. 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.

³⁰ In lump-sum contracts, replace entire GCC Clause 41 with new GCC Sub-Clause 41.1, as follows:

41.1 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.

42. Variations

- 42.1 All Variations shall be included in updated Programs³¹ produced by the Contractor.
- 42.2 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 Contractor shall also provide information of any ES risks and impacts of the Variation, and any additional documents **specified in the PCC**. 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.
- 42.3 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.
- 42.4 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.
- 42.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
- 42.6 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 GCC Sub-Clause 41.1 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.³²
- 42.7 Value Engineering: The Contractor may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following;
- (a) the proposed change(s), and a description of the difference to the existing contract requirements;
 - (b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle cost) the Employer may incur in implementing the value engineering proposal;

³¹ In lump-sum contracts, add "and Activity Schedules" after "Programs."

³² In lump-sum contracts, delete this paragraph.

- (c) a description of any effect(s) of the change on performance/functionality; and
- (d) a description of the proposed work to be performed, a program for its execution and sufficient ES information to enable an evaluation of ES risks and impacts.

The Employer may accept the value engineering proposal if the proposal demonstrates benefits that:

- (a) accelerates the contract completion period; or
 - (b) reduces the Contract Price or the life cycle costs to the Employer; or
 - (c) improves the quality, efficiency, safety or sustainability of the Facilities; or
 - (d) yields any other benefits to the Employer,
- without compromising the functionality of the Works.

If the value engineering proposal is approved by the Employer and results in:

- (a) a reduction of the Contract Price; the amount to be paid to the Contractor shall be the **percentage specified in the PCC** of the reduction in the Contract Price; or
- (b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the amount to be paid to the Contractor shall be the full increase in the Contract Price.

43. Cash Flow Forecasts

43.1 When the Program,³³ 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.

44. Payment Certificates

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

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

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

44.4 The value of work executed shall comprise the value of the quantities of work in the Bill of Quantities that have been completed.³⁴

³³ In lump-sum contracts, add "or Activity Schedule" after "Program."

³⁴ In lump-sum contracts, replace this paragraph with the following: "The value of work executed shall comprise the value of completed activities in the Activity Schedule."

- 44.5 The value of work executed shall include the valuation of Variations and Compensation Events.
- 44.6 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.
- 44.7 If the Contractor was, or is, failing to perform any ES obligations or work under the Contract, the value of this work or obligation, as determined by the Project Manager, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Project Manager, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following:
- (a) failure to comply with any ES obligations or work described in the Works' Requirements which may include working outside site boundaries, excessive dust, failure to keep public roads in a safe usable condition, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g., from oils, human waste, damage to archeology or cultural heritage features, air pollution as a result of unauthorized and/or inefficient combustion;
 - (b) failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ES issues, or anticipated risks or impacts;
 - (c) failure to implement the C-ESMP e.g., failure to provide required training or sensitization;
 - (d) failing to have appropriate consents/permits prior to undertaking Works or related activities;
 - (e) failure to submit ES report/s (as described in Appendix B), or failure to submit such reports in a timely manner;
 - (f) failure to implement remediation as instructed by the Project Manager within the specified timeframe (e.g., remediation addressing non-compliance/s).
- 44.8 If the Contractor fails to materially comply with the Contractor's Local Labor Method Statement, an assessed amount, as determined by the Project Manager, may be withheld until such an obligation has been met.
- 44.9 **As specified in the PCC**, if the Contractor fails to perform its cyber security obligations under the Contract, an assessed amount, as determined by the Project Manager, may be withheld until the obligation has been performed.

45. Payments

- 45.1 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.

- 45.2 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.
- 45.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price.
- 45.4 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.

46. Compensation Events

- 46.1 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 Sub-Clause 20.1.
 - (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, Specification, 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.

46.2 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.

46.3 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.

46.4 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.

47. Tax

47.1 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 Clause 49.

48. Currencies

48.1 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.

49. Price Adjustment

49.1 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 specified below applies to each Contract currency:

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

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 coefficients³⁵ **specified in the PCC**, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable in that specific currency “c;” and

Imc is the index prevailing at the end of the month being invoiced and Ioc is the index prevailing 28 days before Bid opening for inputs payable; both in the specific currency “c.”

- 49.2 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.

50. Retention

- 50.1 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.
- 50.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC Sub-Clause 57.1, 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.

51. Liquidated Damages

- 51.1 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.
- 51.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any

³⁵ 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 formulae for all currencies, since coefficient A, for the nonadjustable portion of the payments, is a very approximate figure (usually 0.15) to take account of fixed cost elements or other nonadjustable components. The sum of the adjustments for each currency are added to the Contract Price.

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 Sub-Clause 45.1.

52. Bonus

52.1 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.

53. Advance Payment

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

53.2 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.

53.3 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.

54. Securities

54.1 The Performance Security, and if so **specified in the PCC** an environmental and social (ES) 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 or surety 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, and until one year from the date of issue of the Certificate of Completion in the case of a Performance Bond.

55. Dayworks

55.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used only when the Project Manager has given written

instructions in advance for additional work to be paid for in that way.

55.2 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 two days of the work being done.

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

56. Cost of Repairs

56.1 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.

E. Finishing the Contract

57. Completion

57.1 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 whole of the Works is completed.

58. Taking Over

58.1 The Employer shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.

59. Final Account

59.1 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.

60. Operating and Maintenance Manuals

60.1 If "as built" drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates **stated in the PCC**.

60.2 If the Contractor does not supply the Drawings and/or manuals by the dates **stated in the PCC** pursuant to GCC Sub-Clause 60.1, 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.

61. Termination

- 61.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.
- 61.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:
- (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 Contractor does not maintain a Security, which is required;
 - (g) 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**; or
 - (h) if the Contractor, in the judgment of the Employer has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of the Appendix A to the GCC, in competing for or in executing the Contract, then the Employer may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site.
- 61.3 Notwithstanding the above, the Employer may terminate the Contract for convenience.
- 61.4 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.
- 61.5 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 Sub-Clause 61.2 above, the Project Manager shall decide whether the breach is fundamental or not.

62. Payment upon Termination

- 62.1 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 specified 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.
- 62.2 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.

63. Property

- 63.1 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.

64. Release from Performance

- 64.1 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 afterwards to which a commitment was made.

65. Suspension of Bank Loan or Credit

- 65.1 In the event that the Bank 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 of such suspension within 7 days of having received the Bank's suspension notice.
 - (b) If the Contractor has not received sums due to it within the 28 days for payment provided for in GCC Sub-Clause 45.1, the Contractor may immediately issue a 14-day termination notice.

- 66. Cyber Security** 66.1 Pursuant to the PCC, the Contractor, including its Subcontractors/ suppliers/ manufacturers shall take all technical and organizational measures necessary to protect the information technology systems and data used in connection with the Contract. Without limiting the foregoing, the Contractor, including its Subcontractors/ suppliers/ manufacturers, shall use all reasonable efforts to establish, maintain, implement and comply with, reasonable information technology, information security, cyber security and data protection controls, policies and procedures, including oversight, access controls, encryption, technological and physical safeguards and business continuity/disaster recovery and security plans that are designed to protect against and prevent breach, destruction, loss, unauthorized distribution, use, access, disablement, misappropriation or modification, or other compromise or misuse of or relating to any information technology system or data used in connection with the Contract.

APPENDIX A TO GENERAL CONDITIONS

Fraud and Corruption *(Text in this Appendix shall not be modified)*

1. Purpose

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

2. Requirements

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

2.2 To this end, the Bank:

a. Defines, for the purposes of this provision, the terms set forth below as follows:

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

- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;³⁶ (ii) to be a nominated³⁷ sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders(applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents, personnel, permit the Bank to inspect³⁸ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

³⁶ For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

³⁷ A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

³⁸ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

APPENDIX B

Environmental and Social (ES) Metrics for Progress Reports

Metrics for regular reporting:

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

- f. worker accommodations:*
- i. number of expats housed in accommodations, number of locals;
 - ii. date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;
 - iii. actions taken to recommend/require improved conditions, or to improve conditions.
- g. Health services: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);*
- h. gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);*
- i. training:*
- i. number of new workers, number receiving induction training, dates of induction training;
 - ii. number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
 - iii. number and dates of communicable diseases (including STDs) sensitization and/or training, no. workers receiving training (in the reporting period and in the past); same questions for gender sensitization, flag person training.
 - iv. number and date of SEA and SH prevention sensitization and/or training events, including number of workers receiving training on Code of Conduct for Contractor's Personnel (in the reporting period and in the past), etc.
- j. environmental and social supervision:*
- i. environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;
 - ii. sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and

- iii. community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.
- k. *Grievances*: list new grievances (e.g., number of allegations of SEA and SH) received in the reporting period and number of unresolved past grievances by date received, complainant's age and sex, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):
 - i. Worker grievances;
 - ii. Community grievances
- l. *Traffic, road safety and vehicles/equipment*:
 - i. traffic and road safety incidents and accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
 - ii. traffic and road safety incidents and accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
 - iii. overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).
- m. *Environmental mitigations and issues (what has been done)*:
 - i. dust: number of working bowsters, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/ spoil lorries with covers, actions taken for uncovered vehicles;
 - ii. erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;
 - iii. quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;
 - iv. blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);
 - v. spill clean-ups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination;

- vi. waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;
 - vii. details of tree plantings and other mitigations required undertaken in the reporting period;
 - viii. details of water and swamp protection mitigations required undertaken in the reporting period.
- n. compliance:*
- i. compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;
 - ii. compliance status of C-ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;
 - iii. compliance status of SEA and SH prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;
 - iv. compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;
 - v. other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

APPENDIX C

Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration for Subcontractors

[The following table shall be filled in by each subcontractor proposed by the Contractor, that was not named in the Contract]

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

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

Contract reference *[insert contract reference]*

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

SEA and/or SH Declaration
We: ☐ (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. ☐ (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. ☐ (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. An arbitral award on the disqualification case has been made in our favor. ☐ (d) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations for a period of two years. We have subsequently demonstrated that we have adequate capacity and commitment to comply with SEA /SH obligations. ☐ (e) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations for a period of two years. We have attached specific evidence demonstrating that we have adequate capacity and commitment to comply with SEA and SH obligations.
<i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i>
<i>[If (d) or (e) above are applicable, provide the following information:]</i>
Period of disqualification: From: _____ To: _____
If previously provided on another Bank financed works contract, details of evidence that demonstrated adequate capacity and commitment to comply with SEA/SH obligations (as per (d) above) Name of Employer: _____ Name of Project: _____ Contract description: _____ Brief summary of evidence provided: _____

_____ Contact Information: (Tel, email, name of contact person): _____ _____
As an alternative to the evidence under (d), other evidence demonstrating adequate capacity and commitment to comply with SEA/SH obligations (as per (e) above) <i>[attach details as appropriate]</i>. _____ _____

Name of the Subcontractor _____

Name of the person duly authorized to sign on behalf of the Subcontractor _____

Title of the person signing on behalf of the Subcontractor

=

Signature of the person named above

=

Date signed _____ day of _____,

Countersignature of authorized representative of the Contractor:

Signature: _____

Section IX - Particular Conditions of Contract

A. General	
GCC 1.1 (d)	The financing institution is: World Bank.
GCC 1.1 (r)	The Employer is: Department of Surface Transport (DoST), Ministry of Infrastructure and Transport (MoIT).
GCC 1.1 (v)	The Intended Completion Dates from the Contract Start Date for the different categories of Works are: 1. Initial Repairs: 10 months; 2. Road Safety Works: 24 months; 3. Climate Change Resilience Works: 24 months; 4. Periodic Maintenance: 48 months; 5. Emergency Maintenance: to be agreed between the Employer and Contractor; Maintenance and Management Services: 60 months.
GCC 1.1 (y)	The Project Manager is the Chief Engineer of Lobesa Regional Office, DoST.
GCC 1.1 (aa)	The Site is located at Wangdue Zam - Chuserbu section of PNH01 and Lawala - Gangtey - Phobjikha Dz Road (including Tabading Access Road). Lot 1: Wangdue Zam - Nobding (59.70-105.00 km) Lot 2: Nobding - Chuserbu (105.00-136.00km) & Lawala - Gangtey - Phobjikha Dz Road (0.00-17.43 km, including 2.23 Tabading Access Road)
GCC 1.1 (dd)	The Start Date shall be 30 days after signing of the contract.
GCC 1.1 (hh)	The Works consist of (for both lot): 1. Initial Repairs needed to restore all road assets to the Service Levels defined in the Specifications; 2. Road Safety Works to install additional road safety furniture, including guardrails, signs, reflectors and pavement markings; 3. Climate Change Resilience Works to provide additional slope protection and drainage; 4. Periodic Maintenance that will include pavement repairs and overlays on approximately 31km; 5. Emergency Maintenance to repair damage to the road assets caused by unforeseen weather or other events beyond the control of the Contractor;

	Maintenance and Management Services to maintain and manage the road assets in compliance with the Specifications.
GCC 2.2	Sectional Completions are: ● Initial Repairs within 10 months of the Start Date; ● Road Safety Works within 24 months of the Start Date; ● Climate Change Resilience Works within 24 months of the Start Date. ● Periodic Maintenance in accordance with each annual program agreed between the Project Manager, the Contractor and due consent from the Employer. Moreover, the priority of periodic maintenance shall be based on the following criteria: ○ Maximum IRI ○ Maximum number of potholes & cracks.
GCC 2.3(i)	The following documents also form part of the Contract: ● Correspondences exchanged between the parties (Employer and Contractor); ● Commitment or undertaking letter, if any, submitted by the Contractor; ● Minutes of meetings; ● Contract progress reports and other reports; ● Addendum, variation orders or site orders; ● CMS-generated record or signed measurement book ● Signed Hindrance Register; ● Risk Register
GCC 3.1	The language of the contract is English. The law that applies to the Contract is the law of Bhutan.
GCC 5.1	The Project Manager may delegate any of his duties and responsibilities.
GCC 8.1	Schedule of other contractors: Periodic maintenance or resurfacing of 3.50 km (105.00-108.50 km) is under Lot 1. The contractor of lot 2 shall coordinate and cooperate with the lot 1 contractor for this work. The rest of the work components: initial repairs, road safety works, climate change resilience works, emergency works, and maintenance and management services of 3.50 km (chainage 105.00-108.50) shall remain under lot 2.
GCC 9.4.1	The Contractor shall allocate not less than 30% of the total labor cost under the contract to the employment of local staff and personnel (local labor) with appropriate experience and skills.
GCC 10.1	Risk Register defines additional risks that are allocated to the Employer and to the Contractor.
GCC 13.1	The Contractor shall maintain the insurance continuously throughout the period during which the Contractor performs any Works, Maintenance and Management Services, Emergency Works or other obligations under the Contract, and for such additional period during the Defects Liability Period

	as is necessary to cover the Contractor's continuing obligations and activities with the following coverage. (a) the works, together with materials and plant for incorporation therein, for 100% of the Contract Price. The Contractor shall be required to submit the details of the Insurance cover taken clearly indicating the amount paid as premium and the amount kept under DEDUCTIBLES covering the whole of the contract price. <u>The Maximum provision that can be kept under DEDUCTIBLES is up to 2.5% of the Contract Price.</u> The Contractors personnel including labourers shall be insured in group immediately upon employment by the contractor. The insurance certificate of the workforce should be submitted to the client. The capital sum to be insured shall be as per the requirement of Labour and Employment Act-2007 and its regulation.
GCC 14.1	Site data are contained in the following external annexes: Annex 3: Existing Road Assets and Conditions Annex 4: Road Safety Works Annex 5: Initial Repairs
GCC 20.1	The Site Possession Date(s) shall be 7 days after Contract signing.
GCC 23.1 & GCC 23.2	Appointing Authority for the Adjudicator: Not Applicable.
GCC 24.3	Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: Not Applicable.
GCC 24.4	Dispute Resolution: Any dispute, controversy, or claim arising out of or in connection with this Contract, or the breach, termination, or invalidity thereof shall be resolved as follows: • The parties shall attempt to reach an amicable settlement. • If the parties fail to resolve amicably, it shall be resolved through; Arbitration in accordance with the Alternative Dispute Resolution Act, 2013, facilitated by Bhutan Alternative Dispute Resolution Centre (BADRC), Thimphu, if only agreed by both parties. If any party disagrees to resolve through BADRC, the dispute shall be settled through the Royal Court of Justice of Bhutan of competent jurisdiction.
GCC 27.4	Royalty must be borne by the contractor for materials extracted and supplied.
B. Time Control	

GCC 30.1	The Contractor shall submit for approval a work program/plan within 14 days from the date of the Letter of Acceptance.
GCC 30.3	The period between Program updates is monthly. The amount to be withheld for late submission of an updated Program is Nu. 100,000.00. The period for submission of Progress Reports is monthly.
GCC 35.1	The contractor shall give early warning within 14 days.
C. Quality Control	
GCC 38.1	The Defects Liability Period is: 365 days. ■ DLP is not applicable for initial repair works ■ Road safety works: 365 days after completion of this work ■ Climate change resilience works: 365 days after completion of this work ■ Period Maintenance: 365 days after the sectional completion of this work. ■ Emergency restoration works like structures: 365 days after completion of this work.
D. Cost Control	
GCC 42.2	■ Valid reasons/justifications for the variation and its impact. ■ Rate analysis
GCC 44.10	Maintenance and Management Services will not be measured in quantity; however, payment will be affected by compliance with the Performance Standards defined in the Specifications. Maintenance and Management Services shall be billed in fixed monthly amounts as per the Bill of Quantities Lump-Sum amount for Maintenance and Management Services, beginning from the Start Date. Payments shall be made with Reductions if the Performance Standards are not achieved, as defined in the Specifications. The Reductions for non-compliance with the Performance Standards shall be applied for the period under which the Road does not achieve the Performance Standards, in accordance with the methodology specified in the Specifications.

GCC 45.3	The skilled and experienced manpower required is further categorized as key and non-key personnel as follows: Key Personnel are: Contract manager, Maintenance Manager, and Site Engineer. Non-key Personnel are: Construction Safety Supervisor, Lab Technician. The amount to be deducted for the key personnel not employed by the contractor for each personnel is: ● Contract Manager: BTN 100,000/- per month ● Maintenance Manager: BTN 100,000/- per month ● Site Engineer: BTN 40,000.00/- per month The amount to be deducted for the non-key personnel not employed by the contractor for each personnel is: 1) Construction Safety Supervisor: BTN 40,000/- per month 2) Lab Technician: BTN 40,000/- per month If the contractor fails to deploy committed key personnel within two months, the deductions shall be discontinued and contractor's failure to deploy such personnel shall be treated as a fundamental breach of contract. Non employment of non-key technical personnel shall not be considered as a fundamental breach of contract. However, the deductions shall be made by the Client for 3 months and if the contractor still fails to employ, the client may employ the required personnel and make the payment from the deduction. If the contractor fails to deploy the required personnel for the entire duration of the project, the client shall apply an incremental deduction at a rate of 2% per month while continuing to pay the personnel engaged directly by the client. The amount to be deducted for the equipment not available at site is as per the BSR rate or day work schedule rate of the contractor whichever is higher. The deduction shall be on a daily basis. The contractor should deploy committed equipment as and when required at site as per the agreed schedule of work program. The Project Manager shall issue the deployment order one month prior to the commencement of work as per the agreed workplan. The deductions shall be effective from the next day of the deadline specified in the deployment order. If the contractor fails to deploy committed equipment within one month, the deductions shall be discontinued and contractor's failure to deploy the committed equipment shall be treated as a fundamental breach of contract by the Contractor.
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Payment modality for OHS001

Payment for the OHS001 shall be made yearly, which shall be on a pro rata basis for 5 years (contract duration) from the total quoted amount for this item.

No additional payment for accommodation shall be made for variations (change of rate, time extension, deviation, price adjustment, additional work etc.).

Payment modality for OHS002

The contractor shall construct temporary living accommodation facilities for as specified in “Temporary Living Accommodation Standards” in the Technical Specification and as per the drawing attached Annex 2.

Upon completion of the construction and joint measurement, the Client shall release 100% of the quoted amount for the item OHS002 in the contract BoQ. During the release of bill payments, the checklist attached as Annex 6 to BoQ shall be fulfilled and verified by the respective PM/PE/SM/SE. Only upon the fulfillment of all the conditions, the payment shall be made. The monitoring checklist shall be attached as evidence for the bill payment.

Upon completion of the work, the contractor shall dismantle all structures and clean the site to the satisfaction of the Client.

No additional payment for accommodation shall be made for variations (change of rate, time extension, deviation, price adjustment, additional work etc.).

In the event the contractor fails to provide specified temporary accommodation within 30 days from the date of signing of the contract agreement, then the Client shall construct accommodation as specified in “Temporary Living Accommodation Standards” in the Technical Specification and as per the drawing attached in Annex 2. The actual cost of construction shall be recovered from the first running bill of the contractor.

The useful materials of the accommodation facilities shall be the property of the contractor after completion of the Project.

The Contractor shall dismantle and clean the area of construction of temporary accommodation including all the PCC structures after the completion of the Project and handover to the Client within 30 Days after the issue of Work Completion Certificate. Failing to dismantle and clean the area to the satisfaction of the Client within the specified duration, the Client shall dismantle and clean. The cost incurred for dismantling and cleaning the area by the Client shall be recovered from the contractor’s retention money.

	In the event of termination of the contract due to fundamental breach of contract by the contractor, the temporary living accommodation constructed shall be the property of the client. The contractor shall also have the option to rent accommodation for all laborers in areas where it is available. When it is opted for renting, the proposed facility shall be verified for acceptability by the Project Manager. If the standard of the proposed facility is equivalent or higher than the new construction, the option may be accepted. The rental agreement between the contractor and the facility owner shall be produced to claim the payment under OHS002 item. Rents shall be paid quarterly of the project duration based on the quoted rate and the total rental amount shall not be more than BoQ quoted rate of OHS-002. The checklist, Annex 6 to BoQ shall be fulfilled and verified by the respective PM/PE/SM/SE before releasing the payment. Payment Modality for Emergency Works: Emergency Works shall be measured based on the quantities verified by the Project Manager (PM), and payment shall be made at the unit rates quoted as per the BoQ.
GCC 48.1	The currency of the Employer's Country is: Bhutanese Ngultrum
GCC 49.1	The contract is subject to price adjustment in accordance with GCC Clause 49, and the following information shall apply, and the adjustment is applicable only for materials. Until the National Statistical Bureau comes up with the Material Index for the Royal Government of Bhutan, the Wholesale Price - Index (all commodities) for Material shall be used for the purpose of this clause. Wholesale Price Index shall be derived from the website (www.eaindustry.nic.in). ■ The price adjustments shall be mandatorily applicable for contract duration of more than eighteen (18) months. Irrespective of the duration of contract, no price adjustments shall be allowed for the works within the first eighteen (18) months. ■ A corresponding increase or decrease in the payment to the contractor or recoverable from the Contractor shall be effected on the basis of the following formulae, such calculation being done for every successive period of 3 months for contract durations more than 18 months. $V = W \times 0.6 \times (M - M_0) / M_0$ V= amount of variation for materials payable to/recoverable from the contractor for the period under review;

	W= value of the work done during the period under review minus (amount of secured advance recovered in the same period + value of works executed under variations for which the variations are paid in the new rate); M0 = Material Index for 28 days before bid opening. M = the average value of the above Index Number for the 3-month period under review; In the event that an index specified for price adjustment is discontinued, substantially revised, or otherwise becomes unavailable, the Employer shall, after consultation with the Contractor, determine an appropriate replacement index or other adjustment mechanism having substantially similar economic coverage, taking into account, as applicable, relevant directives issued by the Ministry of Finance, Royal Government of Bhutan. Any replacement shall be applied consistently for the remaining period of the Contract. The price adjustment shall be applicable to the following scope of works: 1. Road Safety Works, 2. Climate Change Resilience Works, 3. Periodic Maintenance, 4. Emergency Works. The price adjustment shall not be applicable to the following scope of work: 1. Maintenance and Management Services (the monthly rate per kilometre will remain same throughout the contract), 2. OHS Items, 3. Initial Repairs, 4. Dayworks, 5. Variation Variation quantities where the work is paid at the new prevailing rate. However, where the variation quantities are paid at the original quoted rate, the quantities shall remain subject to the applicable price adjustment.
GCC 50.1	Retention of 10% shall be deducted from payments for Road Safety Works, Climate Change Resilience Works, Periodic Maintenance and Emergency works. Completion of the Work components, one-half of the retention attributable to such Works or components shall be released. The remaining half shall be released upon expiry of the applicable Defects Liability Period and issuance of the relevant certificate, subject to the Contractor having remedied all notified defects. Where permitted under the Contract, the Contractor may substitute an acceptable retention guarantee for the amount otherwise retained. Where OHS002 involves construction of temporary accommodation, retention shall be released following dismantling, satisfactory site clearance and certification by the Project Manager. Where OHS002 involves rented accommodation, quarterly payments shall be subject to verification of

	continued compliance with the specified requirements but shall not be subject to a Defects Liability Period. For OHS001, the retention money shall be released annually upon the issuance of the certificate of compliance. Payments for Initial Repairs and Maintenance and Management Services are not subject to Retention.
GCC 51.1	The Liquidated Damages for delay in completion of any Sectional Work Component shall be 0.10% of the respective Work Order Amount for each day of delay, subject to a maximum of 10% of the respective Sectional Work Component Work Order Amount. The Sectional Work components are: 1. Road Safety Works; 2. Climate Change Resilience Works; and 3. Periodic Maintenance; 4. Emergency Works. Liquidated damages for Maintenance and Management Services: For each noncompliance, the applicable payment reduction shall continue for every month or part thereof during which the noncompliance remains uncorrected. Where the Contractor fails to correct the noncompliance within the time allowed in Table 4 of the Operational Performance Measure (Section VII: Work Requirements), additional liquidated damages equal to 50% of the applicable monthly payment reduction shall apply for each subsequent month or part thereof until rectification. The additional liquidated damages shall not be compounded. Payment reductions represent reductions in the monthly entitlement for Service Levels not achieved. Additional liquidated damages shall apply only where the Contractor fails to rectify the relevant noncompliance within the correction period specified in Table 4. The maximum aggregate liquidated damages applicable to Maintenance and Management Services shall be not less than 50% of the monthly payment for three consecutive months.
GCC 52.1	The Bonus for the whole of the Works is Not Applicable.
GCC 53.1	The Advance Payments shall be made to the Contractor up on furnishing an Unconditional Bank Guarantee issued by a reputed Financial Institution and acceptable to the Procurement Agency for the following work components separately: 1. Maintenance and Management Services: 10% of total quoted price of the component shall be paid within 30 days of signing of the Contract.

	2. Initial Repairs: 10% of total quoted price of the component shall be paid within 30 days of signing of the Contract. 3. Climate Change Resilience Works, Road Safety Works and Periodic Maintenance: 10% of the Work Order Amount shall be paid within 30 days of issuance of the Work Order by the Project Manager. 4. Emergency Works: The scope of the emergency work shall be determined after the joint assessment of site by the Project Manager and the contractor. Based on the assessment, work order shall be issued for execution by the contractor and mobilization advance of 10% of the work scope shall be paid. Each advance payment made in respect of a particular component or Work Order shall be recovered from payments certified for that component or Work Order. Recovery shall commence and continue at the rate of 12.5% so as to ensure that the relevant advance is fully recovered before 80% of the value of the corresponding component or Work Order has been certified for payment. Each advance shall be secured by an unconditional advance payment guarantee in an amount equal to the advance paid. The guarantee shall remain valid and enforceable until the corresponding advance has been fully repaid and may be reduced progressively by the amount recovered, where permitted under the form of guarantee.
GCC 54.1	The Performance Security shall be 10% of the total Contract Amount in the form of an unconditional bank guarantee, cash warrant or demand draft issued by a reputable Financial Institution acceptable to the Procuring Agency. The Performance Security may be issued and renewed annually covering the remaining contract amount. The remaining contract amount is the difference of total contract amount and the amount of completed works determined and declared by the Project Manager annually. The renewed or replacement security shall be provided no later than 28 days before expiry of the existing security and shall become effective no later than the expiry date of the existing security so that there is no lapse in coverage. Failure to provide the renewed or replacement Performance Security within the specified period shall constitute a contractual default and shall entitle the Employer to call the existing Performance Security before its expiry, without prejudice to the Employer's other rights and remedies under the Contract. The Performance Security of the final contract year shall be valid until 28 days from the date of issue of the Certificate of Completion.
E. Finishing the Contract	
GCC 59.1	Upon settlement of the detailed account and completion of the DLP, the parties are released from further obligations and discharged from any liabilities or claims thereafter.

GCC 60.1	The date by which operating and maintenance manuals are required is: Not Applicable. The date by which “as built” drawings and a strip map are required is within 60 days of the Project Manager’s issuing a certificate of completion.
GCC 60.2	The amount to be withheld for failing to produce “as built” drawings and/or strip map or operating and maintenance manuals by the date required in GCC Sub-Clause 60.1 is Nu. 250,000.00.
GCC 61.2 (g)	1. The maximum number of liquidated damage days is 100 and is applicable for sectional completion of works. 2. The Contractor fails to meet the Maintenance and Management Services’ Service Levels resulting in the monthly payment of less than 50% for three consecutive months. 3. The Contractor fails to meet the Maintenance and Management Services’ Service Levels resulting in reductions in the monthly payment of greater than 50% over three consecutive months.
GCC 62.1	The percentage to apply to the value of the work not completed, representing the Employer’s additional cost for completing the Works, is a maximum of 20%, but not exceeding 10% of the initial Contract Amount.
GCC 66.1	Cybersecurity does not apply.
Additional Clause	
1	The Contractor shall be responsible for parking, loading, transporting, receiving, unloading, storing, and protecting all goods and other things required for the works. The establishment/maintenance of site offices and labor camps at sites to be the responsibility of the Contractor.
2	The Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the contractor works and transportation of goods
3	Routine repairs and rectification arising within the defined maintenance thresholds shall be deemed included in the monthly Maintenance and Management Services rate and shall not be separately payable. The threshold for classifying repair cost under emergency work (Pavement and drainage), other than removal of slide material, shall be for one km if the total repair cost amount exceeds 20% of the monthly contract amount for the entire road length for Maintenance and Management Services.

Appendix to GCC 10.1: Risk Register

SN	Item	Employer’s Risk	Contractor’s Risk
1	Changes in government policies, legislation, regulations and technical standards.	Yes	
2	Land acquisition required for any of the Works.	Yes	
3	Changes in maintenance performance indicators and services levels requested by the Employer.	Yes	

4	Additional Works not identified in the Schedules and Bills of Quantities requested by the Employer.	Yes	
5	Bridge repairs not included in routine bridge cleaning.	Yes	
6	Signs owned by other government agencies in the road right-of-way.	Yes	
7	Extra traffic axle loading clearly accelerating pavement damage and maintenance costs.	Yes	
8	Development and utilities activities either inside or outside the road right-of-way that affect road asset functions and condition.	Yes	
9	Damages to the road assets that are caused by vehicle accidents, third-party interventions, or any other event outside the control and responsibility of the Contractor, provided that the Contractor has performed its obligations for such events as stated in the Specifications.	Yes	
10	Damages to road assets as defined in Emergency Works.	Quantities > thresholds	Quantities < thresholds
11	Accuracy/completeness of design/road asset information provided by the employer.		Yes
12	Facilities, stock piles and disposal sites.		Yes
13	All required approvals for Works and Maintenance and Management Services in the Contract.		Yes
14	Liability for damages caused by the Contractor's operation.		Yes
15	Qualifications and competency of Contractor's personnel to execute the Works and Services as required under the Contract.		Yes

Section X - Contract Forms

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Notification of Intention to Award

For the attention of Bidder's Authorized Representative

Name: *[insert Authorized Representative's name]*

Address: *[insert Authorized Representative's Address]*

Telephone/Fax numbers: *[insert Authorized Representative's telephone/fax numbers]*

Email Address: *[insert Authorized Representative's email address]*

DATE OF TRANSMISSION: This Notification is sent by: *[email/fax]* on *[date]* (local time)

Notification of Intention to Award

Employer: *[insert the name of the Employer]*

Project: *[insert name of project]*

Contract title: *[insert the name of the contract]*

Country: *[insert country where RFB is issued]*

Loan No. /Credit No. / Grant No.: *[insert reference number for loan/credit/grant]*

RFB No: *[insert RFB reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period, you may:

- a) request a debriefing in relation to the evaluation of your Bid, and/or
- b) submit a Procurement-related Complaint in relation to the decision to award the contract.

1. The successful Bidder

Name:	<i>[insert name of successful Bidder]</i>
Address:	<i>[insert address of the successful Bidder]</i>
Contract price:	<i>[insert contract price of the successful Bidder]</i>
Total combined score:	<i>[insert the total combined score of the successful Bidder]</i>

2. Other Bidders *[INSTRUCTIONS: insert names of all Bidders that submitted a Bid, Bid prices as read out and evaluated, technical and combined scores.]*

Name of Bidder	Technical Score	Bid price	Evaluated Bid cost	Combined Score
----------------	-----------------	-----------	--------------------	----------------

[insert name]	[insert Technical score]	[insert Bid price]	[insert evaluated cost]	[insert combined score]
[insert name]	[insert Technical score]	[insert Bid price]	[insert evaluated price]	[insert combined score]
[insert name]	[insert Technical score]	[insert Bid price]	[insert evaluated price]	[insert combined score]
[insert name]	[insert Technical score]	[insert Bid price]	[insert evaluated price]	[insert combined score]
[insert name]	[insert Technical score]	[insert Bid price]	[insert evaluated price]	[insert combined score]

3. Reason/s why your Bid was unsuccessful/*Delete if the combined score already reveals the reason*

4. How to request a debriefing

DEADLINE: The deadline to request a debriefing expires at midnight on [insert date] (local time).

You may request a debriefing in relation to the results of the evaluation of your Bid. If you decide to request a debriefing your written request must be made within three (3) Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Bidder, contact details; and address the request for debriefing as follows:

Attention: [insert full name of person, if applicable]

Title/position: [insert title/position]

Agency: [insert name of Employer]

Email address: [insert email address]

Fax number: [insert fax number] *delete if not used*

If your request for a debriefing is received within the 3 Business Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Business Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of the Contract Award Notice.

5. How to make a complaint

DEADLINE: The deadline for submitting a Procurement-related Complaint challenging the decision to award the contract expires on midnight, *[insert date]* (local time).

Provide the contract name, reference number, name of the Bidder, contact details; and address the Procurement-related Complaint as follows:

Attention: *[insert full name of person, if applicable]*

Title/position: *[insert title/position]*

Agency: *[insert name of Employer]*

Email address: *[insert email address]*

Fax number: *[insert fax number]* ***delete if not used***

At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

Further information:

For more information see the Procurement Regulations for IPF Borrowers (Procurement Regulations). You should read these provisions before preparing and submitting your complaint. In addition, the World Bank's Guidance "How to make a Procurement-related Complaint" provides a useful explanation of the process, as well as a sample letter of complaint.

In summary, there are four essential requirements:

1. You must be an 'interested party'. In this case, that means a Bidder who submitted a Bid in this procurement process and is the recipient of a Notification of Intention to Award.
2. The complaint can only challenge the decision to award the contract.
3. You must submit the complaint within the period stated above.
4. You must include, in your complaint, all of the information required by the Procurement Regulations.

6. Standstill Period

DEADLINE: The Standstill Period is due to end at midnight on *[insert date]* (local time).

The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended. This may happen where we are unable to provide a debriefing within the five (5) Business Day deadline. If this happens we will notify you of the extension.

If you have any questions regarding this Notification, please do not hesitate to contact us.

On behalf of the Employer:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

Email: _____

Beneficial Ownership Disclosure Form

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

This Beneficial Ownership Disclosure Form ("Form") is to be completed by the successful Bidder. In case of joint venture, the Bidder must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Bidder is any natural person who ultimately owns or controls the Bidder by meeting one or more of the following conditions:

*directly or indirectly holding 25% or more of the shares
directly or indirectly holding 25% or more of the voting
rights
directly or indirectly having the right to appoint a
majority of the board of directors or equivalent governing body of*

RFB No.: [insert number of RFB process]

Request for Bid No.: [insert identification]

To: [insert complete name of Employer]

In response to your request in the Letter of Acceptance dated [insert date of letter of Acceptance] to furnish additional information on beneficial ownership: [select one option as applicable and delete the options that are not applicable]

(i) we hereby provide the following beneficial ownership information.

Details of beneficial ownership

Identity of Beneficial Owner	Directly or indirectly holding 25% or more of the shares (Yes / No)	Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)	Directly or indirectly having the right to appoint a majority of the board of the directors or an equivalent governing body of the Bidder (Yes / No)
[include full name (last, middle, first), nationality, country of residence]			

OR

(ii) *We declare that there is no Beneficial Owner meeting one or more of the following conditions:*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder

OR

(iii) *We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Bidder shall provide explanation on why it is unable to identify any Beneficial Owner]*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder]

Name of the Bidder: **[insert complete name of the Bidder]*_____

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

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

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

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

* In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder. In the event that the Bidder is a joint venture, each reference to “Bidder” in the Beneficial Ownership Disclosure Form (including this Introduction thereto) shall be read to refer to the joint venture member.

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

Letter of Acceptance

[on letterhead paper of the Employer]

..... *[date]*

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

Subject: *[Notification of Award Contract No]*

This is to notify you that your Bid dated *[insert date]* for execution of the . . .
. *[insert name of the contract and identification number, as given in the PCC]*
for the Accepted Contract Amount of..... *[insert 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 (i) the Performance Security within 28 days in accordance
with the Conditions of Contract, using for that purpose the performance Security Form
and (ii) the additional information on beneficial ownership in accordance with ITB
49.1, within eight (8) Business days using the Beneficial Ownership Disclosure Form,
included in Section X - Contract Forms, of the bidding document.

Authorized Signature:

Name and Title of Signatory:

Name of Agency:

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made theday 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 Letter of Acceptance
 - (b) the Letter of Bid
 - (c) the addenda Nos _____(if any)
 - (d) the Particular Conditions
 - (e) the General Conditions of Contract, including appendix;
 - (f) the Specification
 - (g) the Drawings
 - (h) Bill of Quantities;³⁹ and
 - (i) any other document listed in the PCC as forming part of the Contract, but not limited to;
 - (a) the ES Management Strategies and Implementation Plans;
 - (b) Code of Conduct for Contractor’s Personnel (ES); and
 - (c) Local Labor Method Statement.
3. In consideration of the payments to be made by the Employer to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the

³⁹ In lump sum contracts, delete “Bill of Quantities” and replace with “Activity Schedule.”

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 specified above.

Signed by: Signed by:.....
for and on behalf of the Employer for and on behalf the Contractor

in the in the
presence of:..... presence of:.....
Witness, Name, Signature, Address, Date Witness, Name, Signature, Address, Date

Performance Security

Option 1: Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of Employer]*

Date: *[Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _ *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of _ *[insert 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 Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (_____) *[insert amount in words]*,⁴⁰¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of, 2...⁴¹², and any demand for payment under it must be received by us at this office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

⁴⁰¹ The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

⁴¹² Insert the date twenty-eight days after the expected completion date as described in GCC Sub-Clause 57.1. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

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

Performance Security

Option 2: Performance Bond

By this Bond *[insert name of Principal]* as Principal (hereinafter called “the Contractor”) and *[insert name of Surety]* as Surety (hereinafter called “the Surety”), are held and firmly bound unto *[insert name of Employer]* as Obligee (hereinafter called “the Employer”) in the amount of *[insert amount in words and figures]*, for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Contractor has entered into a written Agreement with the Employer dated the _____ day of _____, 20 __, for *[name of contract and brief description of Works]* in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Employer to be, in default under the Contract, the Employer having performed the Employer’s obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

- (1) complete the Contract in accordance with its terms and conditions; or
- (2) obtain a Bid or Bids from qualified Bidders for submission to the Employer for completing the Contract in accordance with its terms and conditions, and upon determination by the Employer and the Surety of the lowest responsive Bidder, arrange for a Contract between such Bidder and Employer and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Employer to Contractor under the Contract, less the amount properly paid by Employer to Contractor; or
- (3) pay the Employer the amount required by Employer to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

Any suit under this Bond must be instituted before the expiration of one year from the date of issue of the Certificate of Completion.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Employer named herein or the heirs, executors, administrators, successors, and assigns of the Employer.

In testimony whereof, the Contractor has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested by the signature of his legal representative, this _____ day of _____ 20_____.
_____.

SIGNED ON _____ on behalf of

By _____ in the capacity of

In the presence of

SIGNED ON _____ on behalf of

By _____ in the capacity of

In the presence of

Advance Payment Security

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Insert name and Address of Employer]*

Date: *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called “the Applicant”) has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert 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 *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (_____) *[insert amount in words]*⁴²¹ upon receipt by us of the Beneficiary’s complying demand supported by the Beneficiary’s statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

(a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or

(b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary’s bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant’s bank]*..

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2 *[insert year]*,⁴³² whichever is

⁴²¹ The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Employer.

⁴³² Insert the date twenty-eight days after the expected completion date as described in GCC Sub-Clause 57.1.. The Employer should note that in the event of an extension of the expected completion date, 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

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

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

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

penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

Lot-1: Bill of Quantities
Annex-1

A. INITIAL REPAIR					
Code	Item	Unit	Qty	Rate	Amount
RW0150	Cutting & repairing bituminous road including supply of required quantity of aggregate & bitumen emulsion - Manually	cu.m	24.79		
Analyzed Rate	Providing and Laying Asphalt/Bituminous Concrete to required degree of compaction based on the job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified using VG 10 complete including tack coat application @0.75kg/sq.m : 40mm thick	sq.m	8,597.75		
RW0239	Providing and laying fog sealing as per technical specification and drawing.	sq.m	817.00		
DD0096	Dismantling bituminous road including cutting, stacking of useful materials & disposal of rubbish within 50 m	sq.m	4,472.75		
RW0131	Providing and laying wet mix macadam(WMM) graded aggregate base course to required degree of compaction with proper formation of cross fall by using well graded crushed aggregates premixed with OMC using suitable mixer, motor grader as per material gradation and aggregate quality specified	cu.m	447.28		
Analyzed Rate	Providing and Laying Dense Bituminous Macadam (DBM) to required degree of compaction based on job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified complete including prime coat application @0.75kg/sq.m- 60mm thick	sq.m	4,472.75		
EW0195	Filling of trenches, sides of foundations etc. in layers <200mm	cu.m	1,500.00		

Lot-1: Bill of Quantities
Annex-1

	using selected excavated earth, ramming etc. within lead 50 m & lift 1.5m				
CW0095	Providing and laying in position plum concrete (concrete M15- 60% and boulder - 40%) excluding the cost of centering and shuttering - All work up to plinth level	cu.m	59.62		
RC0108	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Foundations, Footings and all works up to Plinth Level, etc.	sq.m	403.32		
PT0020	Providing & applying white or colour washing - White washing with lime-new work-three coats	sq.m	488.51		
RW0066	Construction of gabion wall as per drawings with dry stone masonry (hammer dressed facing) including excavation of foundation in all types of soils, sides and backfilling, delivery of machine woven gabion mesh (Hexagonal mesh of size 100mm x 120mm with a minimum of doubly twisted) with GI wire 2.70mm dia including diaphragm, fixing of selvedge wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete by providing non-woven geotextile as filter materials. Height up to 2.00 m	m	43.00		
RW0067	Construction of gabion wall as per drawings with dry stone masonry (hammer dressed facing) including excavation of foundation in all types of soils, sides and backfilling, delivery of machine woven gabion mesh (Hexagonal mesh of size 100mm x 120mm with a minimum of doubly twisted) with GI wire 2.70mm dia including diaphragm, fixing of selvedge wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete by providing non-woven	m	145.00		

Lot-1: Bill of Quantities
Annex-1

	geotextile as filter materials. Height up to 3.00 m				
RC0109	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Walls (any thickness), pilasters, buttresses, string course etc.	sq.m	13.38		
RC0083	Providing & fixing Thermo-Mechanically Treated reinforcement bar (Yield Strength 500 MPa) for R.C.C work including cutting, bending, binding and placing in position complete	kg	208.68		
RC0010	P&L in position reinforced cement concrete 1:1.5:3 (1 cement : 1.5 sand : 3 graded crushed rock 20 mm nominal size) work in plinth and skirting courses, fillets, columns , pillars, posts and struts up to floor five level excluding the cost of centering, shuttering and reinforcement.	cu.m	3.12		
PO0007	P&L G.I pipes including G.I fittings (excluding trenching, refilling & thrust block) - 65mm	m	17.60		
Analyzed Rate	Providing and applying finishing coats - Synthetic enamel, for steel & wood work, two coats on new work, Lettering with paint of approved brand and manufacture letter complete as per drawing and engineer instruction (km Post writing and painting)	each	46.00		
RW0242	Road marking with hot applied thermoplastic compound with reflectorizing glass beads on Bituminous surface as per IRC:35 and technical specifications. The finished surface to be level and free from streaks and holes	sq.m	2,240.00		
	Total Sum for Initial Repairs carried forward to Bid Summary				

B. ROAD SAFETY WORKS					
Code	Item	Unit	Qty PNH	Rate	Amount
EW0106	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on plan, and depth > 300 mm including dressing & ramming, disposal of surplus soil within 50m lead & 1.5m lift - All types of soil	cu.m	40.65		
EW0107	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on planAll types of rock with or without blasting.	cu.m	4.52		
RC0090	Providing & fixing centering and shuttering (formwork) using Timber, including strutting, propping etc. and removal of formwork - Foundations, Footings and all works up to Plinth Level, etc.	sq.m	419.78		
CW0002	Providing and laying in position plain cement concrete (1:1.5:3 (1 cement : 1.5 sand : 3 graded crushed rock 20 mm cu.m nominal size)) excluding the cost of centering and shuttering - All work up to plinth level.	cu.m	51.49		
RW0366	Providing and fixing Mandatory/Regulatory sign boards of Circular shape made up of 2 mm thick aluminum sheet, fully covered with retro reflective sheeting in blue and silver white or other colour combination including subject matter, message, direction of Engineer-in-charge excluding excavation and concreting for base as per specification and direction of Engineer-in-charge excluding excavation and concreting for base.	each	21.00		
RW0368	Providing and fixing Cautionary/ Warning sign boards of Equilateral Triangular shape made up of 2 mm thick aluminum sheet, fully covered with retro reflective sheeting in blue and silver white or other colour matter, message, symbols and borders etc. with supporting post of	each	132.00		

Lot-1: Bill of Quantities
Annex-1

	approved size and length complete as per drawing, combination including subject				
RW0371	Providing and fixing Glow studs of size 100x20 mm made of heavy duty body and shall be molded ASA (Acrylic styrene Acryloretrite) or HIP (High impact polystyrene) or ABS having electronically welded micro-prismatic lens with abrasion resistant coating with reflective panels on both sides with at least 12 cm of reflective area up each side. The studs shall be approved and fixed to the Road surface as per direction of Engineer incharge.	each	4,600.00		
RW0373	Providing and fixing 48mm dia. mild steel round pipe (750mm length) delineators of approved length as per drawing and specifications with 3 nos. of ABS round body high reflective reflectors with duly powder coated anti-rust and anti theft steel complete excluding excavation & concreting for base.	each	822.00		
RW0014	Excavation of road formation/trace/box cutting, with excavator including separate deposition of soil, rocks and stones within 50m for reuse - All types of rocks (With or Without blasting)	cu.m	600.00		
RW0260	Providing and erecting "W" metal beam crash barrier (3mm thick w-metal beam of 4m length, width 310mm, wave height- 81-85mm, 1.8m long Channel post 150x75x5mm @ 2m c/c & 330mm long spacer 150x75x5mm) including excavation and PCC 1:1.5:3 for channel post, complete as per drawing.	m	9,950.00		
Analyzed Rate	Providing and erecting "W" metal beam crash barrier (3mm thick w-metal beam of 4m length, width 310mm, wave height- 81-85mm, 1.8m long Channel post 150x75x5mm @ 2m c/c & 330mm long spacer 150x75x5mm) including	m	4,850.00		

Lot-1: Bill of Quantities
Annex-1

	excavation and PCC 1:1.5:3 for channel post, complete as per drawing. And providing plates, nuts and bolts including welding and fitting the same with necessary. (Rocky Stretches)				
Analyzed Rate	Construction of Trapezoidal Earthen Bund with 0.5m top width, 1.5m base width and 0.8m to 1.2m height maintaining batter slope <45 deg for road face side and >45 deg for valley side. It should not in any case obstruct the visibilities considering for the light vehicles and shall be as per the drawing	m	500.00		
RW0242	Road marking with hot applied thermoplastic compound with reflectorizing glass beads on Bituminous surface as per IRC:35 and technical specifications. The finished surface to be level and free from streaks and holes	sq.m	54.00		
	Total Sum for Road safety work carried forward to Bid Summary				
C. CLIMATE CHANGE RESILIENT WORKS					
Code	Item	Unit	Qty PNH	Rate	Amount
Analyzed Rate	Construction of V- shaped road side drain clear width 1000 mm with 150mm thick PCC M15, 300x300mm thick Plumb Concrete (60% PCC M15 & 40% 75mm aggregate) hill side, incl. excavation (all kinds of soil & rock with or without blasting without), levelling, back filling, necessary form works and disposal of surplus earth within 50m lead complete as per drawing.(including Dismantling)	m	9,652.00		
RW0095	Construction of French Drain (Size = 600 mm & 1000 mm deep), including clearing jungle, earthwork in excavation in trenches (all types of soil), levelling the excavated earth, filling the trench with stone 50 to 100 mm size complete as per drawing	m	200.00		

Lot-1: Bill of Quantities**Annex-1**

EW0106	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on plan, and depth > 300 mm including dressing & ramming, disposal of surplus soil within 50m lead & 1.5m lift - All types of soil	cu.m	399.77		
EW0107	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on planAll types of rock with or without blasting.	cu.m	609.67		
RC 0109	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork Walls (any thickness), pilasters, buttresses, string course etc.	sq.m	741.90		
SM0072	Providing and laying hand packed stone soling or filling with stones.	cu.m	741.25		
RC0005	Providing & laying in position reinforced cement concrete work in walls (any thickness) including attached pilasters buttresses, piers, abutments etc. up to floor five level excluding the cost of centering, shuttering and reinforcement 1:1:2 (1 cement : 1 sand : 2 graded crushed rock 20 mm nominal size Footing	cu.m	311.63		
RC0083	Providing & fixing Thermo-Mechanically Treated reinforcement bar (Yield Strength 500 MPa) for R.C.C work including cutting, bending, binding and placing in position complete	kg	19,685.26		
PO0049	Providing & laying H.D.P.E. pipes, 4 PN, including H.D.P.E. fittings (excluding trenching, refilling & thrust block. 90mm	m	438.70		
RW0240	Providing and laying of Rock Anchorage including TMT rebar (25mm dia) and cement slurry to fill the gap. The hole diameter should	m	2,624.60		

Lot-1: Bill of Quantities
Annex-1

	be at least 32mm as provided in the drawing.				
RW0035	Providing and laying filter material (600 mm wide) in trenches, sides of foundation, walls, etc. with 100 to 200 mm stones wherever applicable.	cu.m	399.90		
EW0195	Filling of trenches, sides of foundation etc. in layers<200 mm using selected excavated earth, ramming etc. within lead 50 m and lift 1.5 m	cu.m	470.64		
CW0095	Providing and laying in position plum concrete (concrete M15- 60% and boulder - 40%) excluding the cost of centering and shuttering - All work up to plinth level	cu.m	131.88		
RC0108	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Foundations, Footings and all works up to Plinth Level, etc.	sq.m	175.72		
PT0020	Providing & applying white or colour washing - White washing with lime-new work-three coats	sq.m	175.71		
SM0005	Providing and laying Random Rubble Masonry with hard stone in foundation & Plinth in C.M (1:4)	cu.m	748.75		
CW0005	Providing and laying in position plain cement concrete (1:3:6) (1 cement : 3 sand : 6 - graded crushed rock - 20 mm nominal size) excluding the cost of centering and shuttering - All works up to plinth level.	cu.m	99.96		
CW0003	Providing and laying in position plain cement concrete 1:2:4 (1 cement : 2 sand : 4 crushed rock 20 mm nominal size) excluding the cost of centering and shuttering - All work upto plinth level.	cu.m	65.35		
RC 0090	Providing & fixing centering and shuttering (formwork), including strutting, propping etc. and removal of formwork -Foundation and plinth etc.	sq.m	971.74		

Lot-1: Bill of Quantities
Annex-1

RC0013	P&L in position reinforced cement concrete 1:1:2 (1 cement : 1 sand : 2 graded crushed rock 20 mm nominal size) work in suspended floor , roofs having slope up to 15degree, landings, balconies, shelves and floor five level excluding the cost of centering, shuttering and reinforcement.	cu.m	3.75		
RC0113	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Suspended roof, landing, shelves and their supports, balconies, chajjas, etc.	sq.m	12.50		
RW0121	Preparation of sub grade with proper camber by excavation earth to depth. All kind of soil	cu.m	42.00		
RW0130	Providing & Laying Granular sub-base course(GSB) to required degree of compaction with proper formation of crossfall using motor grader for laying and compacted to required density as per material gradation & aggregate quality specified	cu.m	18.00		
RW0131	Providing and laying wet mix macadam (WMM) graded aggregate base course to required degree of compaction with proper formation of cross fall by using well graded crushed aggregates premixed with OMC using suitable mixer, motor grader as per material gradation and aggregate quality specified	cu.m	24.00		
Analyzed Rate	Providing and Laying Dense Bituminous Macadam (DBM) to required degree of compaction based on job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified complete including prime	sq.m	120.00		

Lot-1: Bill of Quantities
Annex-1

	coat application @0.75kg/sq.m-60mm Thick material				
Analyzed Rate	Providing and Laying Asphalt/Bituminous Concrete to required degree of compaction based on the job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified using VG 10 complete including tack coat application @0.75kg/sq.m. : 40mm material	sq.m	120.00		
DD0001	Demolishing cement concrete 1:3:6 & richer, including disposal of Materials within 50m lead	cu.m	97.44		
	Total Sum for Climate Change Resilient Works carried forward to Bid Summary				
D. PERIODIC MAINTENANCE					
Code	Item	Unit	Qty PNH	Rate	Amount
Analyzed Rate	Providing and Laying Asphalt/Bituminous Concrete to required degree of compaction based on the job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified using VG 10 complete including tack coat application @0.75kg/sq.m. : 40mm material	sq.m	120,000.00		
RW0242	Road marking with hot applied thermoplastic compound with reflectorizing glass beads on Bituminous surface as per IRC:35 and technical specifications. The finished surface to be level and free from streaks and holes	sq.m	5,386.67		
PT0021	Providing & applying white or colour washing - White washing with lime, old work, two coats	sq.m	25,383.09		
Analyzed Rate	Providing and applying finishing coats - Synthetic enamel, for steel & wood work, two coats on new work, Lettering with paint of approved brand and manufacture letter	each	46.00		

Lot-1: Bill of Quantities
Annex-1

	complete as per drawing and engineer instruction (km Post writing and painting)				
	Total Sum for Periodic Maintenance carried forward to Bid Summary				
E. MAINTENANCE & MANAGEMENT SERVICES					
The rate shall include both Operational and Management services. Payment shall be made on lump sum per km basis for maintaining the road and bridges in accordance with the Service Levels defined in the Specifications. [The rate(s) quoted shall except insofar as is otherwise provided under the Contract, include all plant, equipment, labour, management and supervision, materials, erection, maintenance, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract. The implementation of Management Services includes establishment and operation of the Self Control Unit as described in the Specifications, and the implementation of the approved Quality Management Plan, Contractor’s Environmental and Social Management Plan, Occupational Health and Safety Plan, Traffic Management Plan and Emergency Procedures Plan for the period of the Contract.]					
1	Road	Road length (Km)	No. of month	Lump sum price per km per month	Amount
Analyzed Rate	Wangdue Zam to Chuserbu section of PHN01 (59.70-105.00 km)	45.30	60		
	Total Sum for Maintenance and Management Services carried forward to Bid Summary				
F. OCCUPATIONAL HEALTH & SAFETY					
Code	Item	Unit	Qty	Rate	Amount
OHS001	Incorporation of Occupational Health and Safety measures at construction sites, including Insurance, Personal Protective Equipment (PPE), First Aid kits, Boundary Fencing, Scaffolding, Safety nets, Traffic management, signage etc as listed in the specifications. The standards and specifications for the Insurance, OHS materials and (or) equipment shall comply with the Labour and Employment Act - 2007, Regulation on Occupational Health, Safety and Welfare - 2012, and other relevant national documents. All OHS items will remain the property of the bidder upon completion of the project. (This quoted price shall	Lump sum	1.00		

	cover all the work components under the contract)				
OHS002	Provision of Temporary Living Accommodation for Sectional works and Initial Repairs: Providing temporary living accommodation which includes bedroom, kitchen, and toilet cum bathroom including proper water supply and electricity as per the drawing and temporary living accommodation standards. The accommodation facilities must be dismantled and cleaned upon the completion of project. All reusable materials of the accommodation facilities will remain as the property of the bidder upon completion of the project. (This quoted price shall cover all the Sectional work components under the contract)	Lumps um	1.00		
Repair and Maintenance of dwellings for Work force	Provision of living accommodation for the maintenance and management services: Repair and Maintenance of Existing NWF dwellings/Facilities) Providing, operating, and maintaining living accommodation for maintenance labourers for the duration of the Contract. The items include repair and maintenance of 9Nos. existing NWF dwellings to required standard along PNH. The accommodation shall be provided with water supply, sanitation, electricity, waste management, cleaning, safety provisions, utilities, supervision, compliance with applicable labour and EHS regulations. The facilities shall be maintained to their original or better condition upon completion, complete in all respects, with no separate payment for incidental works. Upon completion of the contract, the facilities must be handed over to the employer.	each	9.00		

Construction, operation and maintenance of Project Office.	Construction, operation, and maintenance of office and associated facilities for the Project staff as per the drawing for the entire duration of the Contract, including provision, installation, furnishing, operation, routine maintenance, utilities, cleaning, and security. The item shall include office space, furniture, basic IT and communication arrangements, electricity, water supply, sanitation, waste management, safety provisions, supervision, and compliance with applicable labour, environmental, and EHS regulations, complete in all respects, with no separate payment for incidental works. Upon completion of the contract, the facilities must be handed over to the employer.	Lump sum	1.00		
	Total Sum for OHS carried forward to Bid Summary				
EMERGENCY Works (Provisional Sum)					
A. Clearing of Roadblock/landslide/Slip/ Structure Restoration					
Code	Item	Unit	Quantity	Rate	Amount
CG0030	Clearing grass, removal of landslide debris & surface material including excavation & disposal by appropriate machineries within 50m lead and beyond, if required	cu.m	5000.00		
EW0032	Earth work in excavation over areas, depth >300mm, width >1.5m, area >10 sq.m on plan, including disposal of excavated earth within 50m lead and 1.5m lift & disposed soil to be neatly dressed. Ordinary rock with or without blasting	cu.m	5000.00		
B. Structure Restoration					
Analyzed Rate	Construction of V- shaped road side drain clear width 1000 mm with 150mm thick PCC M15, 300x300mm thick Plumb Concrete (60% PCC M15 & 40% 75mm aggregate) hill side,	m	50.00		

Lot-1: Bill of Quantities
Annex-1

	incl. excavation (all kinds of soil & rock with or without blasting without), levelling, back filling, necessary form works and disposal of surplus earth within 50m lead complete as per drawing. (including Dismantling)				
RW0096	Construction of French Drain (Size = 600 mm & 1000 mm deep), including clearing jungle, earthwork in excavation in trenches (all types of soil), levelling the excavated earth, filling the trench with stone 50 to 100 mm size complete as per drawing	m	50.00		
EW0106	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on plan, and depth > 300 mm including dressing & ramming, disposal of surplus soil within 50m lead & 1.5m lift - All types of soil.	cu.m	50.00		
EW0107	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on planAll types of rock with or without blasting.	cu.m	50.00		
RC 0109	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork	sq.m	100.00		
SM0072	Providing and laying hand packed stone soling or filling with stones.	cu.m	50.00		
RC0005	Providing & laying in position reinforced cement concrete work in walls (any thickness) including attached pilasters buttresses, piers, abutments etc. up to floor five level excluding the cost of centering, shuttering and reinforcement 1:1:2 (1 cement : 1 sand : 2 graded crushed rock 20 mm nominal size Footing	cu.m	25.00		

Lot-1: Bill of Quantities
Annex-1

RC0083	Providing & fixing Thermo-Mechanically Treated reinforcement bar (Yield Strength 500 MPa) for R.C.C work including cutting, bending, binding and placing in position complete	kg	150.00		
PO0049	Providing & laying H.D.P.E. pipes, 4 PN, including H.D.P.E. fittings (excluding trenching, refilling & thrust block. 90mm	m	100.00		
RW0240	Providing and laying of Rock Anchorage including TMT rebar (25mm dia) and cement slurry to fill the gap. The hole diameter should be at least 32mm as provided in the drawing.	m	250.00		
RW0035	Providing and laying filter material (600 mm wide) in trenches, sides of foundation, walls, etc. with 100 to 200 mm stones wherever applicable.	cu.m	50.00		
EW0195	Filling of trenches, sides of foundation etc. in layers<200 mm using selected excavated earth, ramming etc. within lead 50 m and lift 1.5 m	cu.m	250.00		
CW0095	Providing and laying in position plum concrete (concrete M15- 60% and boulder - 40%) excluding the cost of centering and shuttering - All work up to plinth level	cu.m	50.00		
RC0108	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Foundations, Footings and all works up to Plinth Level, etc.	sq.m	250.00		
SM0005	Providing and laying Random Rubble Masonry with hard stone in foundation & Plinth in C.M (1:4)	cu.m	250.00		
CW0005	Providing and laying in position plain cement concrete (1:3:6) (1 cement : 3 sand : 6 - graded crushed rock - 20 mm nominal size) excluding the cost of centering and shuttering - All works up to plinth level.	cu.m	50.00		

Lot-1: Bill of Quantities**Annex-1**

CW0003	Providing and laying in position plain cement concrete 1:2:4 (1 cement : 2 sand : 4 crushed rock 20 mm nominal size) excluding the cost of centering and shuttering - All work up to plinth level.	cu.m	50.00		
RC 0090	Providing & fixing centering and shuttering (formwork), including strutting, propping etc. and removal of formwork -Foundation and plinth etc.	sq.m	150.00		
RC0013	P&L in position reinforced cement concrete 1:1:2 (1 cement : 1 sand : 2 graded crushed rock 20 mm nominal size) work in suspended floor, roofs having slope up to 15degree, landings, balconies, shelves and floor five level excluding the cost of centering, shuttering and reinforcement.	cu.m	50.00		
RC0020	P&L in position reinforced cement concrete 1:1:2 (1 cement : 1 sand : 2 graded crushed rock 20 mm nominal size) work in kerbs, steps and the like up to floor five level excluding the cost of centering, shuttering reinforcement and reinforcement.	cu.m	50.00		
RC0110	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Lintels, riders, bressummers, cantilevers etc. beams,	sq.m	150.00		
RC0113	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Suspended roof, landing, shelves and their supports, balconies, chajjas, etc.	sq.m	150.00		
RW0122	Preparation of sub grade with proper camber by excavation earth to depth ---- --. All kind of soil	cu.m	250.00		

Lot-1: Bill of Quantities**Annex-1**

RW0130	Providing & Laying Granular sub-base course(GSB) to required degree of compaction with proper formation of crossfall using motor grader for laying and compacted to required density as per material gradation & aggregate quality specified	cu.m	100.00		
RW0131	Providing and laying wet mix macadam(WMM) graded aggregate base course to required degree of compaction with proper formation of cross fall by using well graded crushed aggregates premixed with OMC using suitable mixer, motor grader as per material gradation and aggregate quality specified	cu.m	100.00		
Analyzed Rate	Providing and Laying Dense Bituminous Macadam (DBM) to required degree of compaction based on job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified complete including Prime coat @0.75kg/sq.m - 60mm Thick material	sq.m	500.00		
Analyzed Rate	Providing and Laying Asphalt/Bituminous Concrete to required degree of compaction based on the job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified using VG 10 complete including tack coat @0.75kg/sq.m . : 40mm material	sq.m	500.00		
RW0150	Cutting & repairing bituminous road including supply of required Coefficient ity of aggregate & bitumen emulsion - Manually	cu.m	10.00		
RW0066	Construction of gabion wall as per drawings with dry stone masonry (hammer dressed facing) including excavation of foundation in all types of soils, sides and backfilling,	m	10.00		

Lot-1: Bill of Quantities
Annex-1

	delivery of machine woven gabion mesh (Hexagonal mesh of size 100mm x 120mm with a minimum of doubly twisted) with GI wire 2.70mm dia including diaphragm, fixing of selvedge wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete by providing non-woven geotextile as filter materials. Height up to 2.00 m				
RW0067	Construction of gabion wall as per drawings with dry stone masonry (hammer dressed facing) including excavation of foundation in all types of soils, sides and backfilling, delivery of machine woven gabion mesh (Hexagonal mesh of size 100mm x 120mm with a minimum of doubly twisted) with GI wire 2.70mm dia including diaphragm, fixing of selvedge wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete by providing non-woven geotextile as filter materials. Height up to 3.00 m	m	10.00		
RW0069	Construction of gabion wall as per drawings with dry stone masonry (hammer dressed facing) including excavation of foundation in all types of soils, sides and backfilling, delivery of machine woven gabion mesh diaphragm, fixing of selvedge wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete - Height up to 4.00 m (Hexagonal mesh of size 100mm x 120mm with a minimum of doubly twisted) with GI wire 2.70mm dia including diaphragm, fixing of selvedge wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete - Height up to 5.00 m	m	10.00		
PO0008	Providing & laying G.I. pipes including G.I. fittings (excluding trenching, refilling & thrust block)80mm	m	25.00		
C. Clearing of snow/ice					
Analyzed Rate	Supply and spraying of de-icing salt including the cost of salt, labour and	MT	125.00		

Lot-1: Bill of Quantities
Annex-1

	transportation along the section of the road receiving snowfall during the snowfall seasons				
	Total Sum for Emergency Works carried forward to Bid Summary				

Day work Schedule (Provisional Sum)						
Day works rates tendered for EQUIPMENT and LABOUR below will be for small, short-term works only and Emergency Maintenance call outs. Day works rates shall cover all overhead administrative costs, all operator costs including site allowance, mobilization costs, fuel, servicing and profits.						
Sl.No.	BSR Code	Items	Provisional Quantity	Unit	Rate (Nu.)	Amount (Nu.)
A	EQUIPMENT					
1	A/R	Backhoe Loader (JCV Equivalent or higher)	10	hour		
2	MP0125	Tracked Excavator (PC 200 Equivalent or higher)	10	hour		
3	A/R	Wheeled Excavator (PC 200 Equivalent or higher)	10	hour		
4	MP0166	Tipper truck (10 tonne)	10	hour		
5	A/R	Trailer (20 MT capacity or higher)	10	hour		
6	A/R	Power chain saw	10	hour		
7	MP0113	Air compressor with jack hammers	10	hour		
B	LABOUR					
8	LB0039	Supervisor	10	day		
9	LB0036	Mason Gr-1	10	day		
10	LB0051	Mason Gr-2	10	day		
11	LB0077	Labourer	20	day		
12	LB0022	Carpenter-1	10	day		
13	LB0033	Carpenter-2	10	day		
14	LB0047	Blaster	10	day		
15	LB0032	Blacksmith (metal-worker)	10	day		
16	LB0038	Plumber Gd.1	10	day		
17	LB0054	Plumber Gd.2	10	day		
18	LB0052	Painter Gd.1	10	day		
19	LB0067	Painter Gd.2	10	day		
20	LB0053	Plant Operator Gd.3	10	day		
C	MATERIAL					
21	MT0711	Primer	30	Ltr.		

Lot-1: Bill of Quantities**Annex-1**

22	MT0722	Synthetic enamel paint	30	Ltr.		
23	MT0020	Power gel/Gelatine	300	kg		
24	MT0021	Decord	500	m		
25	A/R	Safety fuse	2	coil		
26	MT0022	Detonator	50	pcs		
27	MT0024	Silent Blaster	50	kg		
28	MT0026	Drill rod (3 ft.)	15	each		
29	MT0025	Drill rod (5 ft.)	15	each		
30	MT0023	Drill rod (8 ft.)	15	each		
Total Sum for Day Works carried forward to Bid Summary						

Bid Summary

Sl. No	Activity	Amount (Nu.) in figures	Amount (Nu.) in words
1	Initial Repairs		
2	Road Safety Works		
3	Climate Change Resilience Works		
4	Periodic Maintenance		
5	Maintenance and Management Services		
6	Occupational Health & Safety and Site Facility (OHS)		
Total 1-6			
7	Emergency Works (Provisional Sum)		
8	Day Works (Provisional Sum)		

A. INITIAL REPAIR					
Code	Item	Unit	Qty	Rate	Amount
RW0150	Cutting & repairing bituminous road including supply of required quantity of aggregate & bitumen emulsion - Manually	cu.m	7.66		
Analyzed Rate	Providing and Laying Asphalt/Bituminous Concrete to required degree of compaction based on the job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified using VG 10 complete including tack coat application @0.75kg/sq.m : 40mm thick	sq.m	10,476.50		
RW0239	Providing and laying fog sealing as per technical specification and drawing.	sq.m	6,766.00		
DD0096	Dismantling bituminous road including cutting, stacking of useful materials & disposal of rubbish within 50 m	sq.m	2,742.50		
RW0131	Providing and laying wet mix macadam (WMM) graded aggregate base course to required degree of compaction with proper formation of cross fall by using well graded crushed aggregates premixed with OMC using suitable mixer, motor grader as per material gradation and aggregate quality specified	cu.m	274.25		
Analyzed Rate	Providing and Laying Dense Bituminous Macadam (DBM) to required degree of compaction based on job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified complete including prime coat application @0.75kg/sq.m- 60mm thick	sq.m	2,742.50		
EW0195	Filling of trenches, sides of foundations etc. in layers <200mm using selected excavated earth, ramming etc. within lead 50 m & lift 1.5m	cu.m	750.00		

Lot-2: Bill of Quantities
Annexure-1

CW0095	Providing and laying in position plum concrete (concrete M15- 60% and boulder - 40%) excluding the cost of centering and shuttering - All work up to plinth level	cu.m	50.21		
RC0108	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Foundations, Footings and all works up to Plinth Level, etc.	sq.m	310.02		
PT0020	Providing & applying white or colour washing - White washing with lime-new work-three coats	sq.m	382.58		
RW0067	Construction of gabion wall as per drawings with dry stone masonry (hammer dressed facing) including excavation of foundation in all types of soils, sides and backfilling, delivery of machine woven gabion mesh (Hexagonal mesh of size 100mm x 120mm with a minimum of doubly twisted) with GI wire 2.70mm dia including diaphragm, fixing of selvedged wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete by providing non-woven geotextile as filter materials. Height up to 3.00 m	m	11.00		
RW0069	Construction of gabion wall as per drawings with dry stone masonry (hammer dressed facing) including excavation of foundation in all types of soils, sides and backfilling, delivery of machine woven gabion mesh diaphragm, fixing of selvedged wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete - Height up to 4.00 m (Hexagonal mesh of size 100mm x 120mm with a minimum of doubly twisted) with GI wire 2.70mm dia including diaphragm, fixing of selvedged wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete - Height up to 5.00 m	m	13.00		

Lot-2: Bill of Quantities
Annexure-1

RC0109	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Walls (any thickness), pilasters, buttresses, string course etc.	sq.m	51.60		
RC0083	Providing & fixing Thermo-Mechanically Treated reinforcement bar (Yield Strength 500 MPa) for R.C.C work including cutting, bending, binding and placing in position complete	kg	347.80		
RC0010	P&L in position reinforced cement concrete 1:1.5:3 (1 cement : 1.5 sand : 3 graded crushed rock 20 mm nominal size) work in plinth and skirting courses, fillets, columns , pillars, posts and struts upto floor five level excluding the cost of centering, shuttering and reinforcement.	cu.m	9.12		
PO0007	P&L G.I pipes including G.I fittings (excluding trenching, refilling & thrust block) - 65mm	m	78.00		
RW0242	Road marking with hot applied thermoplastic compound with reflectorizing glass beads on Bituminous surface as per IRC:35 and technical specifications. The finished surface to be level and free from streaks and holes	sq.m	9,090.00		
A/R	Providing and Laying Asphalt/Bituminous Concrete to required degree of compaction based on the job mixture design approved by the supervising engineer using asphalt plant, paver, steel roller, tyre roller etc. as per material gradation and aggregate and tack coat application @0.75kg/sq.m. 30mm thick	sq.m	5,375.00		
A/R	Providing and applying finishing coats - Synthetic enamel, for steel & wood work, two coats on new work, Lettering with paint of approved brand and manufacture letter complete as per drawing and engineer instruction (km Post writing and painting)	each	31.00		

Lot-2: Bill of Quantities
Annexure-1

A/R	Erection of Km post(new) including all complete as per the drawing and providing and applying finishing coats - Synthetic enamel, for steel & wood work, two coats on new work, Lettering with paint of approved brand and manufacture letter complete as per drawing and engineer instruction complete (erection of km Post, writing and painting)	each	18.00		
	Total Sum for Initial Repairs carried forward to Bid Summary				
B. ROAD SAFETY WORKS					
Code	Item	Unit	Total Qty	Rate	Amount
EW0106	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on plan, and depth > 300 mm including dressing & ramming, disposal of surplus soil within 50m lead & 1.5m lift - All types of soil	cu.m	37.91		
EW0107	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on plan All types of rock with or without blasting.	cu.m	4.21		
RC0090	Providing & fixing centering and shuttering (formwork) using Timber, including strutting, propping etc. and removal of formwork - Foundations, Footings and all works upto Plinth Level, etc.	sq.m	344.04		
CW0002	Providing and laying in position plain cement concrete (1:1.5:3 (1 cement : 1.5 sand : 3 graded crushed rock 20 mm cu.m nominal size)) excluding the cost of centering and shuttering - All work upto plinth level.	cu.m	41.03		

RW0366	Providing and fixing Mandatory/Regulatory sign boards of Circular shape made up of 2 mm thick aluminum sheet, fully covered with retro reflective sheeting in blue and silver white or other colour combination including subject matter, message, direction of Engineer-in-charge excluding excavation and concreting for base. Specification and direction of Engineer-in-charge excluding excavation and concreting for base.	each	10.00		
RW0368	Providing and fixing Cautionary/ Warning sign boards of Equilateral Triangular shape made up of 2 mm thick aluminum sheet, fully covered with retro reflective sheeting in blue and silver white or other colour matter, message, symbols and borders etc. With supporting post of approved size and length complete as per drawing, combination including subject	each	151.00		
RW0371	Providing and fixing Glow studs of size 100x20 mm made of heavy duty body and shall be molded ASA (Acrylic styrene Acryloretrite) or HIP (High impact polystyrene) or ABS having electronically welded micro- prismatic lens with abrasion resistant coating with reflective panels on both sides with at least 12 cm of reflective area up each side. The studs shall be approved and fixed to the Road surface as per direction of Engineer in charge.	each	4850.00		
RW0373	Providing and fixing 48mm dia. mild steel round pipe (750mm length) delineators of approved length as per drawing and specifications with 3 nos of ABS round body high reflective reflectors with duly powder coated anti-rust and anti theft steel complete excluding excavation & concreting for base.	each	480.00		

Lot-2: Bill of Quantities
Annexure-1

RW0013	Excavation of road formation/trace/box cutting, with excavator including separate deposition of soil, rocks and stones within 50m for reuse - All types of soil	cu.m	300.00		
RW0260	Providing and erecting "W" metal beam crash barrier (3mm thick w-metal beam of 4m length, width 310mm,wave height- 81-85mm, 1.8m long Channel post 150x75x5mm @ 2m c/c & 330mm long spacer 150x75x5mm)including excavation and PCC 1:1.5:3 for channel post, complete as per drawing.	m	6400.00		
Analyzed rate	Providing and erecting "W" metal beam crash barrier (3mm thick w-metal beam of 4m length, width 310mm,wave height- 81-85mm, 1.8m long Channel post 150x75x5mm @ 2m c/c & 330mm long spacer 150x75x5mm)including excavation and PCC 1:1.5:3 for channel post, complete as per drawing. And providing plates, nuts and bolts including welding and fitting the same with necessary	m	2535.00		
Analyzed rate	Construction of Trapezoidal Earthen Bund with 0.5m top width, 1.5m base width and 0.8m to 1.2m height maintaining batter slope <45 deg for road face side and >45 deg for valley side. It should not in any case obstruct the visibilities considering for the light vehicles and shall be as per the drawing	m	500.00		
RW0242	Road marking with hot applied thermoplastic compound with reflectorizing glass beads on Bituminous surface as per IRC:35 and technical specifications. The finished surface to be level and free from streaks and holes	sq.m	54.00		
	Total Sum for Road safety work carried forward to Bid Summary				
C. CLIMATE CHANGE RESILIENT WORKS					
Code	Item	Unit	Total Qty	Rate	Amount

Lot-2: Bill of Quantities
Annexure-1

Analyzed Rate	Construction of V- shaped road side drain clear width 1000 mm with 150mm thick PCC M15, 300x300mm thick Plumb Concrete (60% PCC M15 & 40% 75mm aggregate) hill side, incl. excavation (all kinds of soil & rock with or without blasting without), levelling, back filling, necessary form works and disposal of surplus earth within 50m lead complete as per drawing.(including Dismantling)	m	13322.00		
RW0095	Construction of French Drain (Size = 600 mm & 1000 mm deep), including clearing jungle, earthwork in excavation in trenches (all types of soil), levelling the excavated earth, filling the trench with stone 50 to 100 mm size complete as per drawing	m	200.00		
EW0106	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on plan, and depth > 300 mm including dressing & ramming, disposal of surplus soil within 50m lead & 1.5m lift - All types of soil	cu.m	828.64		
EW0107	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on plan All types of rock with or without blasting.	cu.m	86.81		
SM0072	Providing and laying hand packed stone soling or filling with stones.	cu.m	7.05		
RC0083	Providing & fixing Thermo-Mechanically Treated reinforcement bar (Yield Strength 500 MPa) for R.C.C work including cutting, bending, binding and placing in position complete	kg	968.30		
PO0049	Providing & laying H.D.P.E. pipes, 4 PN, including H.D.P.E. fittings (excluding trenching, refilling & thrust block. 90mm	m	345.40		

Lot-2: Bill of Quantities**Annexure-1**

RW0035	Providing and laying filter material (600 mm wide) in trenches, sides of foundation, walls, etc. with 100 to 200 mm stones wherever applicable.	cu.m	284.76		
EW0195	Filling of trenches, sides of foundation etc. in layers<200 mm using selected excavated earth, ramming etc. within lead 50 m and lift 1.5 m	cu.m	507.00		
CW0095	Providing and laying in position plum concrete (concrete M15- 60% and boulder - 40%) excluding the cost of centering and shuttering - All work up to plinth level	cu.m	68.29		
RC0108	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Foundations, Footings and all works up to Plinth Level, etc.	sq.m	138.53		
PT0020	Providing & applying white or colour washing - White washing with lime-new work-three coats	sq.m	199.98		
SM0005	Providing and laying Random Rubble Masonry with hard stone in foundation & Plinth in C.M (1:4)	cu.m	658.55		
CW0005	Providing and laying in position plain cement concrete (1:3:6) (1 cement : 3 sand : 6 - graded crushed rock - 20 mm nominal size) excluding the cost of centering and shuttering - All works up to plinth level.	cu.m	57.18		
CW0003	Providing and laying in position plain cement concrete 1:2:4 (1 cement : 2 sand : 4 crushed rock 20 mm nominal size) excluding the cost of centering and shuttering - All work up to plinth level.	cu.m	25.63		

Lot-2: Bill of Quantities
Annexure-1

RC 0090	Providing & fixing centering and shuttering (formwork), including strutting, propping etc. and removal of formwork -Foundation and plinth etc.	sq.m	382.52		
RC0013	P&L in position reinforced cement concrete 1:1:2 (1 cement : 1 sand : 2 graded crushed rock 20 mm nominal size) work in suspended floor , roofs having slope up to 15degree, landings, balconies, shelves and floor five level excluding the cost of centering, shuttering and reinforcement.	cu.m	5.40		
RC0020	P&L in position reinforced cement concrete 1:1:2 (1 cement : 1 sand : 2 graded crushed rock 20 mm nominal size) work in kerbs , steps and the like up to floor five level excluding the cost of centering, shuttering reinforcement and reinforcement.	cu.m	7.77		
RC0110	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Lintels, riders, bressummers, cantilevers etc. beams ,	sq.m	16.88		
RC0113	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Suspended roof, landing, shelves and their supports, balconies, chajjas, etc. floor,	sq.m	31.68		
RW0121	Preparation of sub grade with proper camber by excavation earth to depth ---- --. All kind of soil	cu.m	66.50		

RW0130	Providing & Laying Granular sub-base course (GSB) to required degree of compaction with proper formation of crossfall using motor grader for laying and compacted to required density as per material gradation & aggregate quality specified	cu.m	28.50		
RW0131	Providing and laying wet mix macadam (WMM) graded aggregate base course to required degree of compaction with proper formation of cross fall by using well graded crushed aggregates premixed with OMC using suitable mixer, motor grader as per material gradation and aggregate quality specified	cu.m	38.00		
RW0133	Providing and Laying Dense Bituminous Macadam (DBM) to required degree of compaction based on job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified complete including prime coat application @0.75kg/sq.m- 60mm Thick material	sq.m	190.00		
Analyzed Rate	Providing and Laying Asphalt/Bituminous Concrete to required degree of compaction based on the job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified using VG 10 complete including tack coat application @0.75kg/sq.m. : 40mm material	sq.m	190.00		
DD0001	Demolishing cement concrete 1:3:6 & richer, including disposal of Materials within 50m lead	cu.m	13.50		
	Total Sum for Climate Change Resilient Works carried forward to Bid Summary				
D. PERIODIC MAINTENANCE					
Code	Item	Unit	Total Qty	Rate	Amount

Lot-2: Bill of Quantities
Annexure-1

Analyzed Rate	Providing and Laying Asphalt/Bituminous Concrete to required degree of compaction based on the job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified using VG 10 complete including tack coat application @0.75kg/sq.m. : 40mm thick.	sq.m	112500.00		
RW0242	Road marking with hot applied thermoplastic compound with reflectorizing glass beads on Bituminous surface as per IRC:35 and technical specifications. The finished surface to be level and free from streaks and holes.	sq.m	6663.33		
PT0021	Providing & applying white or colour washing - White washing with lime, old work, two coats	sq.m	12312.48		
Analyzed Rate	Providing and applying finishing coats - Synthetic enamel, for steel & wood work, two coats on new work, Lettering with paint of approved brand and manufacture letter complete as per drawing and engineer instruction (km Post writing and painting)	each	49.00		
Analyzed Rate	Providing and Laying Asphalt/Bituminous Concrete to required degree of compaction based on the job mixture design approved by the supervising engineer using asphalt plant, paver, steel roller, tyre roller etc. as per material gradation and aggregate including tack coat application @0.75kg/sq.m. 30mm thick	sq.m	37730.00		
	Total Sum for Periodic Maintenance carried forward to Bid Summary				-
E. MAINTENANCE & MANAGEMENT SERVICES					

The rate shall include both Operational and Management services. Payment shall be made on lump sum per km basis for maintaining the road and bridges in accordance with the Service Levels defined in the Specifications. [The rate(s) quoted shall except insofar as is otherwise provided under the Contract, include all plant, equipment, labour, management and supervision, materials, erection, maintenance, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract. The implementation of Management Services includes establishment and operation of the Self Control Unit as described in the Specifications, and the implementation of the approved Quality Management Plan, Contractor's Environmental and Social Management Plan, Occupational Health and Safety Plan, Traffic Management Plan and Emergency Procedures Plan for the period of the Contract.]					
Sl. No	Road	Road length (Km)	No. of Months	Lump sum price per Km per month	Amount
1	Wangdue Zam - Chuserbu section of PHN01	31.00	60.00		
2	Lawala - Gangtey - Phobjikha Dz Road including Tabading Access Road	17.43	60.00		
	Total Sum for Maintenance and Management Services carried forward to Bid Summary				
F. OCCUPATIONAL HEALTH & SAFETY					
Code	Item	Unit	Total Qty	Rate	Amount
OHS001	Incorporation of Occupational Health and Safety measures at construction sites, including Insurance, Personal Protective Equipment (PPE), First Aid kits, Boundary Fencing, Scaffolding, Safety nets, Traffic management, signage etc. as listed in the specifications. The standards and specifications for the Insurance, OHS materials and (or) equipment shall comply with the Labour and Employment Act - 2007, Regulation on Occupational Health, Safety and Welfare - 2012, and other relevant national documents. All OHS items will remain the property of the bidder upon completion of the project. (This quoted price shall cover all the work components under the contract)	Lump sum	1.00		

OHS002	Provision of Temporary Living Accommodation for Sectional works: Providing temporary living accommodation which includes bedroom, kitchen, and toilet cum bathroom including proper water supply and electricity as per the drawing and temporary living accommodation standards. The accommodation facilities must be dismantled and cleaned upon the completion of project. All reusable materials of the accommodation facilities will remain as the property of the bidder upon completion of the project. (This quoted price shall cover all the work components under the contract)	Lump sum	1.00		
Repair and Maintenance of dwellings for Work force	Provision of living accommodation for the maintenance and management services: Repair and Maintenance of Existing NWF dwellings/Facilities) Providing, operating, and maintaining living accommodation for maintenance labourers for the duration of the Contract. The items include repair and maintenance of 13Nos. existing NWF dwellings and JE Residence (1No.) to required standard along PNH. The accommodation shall be provided with water supply, sanitation, electricity, waste management, cleaning, safety provisions, utilities, supervision, compliance with applicable labour and EHS regulations. The facilities shall be maintained to their original or better condition upon completion, complete in all respects, with no separate payment for incidental works. Upon completion of the contract, the facilities must be handed over to the employer.	each	14.00		

Construction and Maintenance of dwellings for Work force	Provision of living accommodation for the maintenance and management services: Construction and Maintenance of NWF dwellings/Facilities) Providing, operating, and maintaining living accommodation for maintenance labourers for the duration of the Contract. The items include construction of 5Nos. new dwellings along Lawala-Phobjikha Road. The accommodation shall be provided with water supply, sanitation, electricity, waste management, cleaning, safety provisions, utilities, supervision, compliance with applicable labour and EHS regulations. The facilities shall be maintained to their original or better condition upon completion, complete in all respects, with no separate payment for incidental works. Upon completion of the contract, the facilities must be handed over to the employer.	each	5.00		
Construction, operation and maintenance of Project Office.	Construction, operation, and maintenance of office and associated facilities for the Project staff as per the drawing for the entire duration of the Contract, including provision, installation, furnishing, operation, routine maintenance, utilities, cleaning, and security. The item shall include office space, furniture, basic IT and communication arrangements, electricity, water supply, sanitation, waste management, safety provisions, supervision, and compliance with applicable labour, environmental, and EHS regulations, complete in all respects, with no separate payment for incidental works. Upon completion of the contract, the facilities must be handed over to the employer.	Lump sum	1.00		
	Total Sum for OHS carried forward to Bid Summary				
EMERGENCY Works (Provisional Sum))					
A. Clearing of Roadblock/landslide/Slip/ Structure Restoration					
Code	Item	Unit	Quantity	Rate	Amount

CG0030	Clearing grass, removal of landslide debris & surface material including excavation & disposal by appropriate machineries within 50m lead and beyond, if required	cu.m	5,000.00		
EW0032	Earth work in excavation over areas, depth >300mm, width >1.5m, area >10 sq.m on plan, including disposal of excavated earth within 50m lead and 1.5m lift & disposed soil to be neatly dressed. Ordinary rock with or without blasting	cu.m	5,000.00		
B. Structure Restoration					
Analyzed Rate	Construction of V- shaped road side drain clear width 1000 mm with 150mm thick PCC M15, 300x300mm thick Plumb Concrete (60% PCC M15 & 40% 75mm aggregate) hill side, incl. excavation (all kinds of soil & rock with or without blasting without), levelling, back filling, necessary form works and disposal of surplus earth within 50m lead complete as per drawing.	m	50.00		
RW0096	Construction of French Drain (Size = 600 mm & 1000 mm deep), including clearing jungle, earthwork in excavation in trenches (all types of soil), levelling the excavated earth, filling the trench with stone 50 to 100 mm size complete as per drawing.	m	50.00		
EW0106	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on plan, and depth > 300 mm including dressing & ramming, disposal of surplus soil within 50m lead & 1.5m lift - All types of soil.	cu.m	50.00		
EW0107	Excavation in foundation trenches or drains, not exceeding 1.5m in width or area 10 sq.m on plan All types of rock with or without blasting.	cu.m	50.00		

Lot-2: Bill of Quantities
Annexure-1

RC 0109	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork	sq.m	100.00		
SM0072	Providing and laying hand packed stone soling or filling with stones.	cu.m	50.00		
RC0005	Providing & laying in position reinforced cement concrete work in walls (any thickness) including attached pilasters buttresses, piers, abutments etc. up to floor five level excluding the cost of centering, shuttering and reinforcement 1:1:2 (1 cement : 1 sand : 2 graded crushed rock 20 mm nominal size Footing	cu.m	25.00		
RC0083	Providing & fixing Thermo-Mechanically Treated reinforcement bar (Yield Strength 500 MPa) for R.C.C work including cutting, bending, binding and placing in position complete	kg	150.00		
PO0049	Providing & laying H.D.P.E. pipes, 4 PN, including H.D.P.E. fittings (excluding trenching, refilling & thrust block. 90mm	m	100.00		
RW0240	Providing and laying of Rock Anchorage including TMT rebar (25mm dia) and cement slurry to fill the gap. The hole diameter should be at least 32mm as provided in the drawing.	m	250.00		
RW0035	Providing and laying filter material (600 mm wide) in trenches, sides of foundation, walls, etc. with 100 to 200 mm stones wherever applicable.	cu.m	50.00		
EW0195	Filling of trenches, sides of foundation etc. in layers<200 mm using selected excavated earth, ramming etc. within lead 50 m and lift 1.5 m	cu.m	250.00		
CW0095	Providing and laying in position plum concrete (concrete M15- 60% and boulder - 40%) excluding the cost of centering and shuttering - All work up to plinth level	cu.m	50.00		

Lot-2: Bill of Quantities**Annexure-1**

RC0108	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Foundations, Footings and all works up to Plinth Level, etc.	sq.m	250.00		
SM0005	Providing and laying Random Rubble Masonry with hard stone in foundation & Plinth in C.M (1:4)	cu.m	250.00		
CW0005	Providing and laying in position plain cement concrete (1:3:6) (1 cement : 3 sand : 6 - graded crushed rock - 20 mm nominal size) excluding the cost of centering and shuttering - All works up to plinth level.	cu.m	50.00		
CW0003	Providing and laying in position plain cement concrete 1:2:4 (1 cement : 2 sand : 4 crushed rock 20 mm nominal size) excluding the cost of centering and shuttering - All work up to plinth level.	cu.m	50.00		
RC 0090	Providing & fixing centering and shuttering (formwork), including strutting, propping etc. and removal of formwork -Foundation and plinth etc.	sq.m	150.00		
RC0013	P&L in position reinforced cement concrete 1:1:2 (1 cement : 1 sand : 2 graded crushed rock 20 mm nominal size) work in suspended floor, roofs having slope up to 15degree, landings, balconies, shelves and floor five level excluding the cost of centering, shuttering and reinforcement.	cu.m	50.00		
RC0020	P&L in position reinforced cement concrete 1:1:2 (1 cement : 1 sand : 2 graded crushed rock 20 mm nominal size) work in kerbs, steps and the like up to floor five level excluding the cost of centering, shuttering reinforcement and reinforcement.	cu.m	50.00		

RC0110	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Lintels, riders, bressummers, cantilevers etc. beams,	sq.m	150.00		
RC0113	Providing & fixing centering and shuttering (formwork) using Shuttering Plywood, including Timber frame and timber strutting, propping with complete form tie system etc. and removal of formwork - Suspended roof, landing, shelves and their supports, balconies, chajjas, etc.	sq.m	150.00		
RW0122	Preparation of sub grade wit proper camber by excavation earth to depth ----- All kind of soil	cu.m	250.00		
RW0130	Providing & Laying Granular sub-base course(GSB) to required degree of compaction with proper formation of crossfall using motor grader for laying and compacted to required density as per material gradation & aggregate quality specified	cu.m	100.00		
RW0131	Providing and laying wet mix macadam(WMM) graded aggregate base course to required degree of compaction with proper formation of cross fall by using well graded crushed aggregates premixed with OMC using suitable mixer, motor grader as per material gradation and aggregate quality specified	cu.m	100.00		
RW0150	Cutting & repairing bituminous road including supply of required quantity of aggregate & bitumen emulsion - Manually	cu.m	3.00		

Lot-2: Bill of Quantities
Annexure-1

Analyzed Rate	Providing and Laying Dense Bituminous Macadam (DBM) to required degree of compaction based on job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified complete including Prime coat @0.75kg/sq.m - 60mm Thick material	sq.m	500.00		
Analyzed Rate	Providing and Laying Asphalt/Bituminous Concrete to required degree of compaction based on the job mixture design (job mix formula) approved by the supervising engineer, by mechanized method as per gradation and materials quality specified using VG 10 complete including tack coat @0.75kg/sq.m : 40mm material	sq.m	500.00		
RW0066	Construction of gabion wall as per drawings with dry stone masonry (hammer dressed facing) including excavation of foundation in all types of soils, sides and backfilling, delivery of machine woven gabion mesh (Hexagonal mesh of size 100mm x 120mm with a minimum of doubly twisted) with GI wire 2.70mm dia including diaphragm, fixing of selvedged wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete by providing non-woven geotextile as filter materials. Height up to 2.00 m	m	10.00		
RW0067	Construction of gabion wall as per drawings with dry stone masonry (hammer dressed facing) including excavation of foundation in all types of soils, sides and backfilling, delivery of machine woven gabion mesh (Hexagonal mesh of size 100mm x 120mm with a minimum of doubly twisted) with GI wire 2.70mm dia including diaphragm, fixing of selvedged wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete by providing non-woven geotextile as filter materials. Height up to 3.00 m	m	10.00		

RW0069	Construction of gabion wall as per drawings with dry stone masonry (hammer dressed facing) including excavation of foundation in all types of soils, sides and backfilling, delivery of machine woven gabion mesh diaphragm, fixing of selvedged wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete - Height up to 4.00 m (Hexagonal mesh of size 100mm x 120mm with a minimum of doubly twisted) with GI wire 2.70mm dia including diaphragm, fixing of selvedged wire 3.4 mm dia, binding/lacing wire 2.40 mm dia complete - Height up to 5.00 m	m	10.00		
PO0008	Providing & laying G.I. pipes including G.I. fittings (excluding trenching, refilling & thrust block)80mm	m	25.00		
C. Clearing of snow/ice					
Analyzed Rate	Supply and spraying of de-icing salt including the cost of salt, labour and transportation along the section of the road receiving snowfall during the snowfall seasons	MT	125.00		
Total Sum for Emergency Works carried forward to Bid Summary					

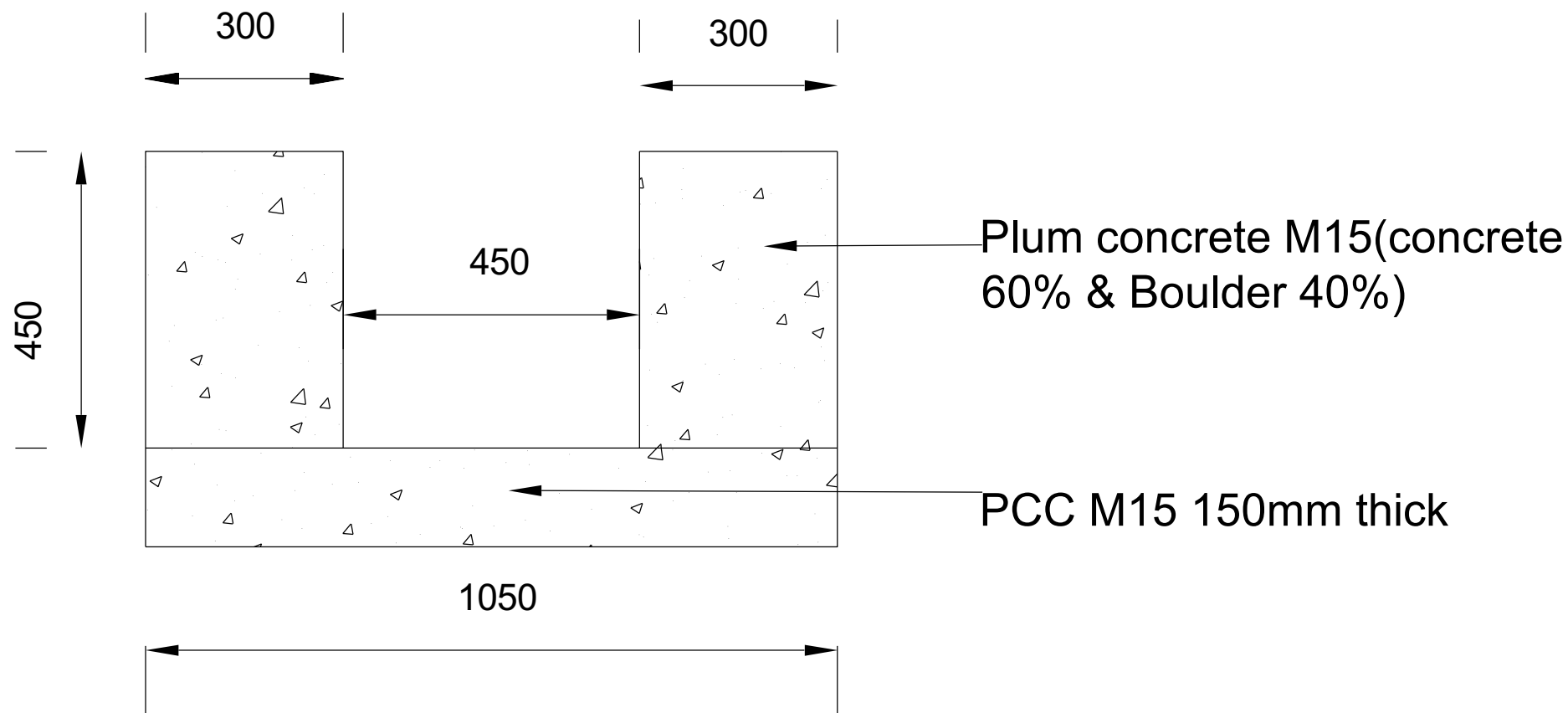
Day work Schedule (Provisional Sum)						
Day works rates tendered for EQUIPMENT and LABOUR below will be for small, short-term works only and Emergency Maintenance call outs. Day works rates shall cover all overhead administrative costs, all operator costs including site allowance, mobilization costs, fuel, servicing and profits.						
Sl.No.	BSR Code	Items	Provisional Quantity	Unit	Rate (Nu.)	Amount (Nu.)
A	EQUIPMENT					
1	A/R	Backhoe Loader (JCV Equivalent or higher)	10	hour		
2	MP0125	Tracked Excavator (PC 200 Equivalent or higher)	10	hour		
3	A/R	Wheeled Excavator (PC 200 Equivalent or higher)	10	hour		
4	MP0166	Tipper truck (10 tonne)	10	hour		

Lot-2: Bill of Quantities
Annexure-1

5	A/R	Trailer (20 MT capacity or higher)	10	hour		
6	A/R	Power chain saw	10	hour		
7	MP0113	Air compressor with jack hammers	10	hour		
B	LABOUR					
8	LB0039	Supervisor	10	day		
9	LB0036	Mason Gr-1	10	day		
10	LB0051	Mason Gr-2	10	day		
11	LB0077	Labourer	20	day		
12	LB0022	Carpenter-1	10	day		
13	LB0033	Carpenter-2	10	day		
14	LB0047	Blaster	10	day		
15	LB0032	Blacksmith (metal-worker)	10	day		
16	LB0038	Plumber Gd.1	10	day		
17	LB0054	Plumber Gd.2	10	day		
18	LB0052	Painter Gd.1	10	day		
19	LB0067	Painter Gd.2	10	day		
20	LB0053	Plant Operator Gd.3	10	day		
C	MATERIAL					
21	MT0711	Primer	30	Ltr.		
22	MT0722	Synthetic enamel paint	30	Ltr.		
23	MT0020	Power gel/Gelatine	300	kg		
24	MT0021	Decord	500	m		
25	A/R	Safety fuse	2	coil		
26	MT0022	Detonator	50	pcs		
27	MT0024	Silent Blaster	50	kg		
28	MT0026	Drill rod (3 ft.)	15	each		
29	MT0025	Drill rod (5 ft.)	15	each		
30	MT0023	Drill rod (8 ft.)	15	each		
Total Sum for Day Works carried forward to Bid Summary						

Bid Summary

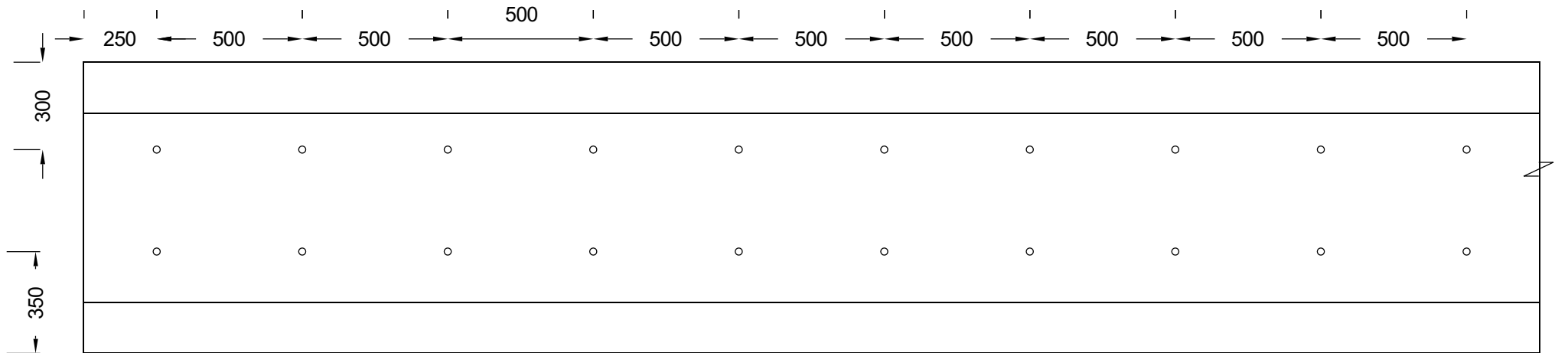
Sl. No	Activity	Amount (Nu.) in figures	Amount (Nu.) in words
1	Initial Repairs		
2	Road Safety Works		
3	Climate Change Resilience Works		
4	Periodic Maintenance		
5	Maintenance and Management Services		
6	Occupational Health & Safety and Site Facility (OHS)		
Total 1-6			
7	Emergency Works (Provisional Sum)		
8	Day Works (Provisional Sum)		



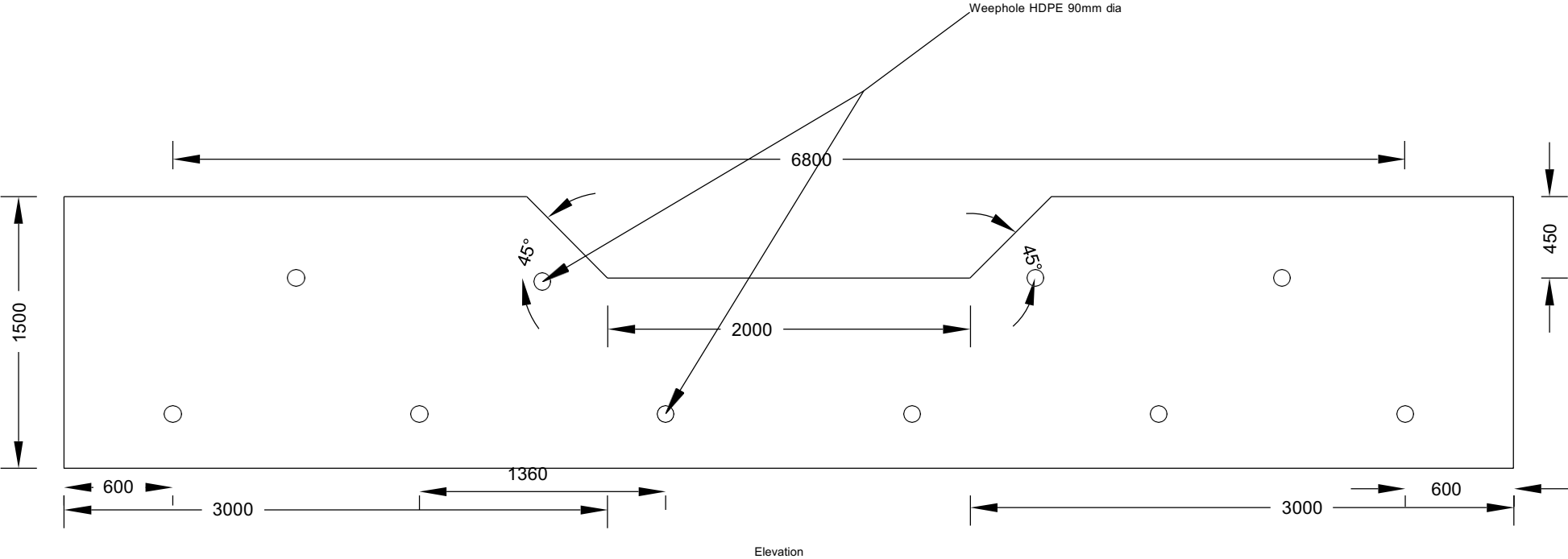
Ministry of Infrastructure and Transport
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Nobding Sub-Divison		Title : Typical drawing for Box Drain		
Drawn by:	Rinchen,Engg.	Drawing No :	B/drain -01	Revision :
Checked		Date :	April -2026	All dimensions are in mm
Approved		Page :		Scale : NTS



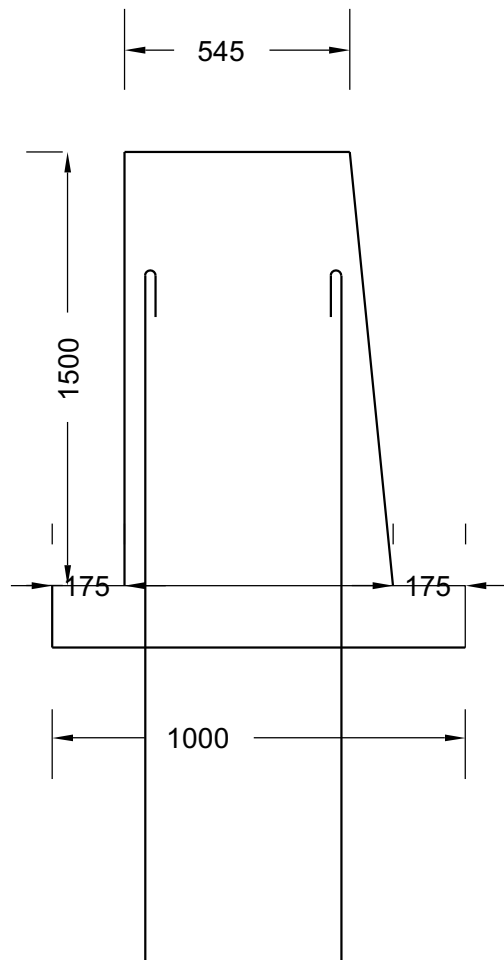
Plan for Anchorage



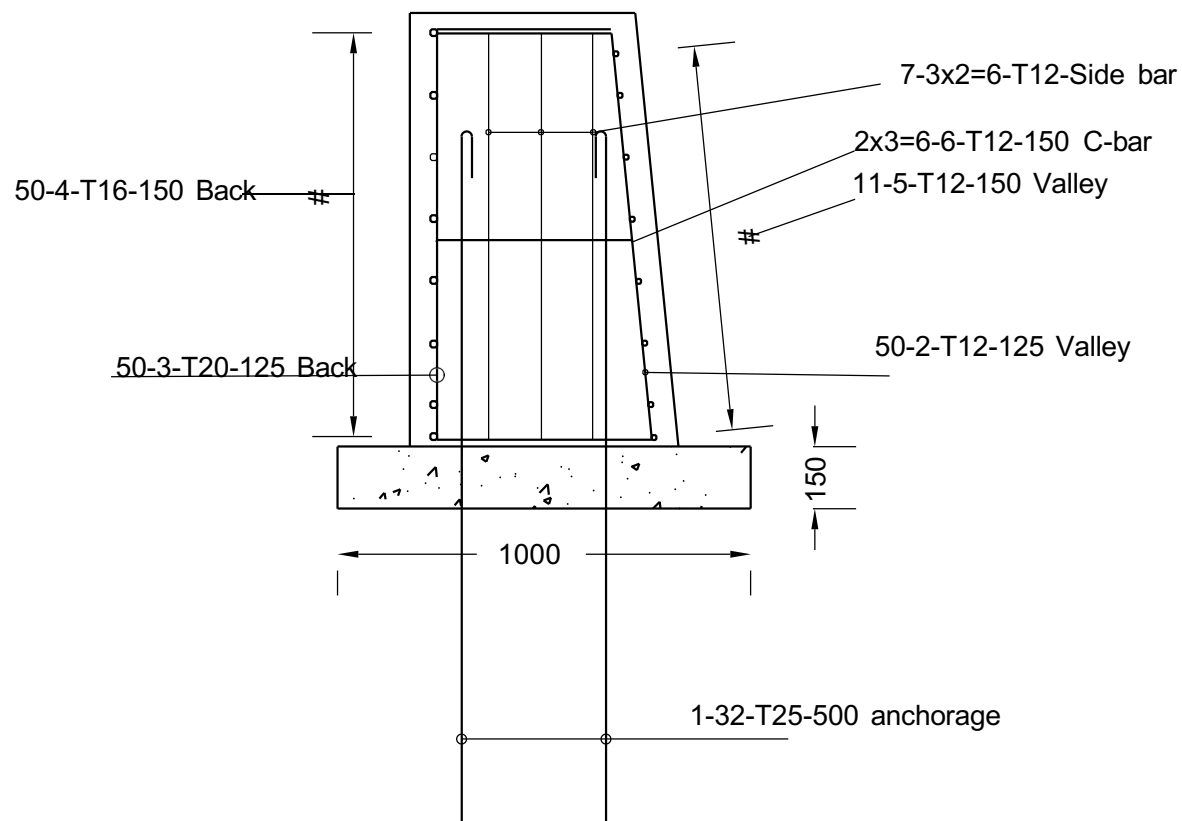
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Nobding Sub-Division		Title : Check Dam 103km		
Drawn by:	Rinchen,Engg.	Drawing No :	Check Dam-03	Revision :
Checked		Date :	April-2026	All dimension are in mm
Approved		Page :		Scale : NTS



Section



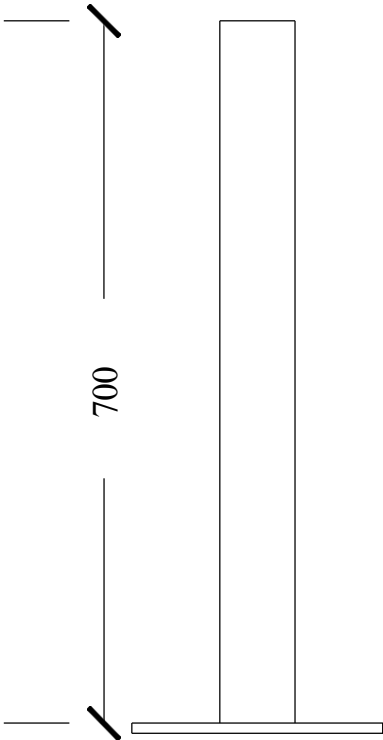
Ministry of Infrastructure and Transport
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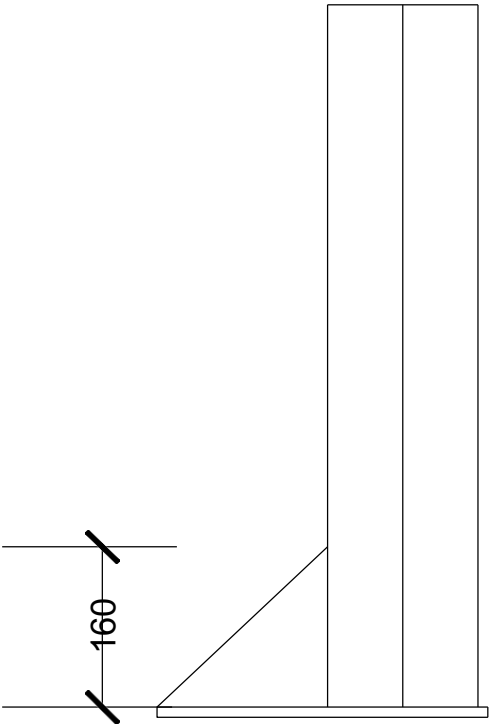
Nobding Sub-Divison

Title : Check Dam 103km

Drawn by:	Rinchen, Engg.	Drawing No :	Check Dam-01	Revision :
Checked		Date :	April -2026	All dimension are in mm
Approved		Page :		Scale : NTS



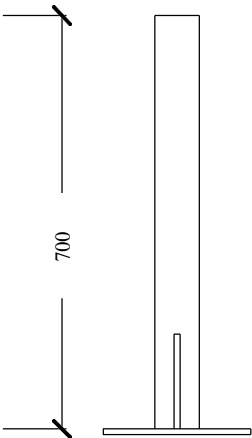
Front view



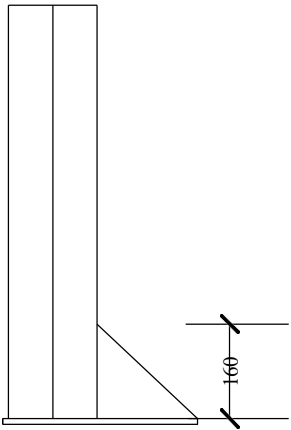
Side view



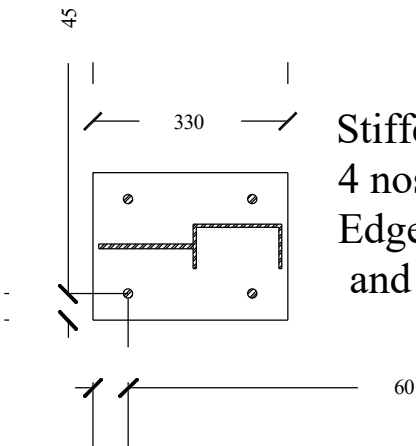
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Drawn by:	Rinchen,Engg.	Drawing No :	Crash Barrier rocky -02	Revision :
Checked		Date :	April -2026	All dimensions are in mm
Approved		Page :		Scale : NTS



Back view



Side view



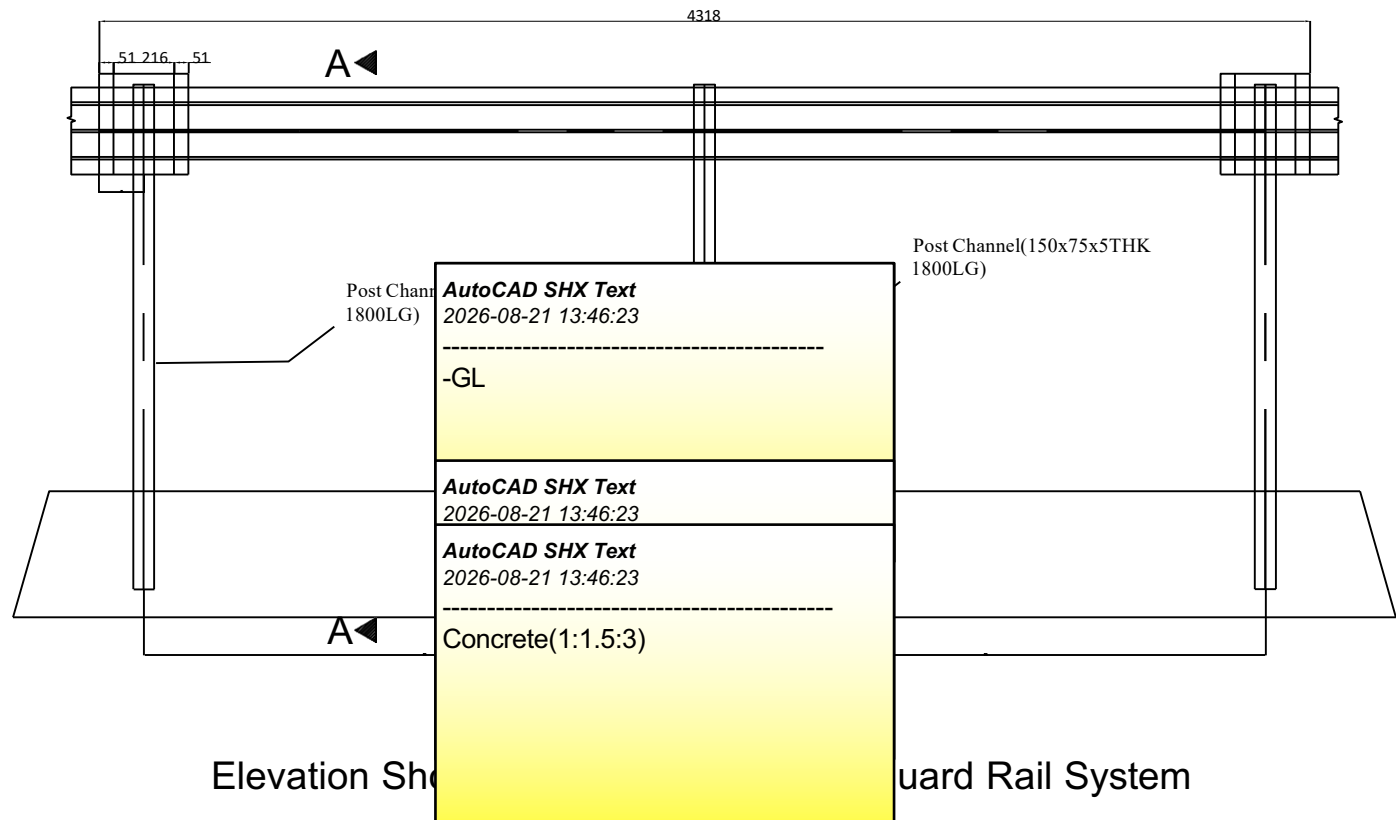
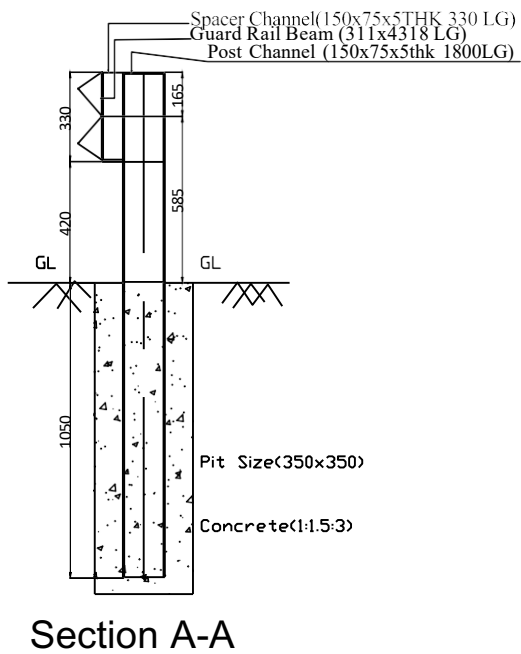
Stiffener plate 8mm thick
4 nos of M16b Nut & Bolt.
Edge distance 10mm (Plate edge to channel section and stiffener)



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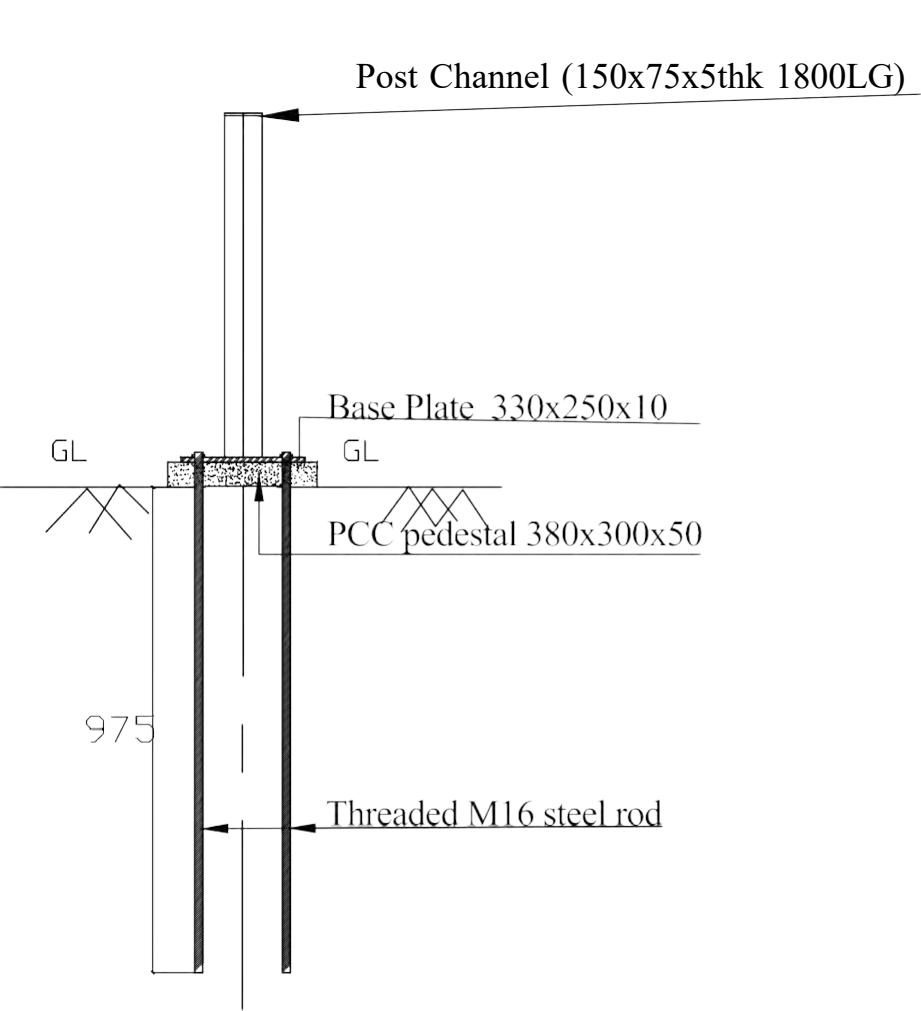
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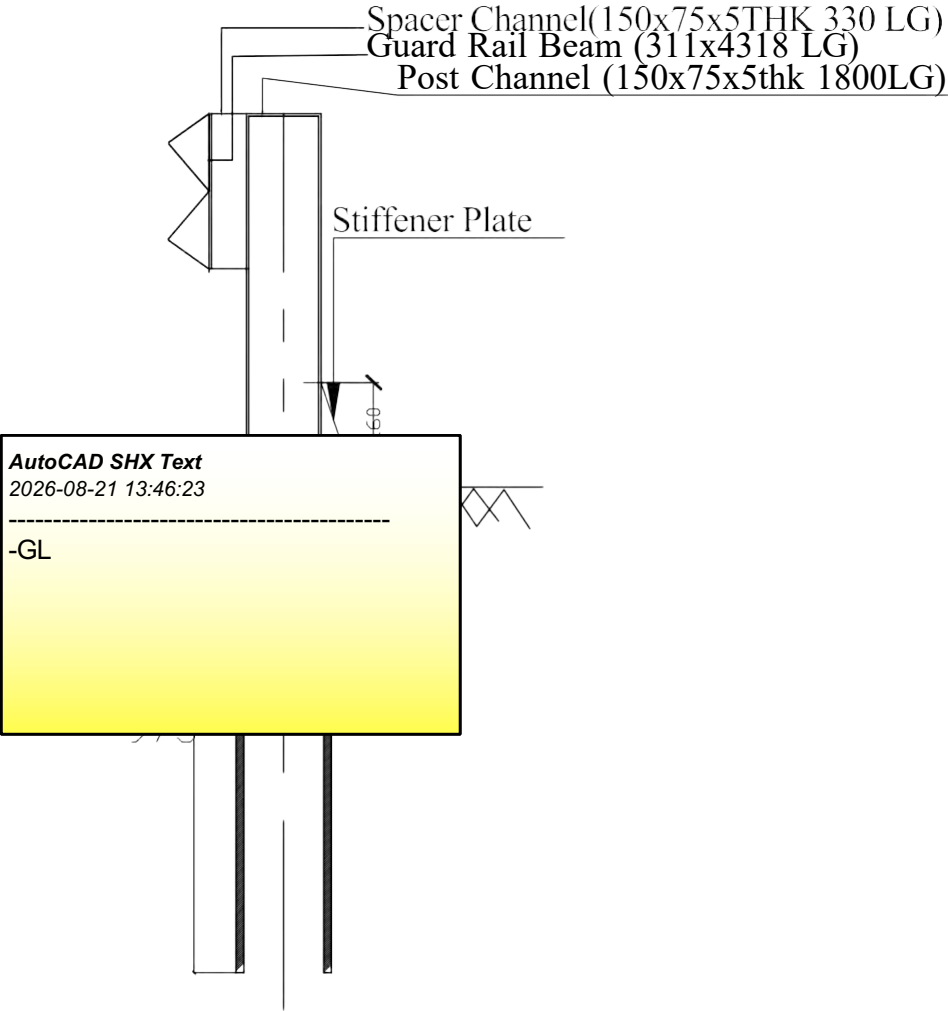
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Checked		Date :	April -2026	All dimensions are in mm
Approved		Page :		Scale : NTS



Elevation



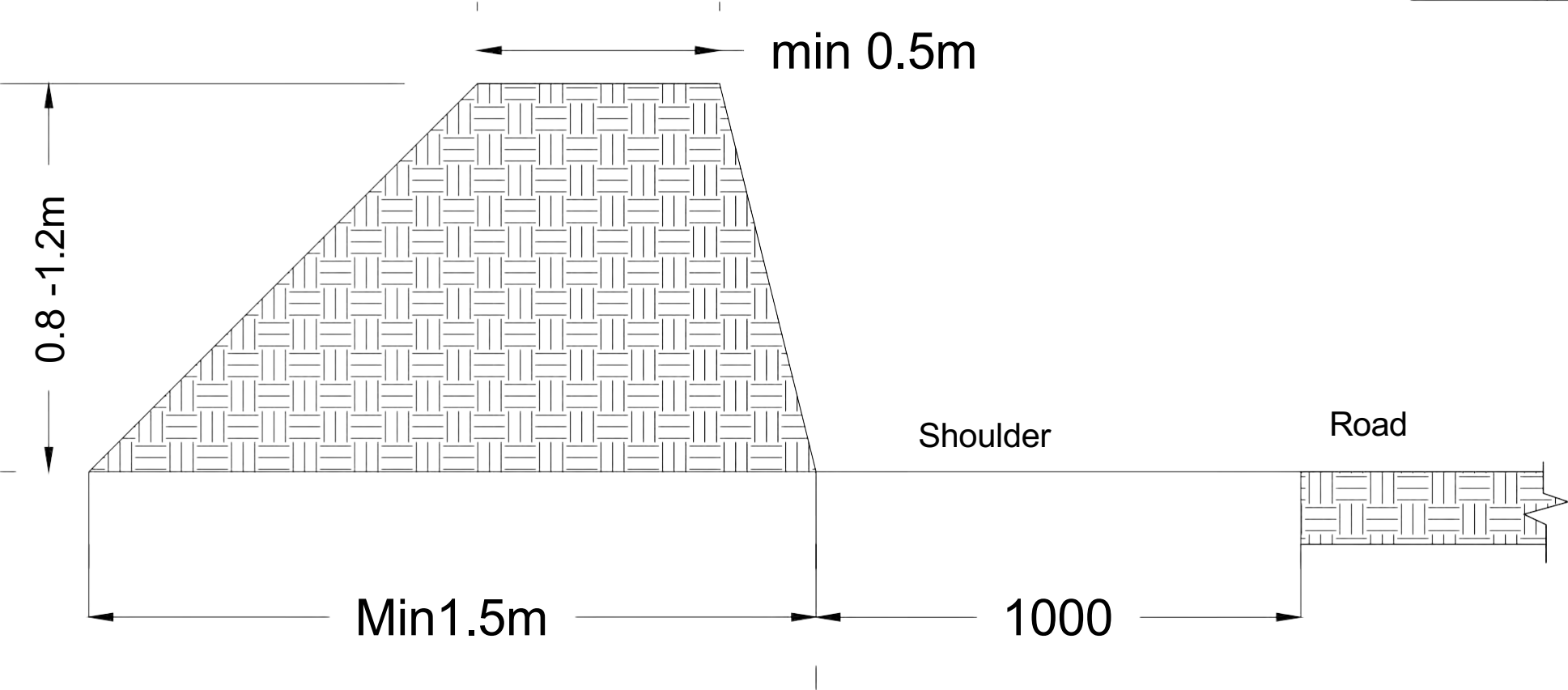
Side view



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Nobding Sub-Divison		Title : Typical drawing for Crash Barrier at rocky area		
Drawn by:	Rinchen,Engg.	Drawing No :	Crash Barrier rocky -01	Revision :
Checked		Date :	April -2026	All dimensions are in mm
Approved		Page :		Scale : NTS

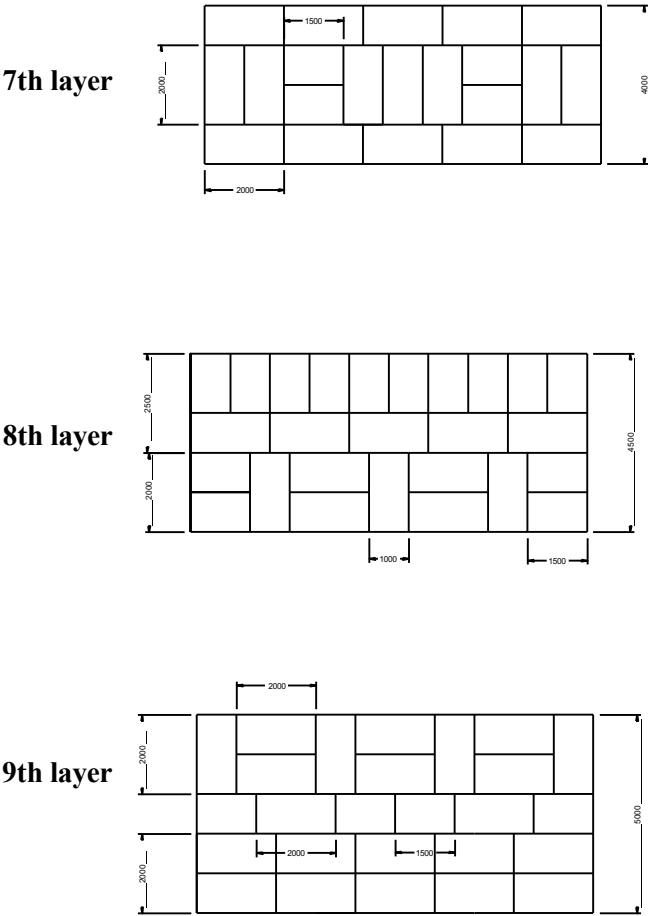
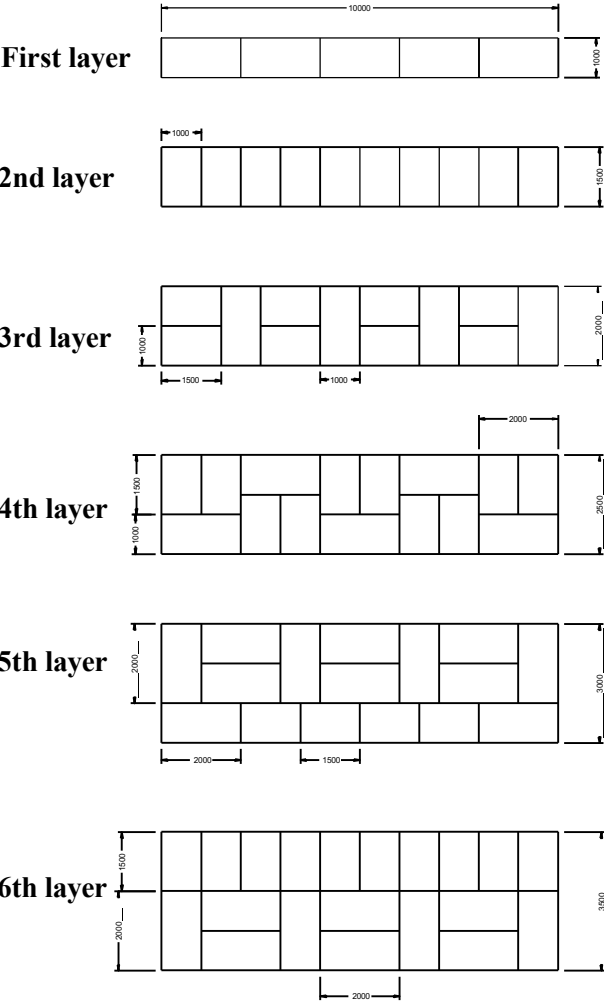


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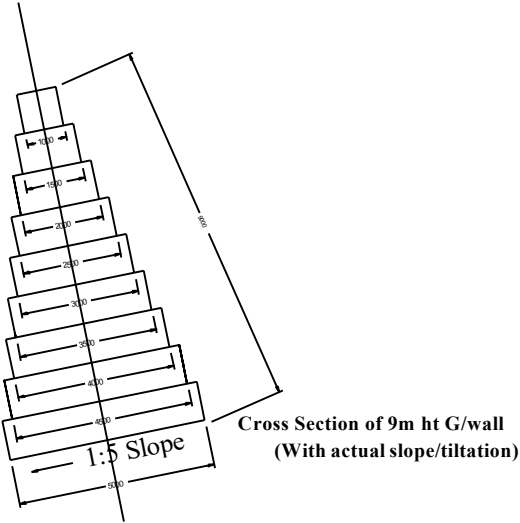


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Checked		Date :	April -2026	All dimensions are in mm
Approved		Page :		Scale : NTS

GABION WALL DRAWING



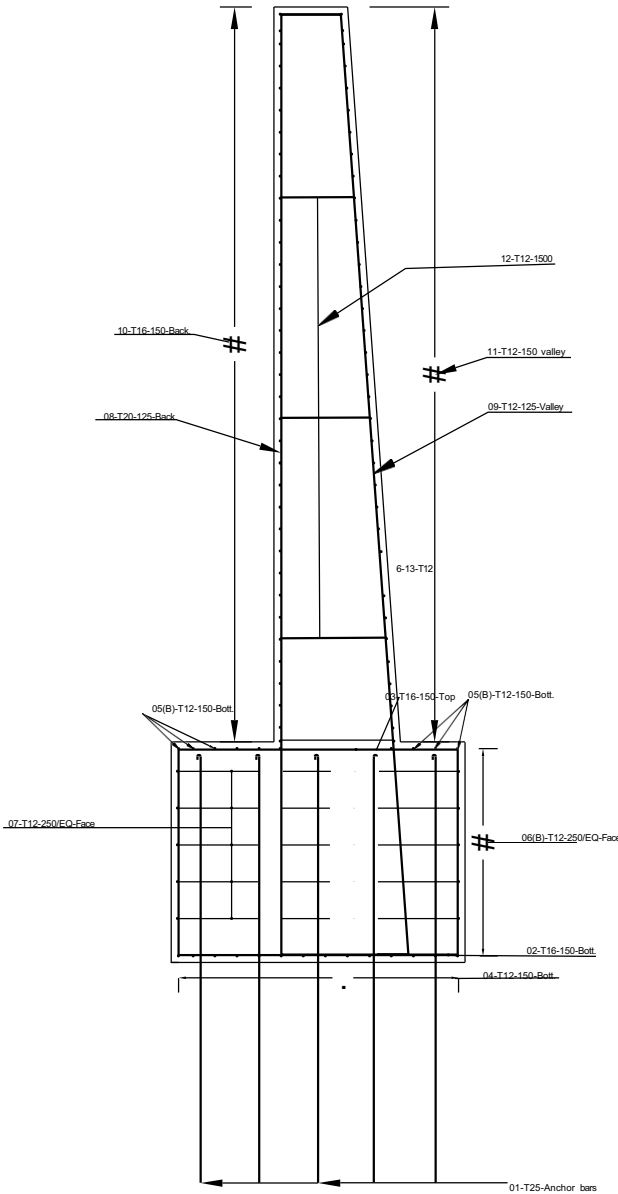
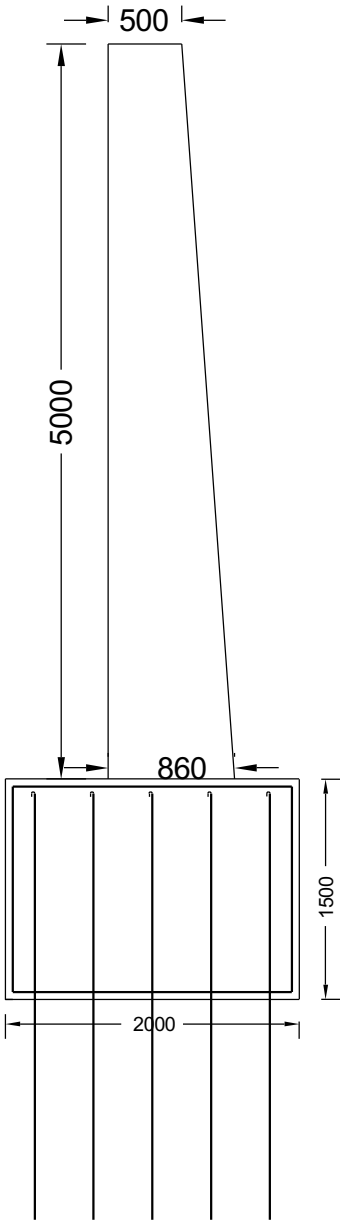
PLAN



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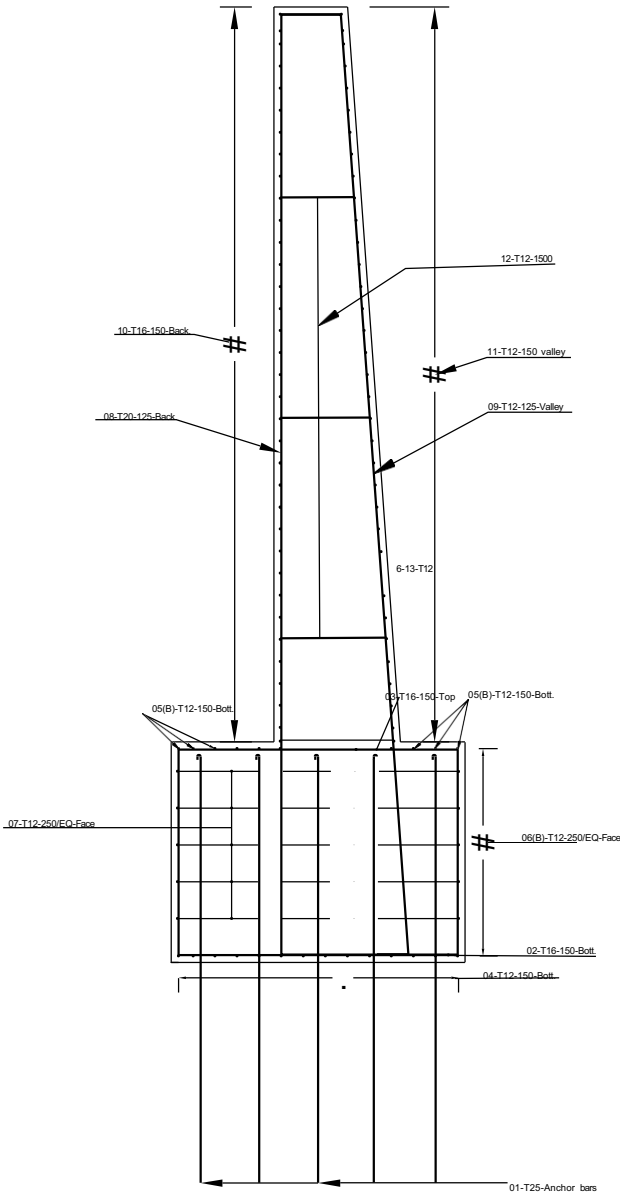
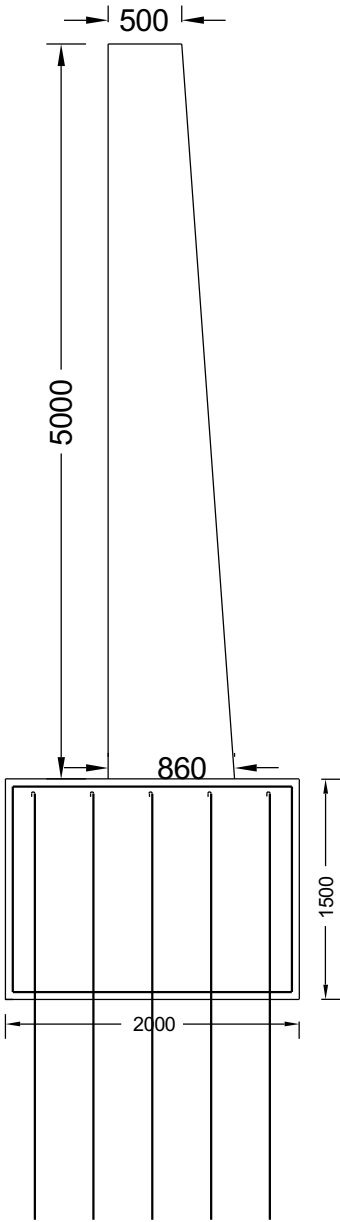
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Drawn by:	Rinchen,Engg.	Drawing No :	G/wall	Revision :
Checked		Date :	April -2026	All dimension are in mm
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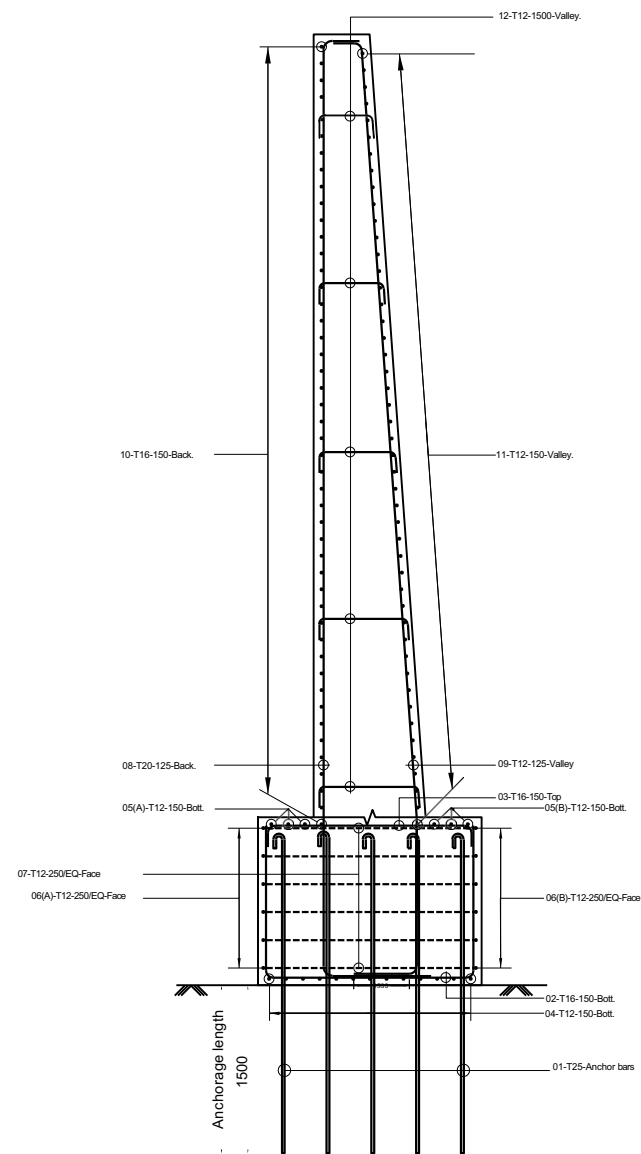
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Checked		Date :	April -2026	All dimensions are in mm
Approved		Page :		Scale : NTS



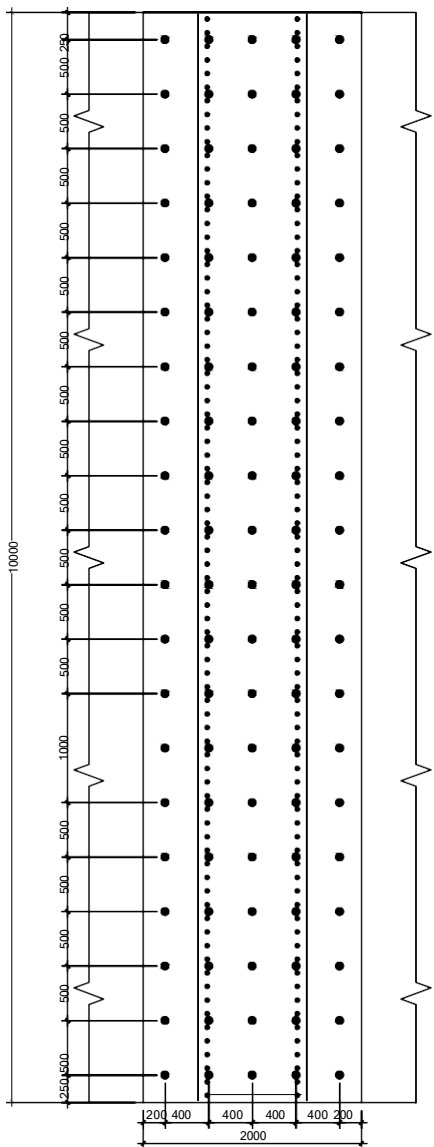
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Department of Surface Transport
Regional Office Lobesa



Nobding Sub-Divison		Title : RCC Retaining wall 95.7km-5m ht		
Drawn by:	Rinchen,Engg.	Drawing No :	RCC RT wall 5mht -02	Revision :
Checked		Date :	April -2026	All dimensions are in mm
Approved		Page :		Scale : NTS



Reinforcement Details



Plan of rock anchorage

NOTES

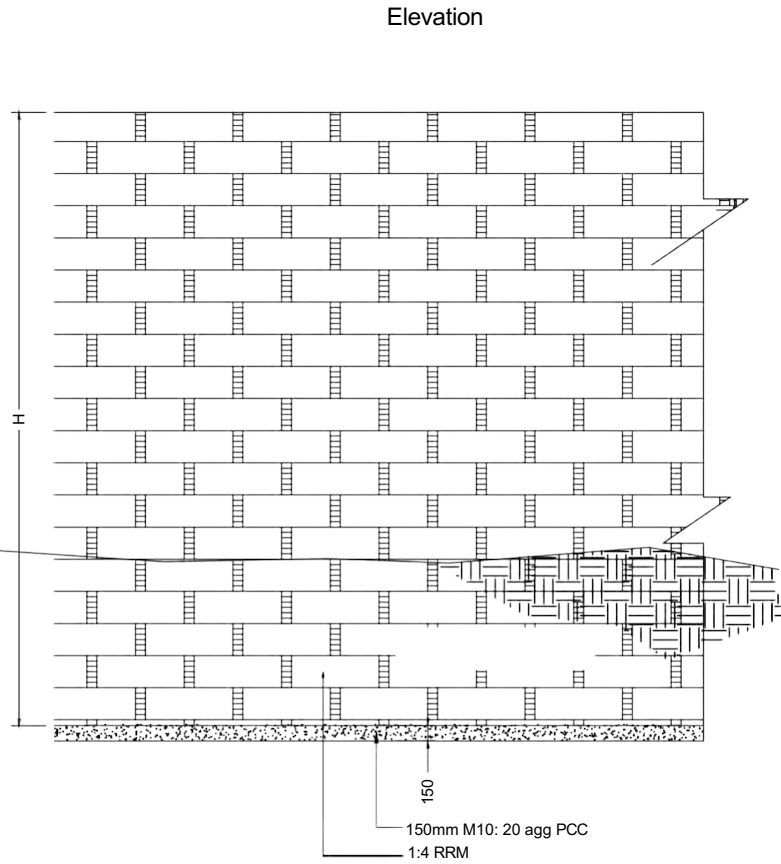
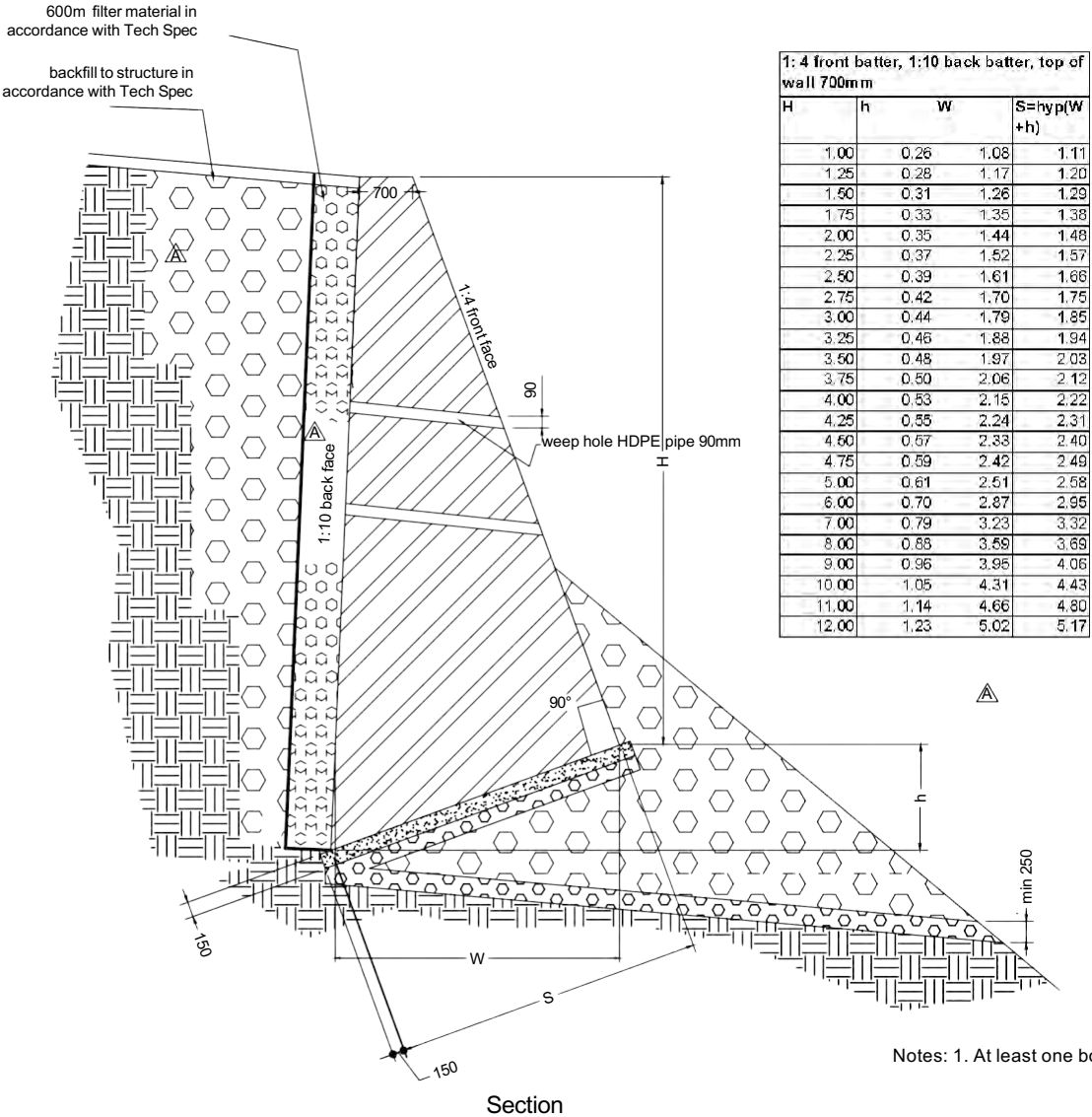
- 1. The minimum bore hole should be 32mm in diameter.
- 2. The reinforcement used for anchoring in 25mm diameter of fe 500 yield strength.
- 3. The minimum length of the anchorage is 1.5m below the natural rock surface.
- 4. The length of one panel of wall is 10m.



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Nobding Sub-Divison		Title : RCC Retaining wall 86km		
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Checked		Date :	April -2026	All dimension are in mm
Approved		Page :		Scale : NTS



RANDOM RUBBLE MASONRY WALL
RETAINING WALL

Notes: 1. At least one bond stone or a set of bond stones to be provided for every 0.50 m2 of the wall surface.



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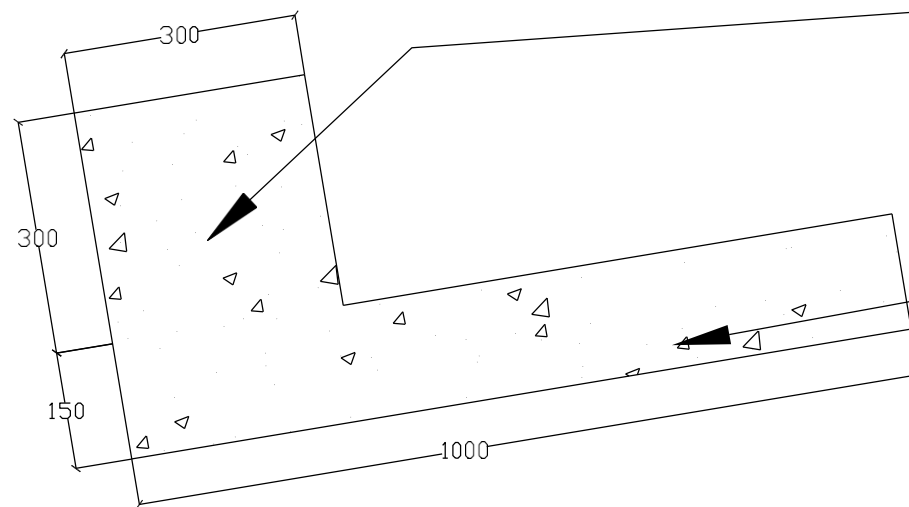


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Checked		Date :	April -2026	All dimension are in mm
Approved		Page :		Scale : NTS

Note:

The finished concrete surface shall be trowel and achieved smooth surface with using edger tool

Plum concrete M15(concrete 60% & Boulder 40% as per TS)



PCC M15 150mm thick
(20mm & 10mm aggregate mixed)



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Nobding Sub-Divison

Title : Typical drawing for V-drain

Drawn by:	Rinchen,Engg.	Drawing No :	V/drain -01	Revision :
Checked		Date :	April -2026	All dimensions are in mm
Approved		Page :		Scale : NTS

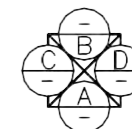
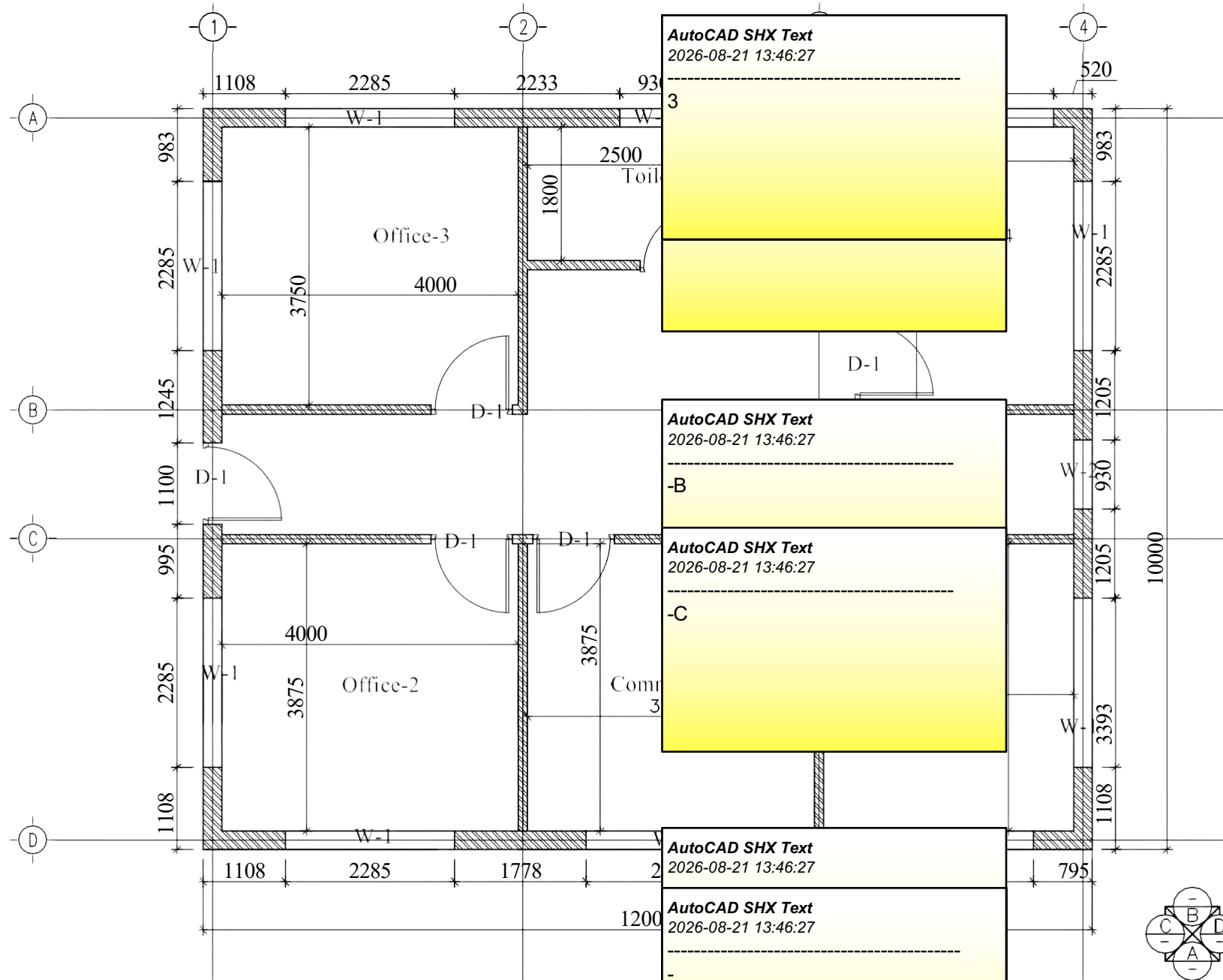
Construction, Operation and Maintenance of
Project Office

	Ministry of Infrastructure and Transport Department of Surface Transport Regional Office Lobesa		Nobding Sub-Divison		Title : Contarcter office for PBMC		
			Drawn by:	Rinchen,Engg.	Drawing No :		Revision :
			Checked		Date :	March -2026	
			Approved		Page :		Scale : NTS

General Note

- 1) Jungle clearing
- 2) Foundation Soil: All type of soil
- 3) Access road:width 4metre,length 100metre approximate
All type of soil & GSB laying complete
- 4) Stone works: RRM 1:4 cement mortar
- 5) Concrete works
RCC 1:1.5:3 -Plinth Beam as per the drawing
- 6) Wall works
External wall full red bricks 2nd class -Plaster 15mm thick with 1:4 cement mortar
Partition wall half red bricks 2nd class-1:4 cement mortar -plaster 12mm thick with 1:4 cement mortar
- 7) Doors and Window -as per the drawings
Door-RCC lintel cornices 1:1.5:3 with dressed wooden frame(Blue Pine) and accessories -completed
Window-RCC lintel cornices 1:1.5:3 with dressed wooden frames (Blue Pine)-completed
Window -glass-4mm thick with accessories and clamps.
- 8) Wood works
Undressed rafter & purlin, dressed Eave Board(225x25)mm (Blue pine) as per the drawings
- 9) Plinth protection as per drawing
- 10) Flooring
Room flooring -75mm thick pcc 1:2:4 with neat floor finish with cement slurry
Toilet tile -floor (300x300)mm,wall tiles (450x300)mm-8mm thick verified
- 11) Cornices
Elevation A , C & D with RCC Phana cornices.
- 12) Roofing
PPGL sheet -25g(.50mm) with accessories completed
Ceiling-8mm thick plywood
- 13) Plumbing
Soil Pipe-PVC 110mm
waste Pipe-PVC 75mm
European-type vitreous china w.c pedestai-2 nos
Water supply -CPVC 20mm internal. External supply HDPE 25mm dia pipe
White vitreous china angle back wash basin 400x400mm including brackets, 15mm c.p brass pillar taps, c.p brass chain & rubber plug, 32mm c.p brass waste, 32mm dia c.p brass trap and G.I union and repair walls -1 no.
Brass Bibcock 15mm - 2 nos
- 14) Electrical
Service Cable till meter box Fluorescent Tubular Lamp-8 nos, LED Bulb(12W-15w)-12nos
Meter box (BPC)
Earthing with accessories complete-1 no
MCB Box-1 no
MCB(6amp & 16amp) as per the requirement
Socket 16amp.-8 nos
Switch Box with switches as per requirement
Electric wiring completed (4sq.m,2.5sq.m & 0.75sq.m)
- 15) Painting
Acrylic washable Distemper white -three coats for both internal and external wall.
Window & Door with painting -Enamel painting three coats with wood primer

	Ministry of Infrastrure and Transport Department of Surface Transport Regional Office Lobesa		Nobding Sub-Divison	Title : Contarcter office for PBMC(General Note)			
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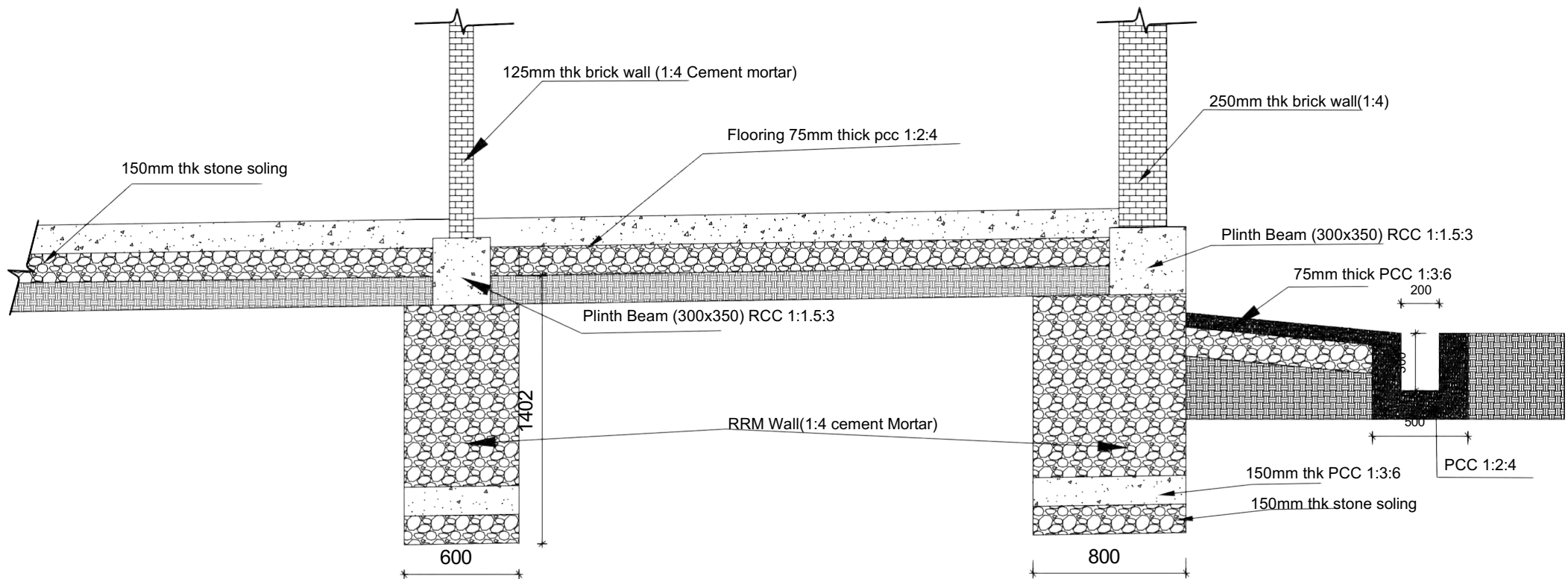
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Department of Surface Transport
Regional Office Lobesa



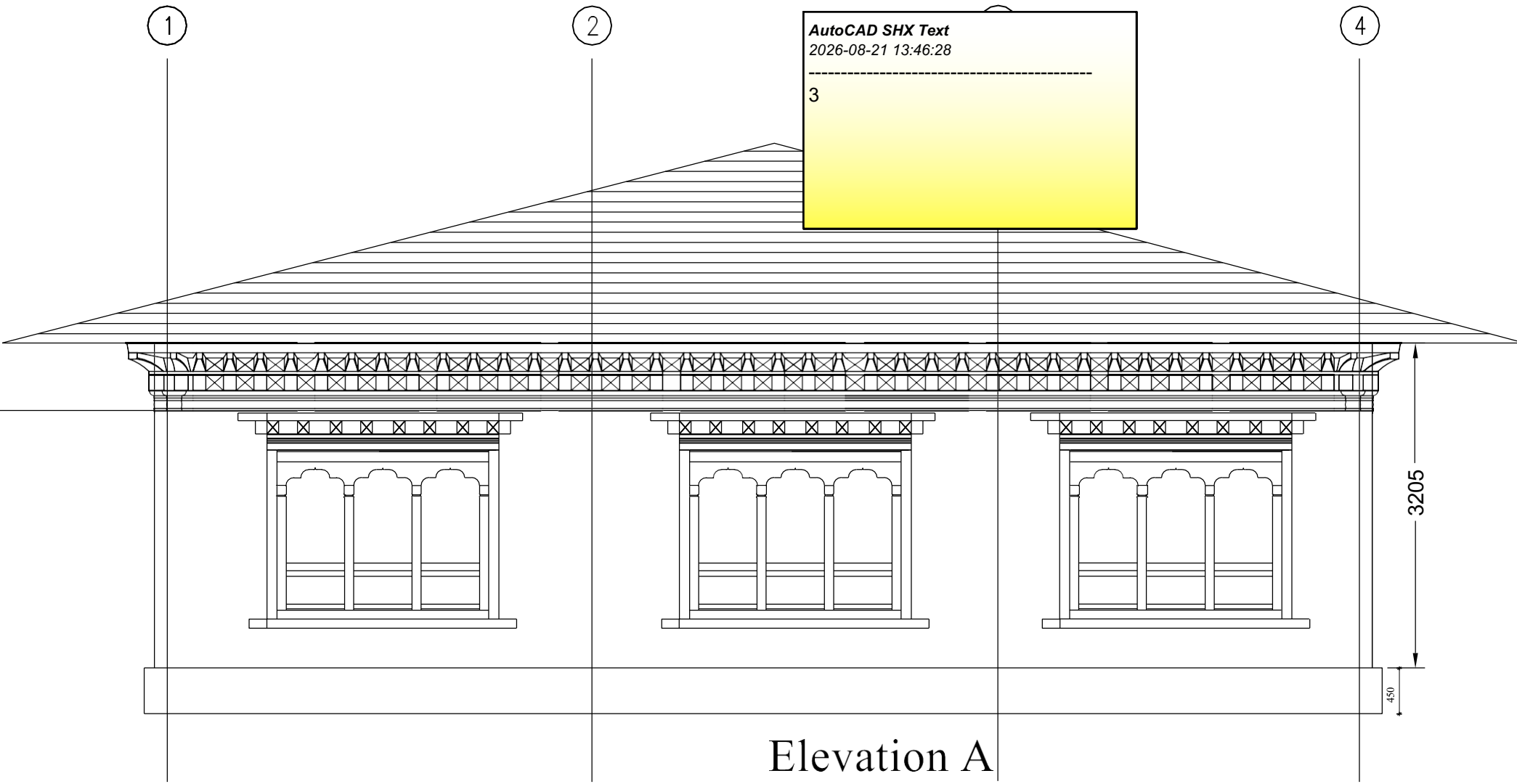
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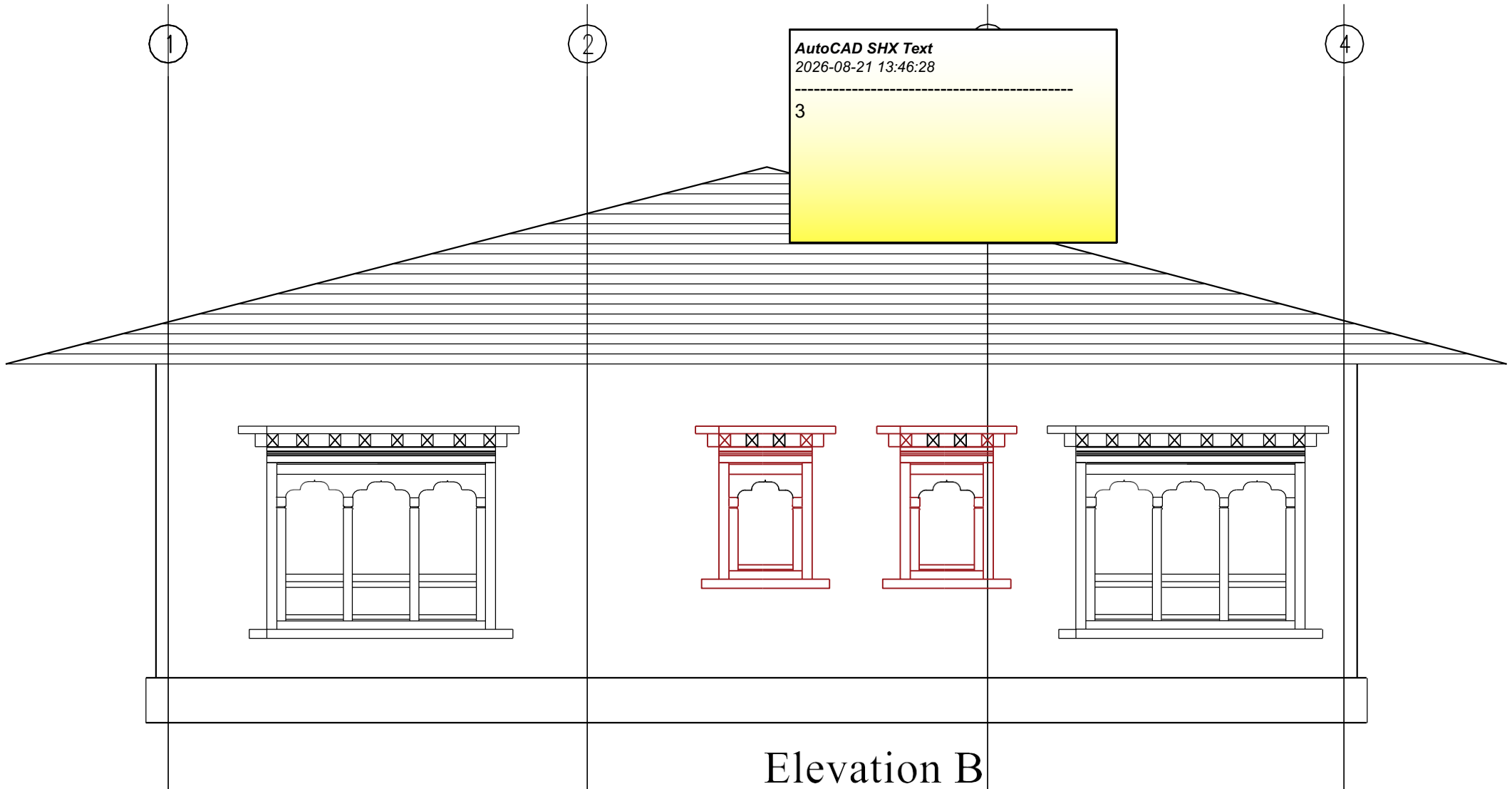
Elevation A



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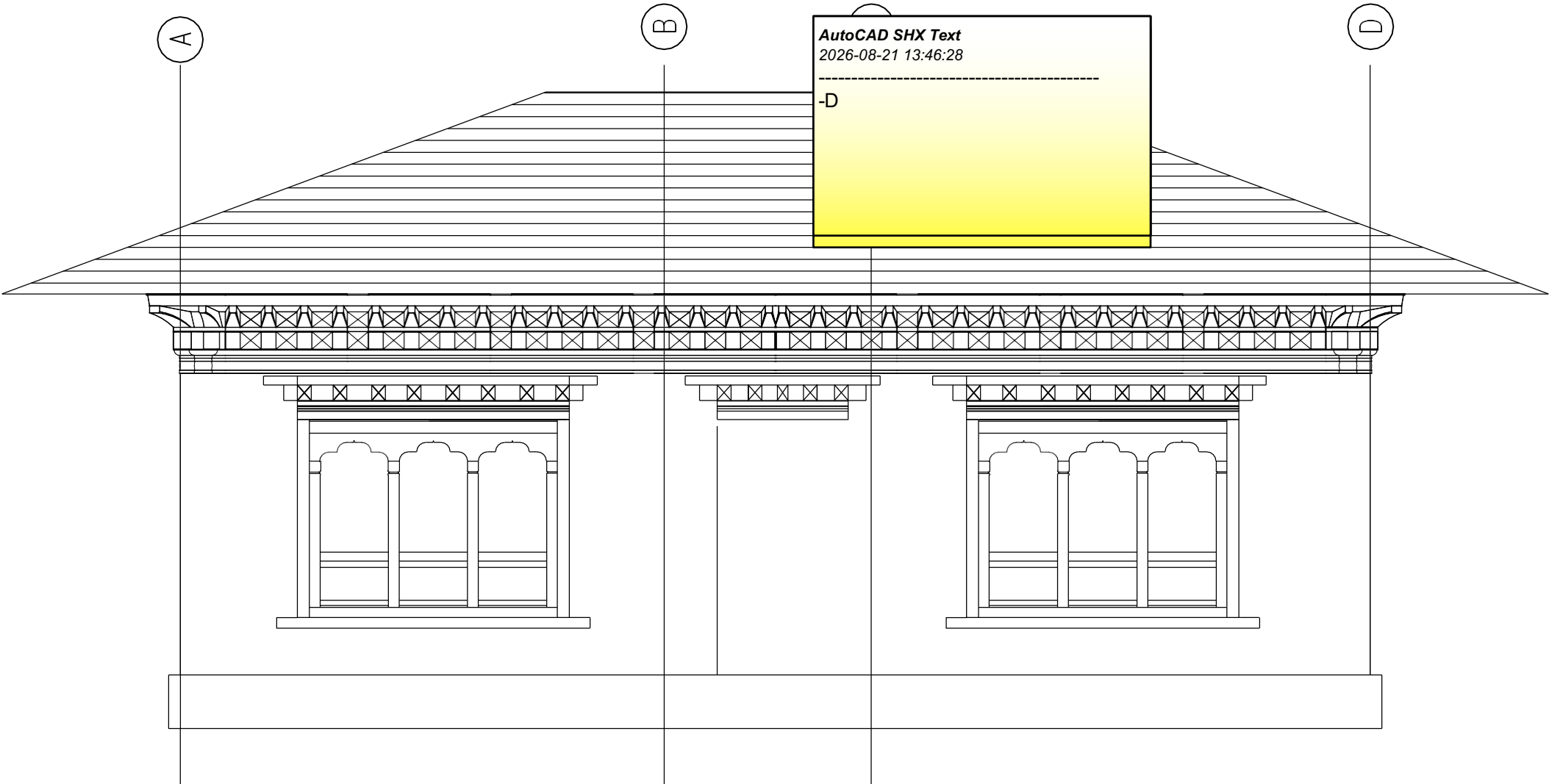
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Nobding Sub-Divison		Title : Contarcter office for PBMC (Elevation B)		
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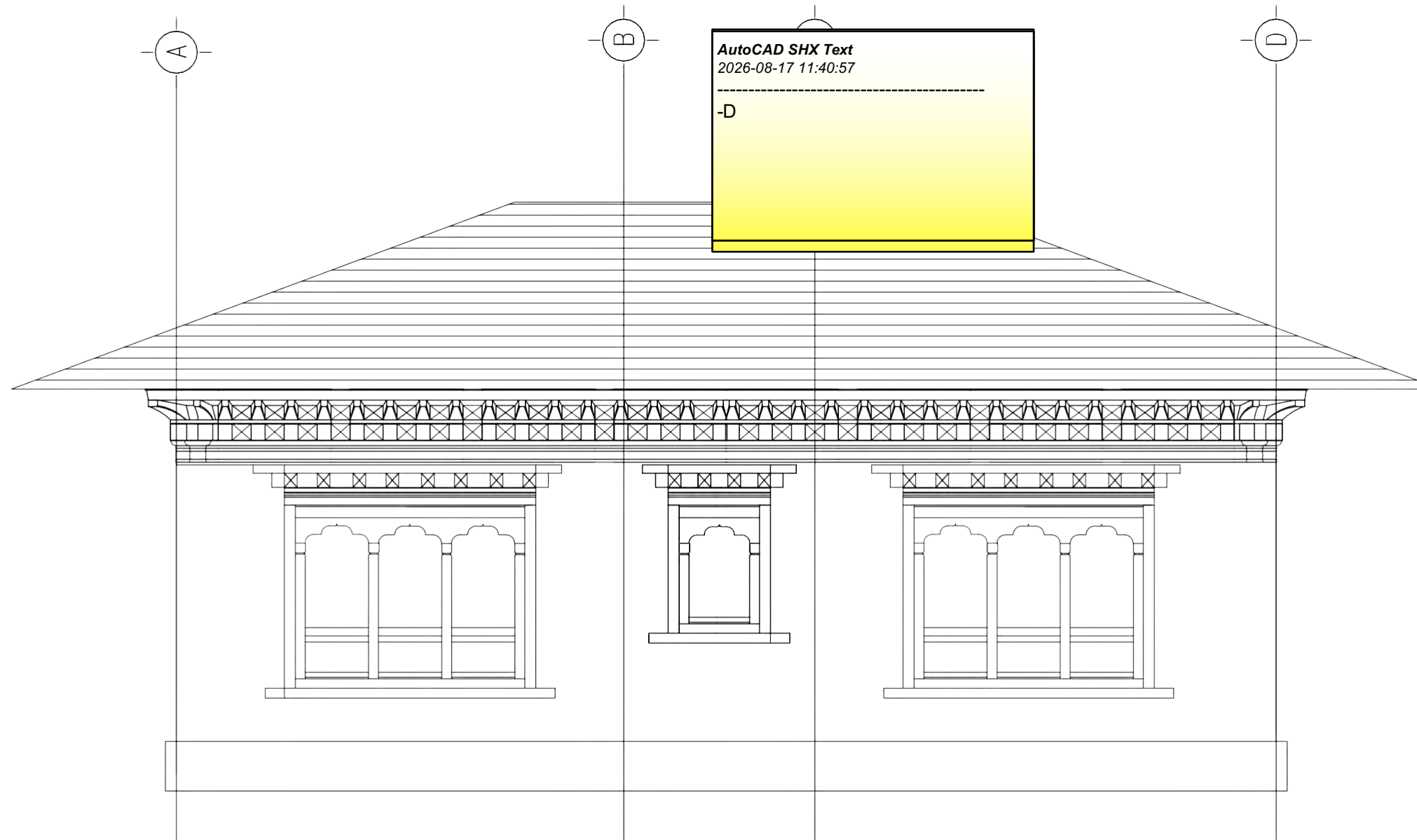
Elevation C



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-D

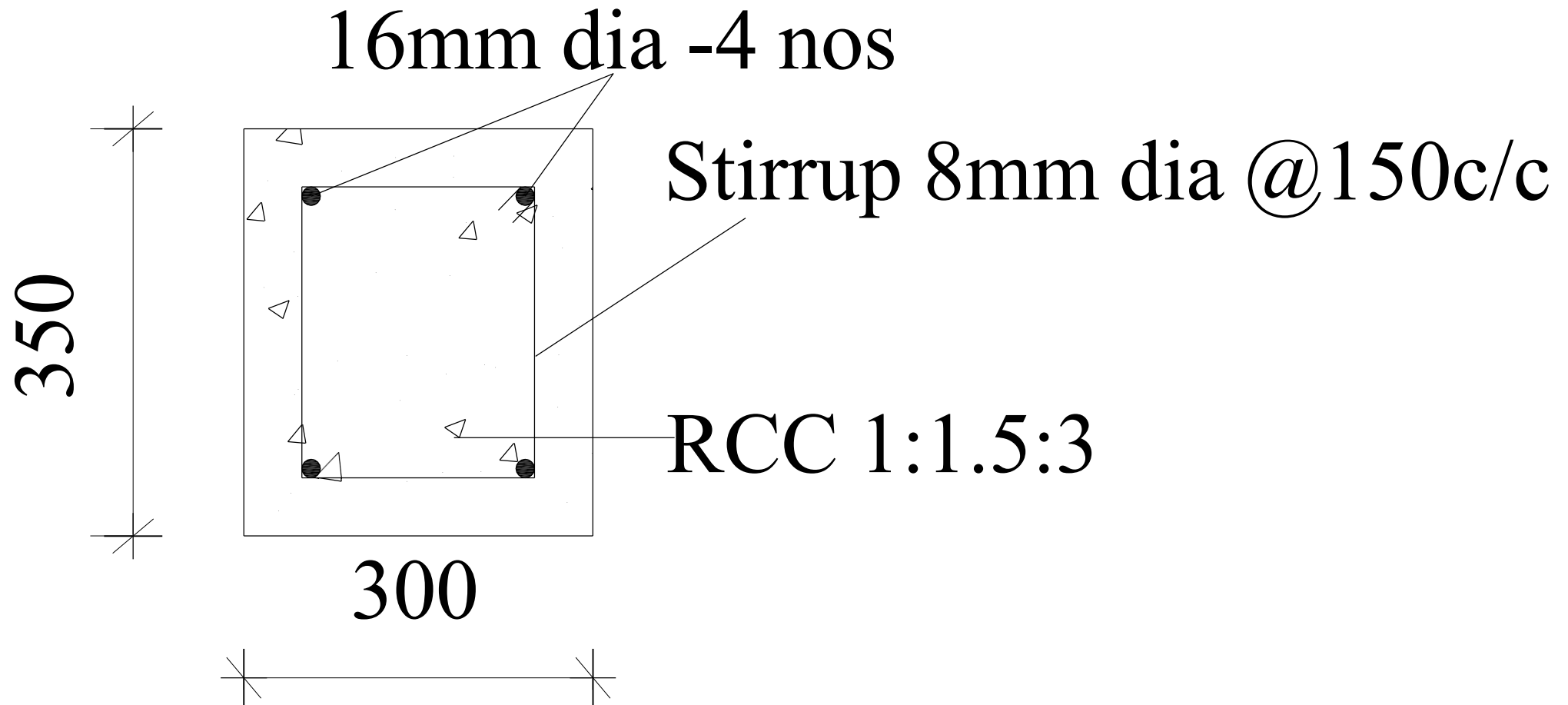
Elevation D



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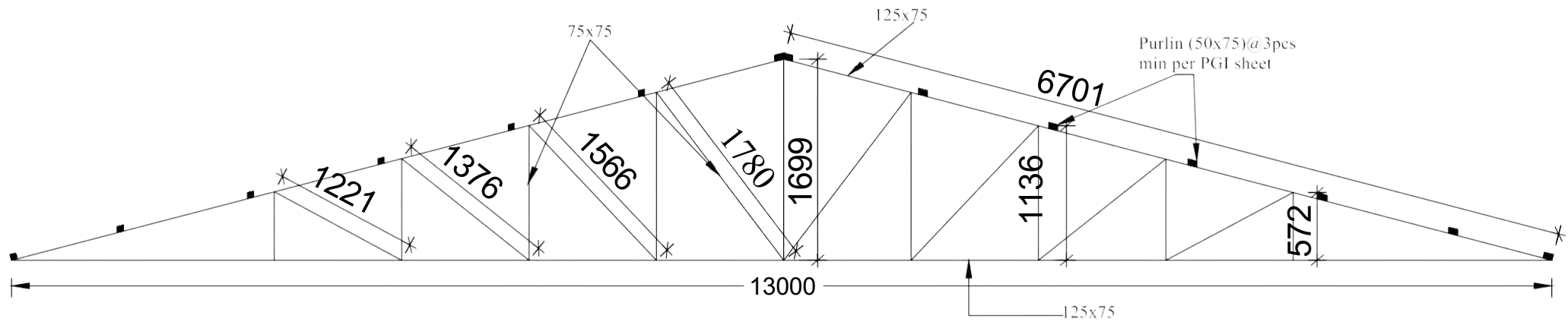
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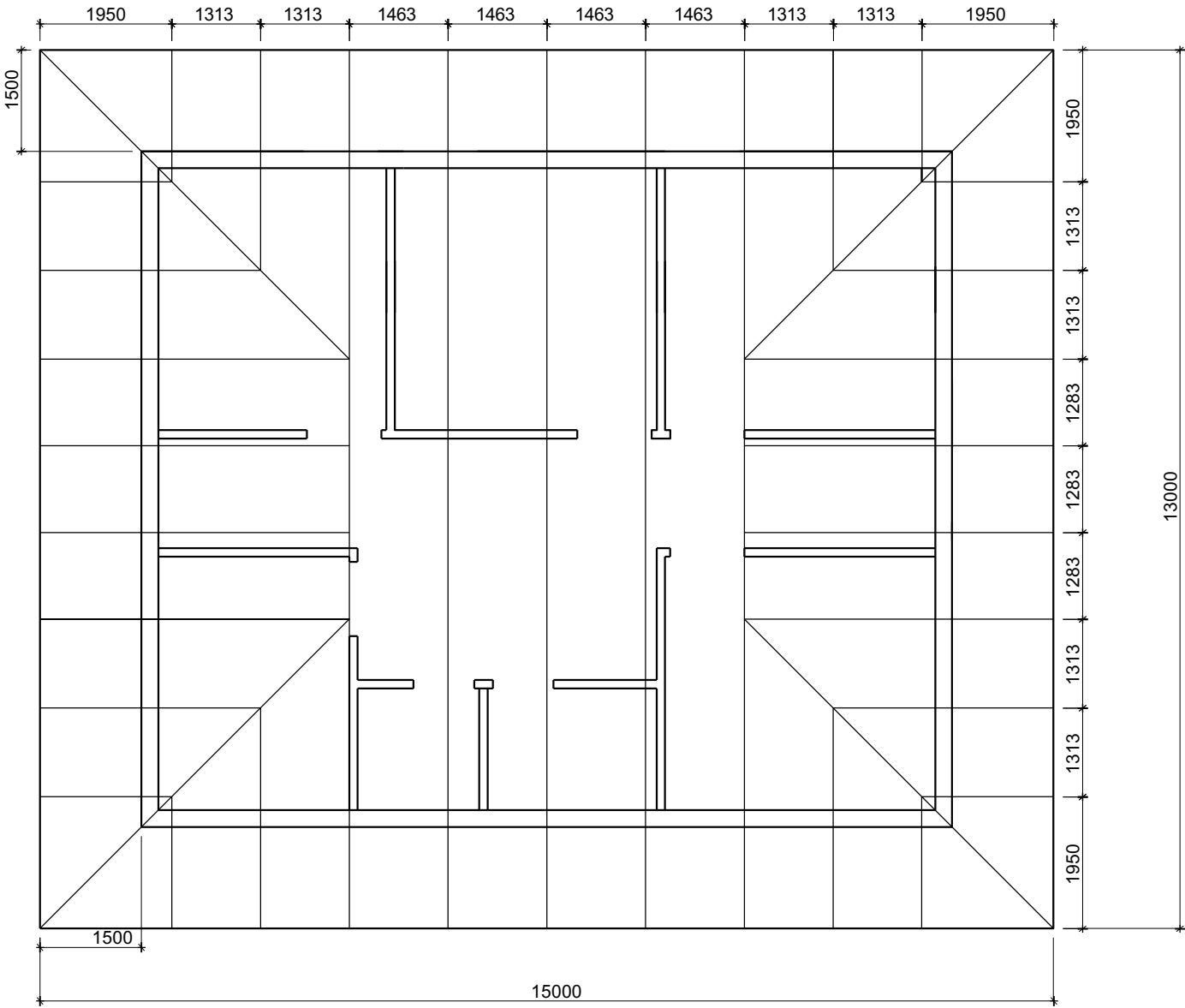
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Nobding Sub-Divison		Title : Contarcter office for PBMC (Plinth beam details)		
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Approved		Page :		Scale : NTS



Nobding Sub-Divison		Title : Contarcter office for PBMC (Truss Details)		
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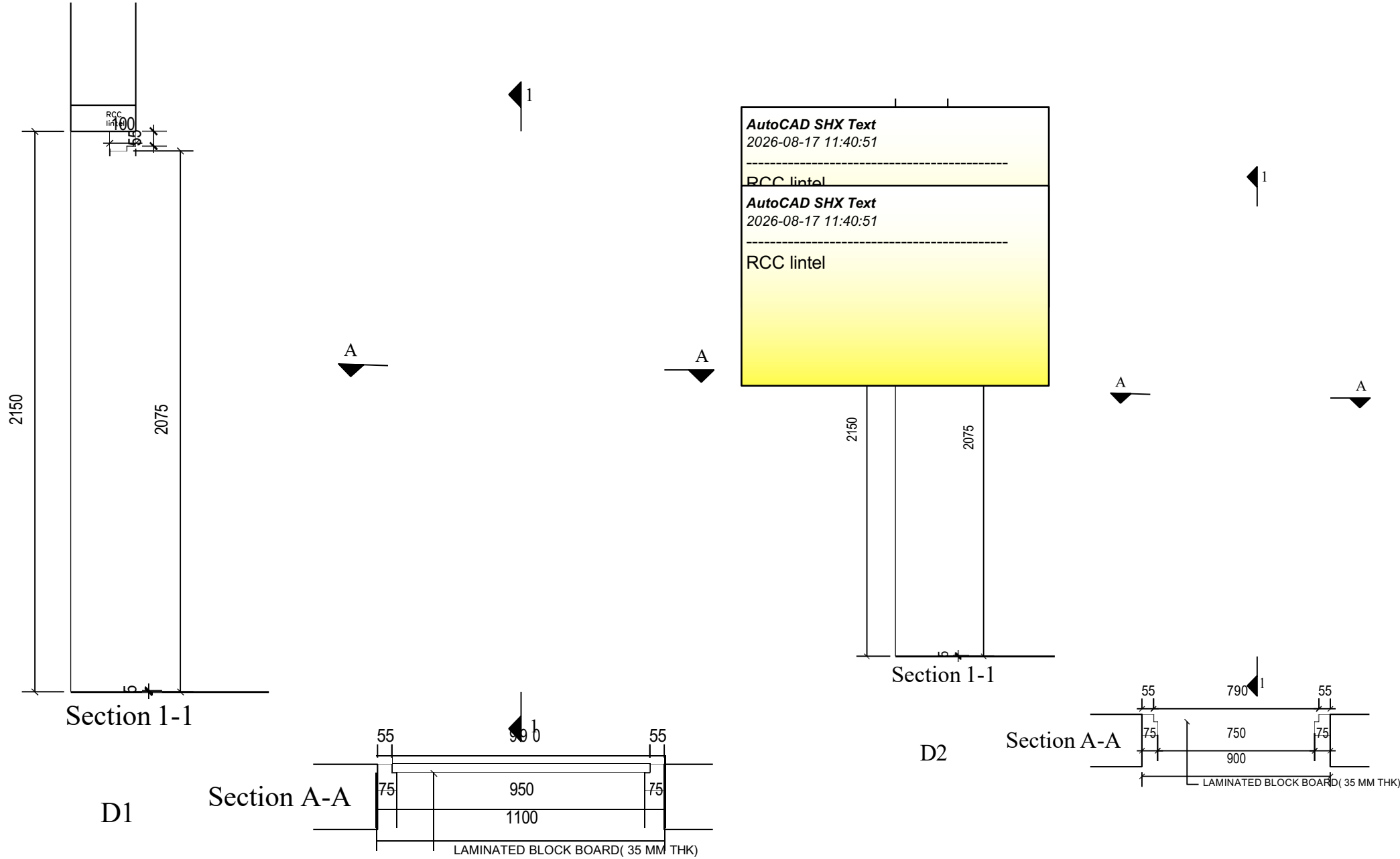
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Department of Surface Transport
Regional Office Lobesa

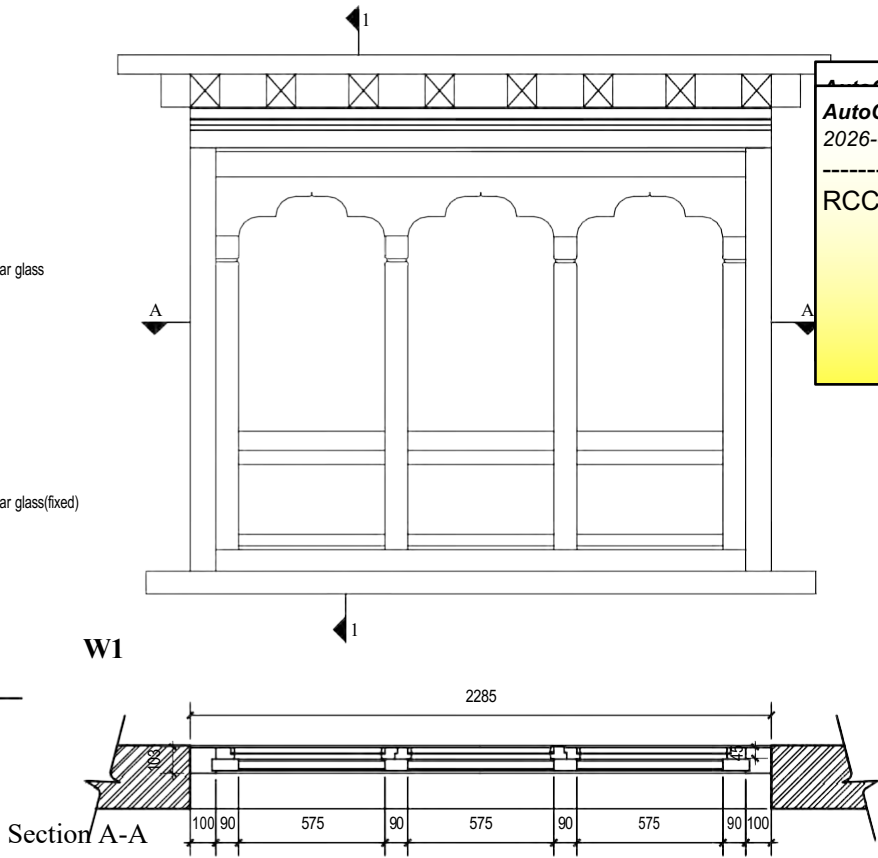
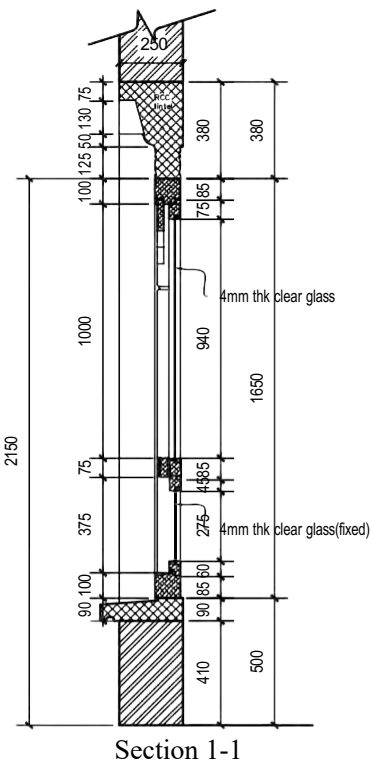


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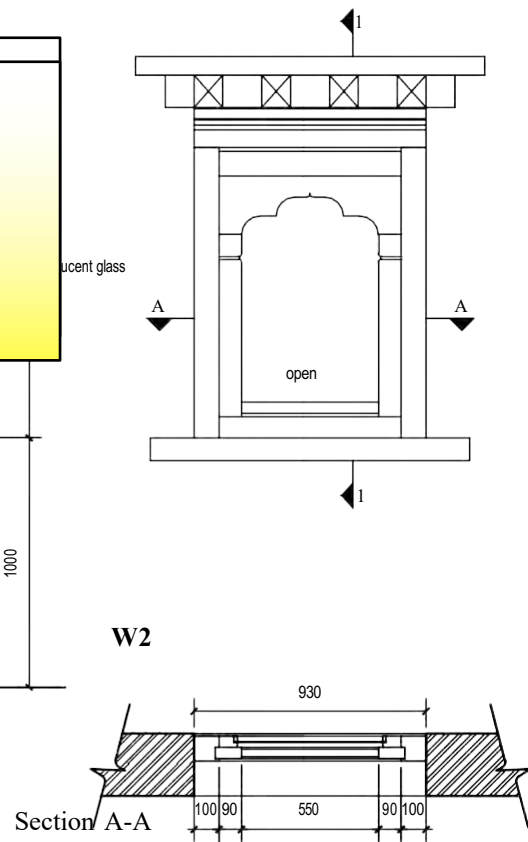
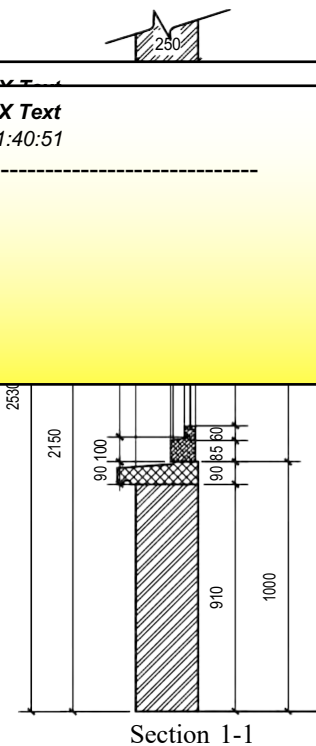
Lot - 1: Drawing

Annex-2





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RCC lintel



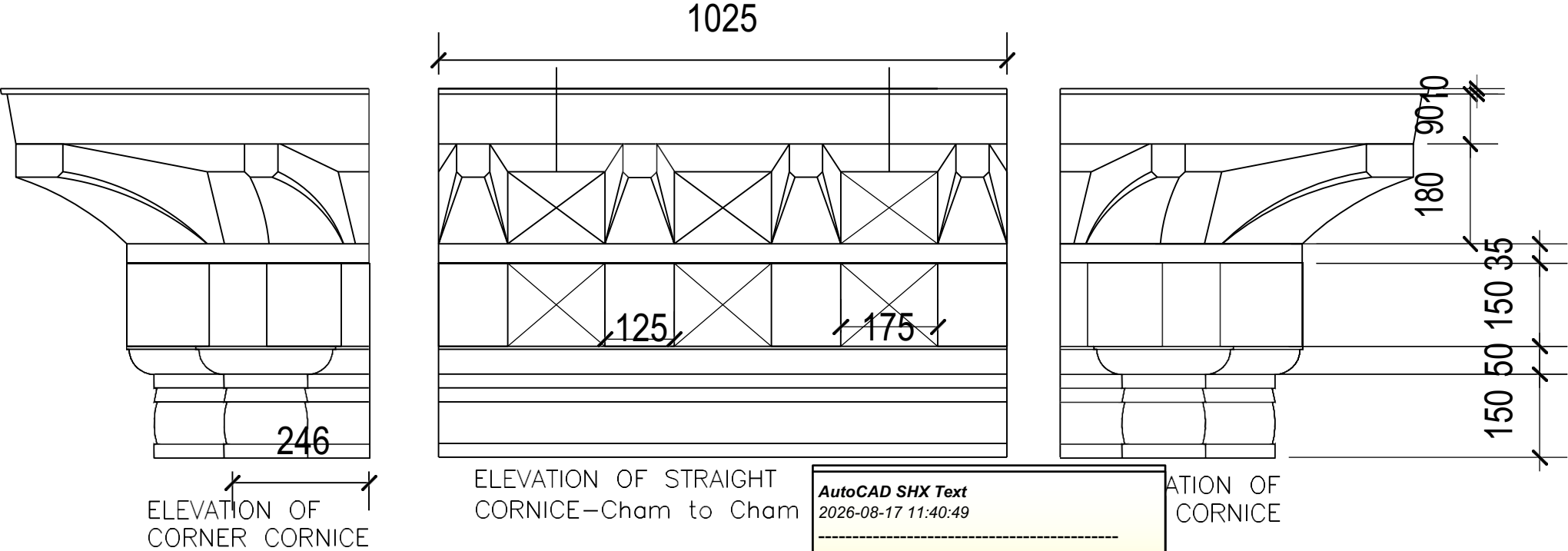
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Nobding Sub-Divison

Title : Contarcter office for PBMC (Window details)

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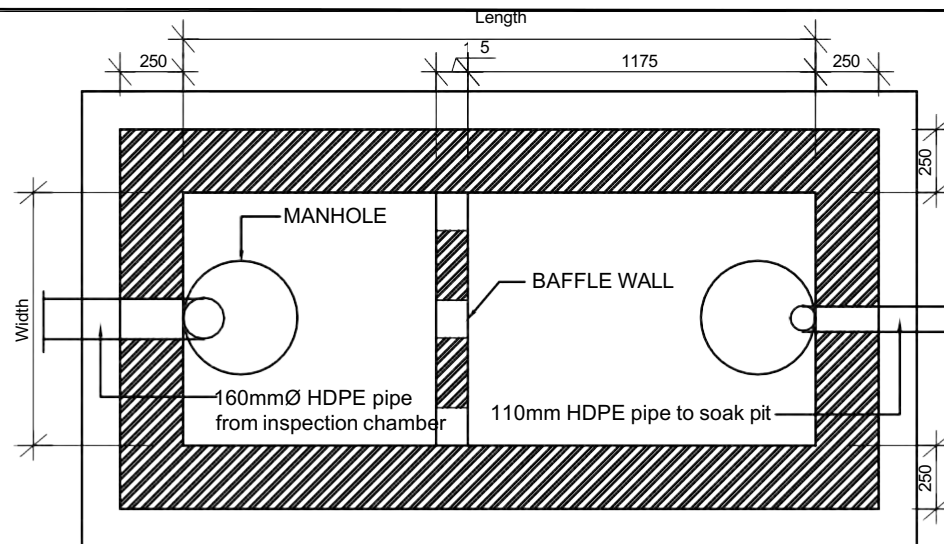
ELEVATION OF CORNER CORNICE



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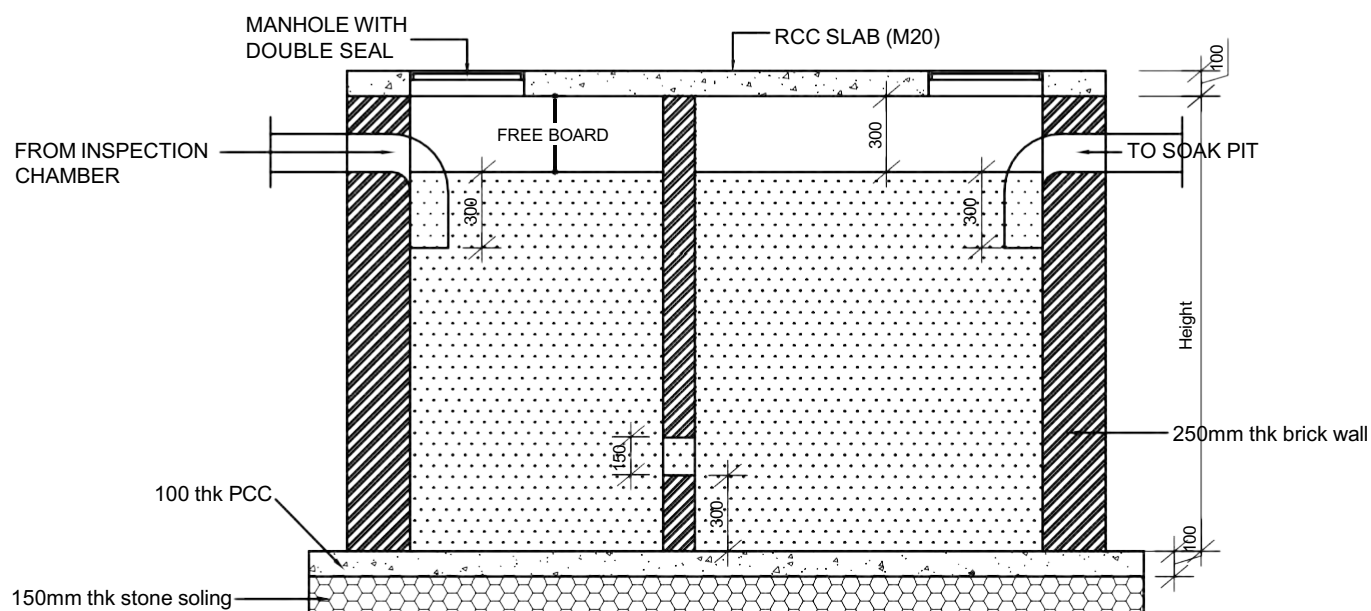
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Drawn by:	Rinchen,Engg.	Drawing No :	AR-12	Revision :
Checked		Date :	March -2026	
Approved		Page :		Scale : NTS



No. of User	Length(m)	Width(m)	Height(m)
5	1.5	0.75	1.0
10	2.0	0.9	1.0
15	2.0	0.9	1.3
20	2.3	1.10	1.3
50	4.0	1.40	1.3
150	7.5	2.4	1.4

Note:-
Construction of septic tank will depend on No. of users.

SEPTIC TANK : PLAN



SEPTIC TANK : SECTION



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Nobding Sub-Divison		Title : Contarcter office for PBMC (Sceptic tank)		
Drawn by:	Rinchen, Engg.	Drawing No :	AR-08	Revision :
Checked		Date :	March -2026	
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General Note for NWF camp repairing

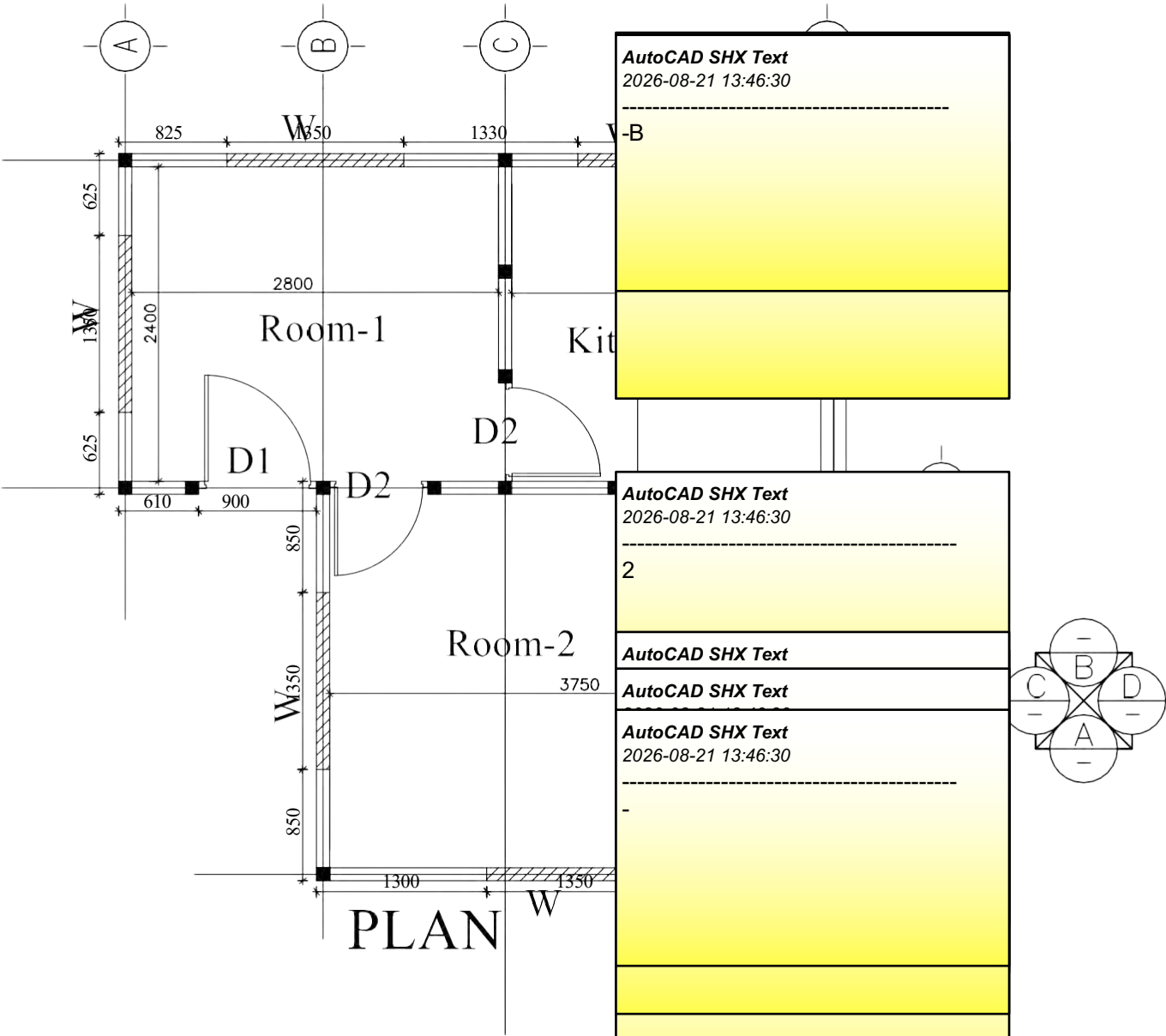
- 1) Stone works Repairing : RRM 1:4 cement mortar
- 2) Ekra Wall Repairing cement mortar 1:4
- 3) Doors and Window repairing as per the existing structure & dimension with mixed conifer wood
- 4) Window -glass-4mm thick with accessories and clamps.
- 5) Wood works repairing
Undressed rafter & purlin, dressed Eave Board(225x25)mm (mixed conifers wood) as per the existing structure
- 6) Plinth protection repairing as per existing dimension and cement mortar 1:3:6 and cement mortar 1:4 & drain repairing.
- 7) Flooring repairing
Room flooring repairing/replacement -37.5mm thick mixed conifers plank.
- 8) Roof repairing
CGI sheet -25g(.50mm) with accessories completed
Ceiling-8mm thick plywood with beats complete
- 9) Plumbing & toilet repairing /replacement
Soil Pipe-PVC 110mm
waste Pipe-PVC 75mm
Indian -type WC replacement
Water supply -CPVC 20mm internal. External supply HDPE 25mm dia pipe
White vitreous china angle back wash basin 400x400mm including brackets, 15mm c.p brass pillar taps, c.p brass chain & rubber plug, 32mm c.p brass waste, 32mm dia c.p brass trap and G.I union and repair walls -1 no.
Brass Bibcock 15mm - 1 nos
Repairing of toilet structure complete(outside toilet)
- 10) Electrical repairing/replacement
Fluorescent Tubular Lamp-3 nos, LED Bulb(12W-15w)-4nos
Earthing with accessories repairing complete-1 no
MCB Box-1 no
MCB(6amp & 16amp) replacement as per the requirement
Socket 16amp.-4 nos
Switch Box with switches as per requirement
Electric wiring completed (4sq.m,2.5sq.m & 0.75sq.m)
- 11) Painting repairing
Acrylic washable Distemper white -one coats for both internal and external wall.
Window & Door with painting -Enamel painting one coats with wood primer
CGI sheet painting with primer and acrylic bus green -one coat each.



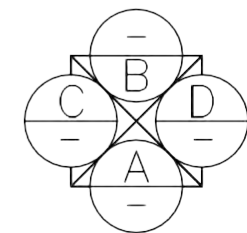
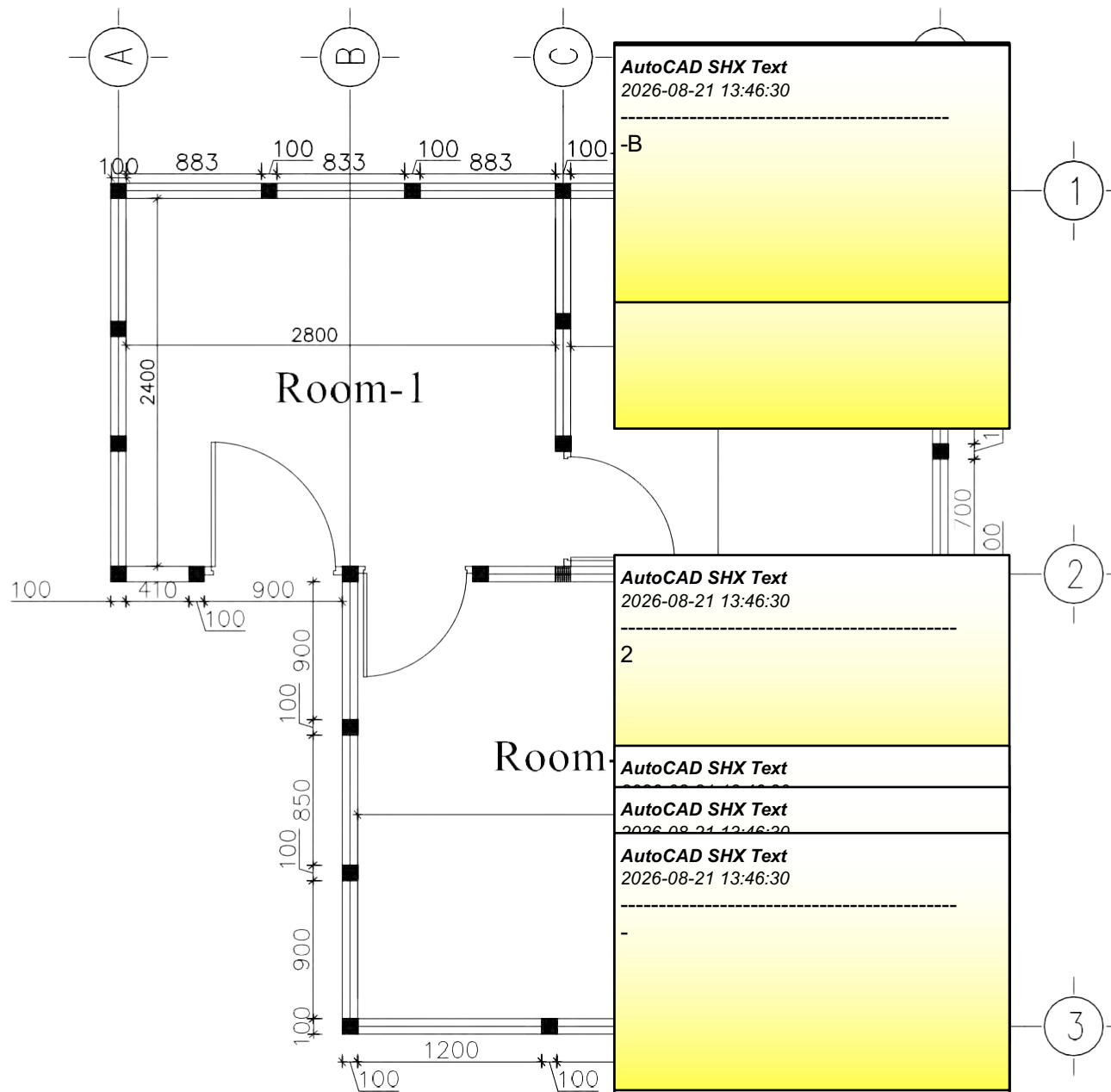
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Nobding Sub-Divison		Title : General note for NWF camp repairing		
Drawn by:	Rinchen,Engg.	Drawing No :	AR-09	Revision :
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Repair and Maintenance of Existing NWF Dwelling



Nobding Sub-Division

Drawn by:

Checked

Approved

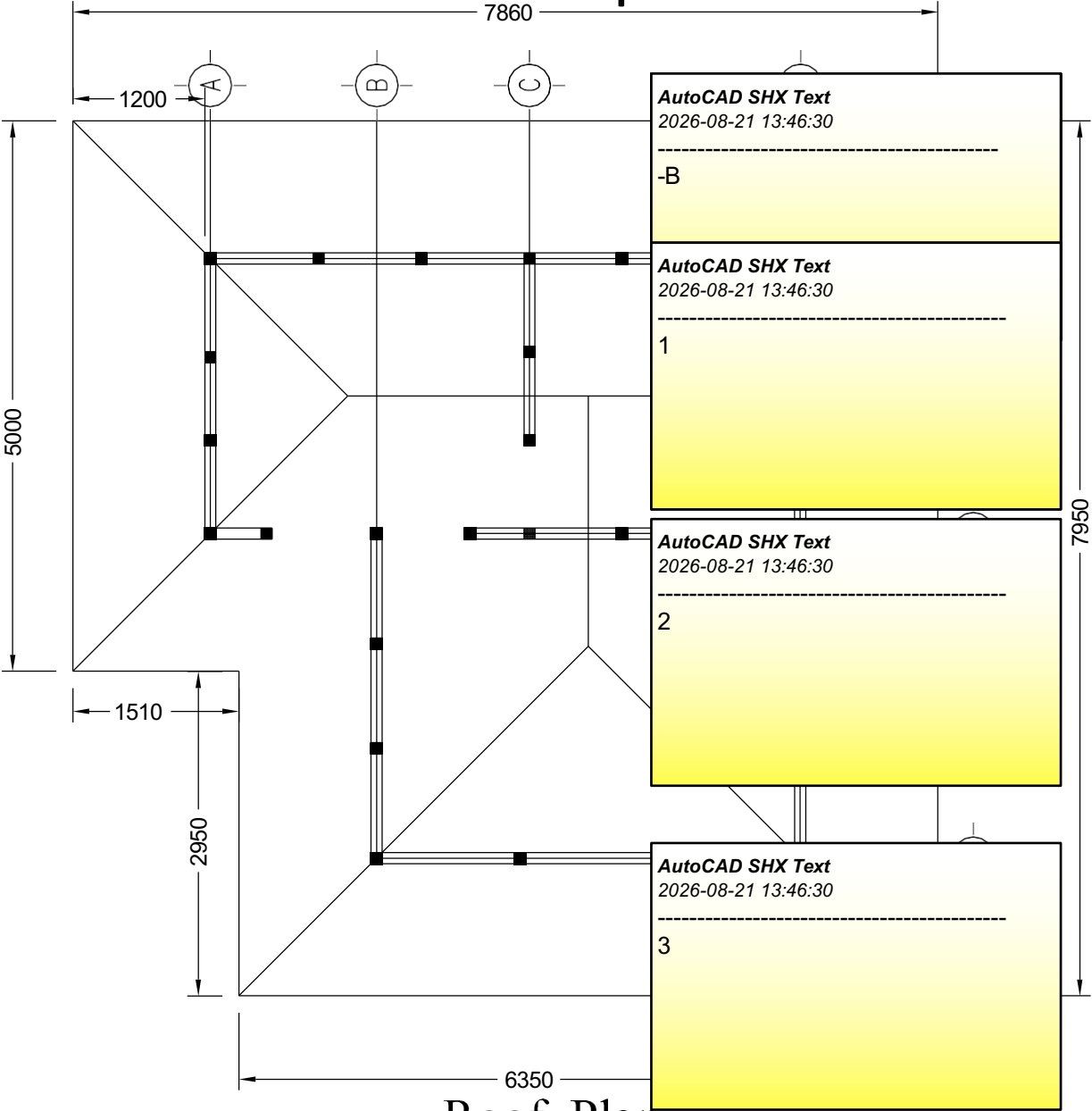
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Revision :

Scale : NTS

Repair and Maintenance of Existing NWF Dwelling



Roof Plan

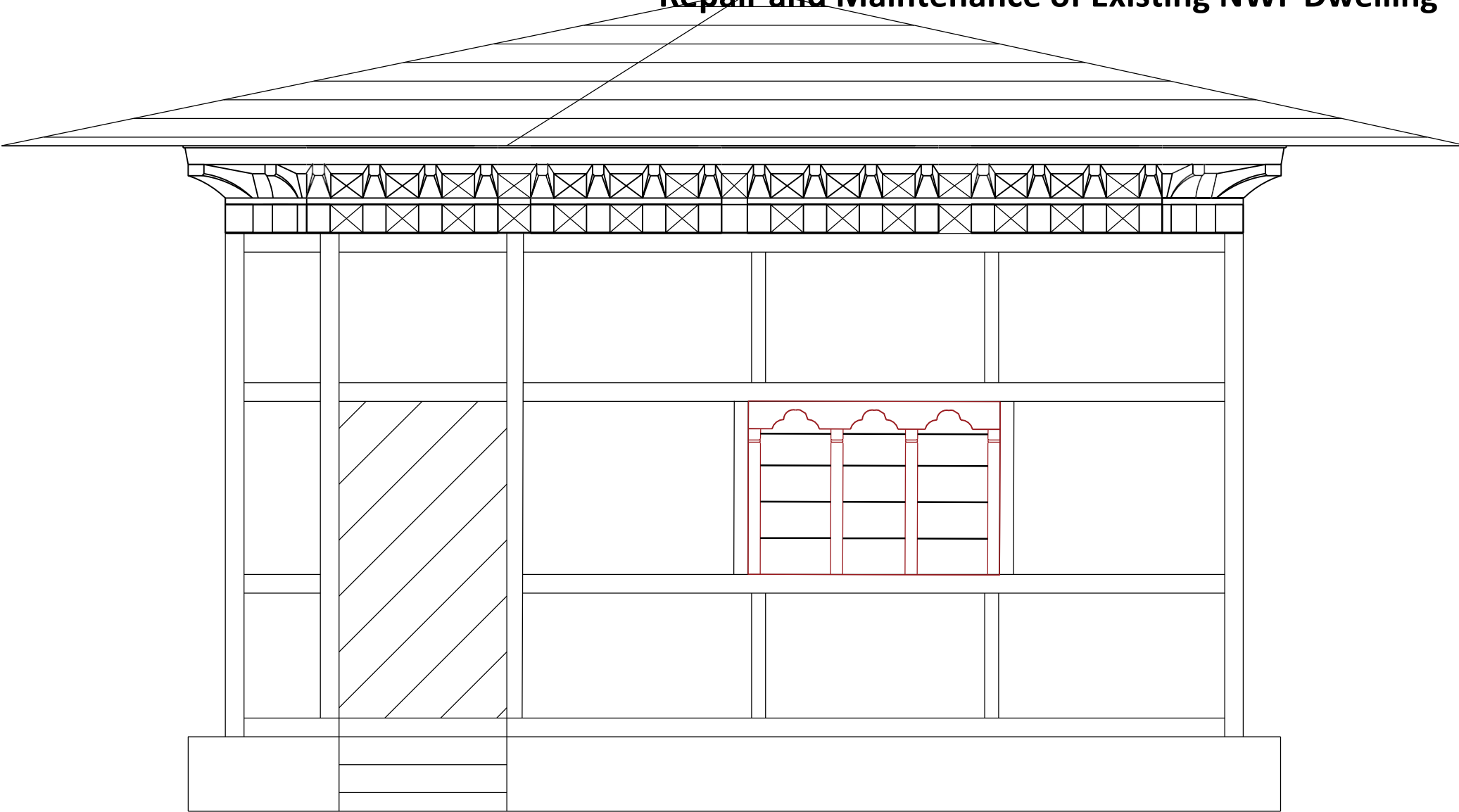


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Nobding Sub-Division		Title : Existing NWF camp Plan		
Drawn by:	Rinchen,Engg.	Drawing No :	AR-02	Revision :
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Approved		Page :		Scale : NTS

Repair and Maintenance of Existing NWF Dwelling



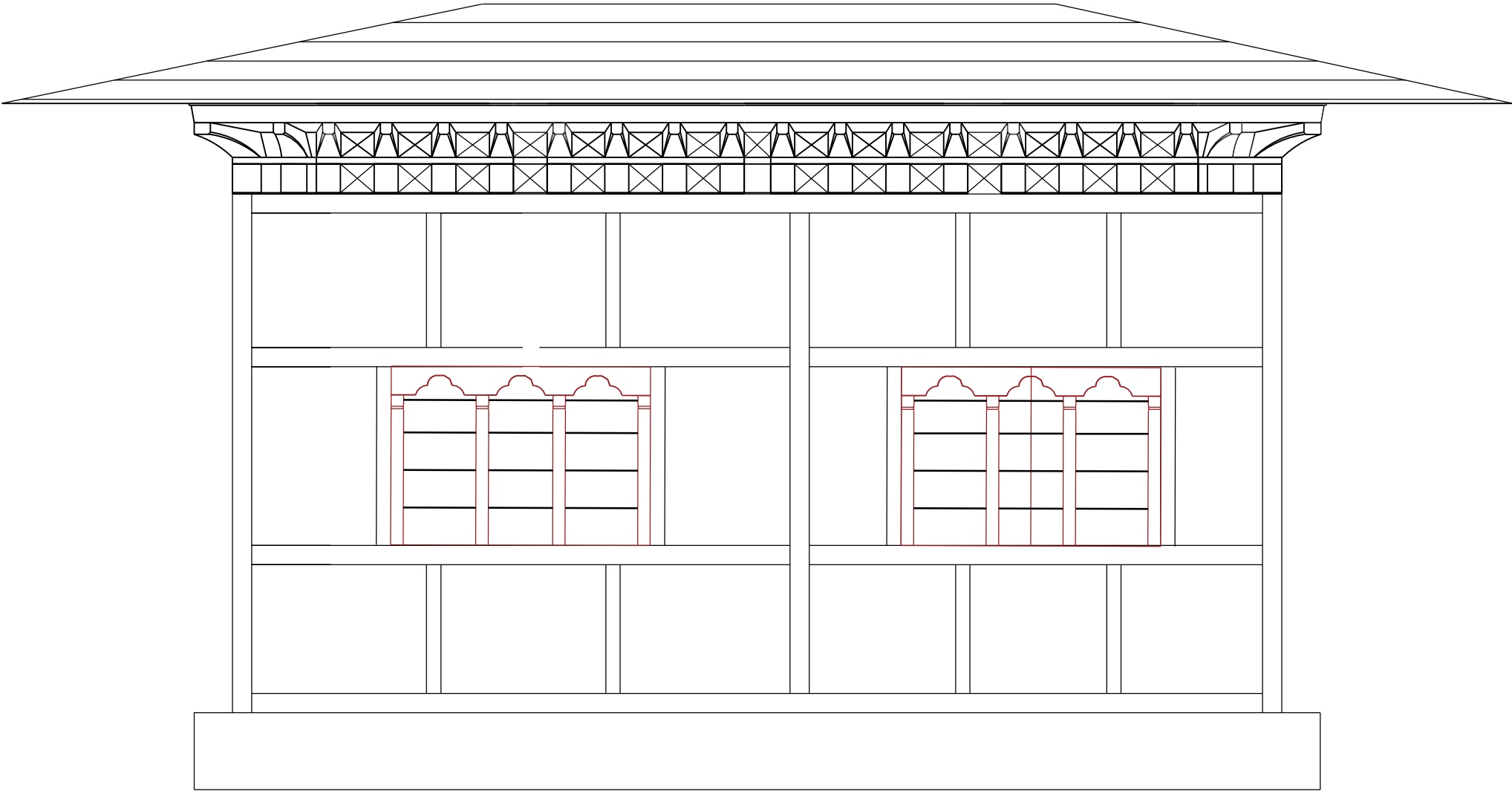
Elevation A



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Nobding Sub-Division		Title : Existing NWF camp Ele.A		
Drawn by:	Rinchen,Engg.	Drawing No :	AR-04	Revision :
Checked		Date :	March -2026	
Approved		Page :		Scale : NTS



Elevation B

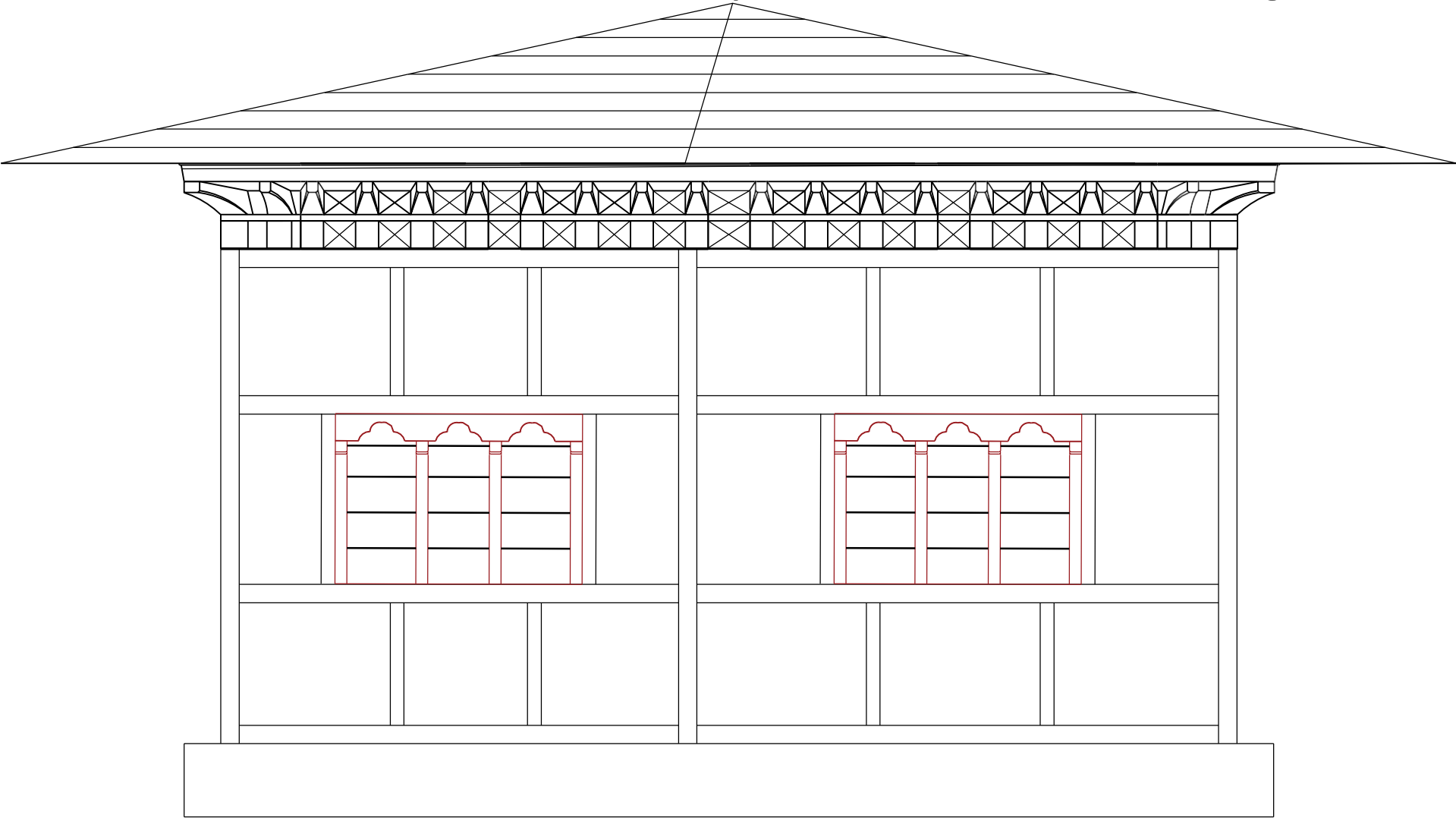


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Nobding Sub-Divison		Title : Existing NWF camp Ele.B		
Drawn by:	Rinchen,Engg.	Drawing No :	AR-05	Revision :
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Repair and Maintenance of Existing NWF Dwelling



Elevation C

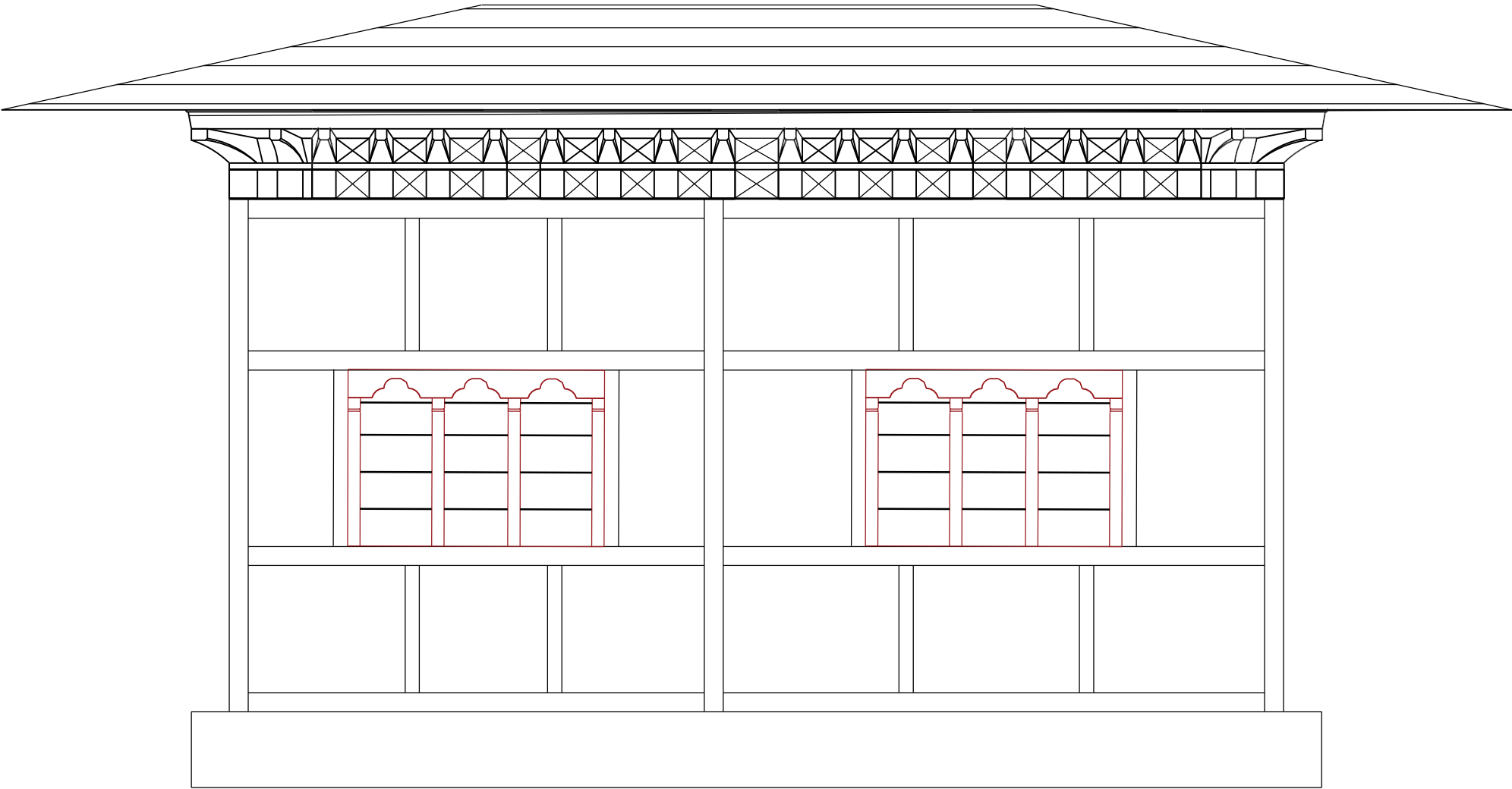


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Nobding Sub-Divison		Title : Existing NWF camp Ele.C		
Drawn by:	Rinchen,Engg.	Drawing No :	AR-07	Revision :
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Repair and Maintenance of Existing NWF Dwelling



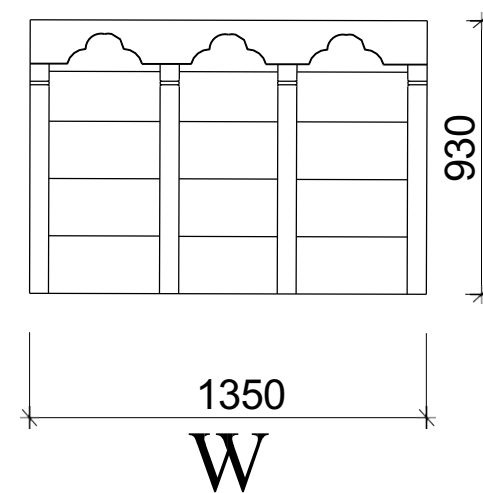
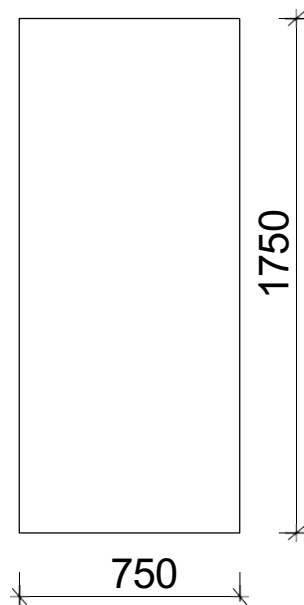
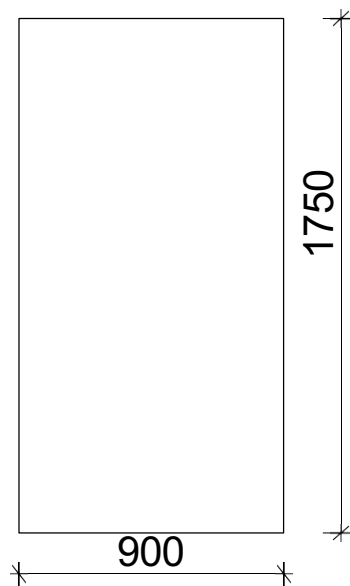
Elevation D



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Nobding Sub-Divison		Title : Existing NWF camp Ele.C		
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Approved		Page :		Scale : NTS

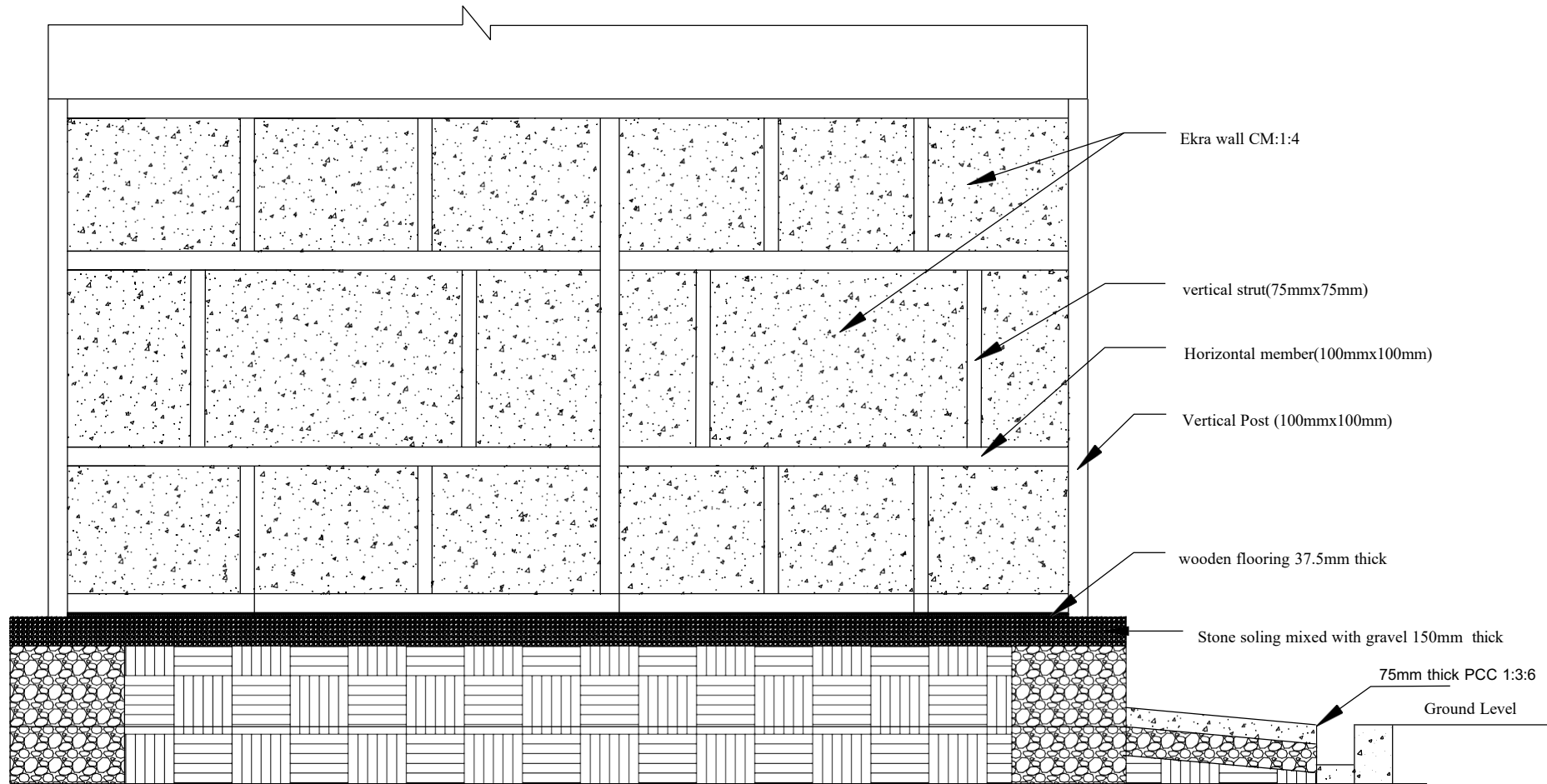


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Nobding Sub-Divison		Title : NWF camp door & window details		
Drawn by:	Rinchen,Engg.	Drawing No :	AR-09	Revision :
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Repair and Maintenance of Existing NWF Dwelling



Section



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Nobding Sub-Divison

Title : Existing NWF camp Ele.C

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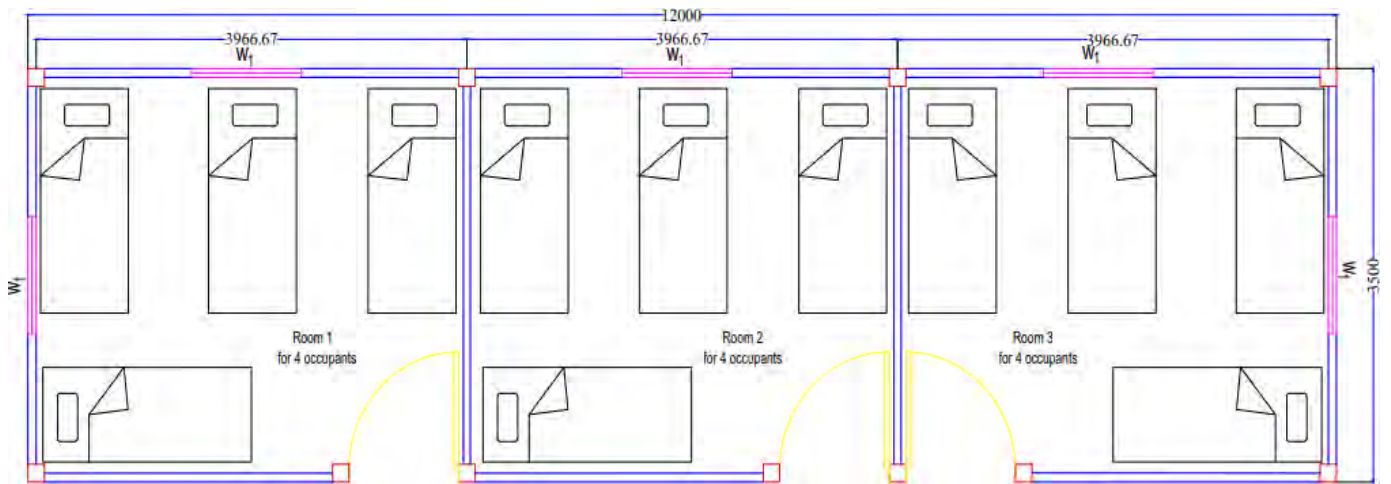


Figure 5.22.1 Bed Room Plan for 12 Occupants

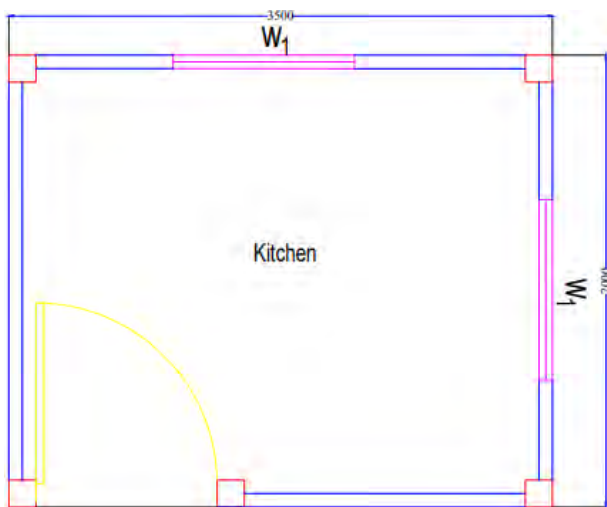


Figure 5.22.2 Kitchen Plan for 12 Occupants

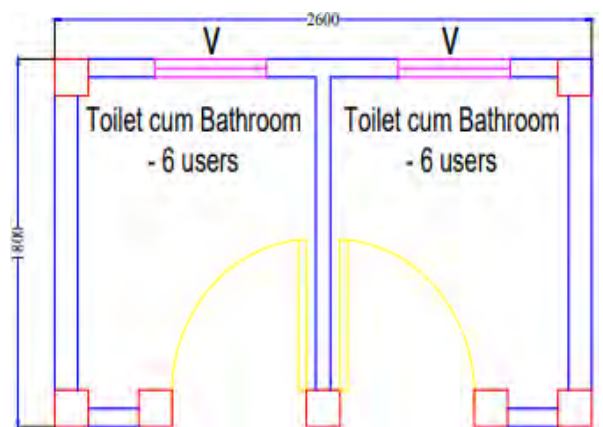


Figure 5.22.3 Toilet Plan for 12 Occupants

Lot-1: Drawing

Annex-2

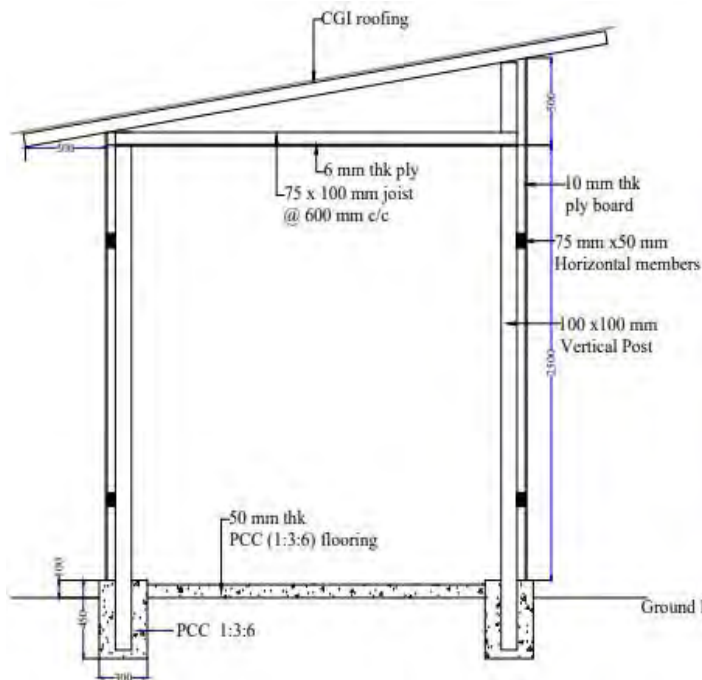


Figure 5.22.4 Section for Bed Room and Kitchen

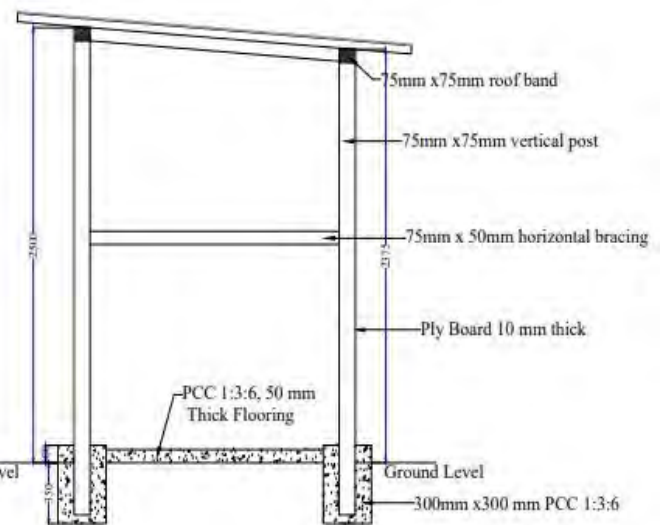
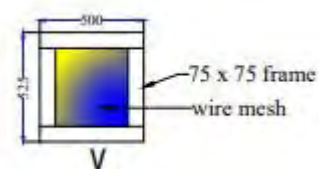
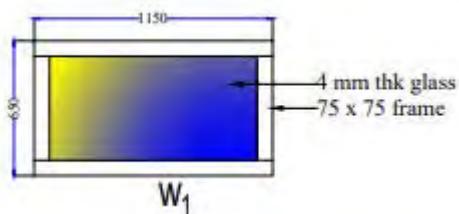


Figure 5.22.5 Section for Toilet



SL.NO.	DESCRIPTION	LEGENDS	SYMBOL
1	INDOOR SURFACE/RECESS IN NORMAL TUBE FRAME WITH LED LAMP OF 1X15W		
2	SURFACE/RECESSED CEILING FOR OUTDOOR WITH LED LAMP OF - 1X12 W		
3	MODULAR POWER SOCKET OUTLET WITH 16A SWITCH FOR 2000W		
4	6A 1-WAY & 2-WAY SWITCH AT 1.5M HEIGHT		
5	WALL MOUNTED MAIN DISTRIBUTION BOARD AT 1.8 M HEIGHT IN GROUND FLOOR		
6	SUB DISTRIBUTION BOARD AT 1.8M HEIGHT FROM FINISHED FLOOR LEVEL		
7	SWITCH BOARD INDICATION IN CONDUIT LAYOUT		

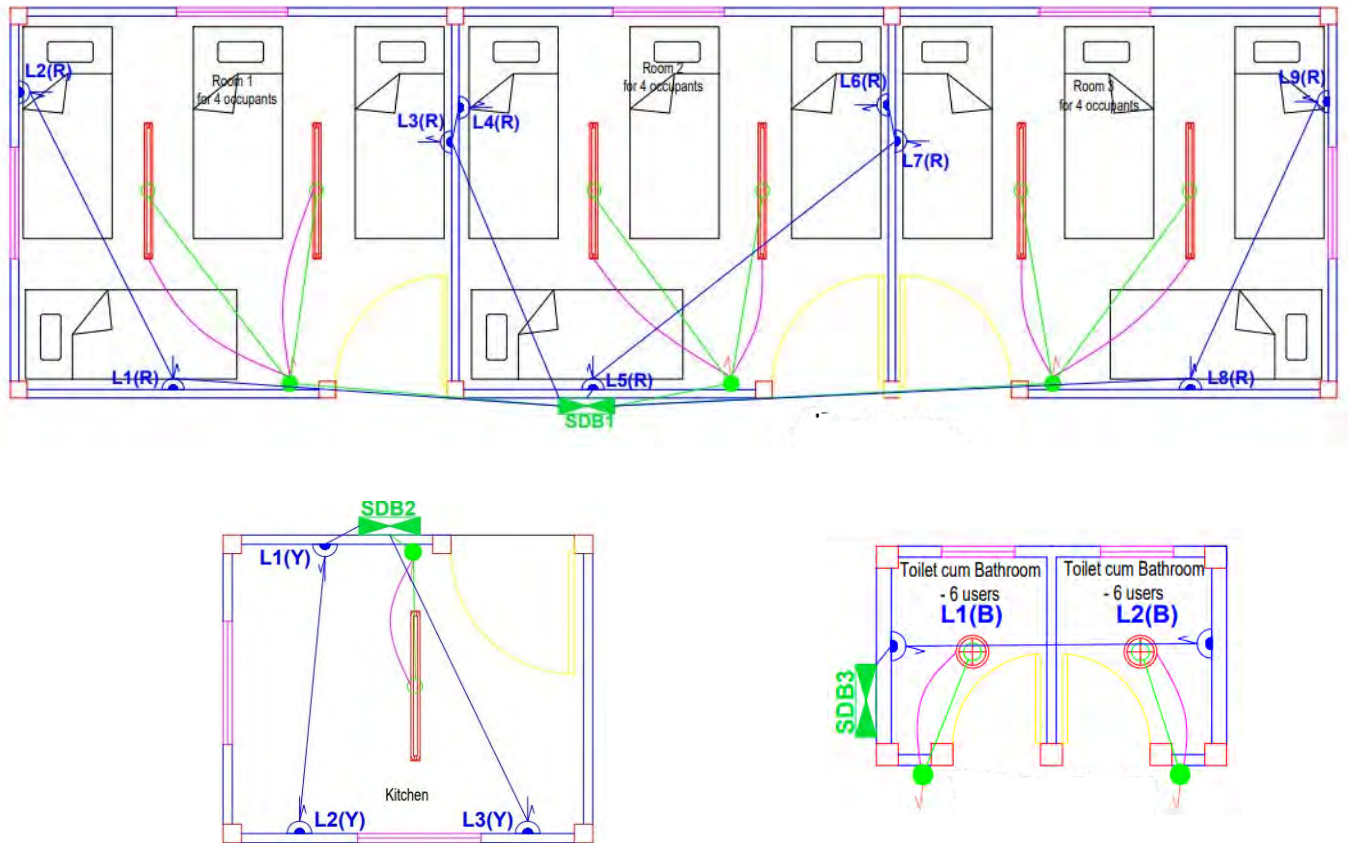


Figure 5.22.6 Light and Power Point Layout

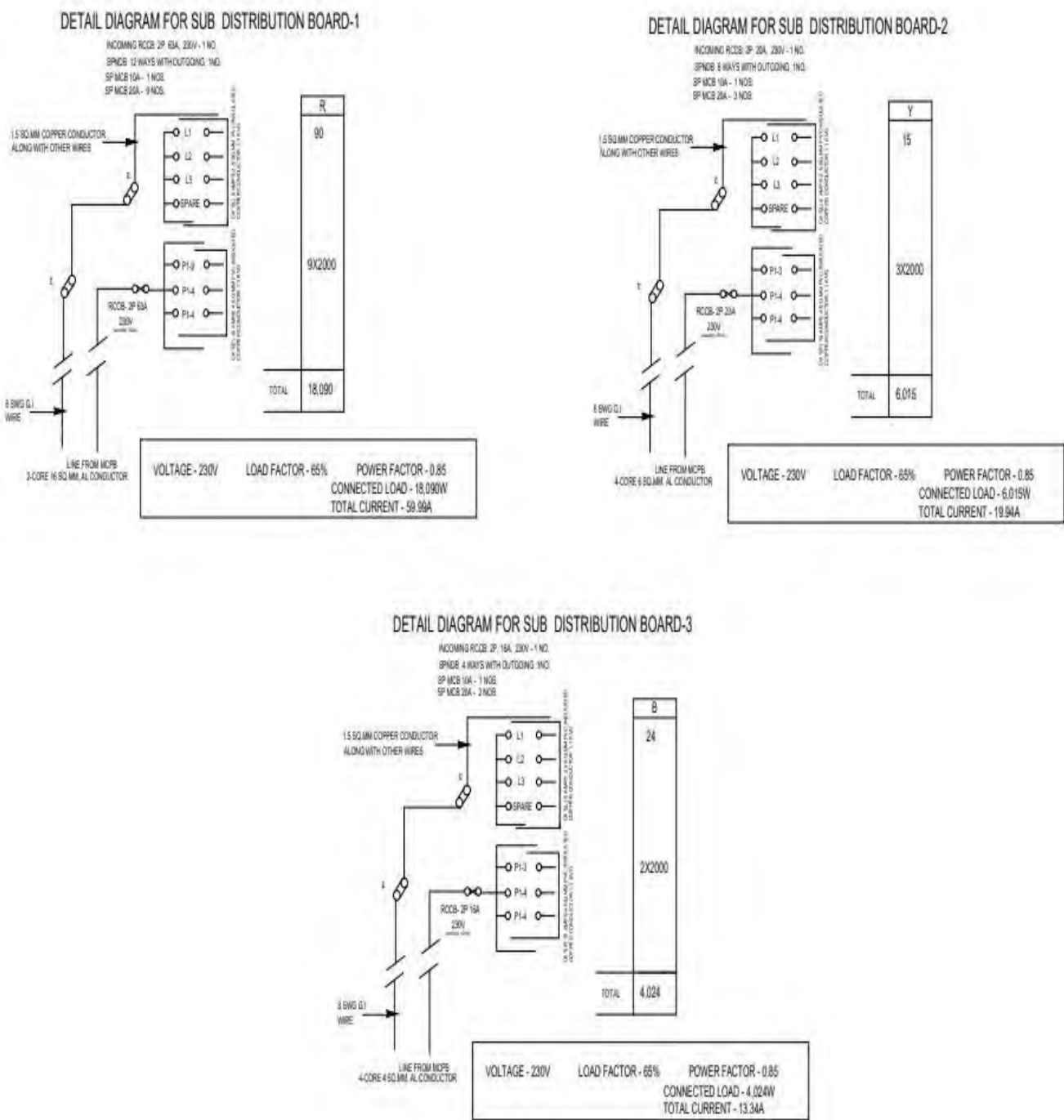
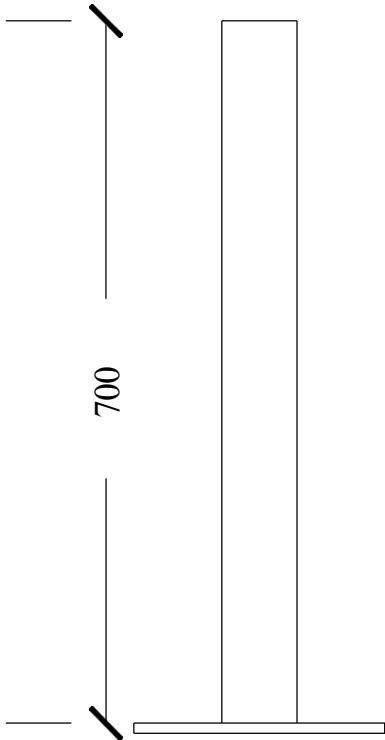


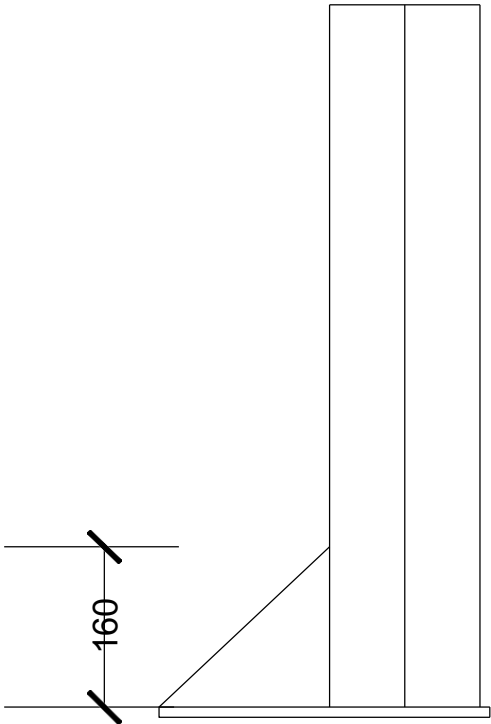
Figure 5.22.7 SDB Detail

Lot - 2: Drawing

Annex-2



Front view



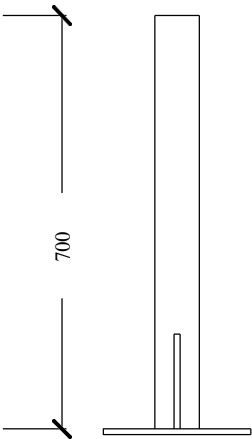
Side view



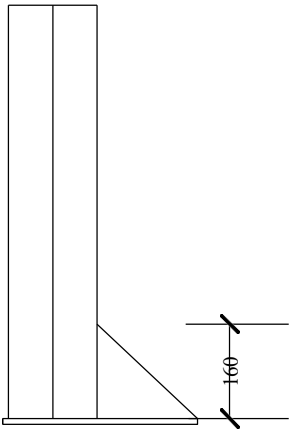
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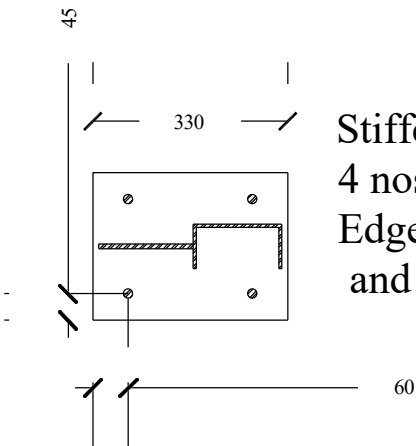
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Drawn by:	Rinchen,Engg.	Drawing No :	Crash Barrier rocky -02	Revision :
Checked		Date :	April -2026	All dimensions are in mm
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Back view



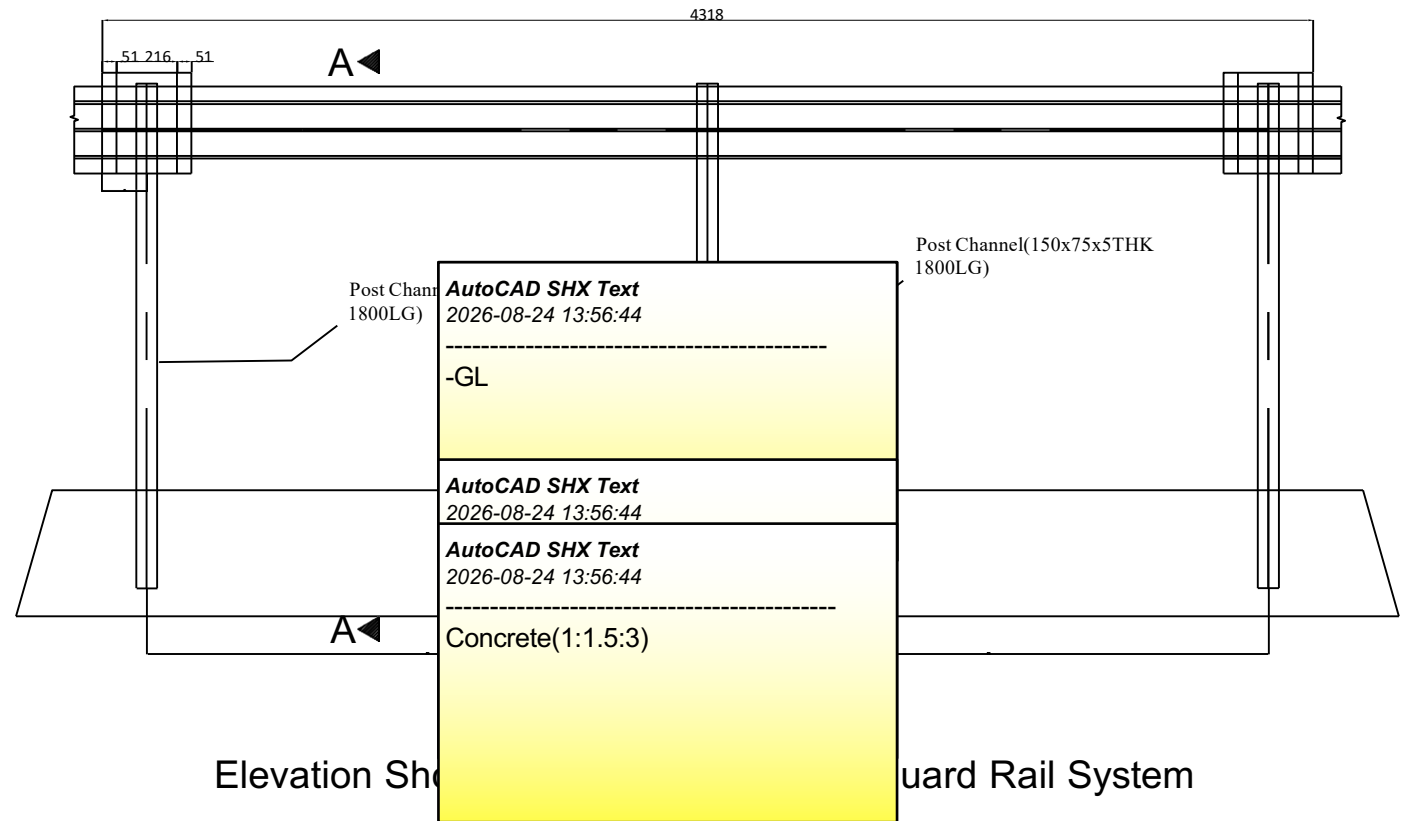
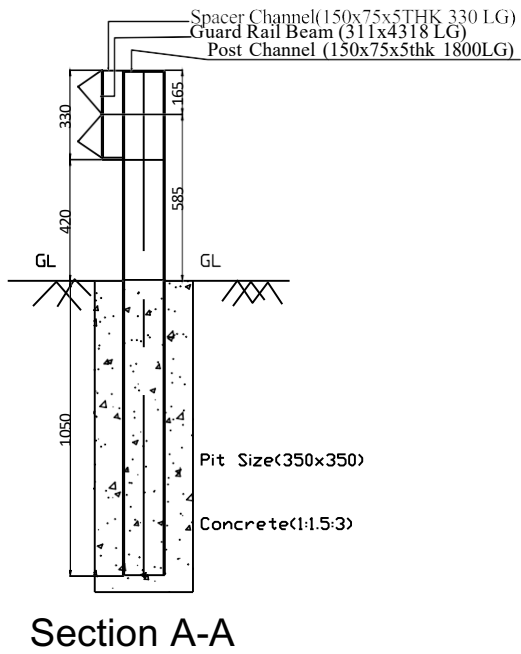
Side view



Stiffener plate 8mm thick
4 nos of M16b Nut & Bolt.
Edge distance 10mm (Plate edge to channel section
and stiffener)



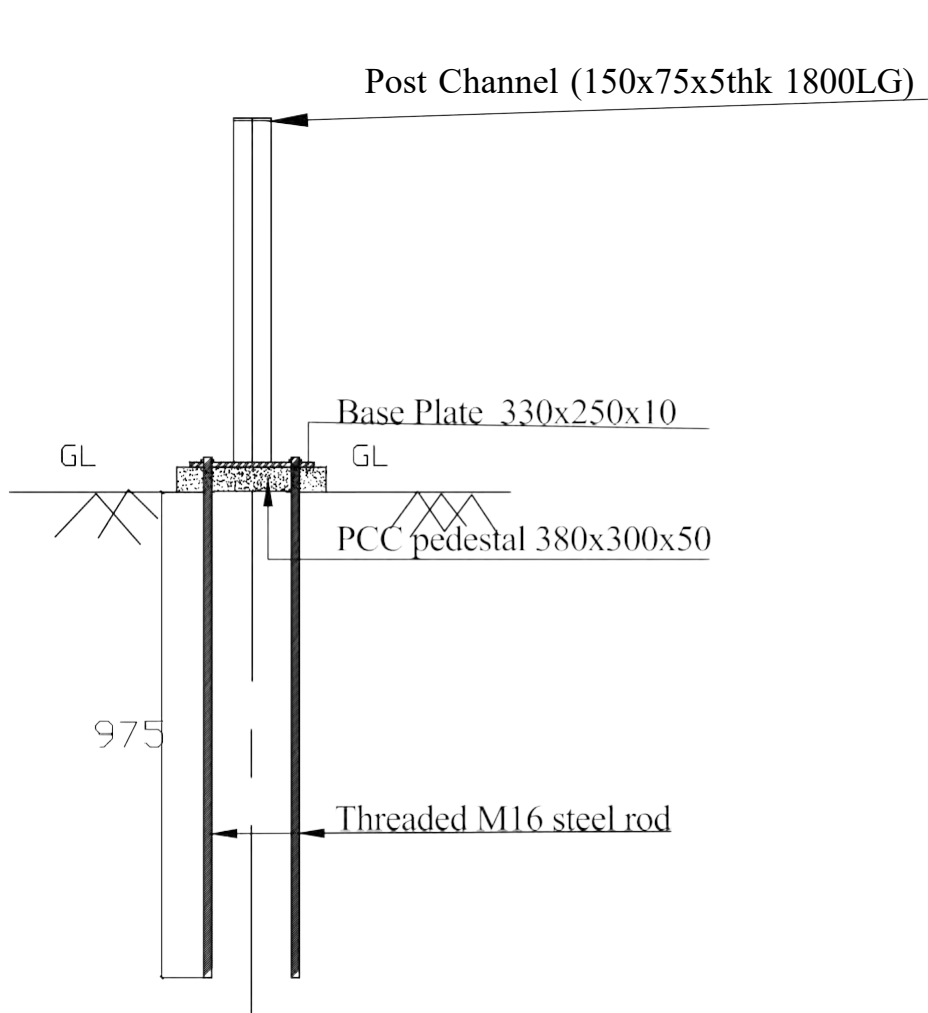
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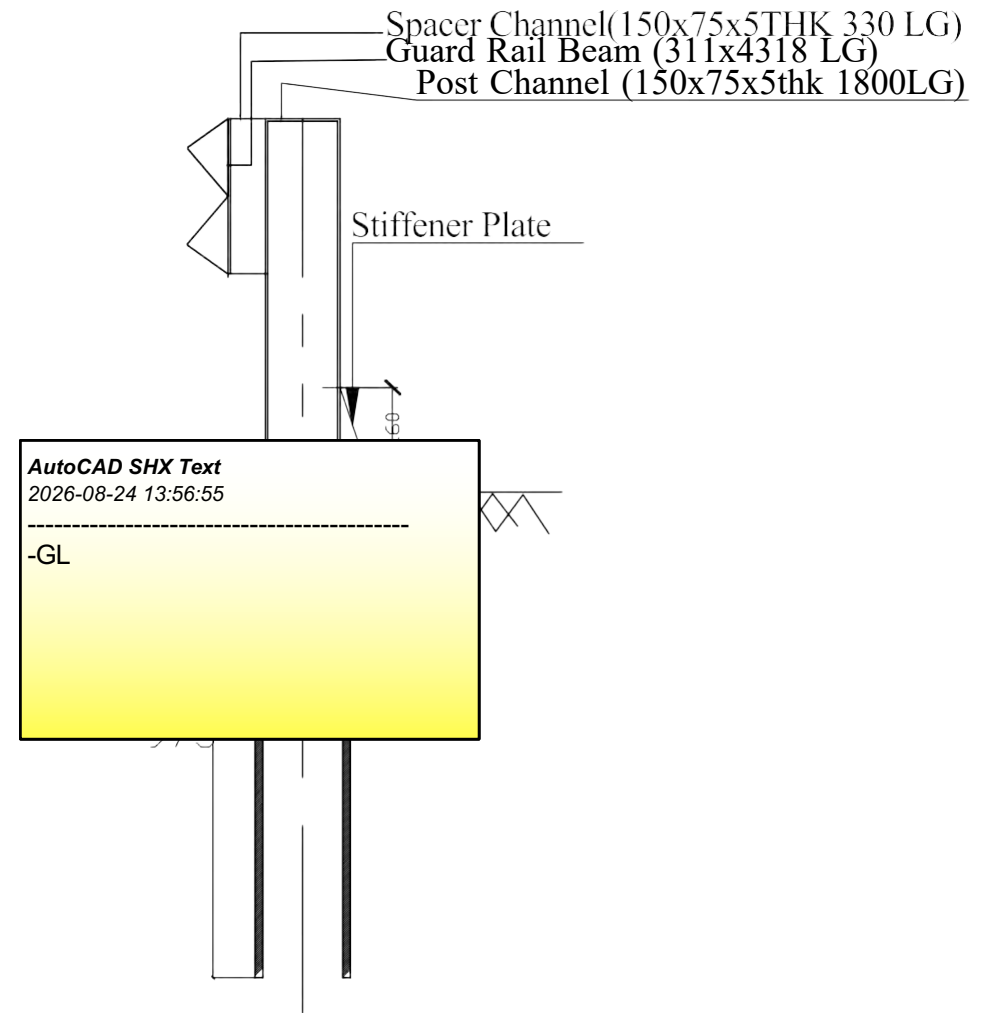
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Approved		Page :		Scale : NTS



Elevation



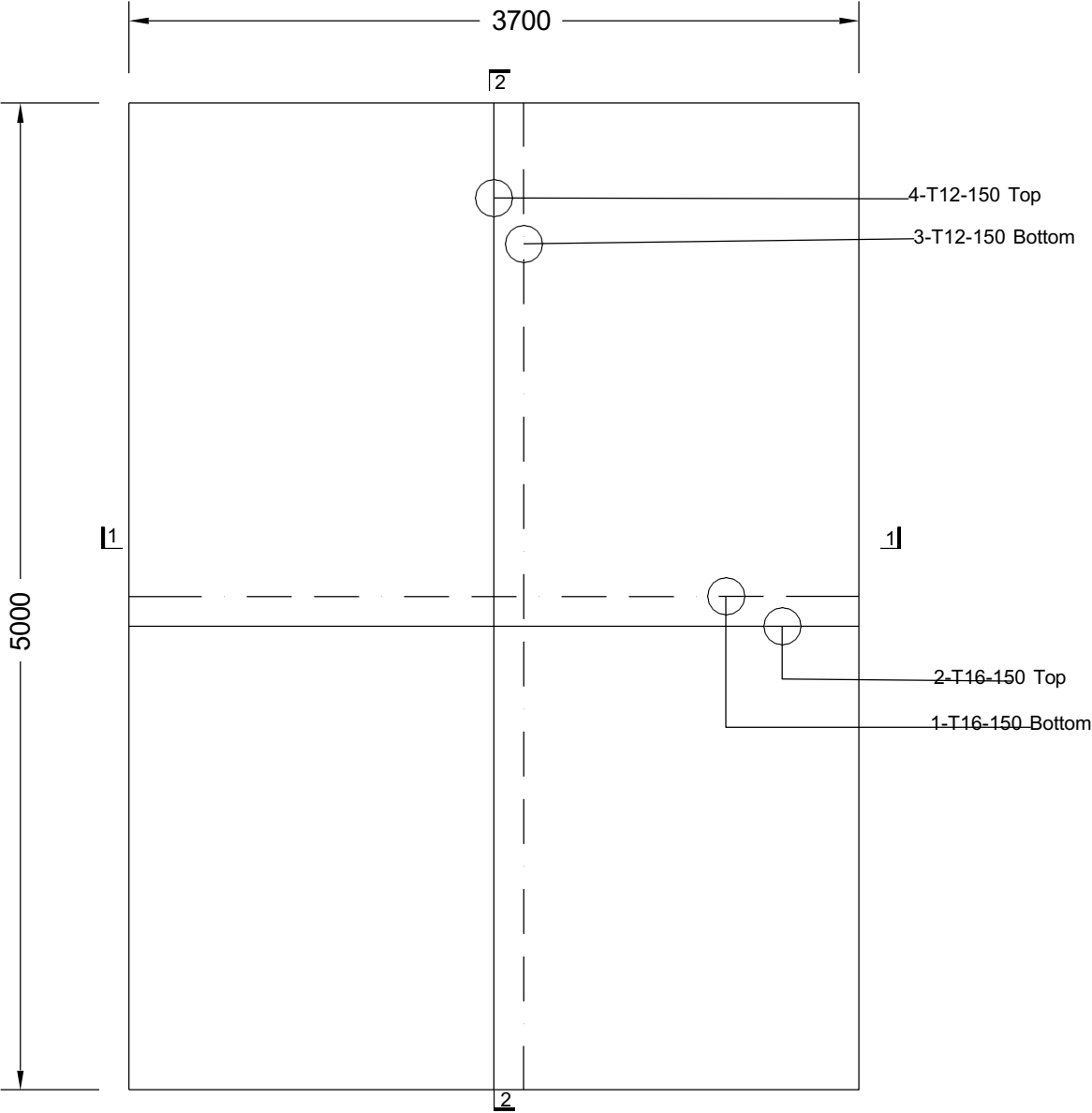
Side view



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Nobding Sub-Divison		Title : Typical drawing for Crash Barrier at rocky area		
Drawn by:	Rinchen,Engg.	Drawing No :	Crash Barrier rocky -01	Revision :
Checked		Date :	April -2026	All dimensions are in mm
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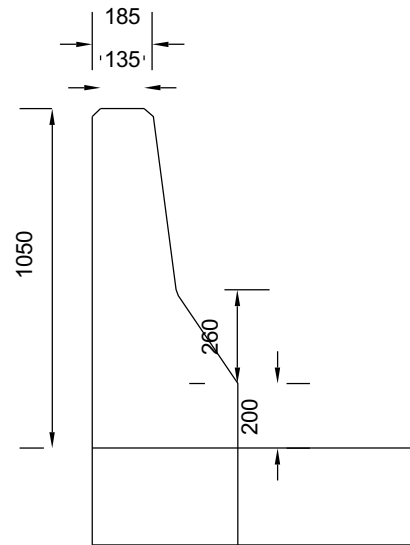
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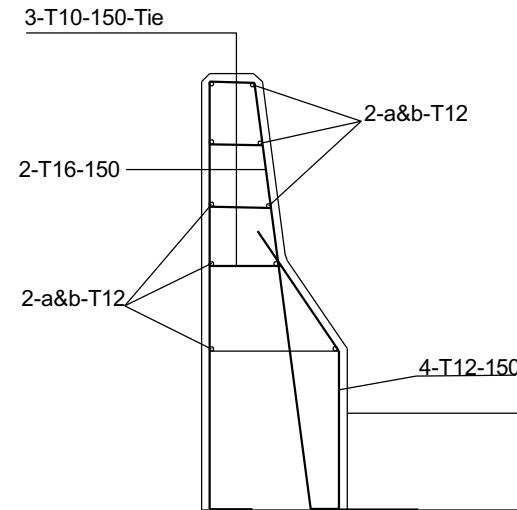
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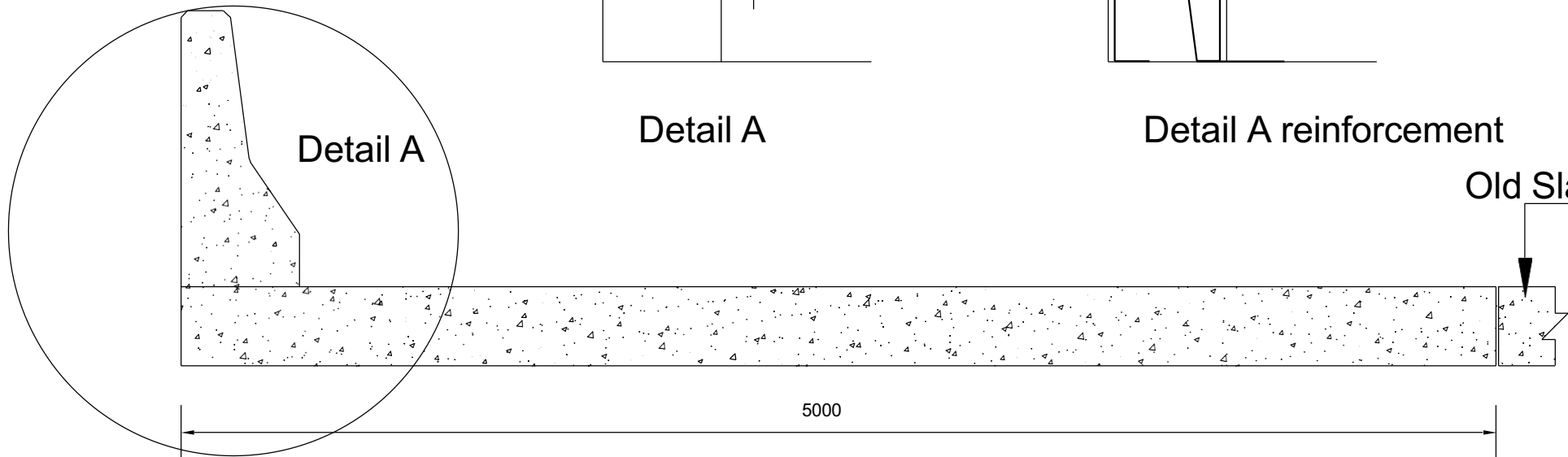
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Drawn by:	Rinchen,Engg.	Drawing No :	Culvert Ext-03	Revision :
Checked		Date :	April -2026	All dimensions are in mm
Approved		Page :		Scale : NTS



Detail A



Detail A reinforcement



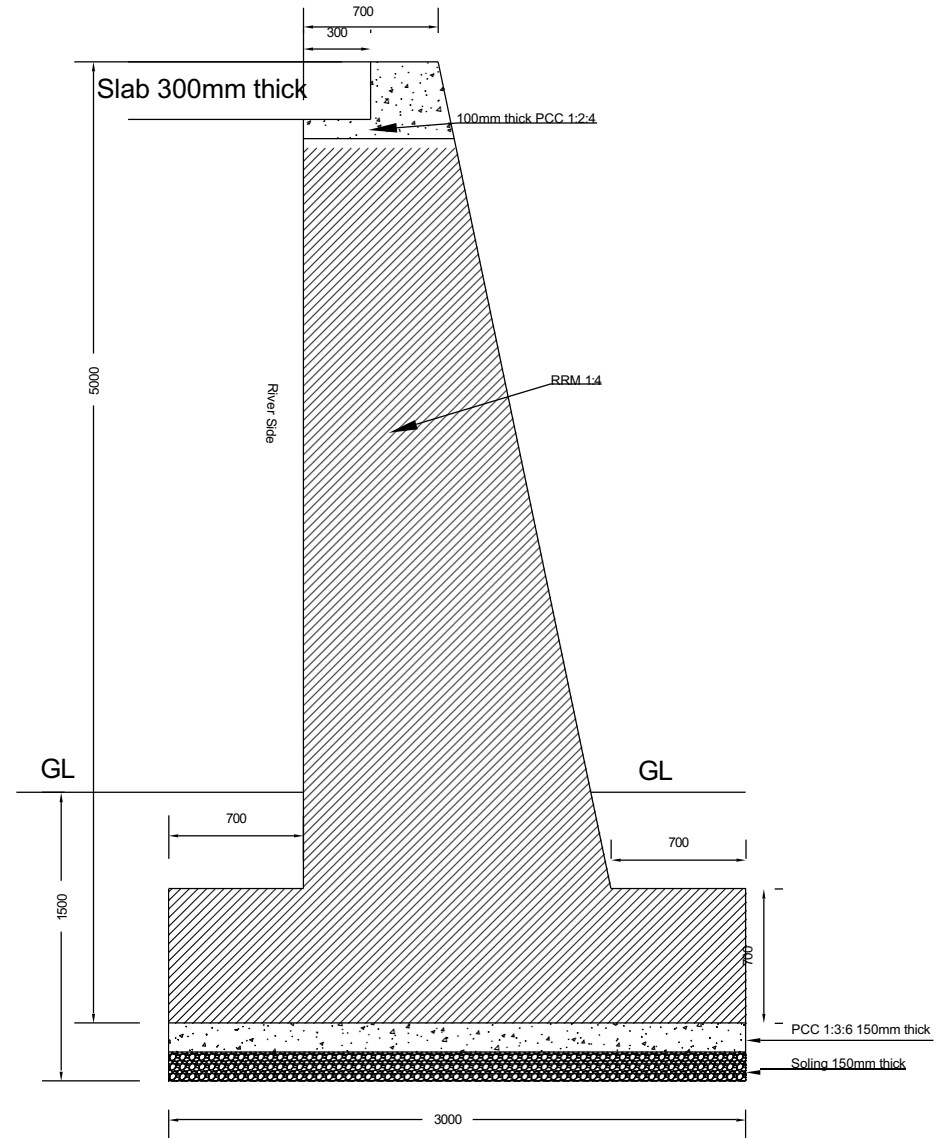
Section-2-2



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Nobding Sub-Division		Title : RCC Culvert Extension 118km		
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Abutment wall Section



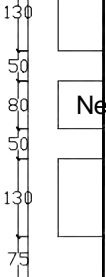
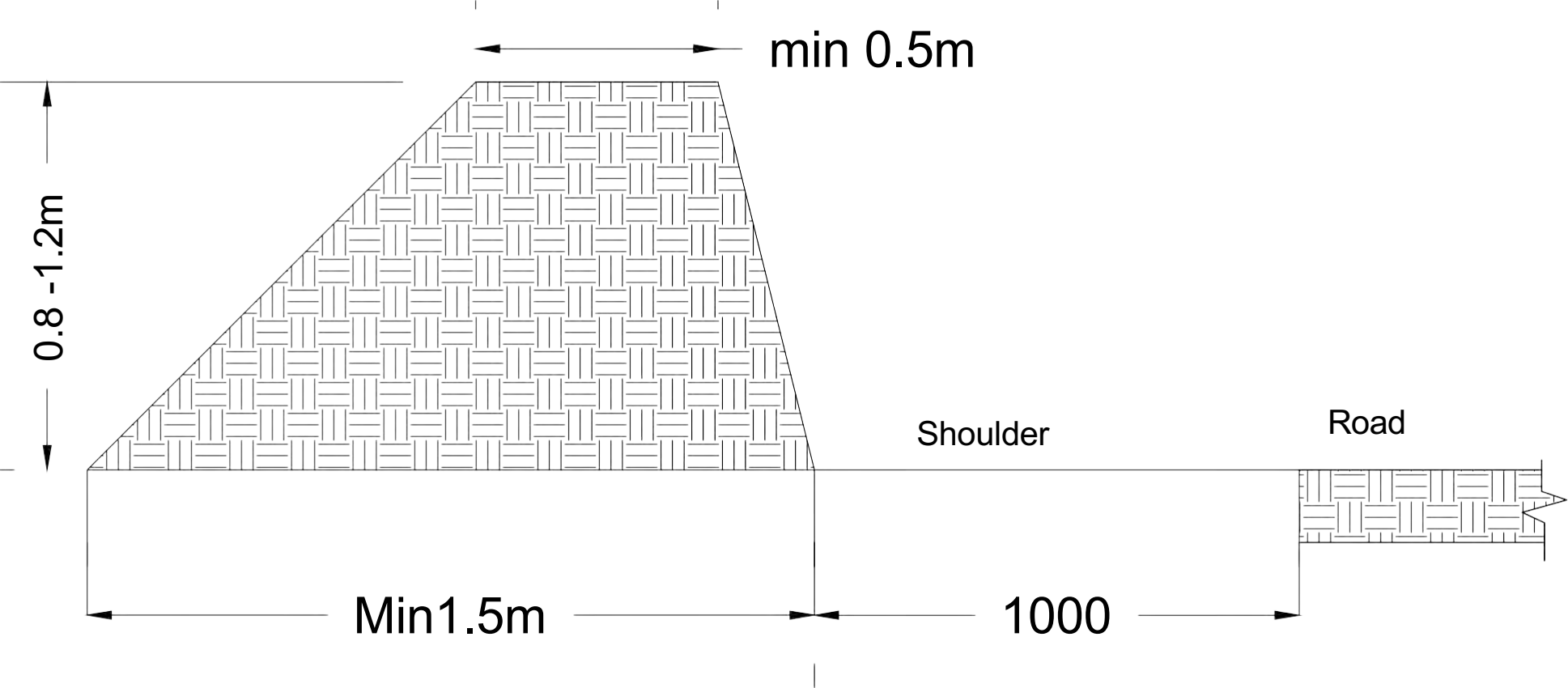
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Nobding Sub-Divison

Title : Culvert Extension 118km

Drawn by:	Rinchen, Engg.	Drawing No :	RCC Culvert Ext-02	Revision :
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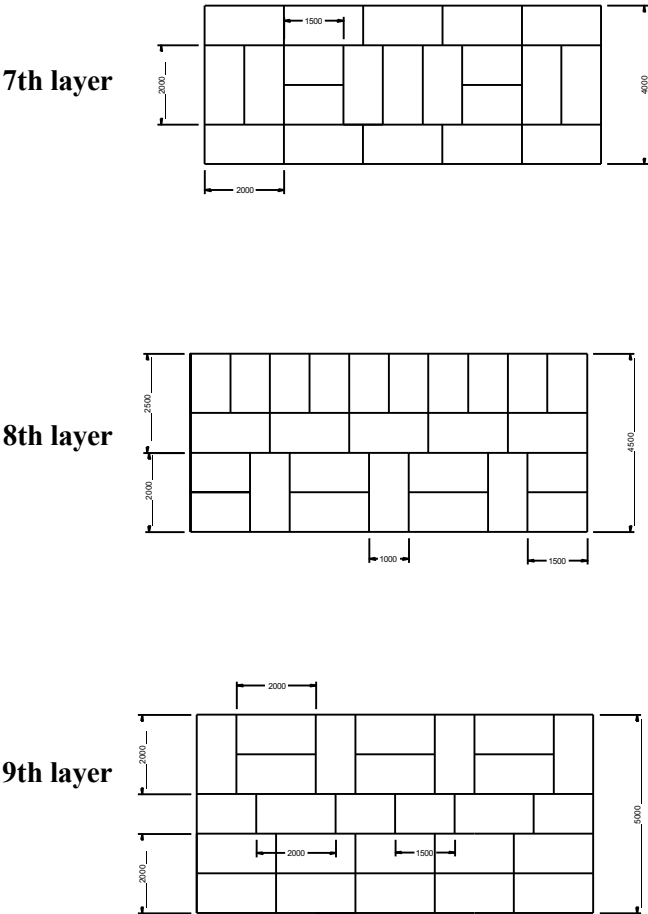
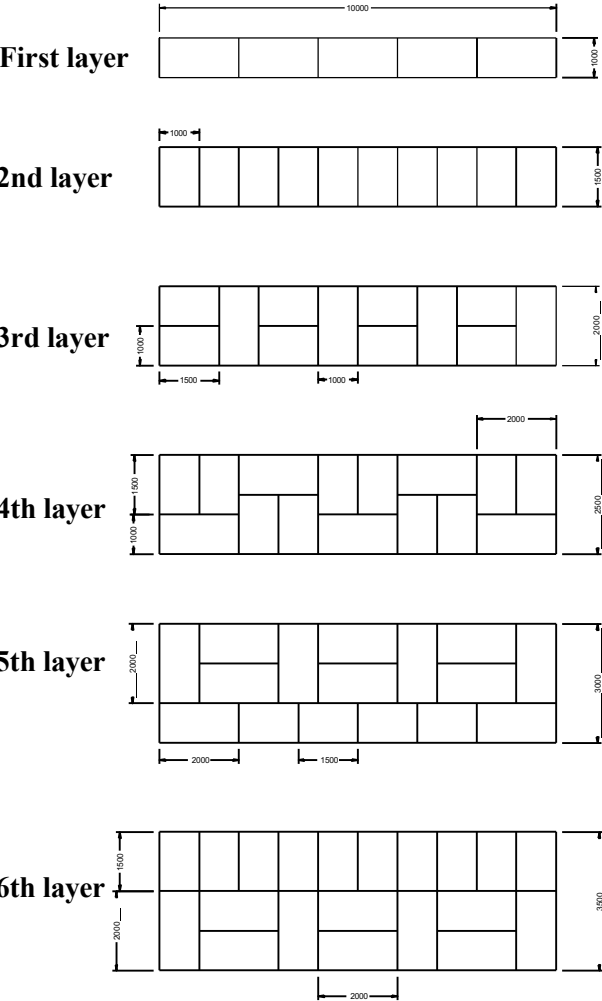


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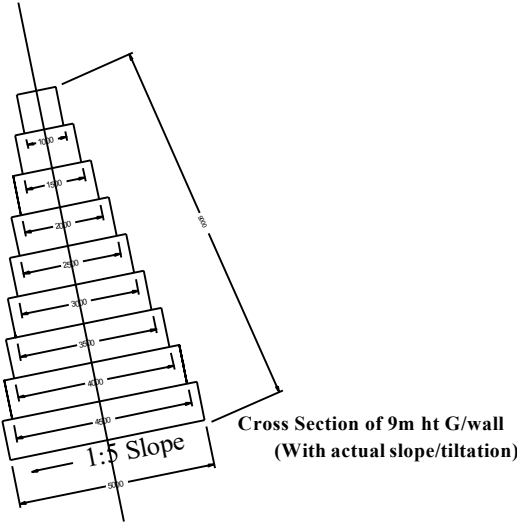


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Drawn by:	Rinchen,Engg.	Drawing No :	EARBU-01	Revision :
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GABION WALL DRAWING



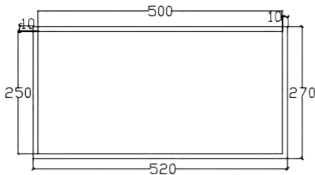
PLAN



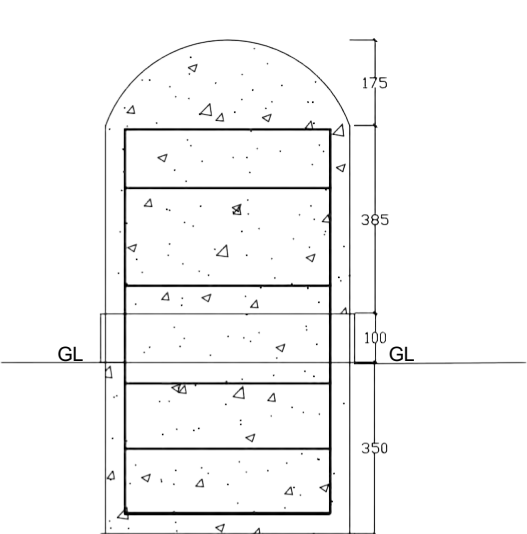
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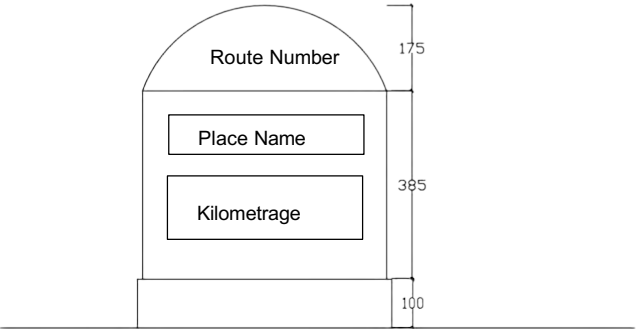
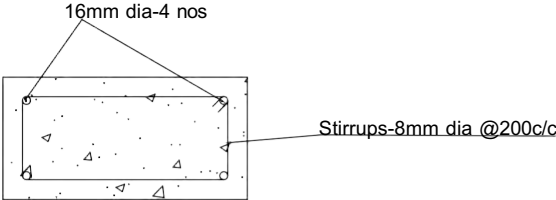
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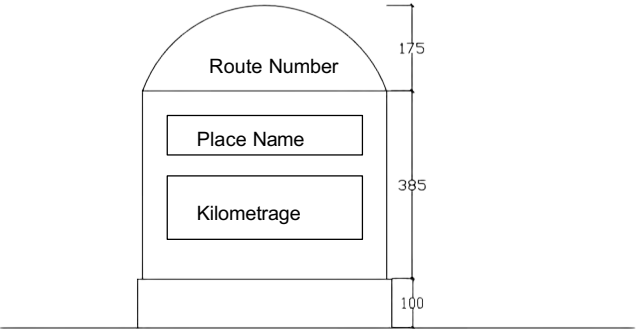
Sectional Plan



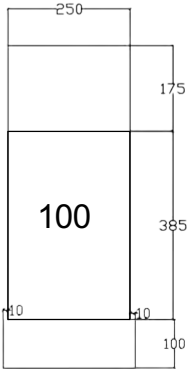
Section



Face 1



Face 2



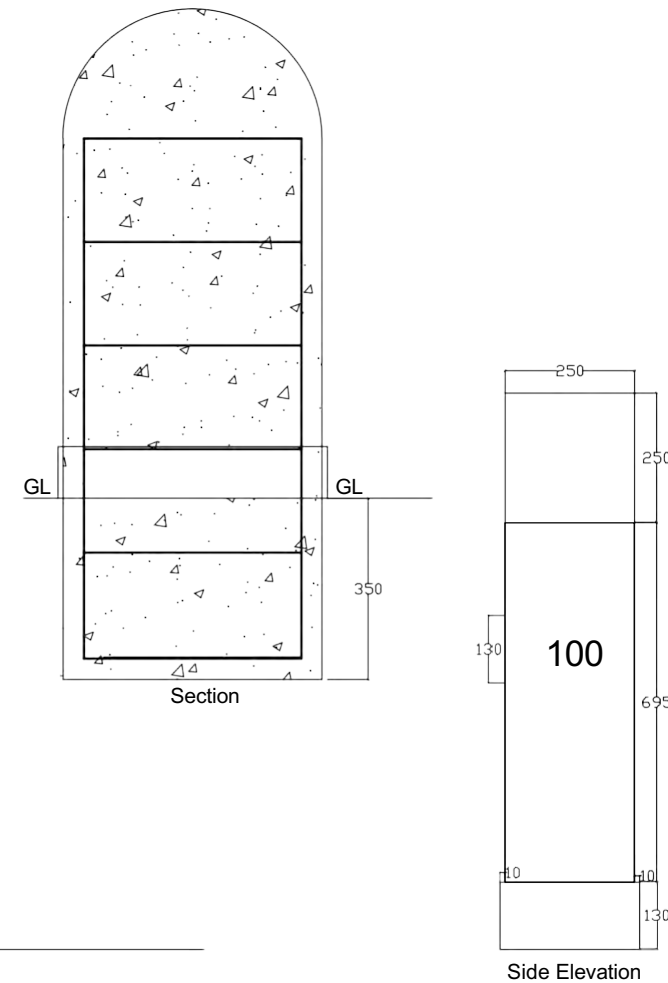
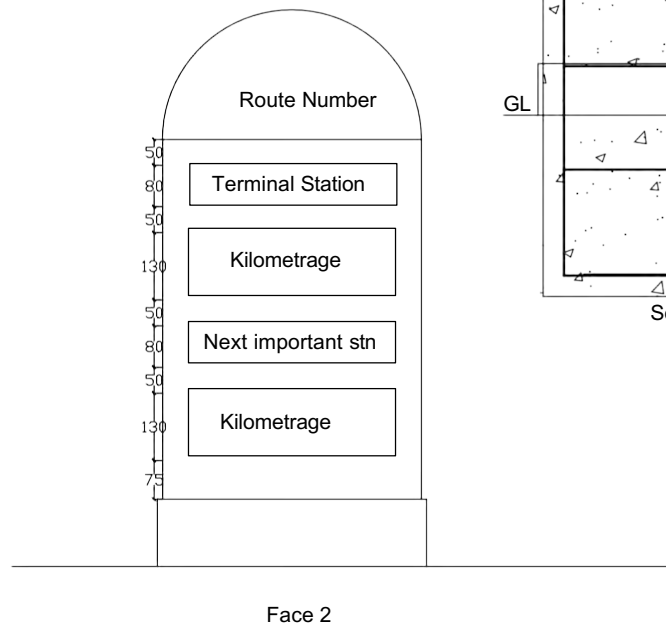
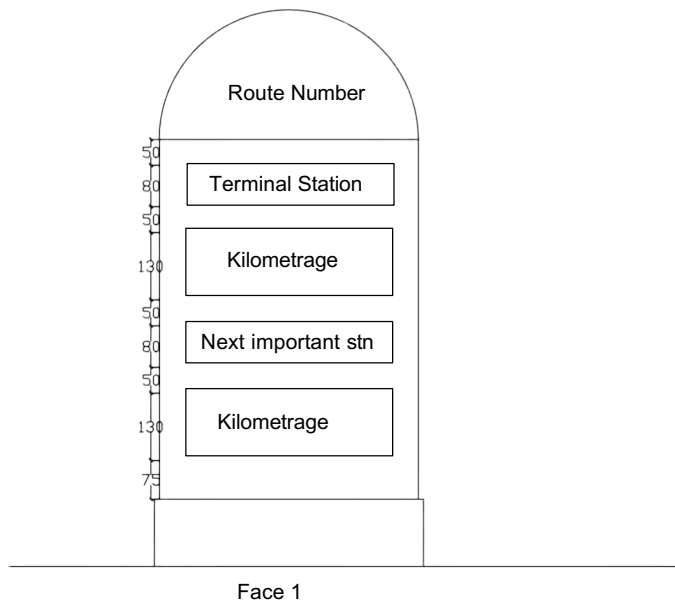
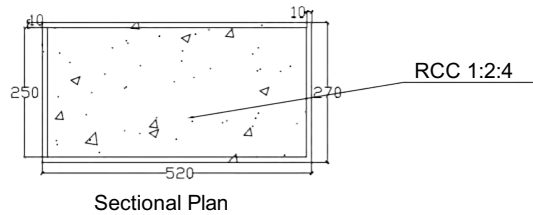
Side Elevation



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Nobding Sub-Divison		Title : Ordinary KM Post		
Drawn by:	Rinchen,Engg.	Drawing No :	Crash Barrier	Revision :
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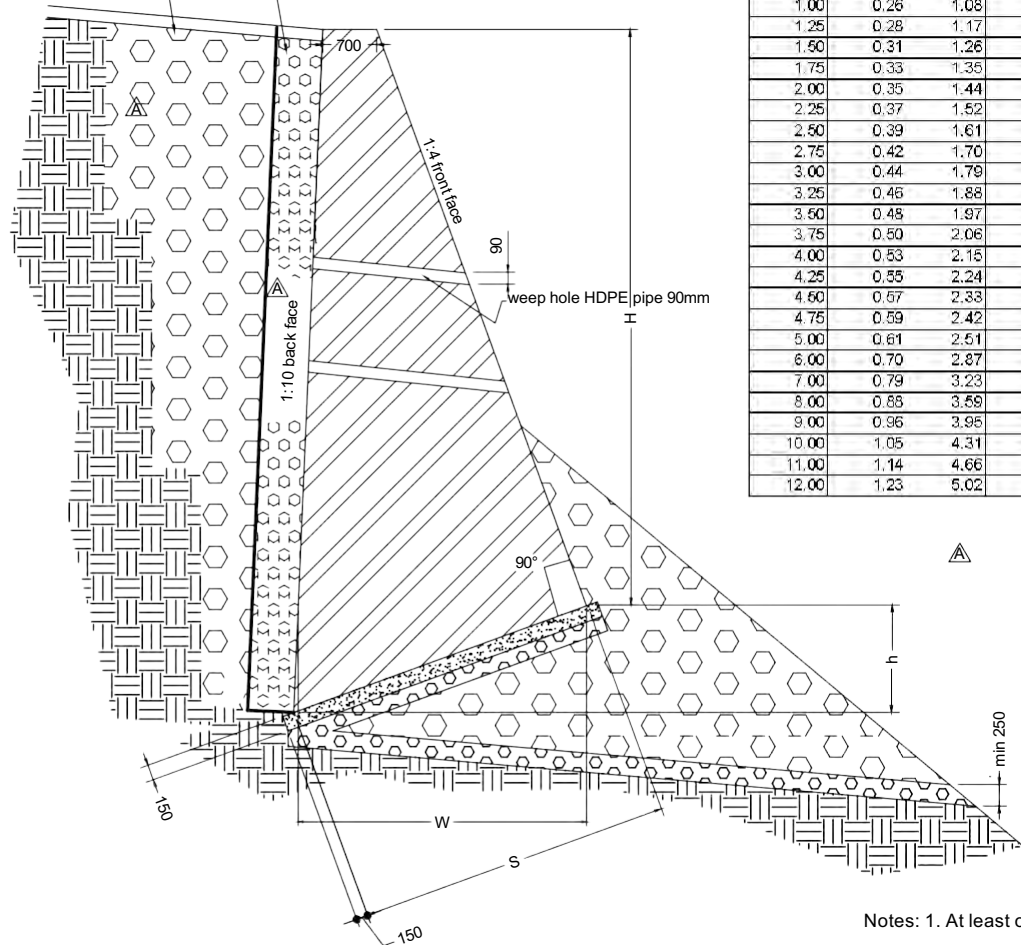
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Nobding Sub-Divison		Title : Every 5th KM post		
Drawn by:	Rinchen, Engg.	Drawing No :	Crash Barrier	Revision :
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600mm filter material in accordance with Tech Spec

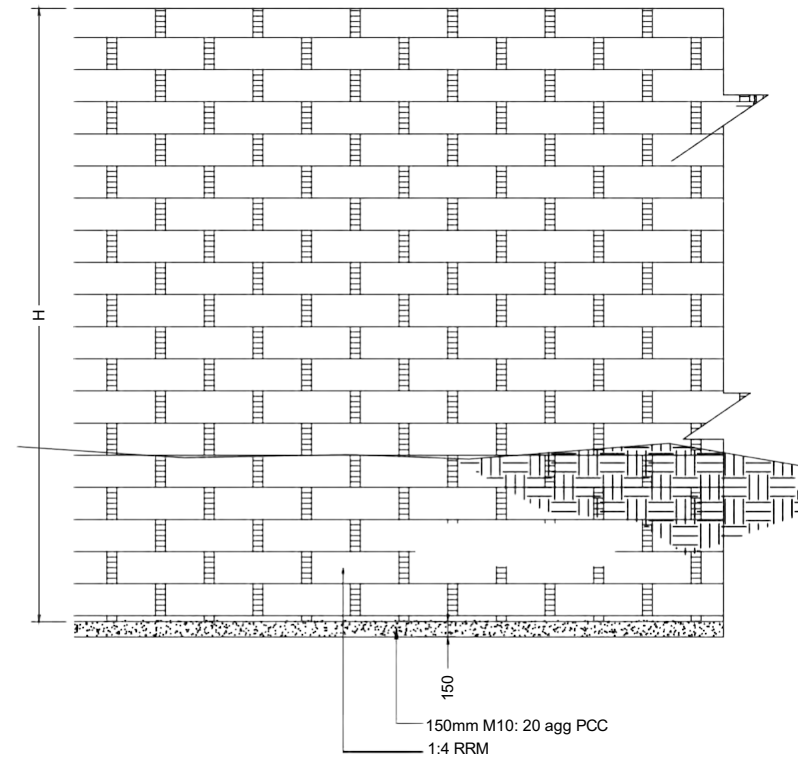
backfill to structure in accordance with Tech Spec



Section

H	h	W	S=hyp(W+h)
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1.25	0.28	1.17	1.20
1.50	0.31	1.26	1.29
1.75	0.33	1.35	1.38
2.00	0.35	1.44	1.48
2.25	0.37	1.52	1.57
2.50	0.39	1.61	1.66
2.75	0.42	1.70	1.75
3.00	0.44	1.79	1.85
3.25	0.46	1.88	1.94
3.50	0.48	1.97	2.03
3.75	0.50	2.06	2.12
4.00	0.53	2.15	2.22
4.25	0.55	2.24	2.31
4.50	0.57	2.33	2.40
4.75	0.59	2.42	2.49
5.00	0.61	2.51	2.58
6.00	0.70	2.87	2.95
7.00	0.79	3.23	3.32
8.00	0.88	3.59	3.69
9.00	0.96	3.95	4.06
10.00	1.05	4.31	4.43
11.00	1.14	4.66	4.80
12.00	1.23	5.02	5.17

Elevation



RANDOM RUBBLE MASONRY WALL
RETAINING WALL

Notes: 1. At least one bond stone or a set of bond stones to be provided for every 0.50 m2 of the wall surface.



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Nobding Sub-Divison

Title : Typical RRM Retaining wall

Drawn by: Rinchen, Engg.

Drawing No : RMM RT wall

Revision :

Checked

Date :

April -2026

All dimension are in mm

Approved

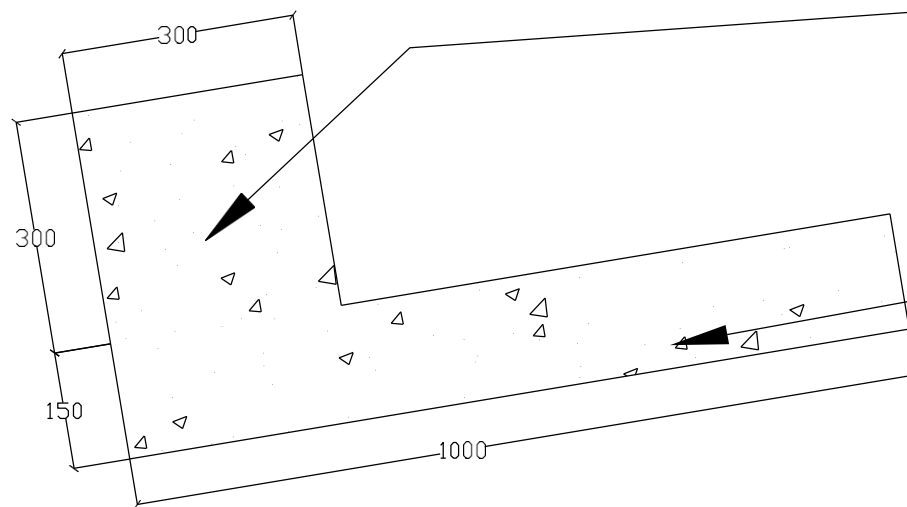
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Note:

The finished concrete surface shall be trowel and achieved smooth surface with using edger tool

Plum concrete M15(concrete 60%
& Boulder 40% as per TS)



PCC M15 150mm thick
(20mm & 10mm aggregate
mixed)



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Nobding Sub-Divison

Title : Typical drawing for V-drain

Drawn by:	Rinchen, Engg.	Drawing No :	V/drain -01	Revision :
Checked		Date :	April -2026	All dimensions are in mm
Approved		Page :		Scale : NTS

General Note for NWF camp repairing

- 1) Stone works Repairing : RRM 1:4 cement mortar
- 2) Ekra Wall Repairing cement mortar 1:4
- 3) Doors and Window repairing as per the existing structure & dimension with mixed conifer wood
- 4) Window -glass-4mm thick with accessories and clamps.
- 5) Wood works repairing
Undressed rafter & purlin, dressed Eave Board(225x25)mm (mixed conifers wood) as per the existing structure
- 6) Plinth protection repairing as per existing dimension and cement mortar 1:3:6 and cement mortar 1:4 & drain repairing.
- 7) Flooring repairing
Room flooring repairing/replacement -37.5mm thick mixed conifers plank.
- 8) Roof repairing
CGI sheet -25g(.50mm) with accessories completed
Ceiling-8mm thick plywood with beats complete
- 9) Plumbing & toilet repairing /replacement
Soil Pipe-PVC 110mm
waste Pipe-PVC 75mm
Indian -type WC replacement
Water supply -CPVC 20mm internal. External supply HDPE 25mm dia pipe
White vitreous china angle back wash basin 400x400mm including brackets, 15mm c.p brass pillar taps, c.p brass chain & rubber plug, 32mm c.p brass waste, 32mm dia c.p brass trap and G.I union and repair walls -1 no.
Brass Bibcock 15mm - 1 nos
Repairing of toilet structure complete(outside toilet)
- 10) Electrical repairing/replacement
Fluorescent Tubular Lamp-3 nos, LED Bulb(12W-15w)-4nos
Earthing with accessories repairing complete-1 no
MCB Box-1 no
MCB(6amp & 16amp) replacement as per the requirement
Socket 16amp.-4 nos
Switch Box with switches as per requirement
Electric wiring completed (4sq.m,2.5sq.m & 0.75sq.m)
- 11) Painting repairing
Acrylic washable Distemper white -one coats for both internal and external wall.
Window & Door with painting -Enamel painting one coats with wood primer
CGI sheet painting with primer and acrylic bus green -one coat each.

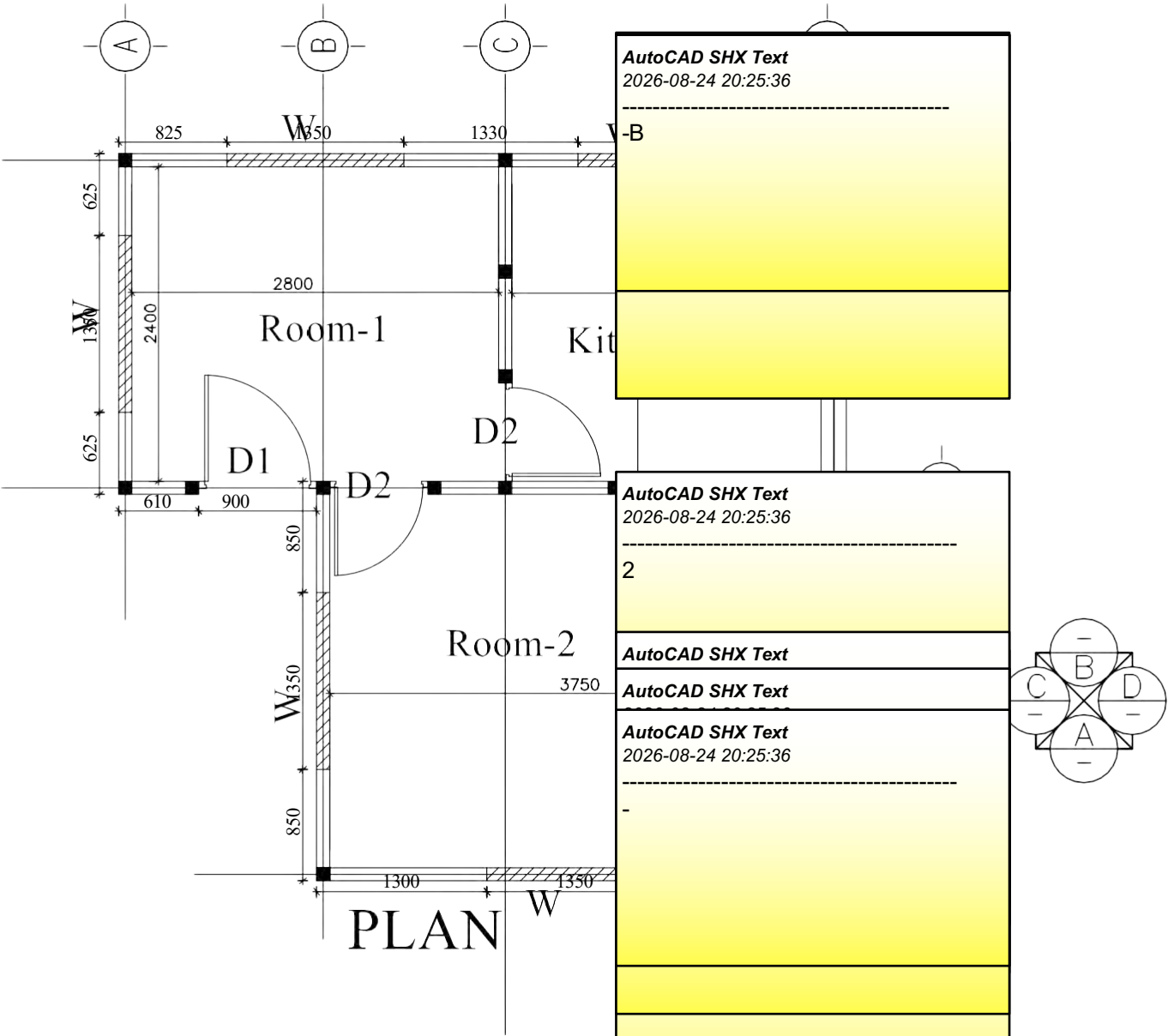


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Drawn by:	Rinchen,Engg.	Drawing No :	AR-09	Revision :
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Approved		Page :		Scale : NTS

Repair and Maintenance of Existing NWF Dwelling



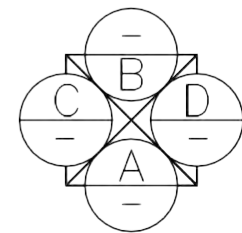
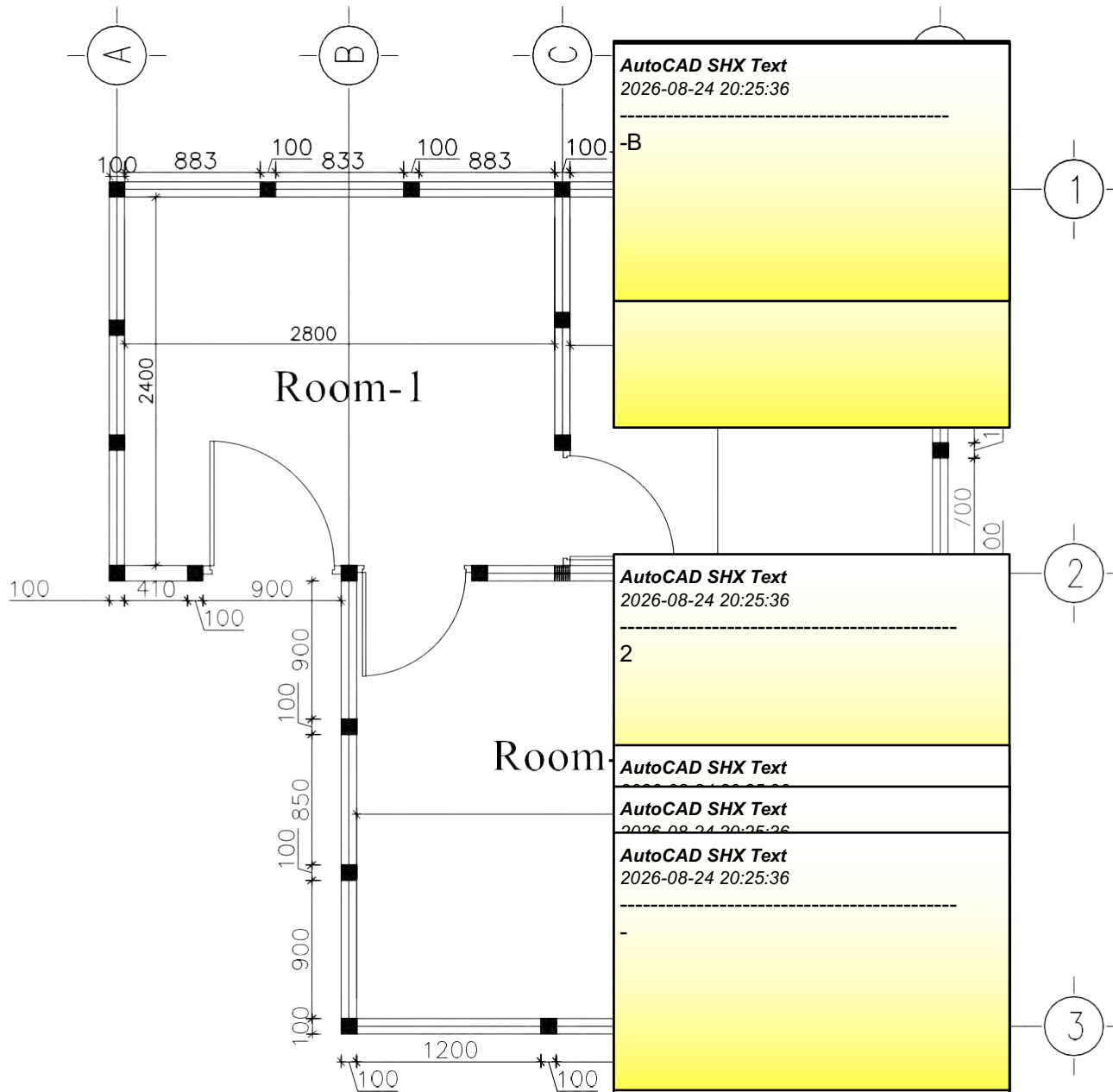
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Repair and Maintenance of Existing NWF Dwelling



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Nobding Sub-Division

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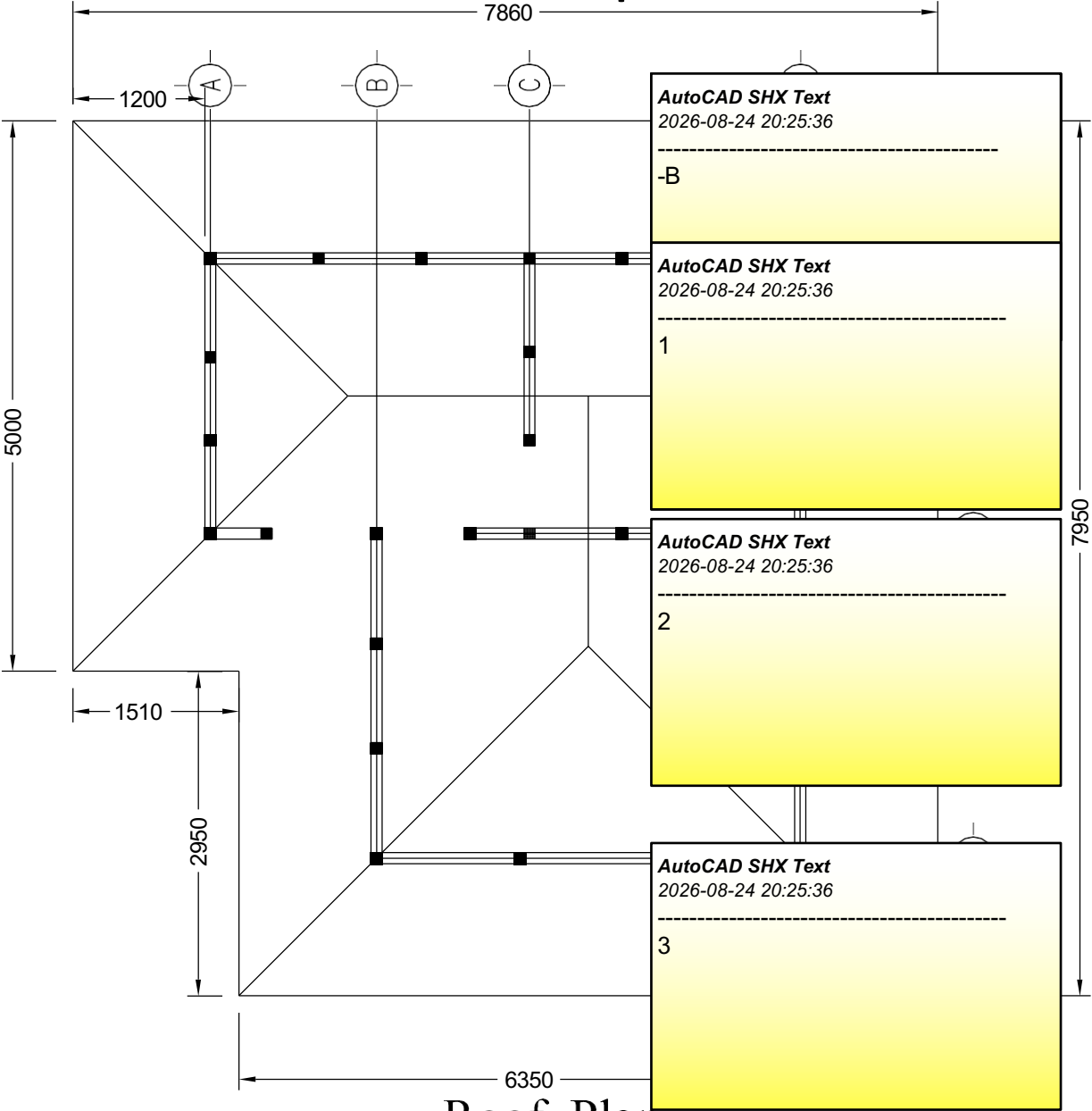
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Repair and Maintenance of Existing NWF Dwelling



Roof Plan

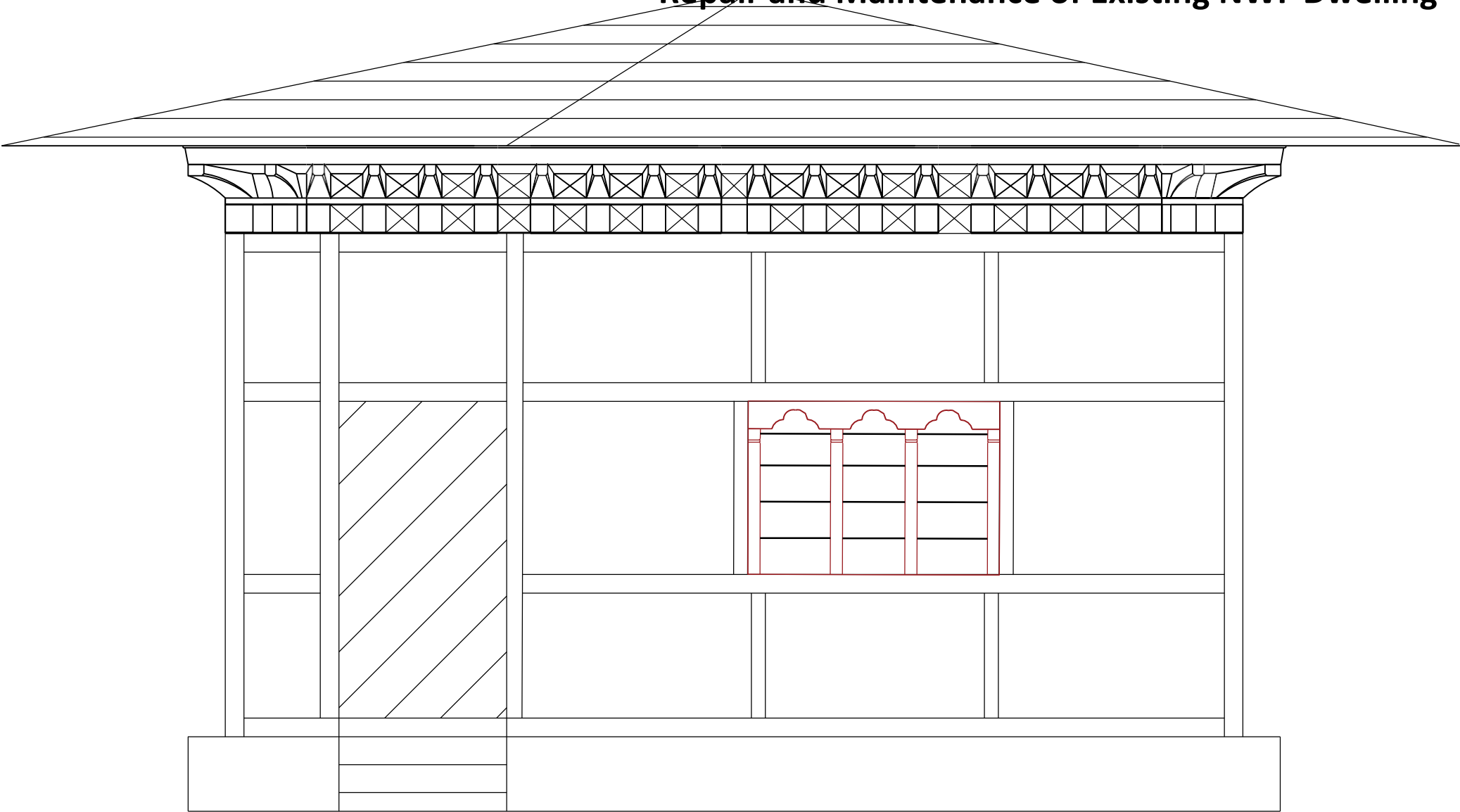


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Repair and Maintenance of Existing NWF Dwelling



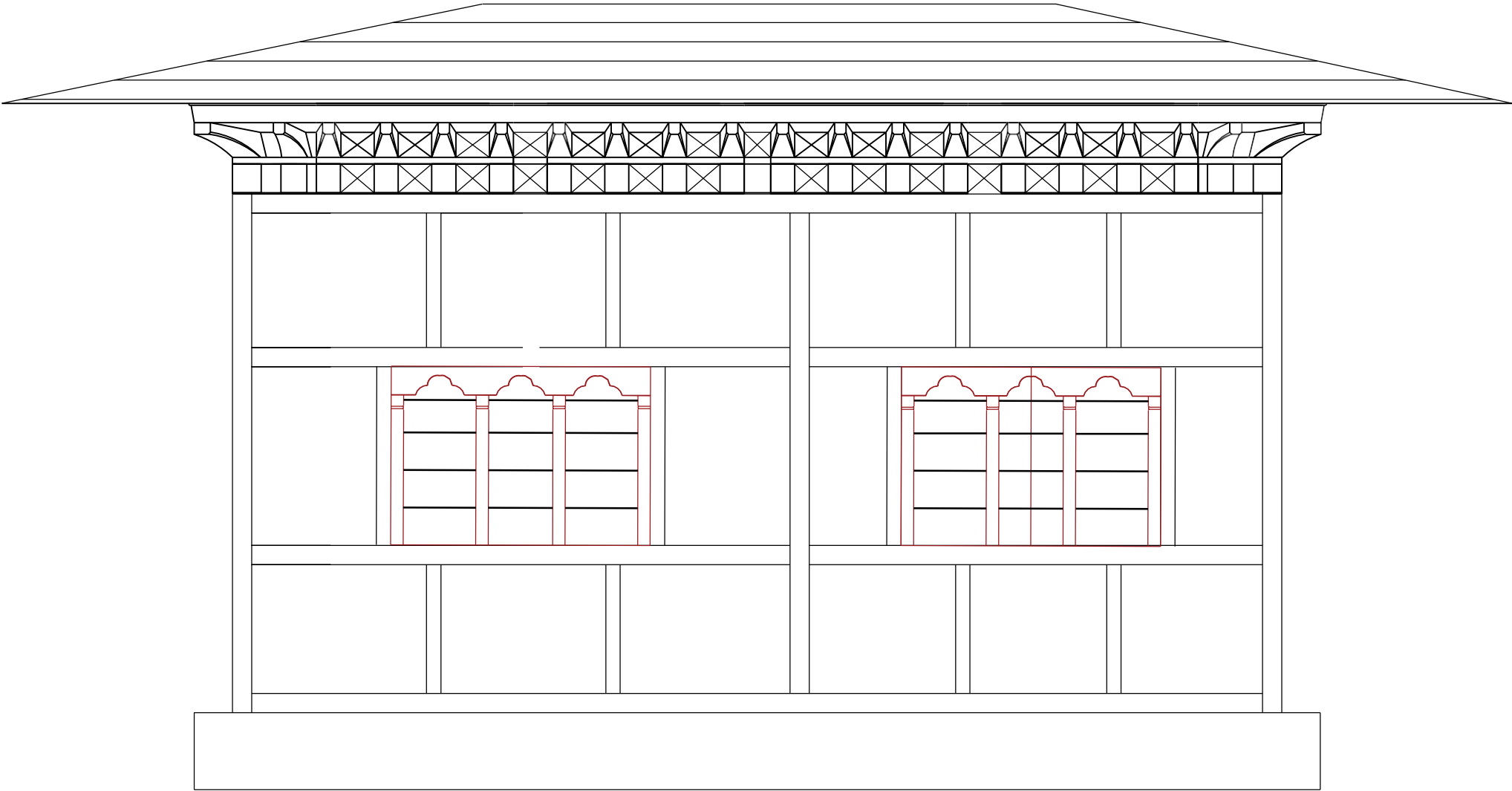
Elevation A



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Nobding Sub-Division		Title : Existing NWF camp Ele.A		
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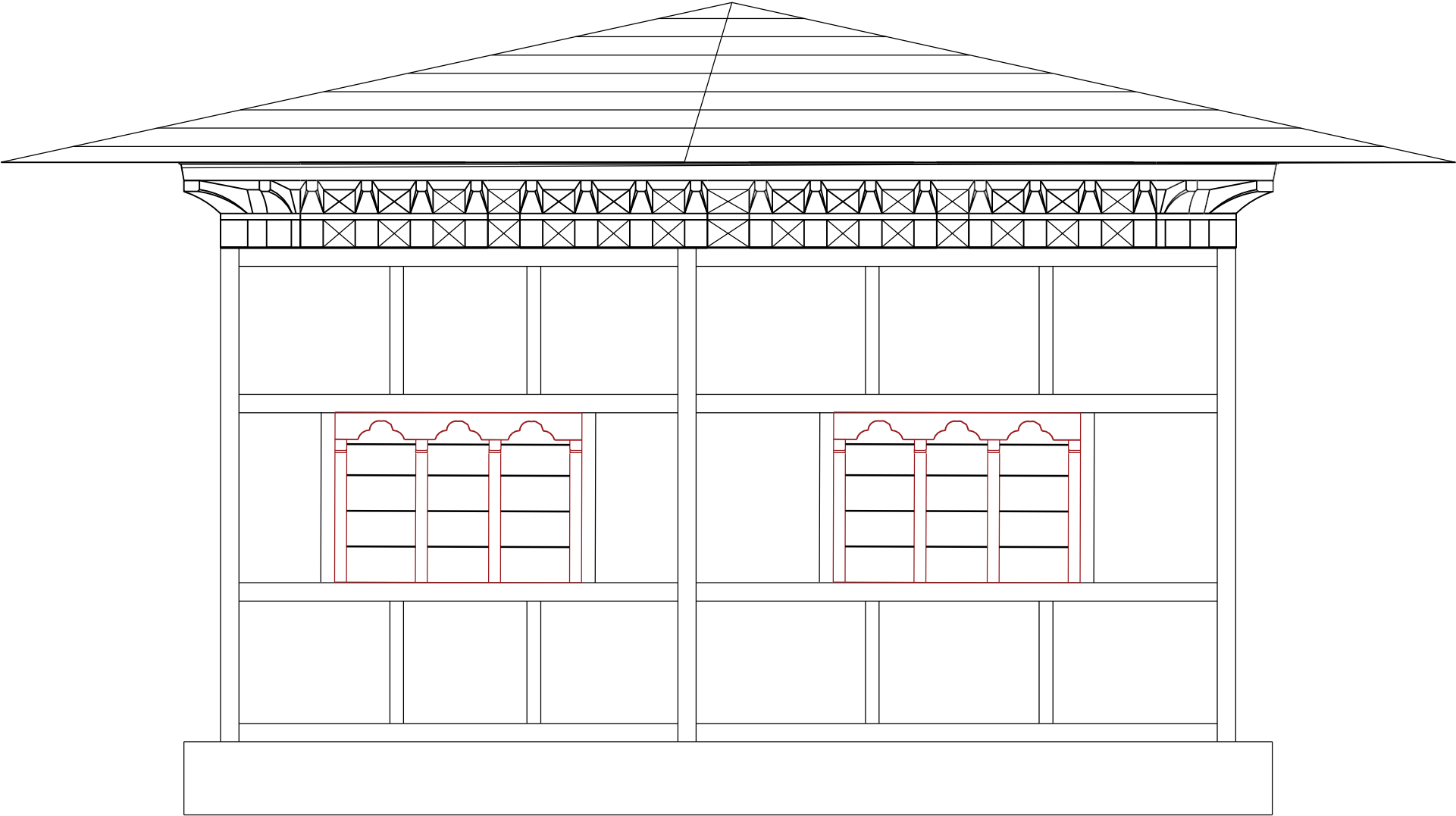
Elevation B



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Nobding Sub-Divison		Title : Existing NWF camp Ele.B		
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Elevation C

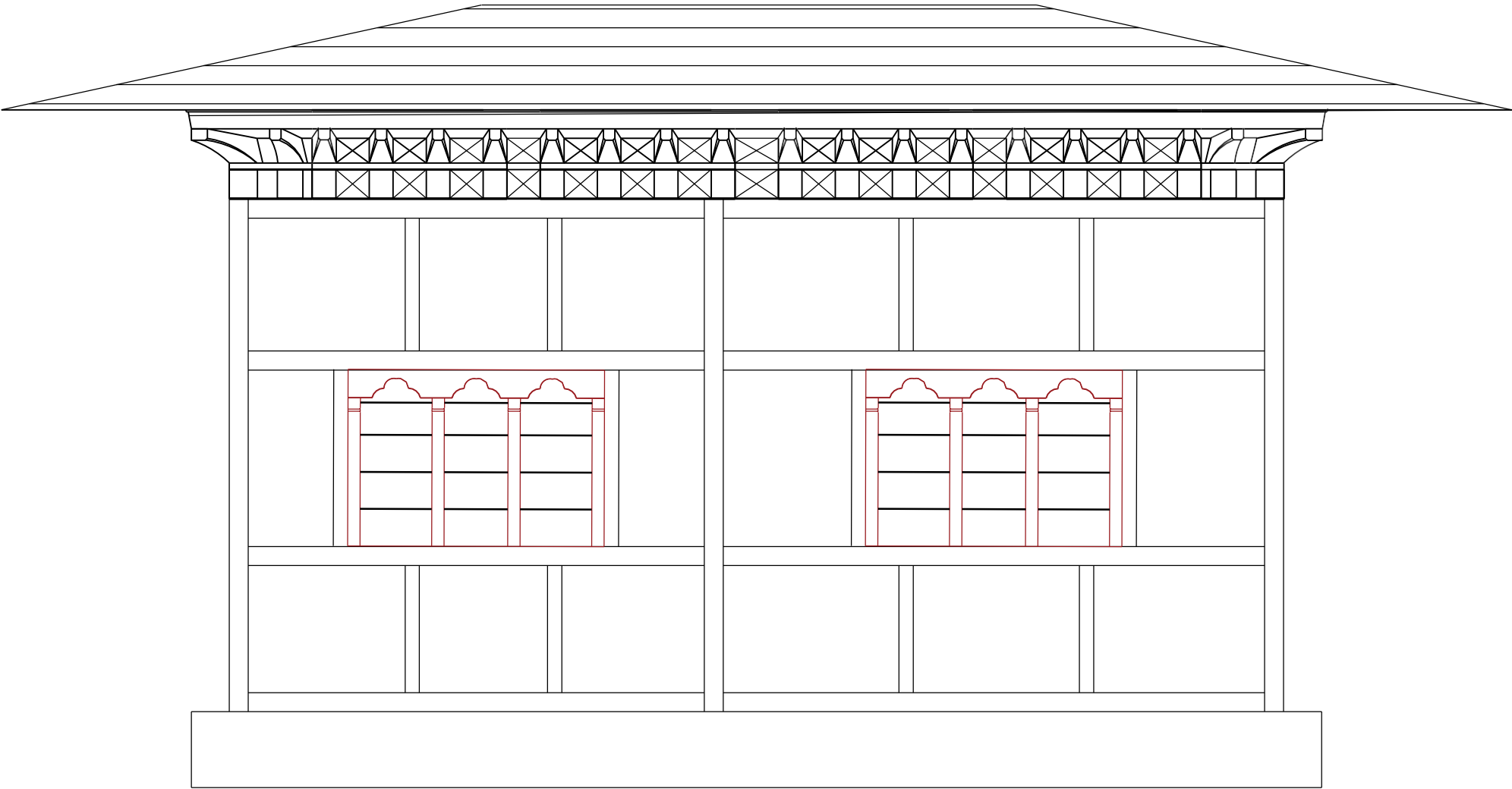


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Nobding Sub-Divison		Title : Existing NWF camp Ele.C		
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Repair and Maintenance of Existing NWF Dwelling



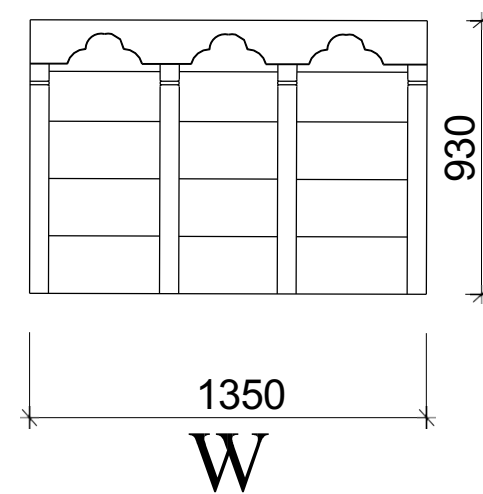
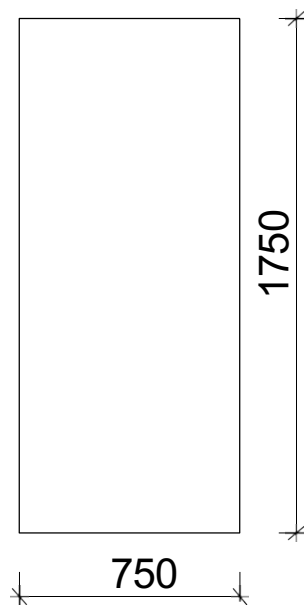
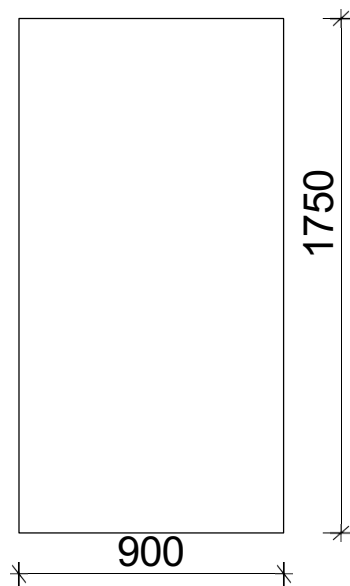
Elevation D



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Nobding Sub-Divison		Title : Existing NWF camp Ele.C		
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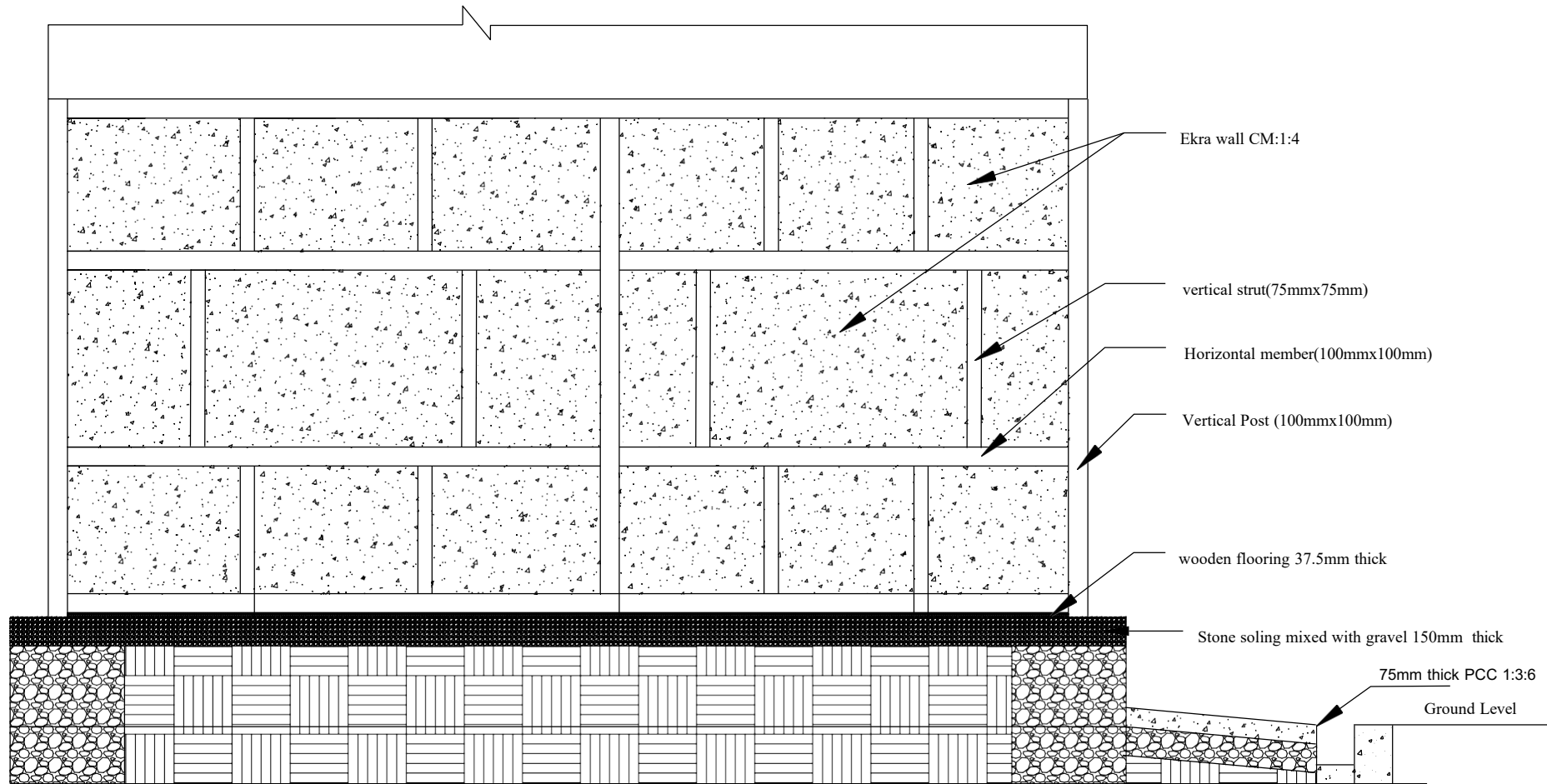


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Nobding Sub-Divison		Title : NWF camp door & window details		
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Repair and Maintenance of Existing NWF Dwelling



Section



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Department of Surface Transport
Regional Office Lobesa



Nobding Sub-Divison

Title : Existing NWF camp Ele.C

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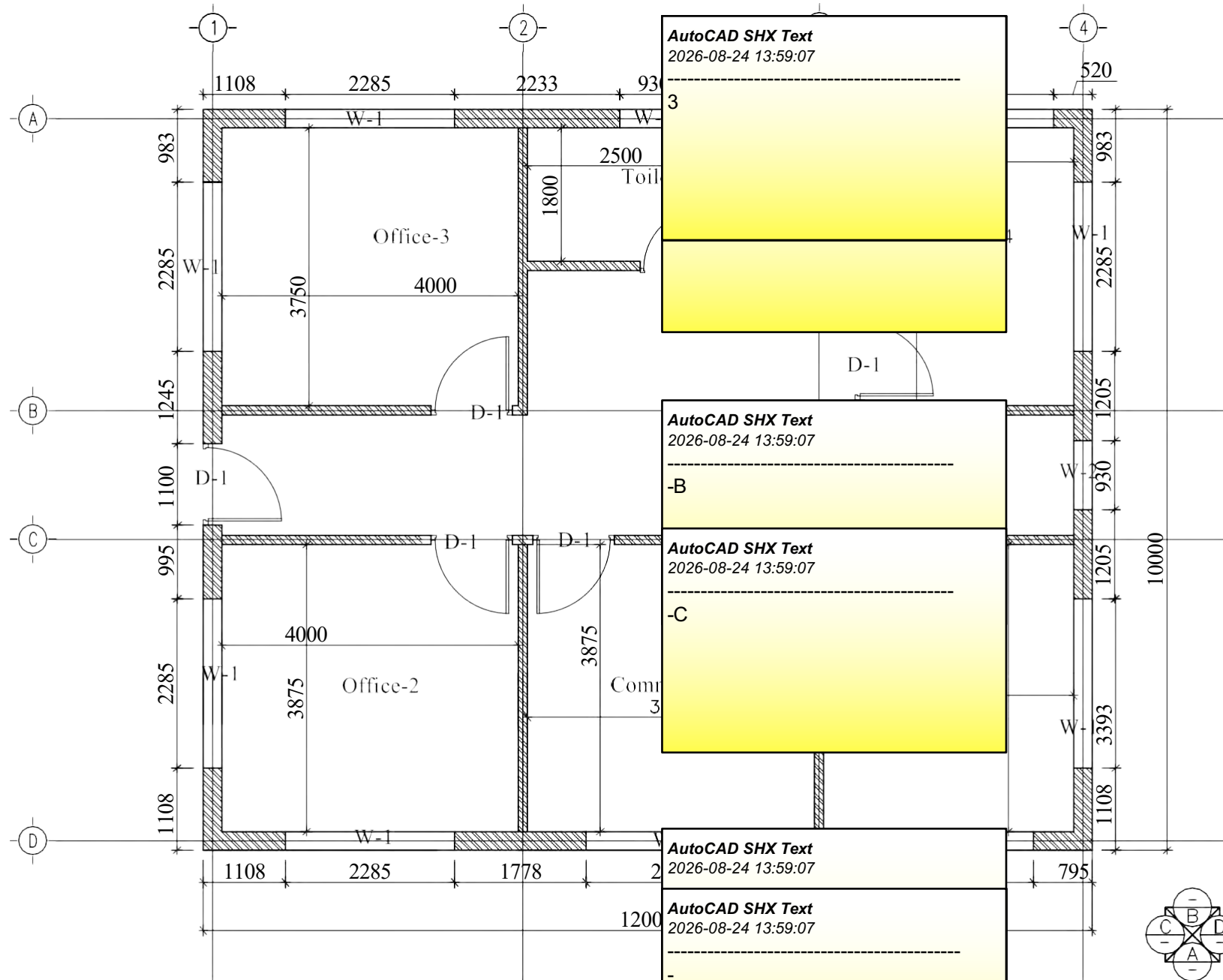
Construction, Operation and Maintenance of Project Office

	Ministry of Infrastrure and Transport Department of Surface Transport Regional Office Lobesa		Nobding Sub-Divison		Title : Contarcter office for PBMC			
			Drawn by:	Rinchen,Engg.	Drawing No :		Revision :	
			Checked		Date :	March -2026		
			Approved		Page :		Scale : NTS	

General Note

- 1) Jungle clearing
- 2) Foundation Soil: All type of soil
- 3) Access road:width 4metre,length 100metre approximate
All type of soil & GSB laying complete
- 4) Stone works: RRM 1:4 cement mortar
- 5) Concrete works
RCC 1:1.5:3 -Plinth Beam as per the drawing
- 6) Wall works
External wall full red bricks 2nd class -Plaster 15mm thick with 1:4 cement mortar
Partition wall half red bricks 2nd class-1:4 cement mortar -plaster 12mm thick with 1:4 cement mortar
- 7) Doors and Window -as per the drawings
Door-RCC lintel cornices 1:1.5:3 with dressed wooden frame(Blue Pine) and accessories -completed
Window-RCC lintel cornices 1:1.5:3 with dressed wooden frames (Blue Pine)-completed
Window -glass-4mm thick with accessories and clamps.
- 8) Wood works
Undressed rafter & purlin, dressed Eave Board(225x25)mm (Blue pine) as per the drawings
- 9) Plinth protection as per drawing
- 10) Flooring
Room flooring -75mm thick pcc 1:2:4 with neat floor finish with cement slurry
Toilet tile -floor (300x300)mm,wall tiles (450x300)mm-8mm thick verified
- 11) Cornices
Elevation A , C & D with RCC Phana cornices.
- 12) Roofing
PPGL sheet -25g(.50mm) with accessories completed
Ceiling-8mm thick plywood
- 13) Plumbing
Soil Pipe-PVC 110mm
waste Pipe-PVC 75mm
European-type vitreous china w.c pedestai-2 nos
Water supply -CPVC 20mm internal. External supply HDPE 25mm dia pipe
White vitreous china angle back wash basin 400x400mm including brackets, 15mm c.p brass pillar taps, c.p brass chain & rubber plug, 32mm c.p brass waste, 32mm dia c.p brass trap and G.I union and repair walls -1 no.
Brass Bibcock 15mm - 2 nos
- 14) Electrical
Service Cable till meter box Fluorescent Tubular Lamp-8 nos, LED Bulb(12W-15w)-12nos
Meter box (BPC)
Earthing with accessories complete-1 no
MCB Box-1 no
MCB(6amp & 16amp) as per the requirement
Socket 16amp.-8 nos
Switch Box with switches as per requirement
Electric wiring completed (4sq.m,2.5sq.m & 0.75sq.m)
- 15) Painting
Acrylic washable Distemper white -three coats for both internal and external wall.
Window & Door with painting -Enamel painting three coats with wood primer

	Ministry of Infrastrure and Transport Department of Surface Transport Regional Office Lobesa		Nobding Sub-Divison	Title : Contarcter office for PBMC(General Note)			
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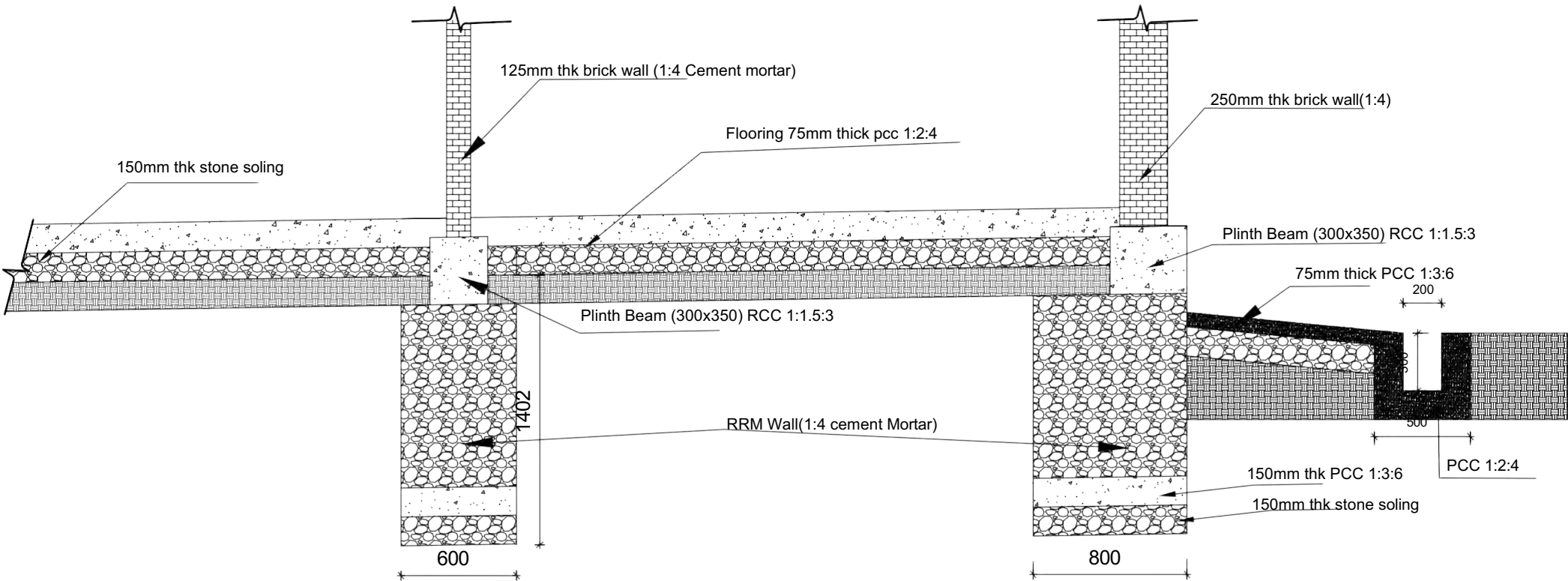
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Nobding Sub-Divisor	
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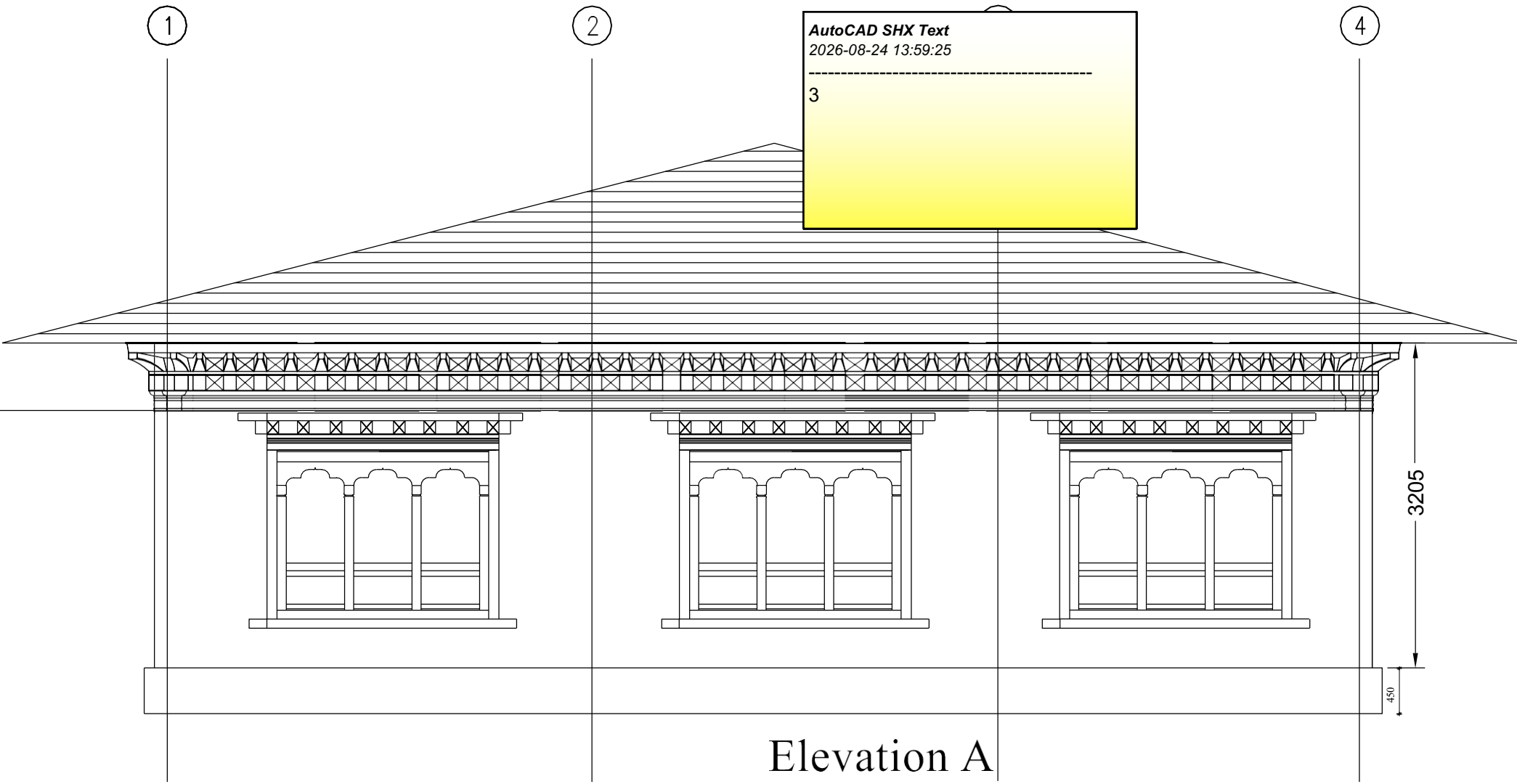
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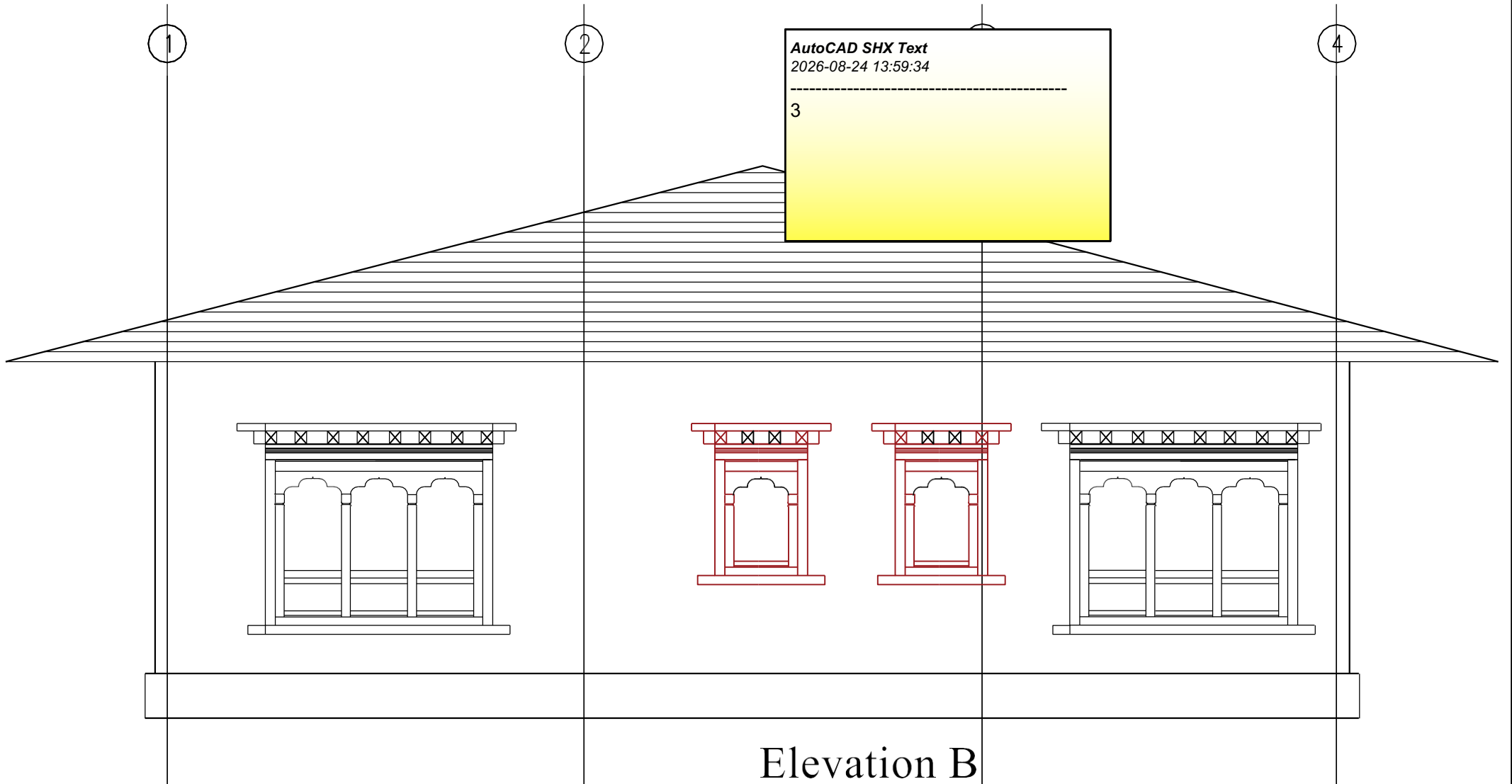
Elevation A



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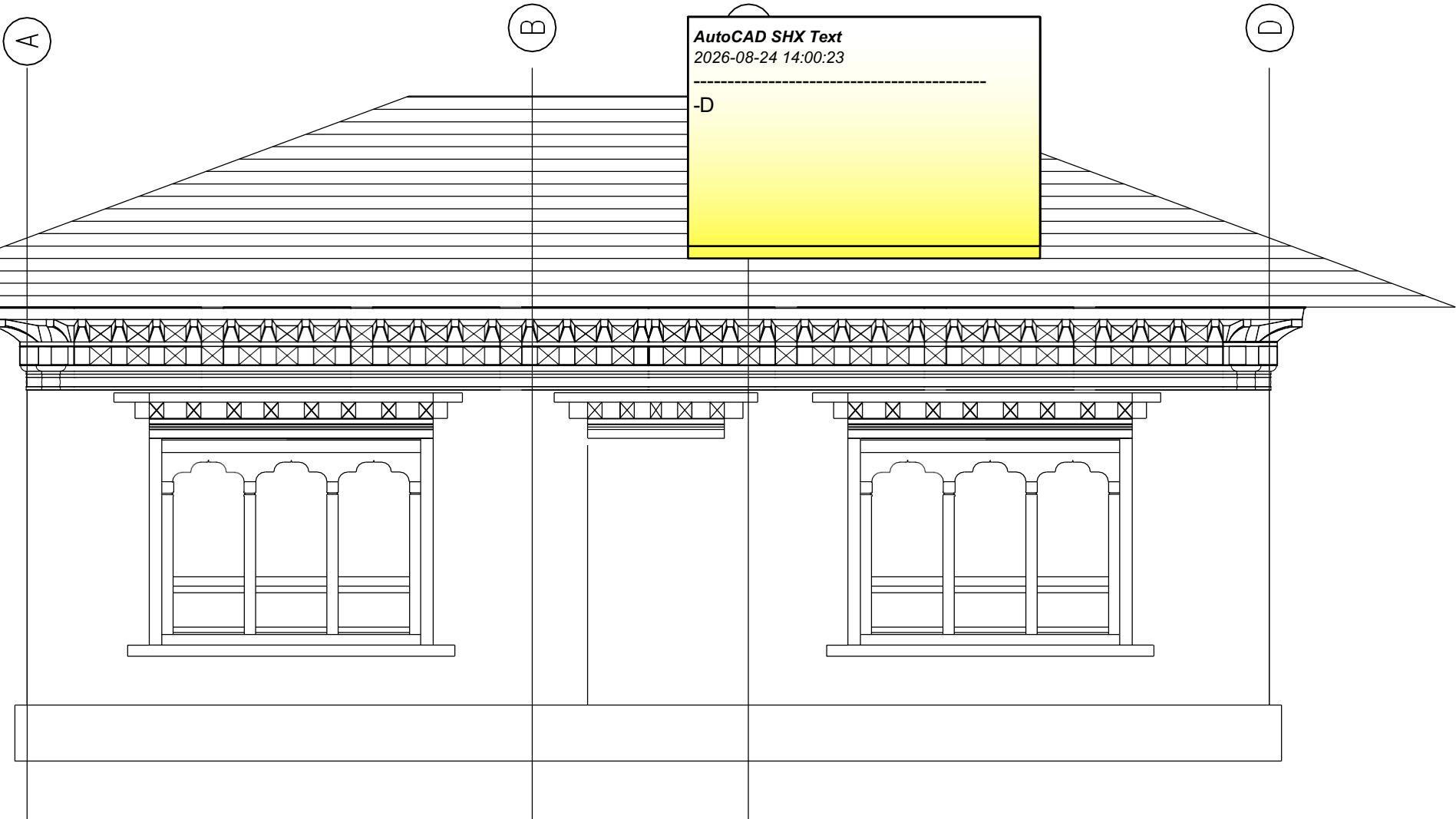
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Nobding Sub-Divison		Title : Contarcter office for PBMC (Elevation B)		
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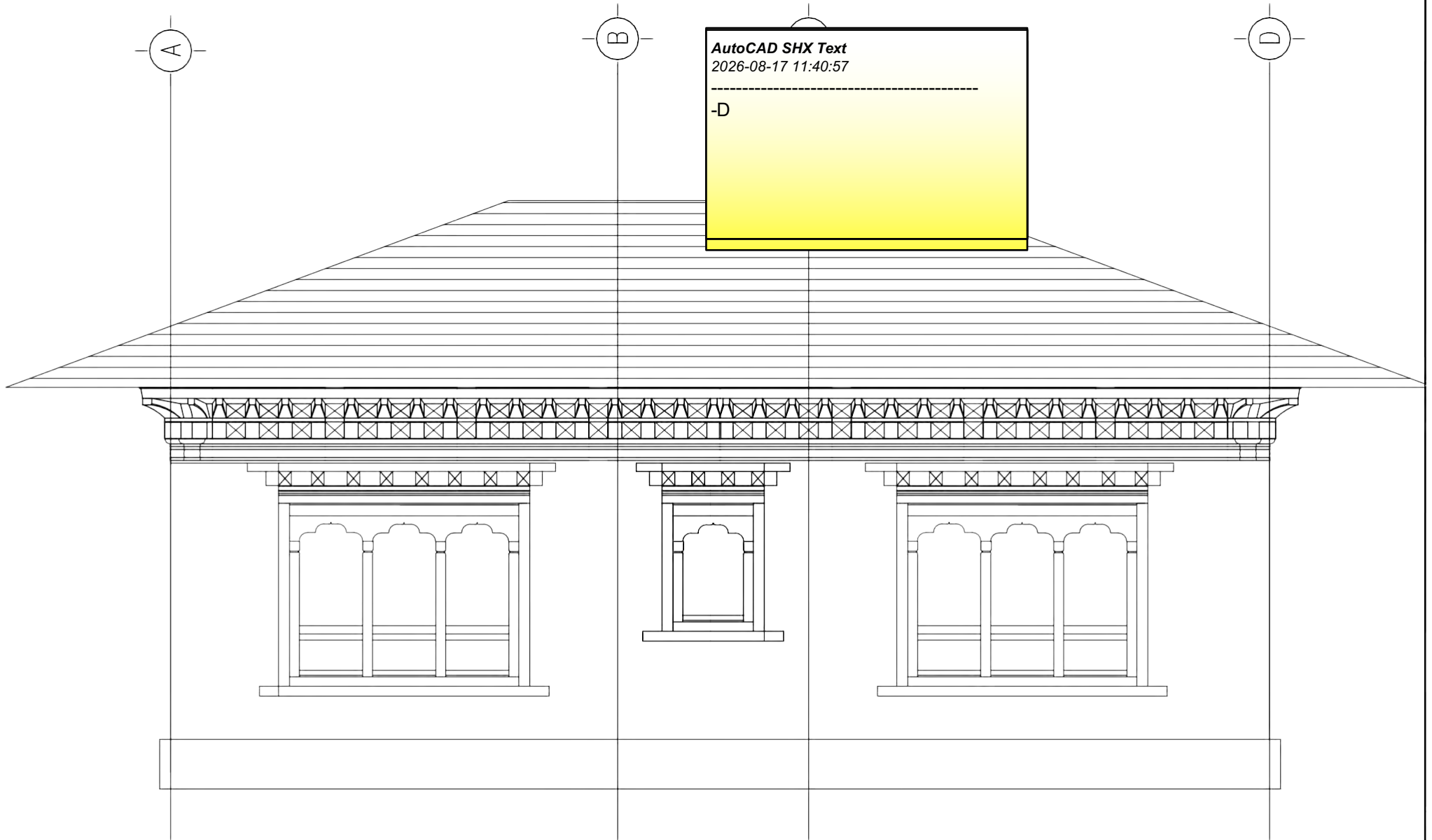
Elevation C



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Nobding Sub-Divison		Title : Contarcter office for PBMC (Elevation C)		
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Elevation D



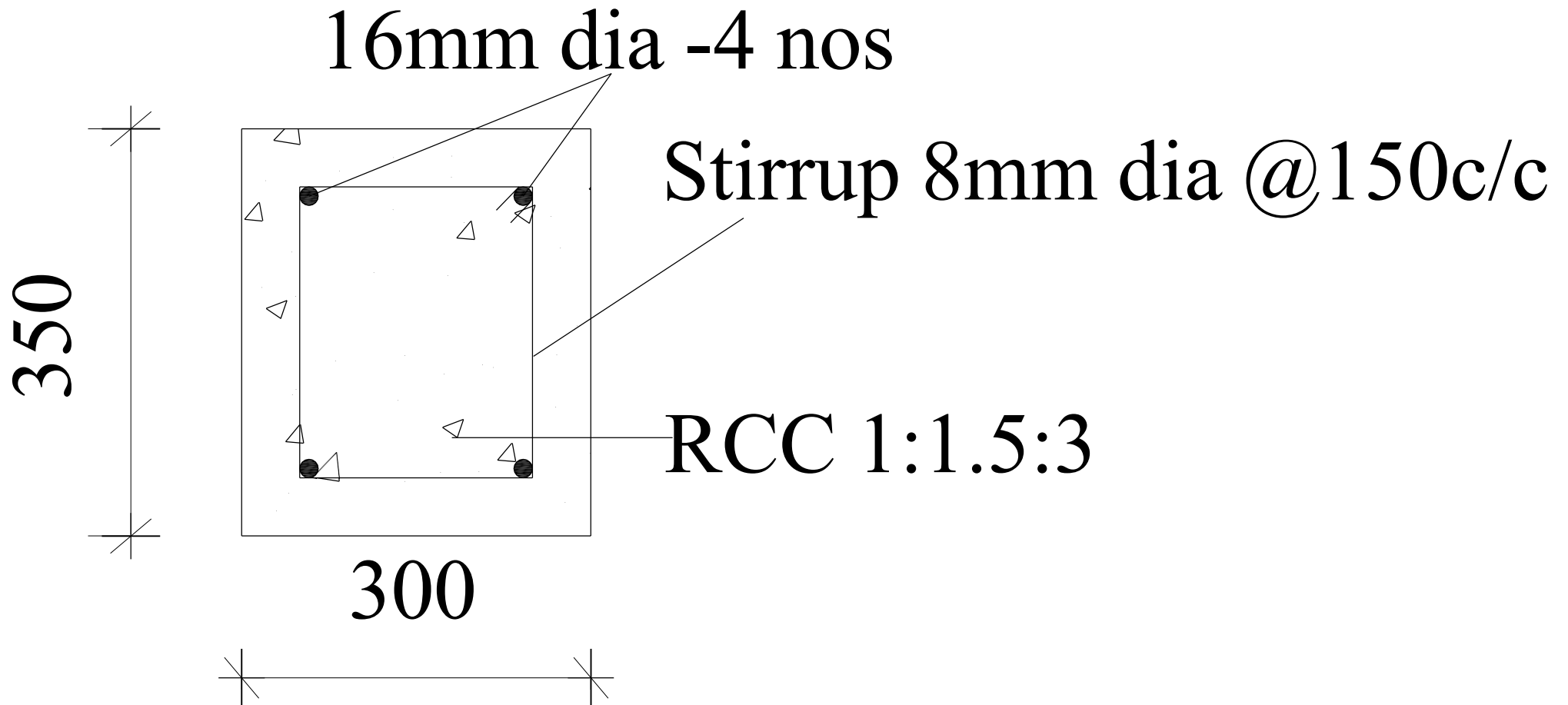
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Nobding Sub-Divison

Title : Contarcter office for PBMC (Elevation D)

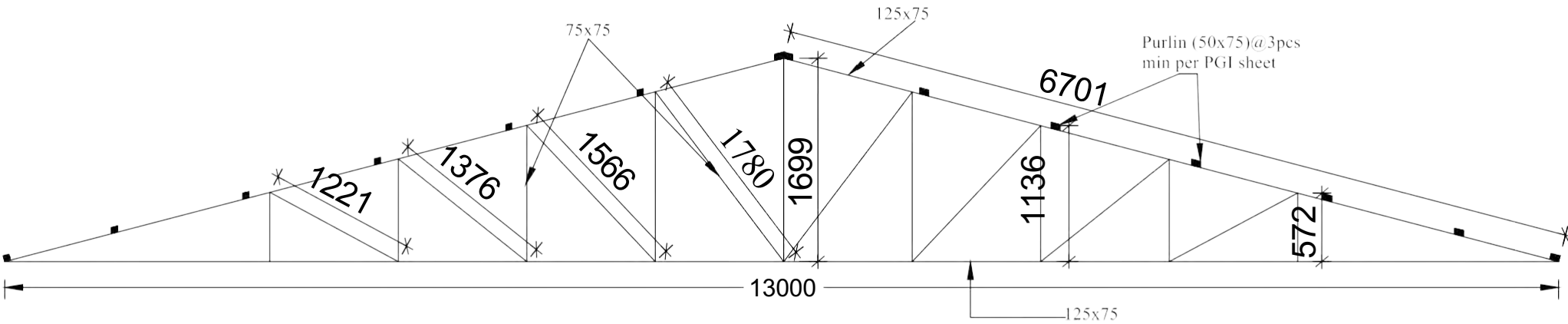
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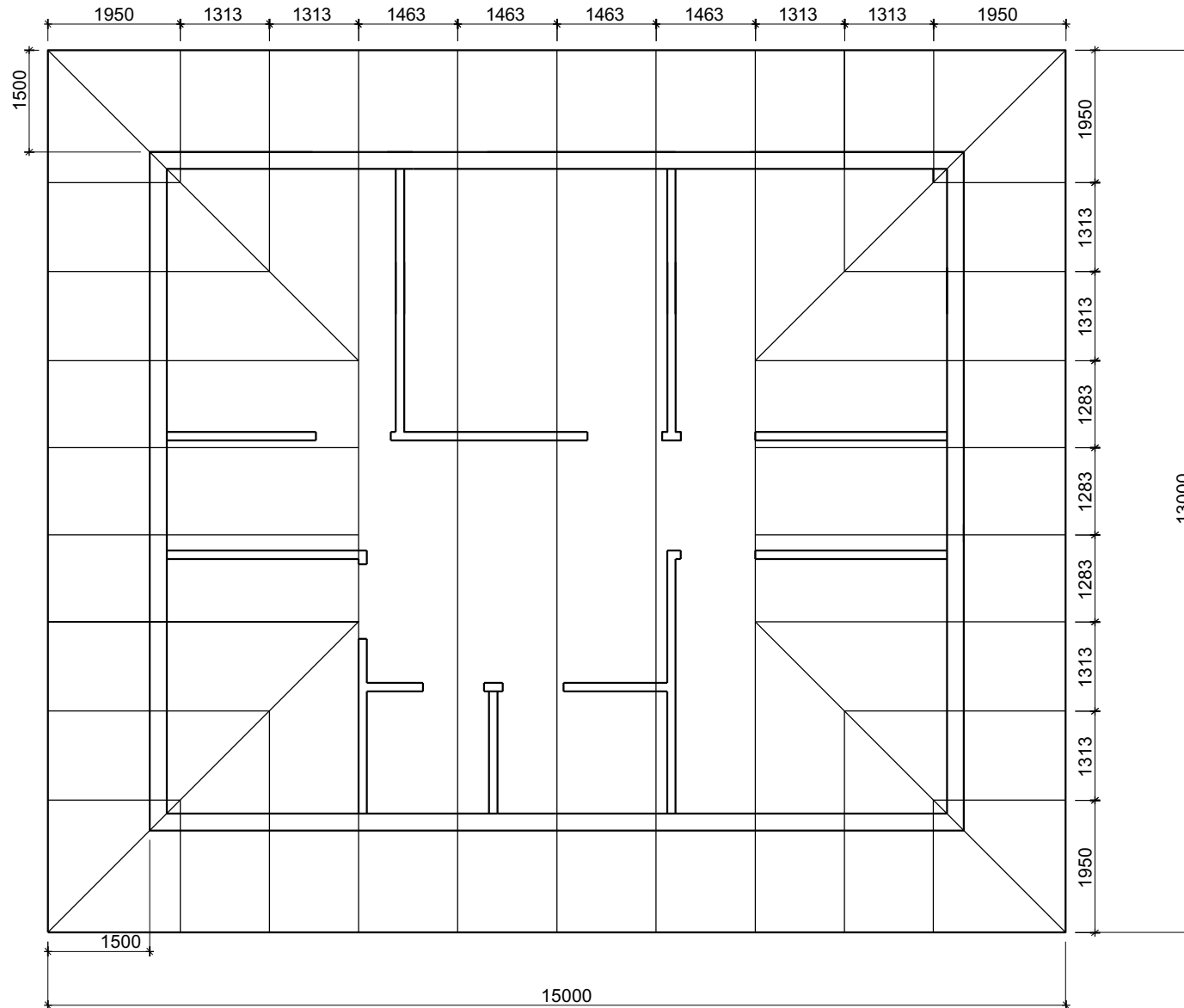
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Nobding Sub-Division		Title : Contarcter office for PBMC (Truss Details)		
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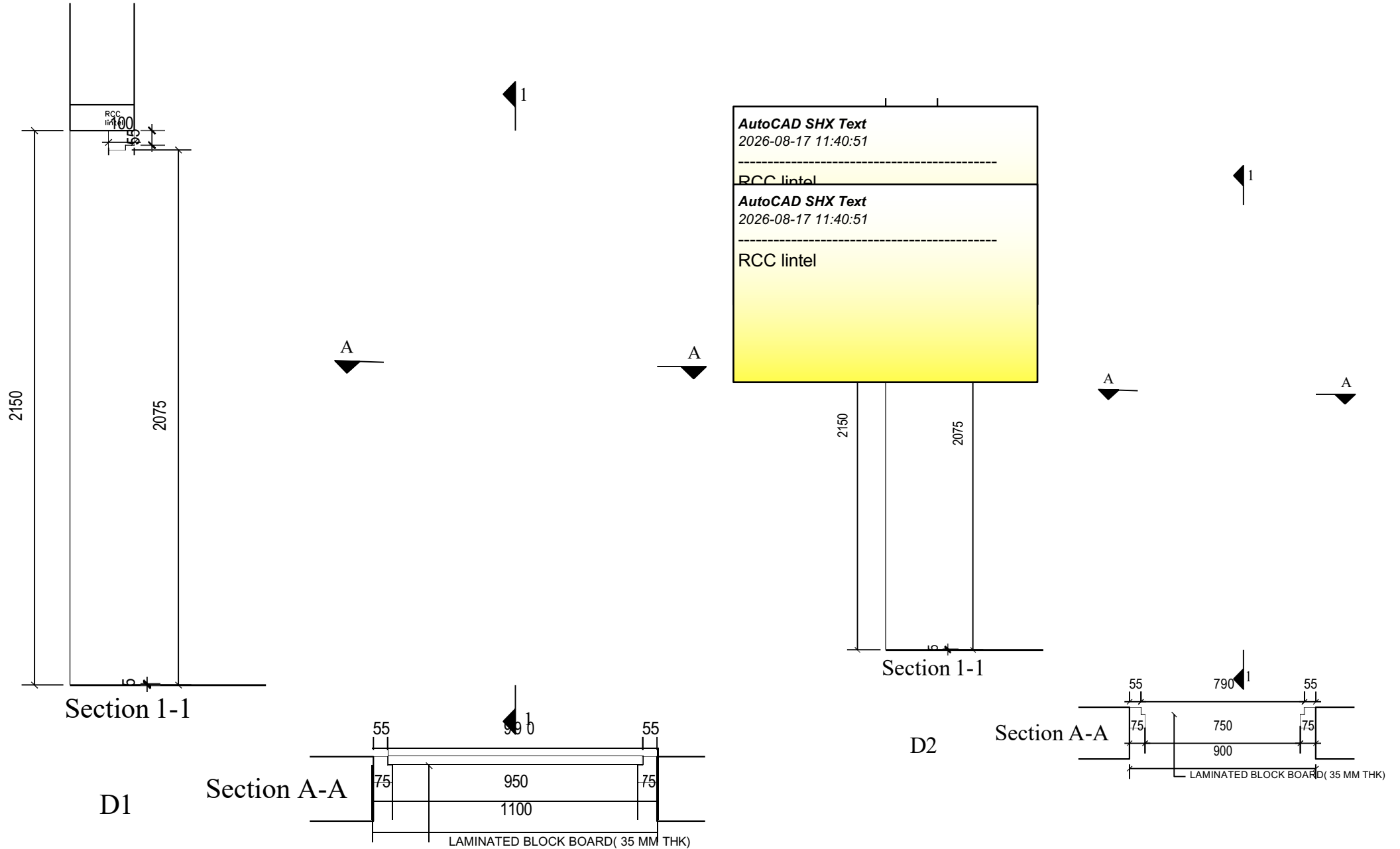
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Lot - 2: Drawing

Annex-2



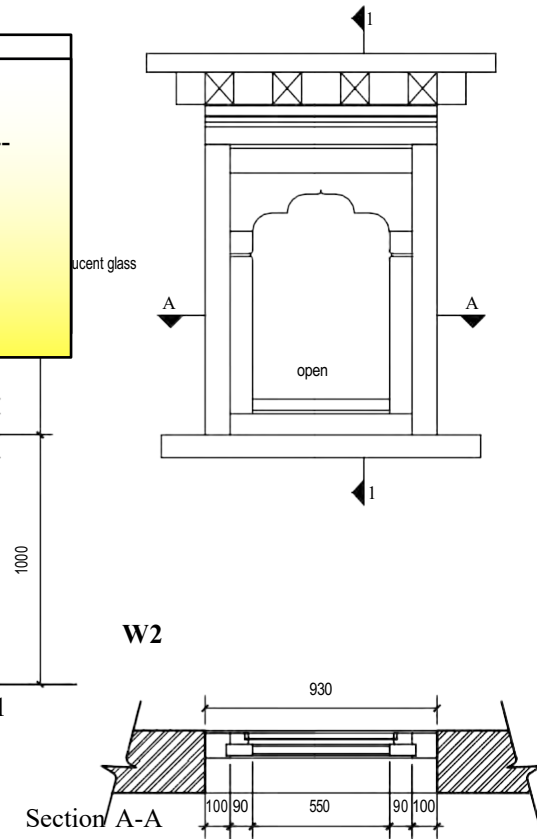
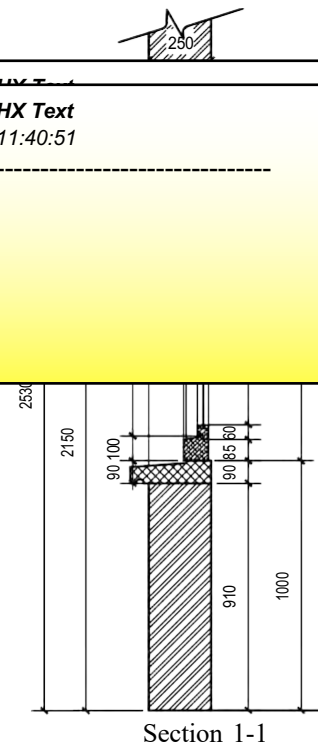
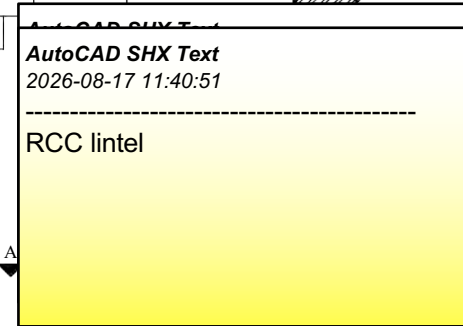
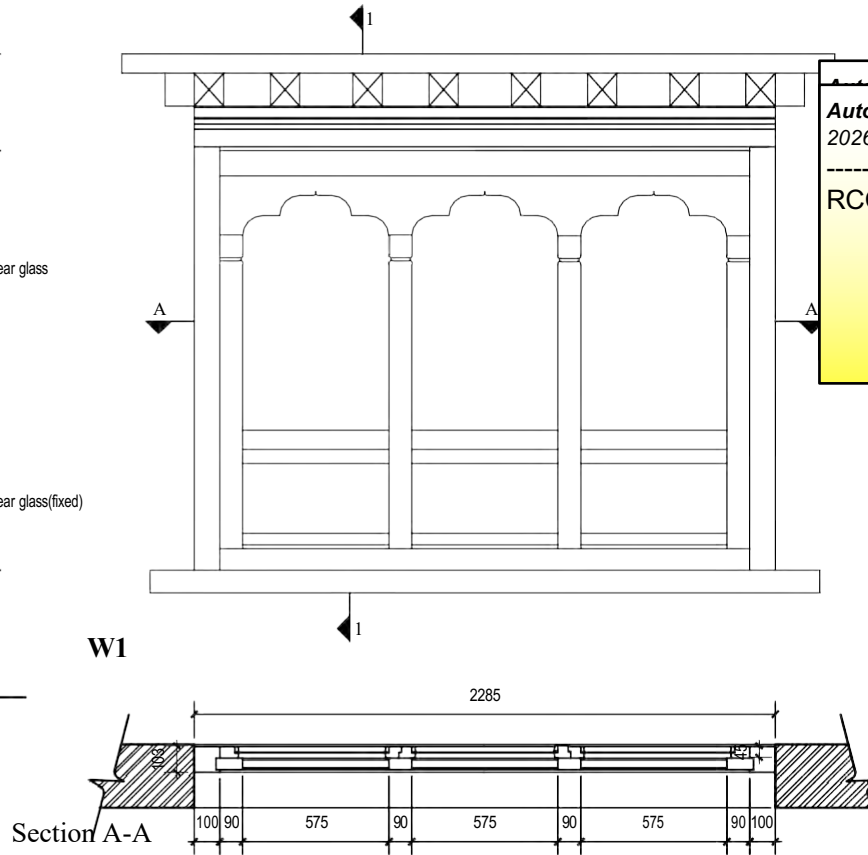
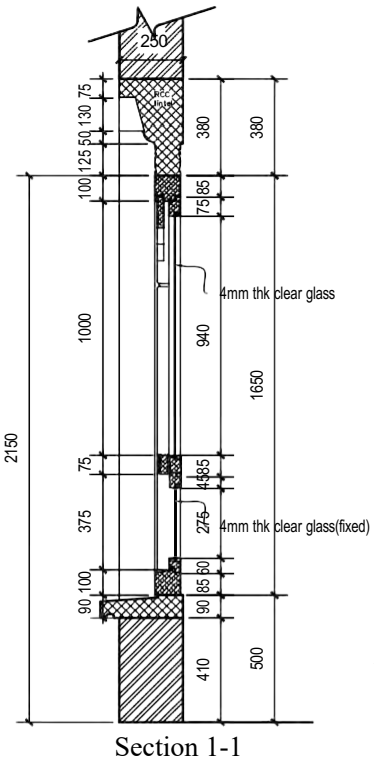
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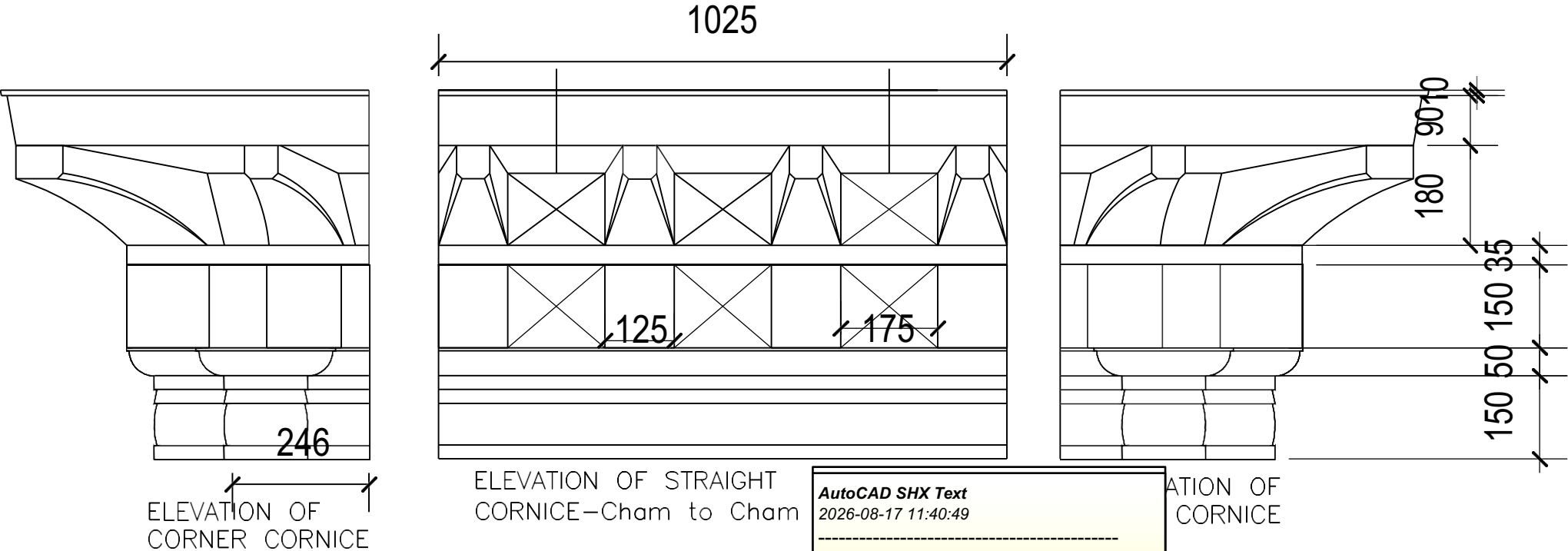


Nobding Sub-Divison

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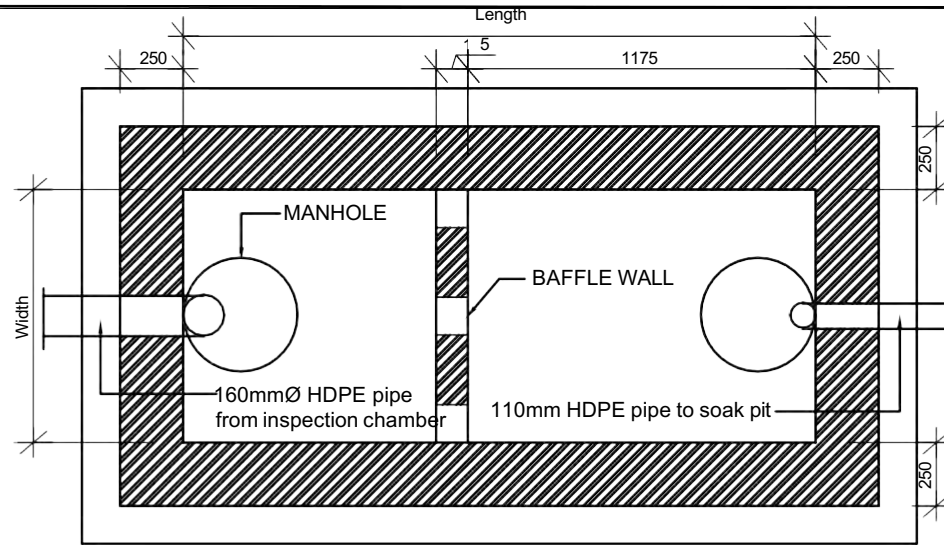
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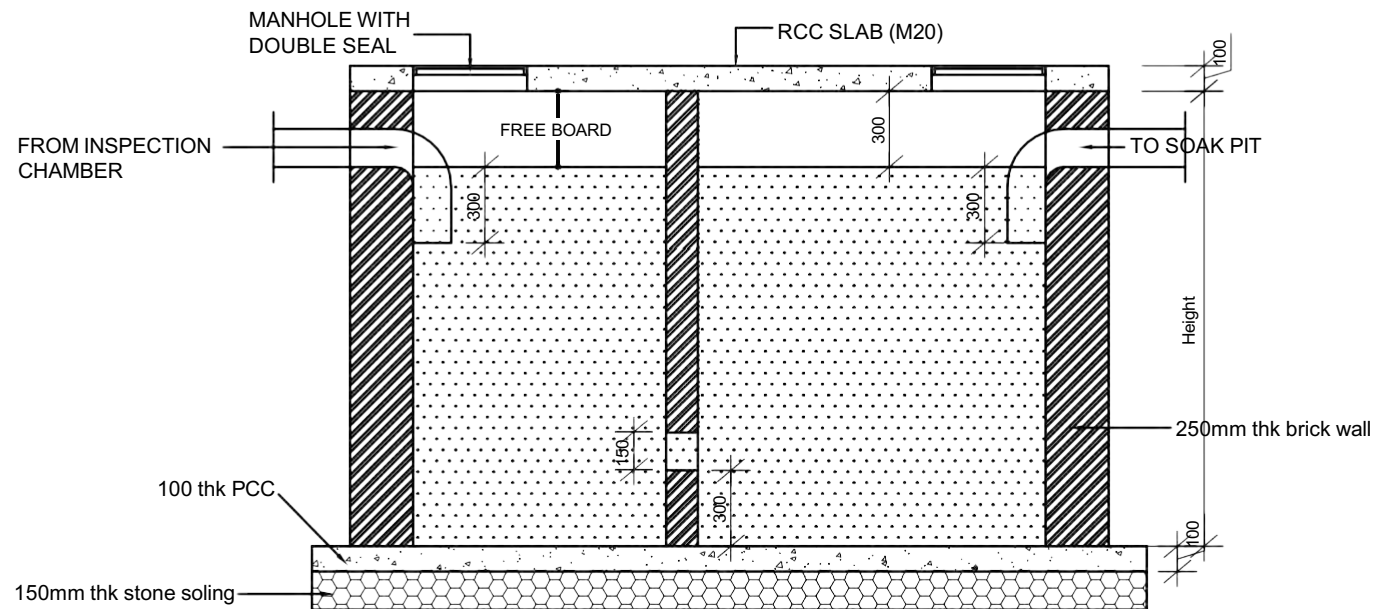
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Nobding Sub-Divisor		s details)		
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SEPTIC TANK : PLAN



SEPTIC TANK : SECTION

No. of User	Length(m)	Width(m)	Height(m)
5	1.5	0.75	1.0
10	2.0	0.9	1.0
15	2.0	0.9	1.3
20	2.3	1.10	1.3
50	4.0	1.40	1.3
150	7.5	2.4	1.4

Note:-
Construction of septic tank will depend on No. of users.



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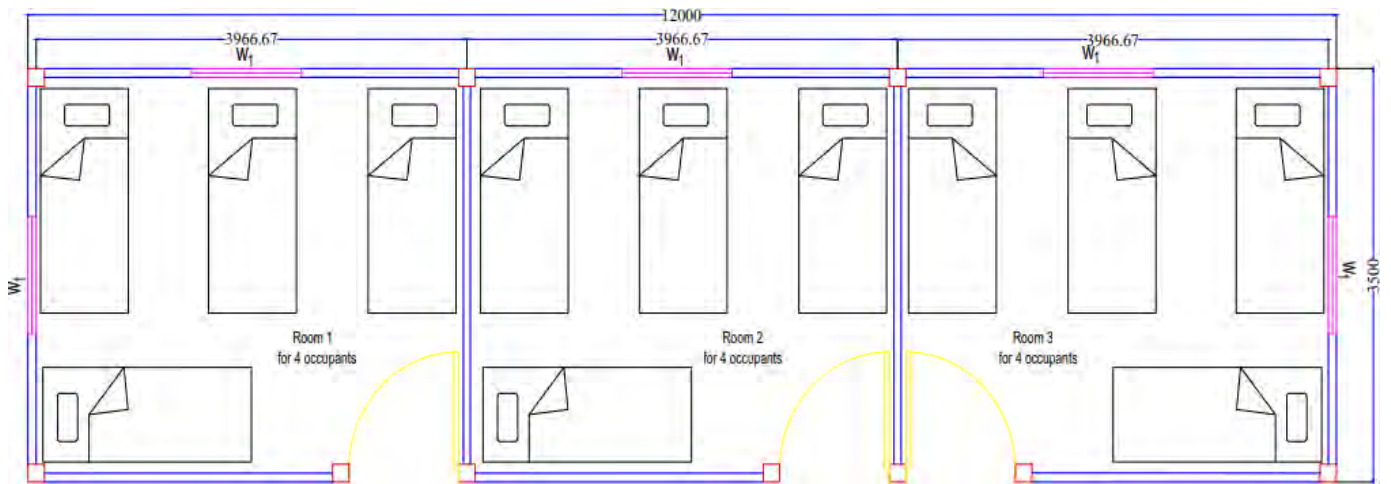


Figure 5.22.1 Bed Room Plan for 12 Occupants

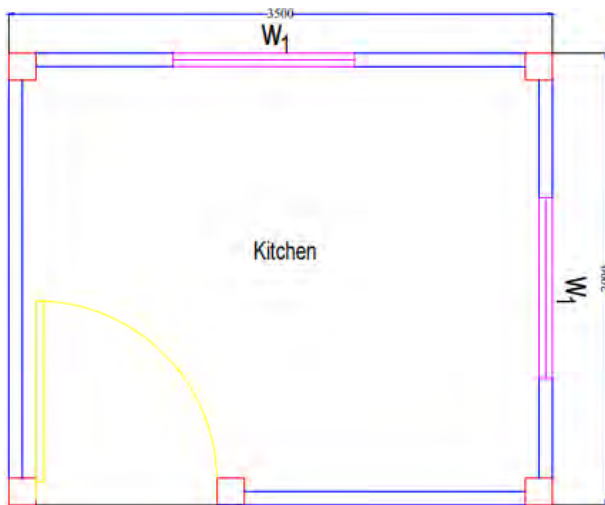


Figure 5.22.2 Kitchen Plan for 12 Occupants

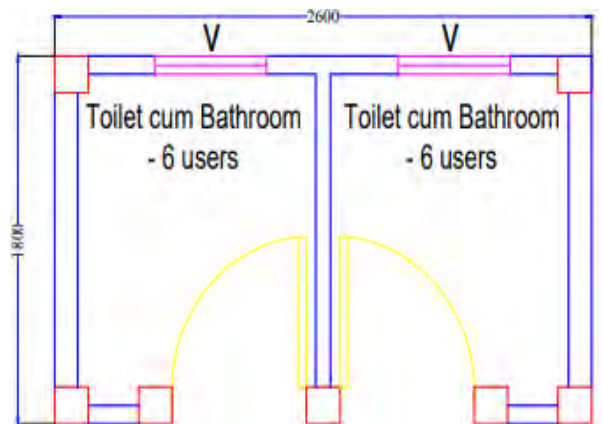


Figure 5.22.3 Toilet Plan for 12 Occupants

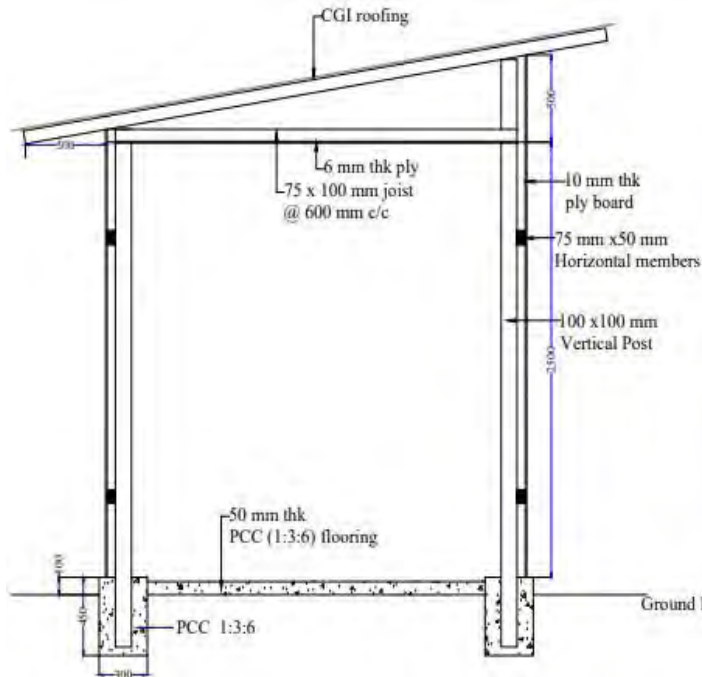


Figure 5.22.4 Section for Bed Room and Kitchen

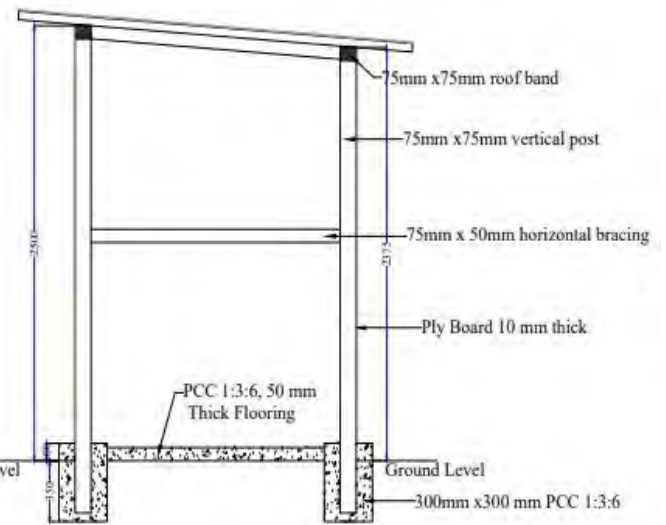
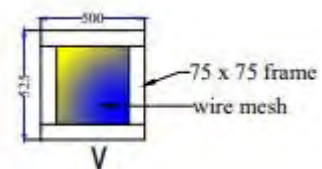
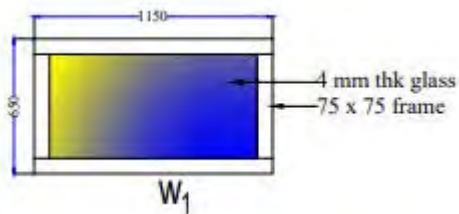


Figure 5.22.5 Section for Toilet



SL.NO.	DESCRIPTION	LEGENDS	SYMBOL
1	INDOOR SURFACE/RECESS IN NORMAL TUBE FRAME WITH LED LAMP OF 1X15W		
2	SURFACE/RECESSED CEILING FOR OUTDOOR WITH LED LAMP OF - 1X12 W		
3	MODULAR POWER SOCKET OUTLET WITH 16A SWITCH FOR 2000W		
4	6A 1-WAY & 2-WAY SWITCH AT 1.5M HEIGHT		
5	WALL MOUNTED MAIN DISTRIBUTION BOARD AT 1.8 M HEIGHT IN GROUND FLOOR		
6	SUB DISTRIBUTION BOARD AT 1.8M HEIGHT FROM FINISHED FLOOR LEVEL		
7	SWITCH BOARD INDICATION IN CONDUIT LAYOUT		

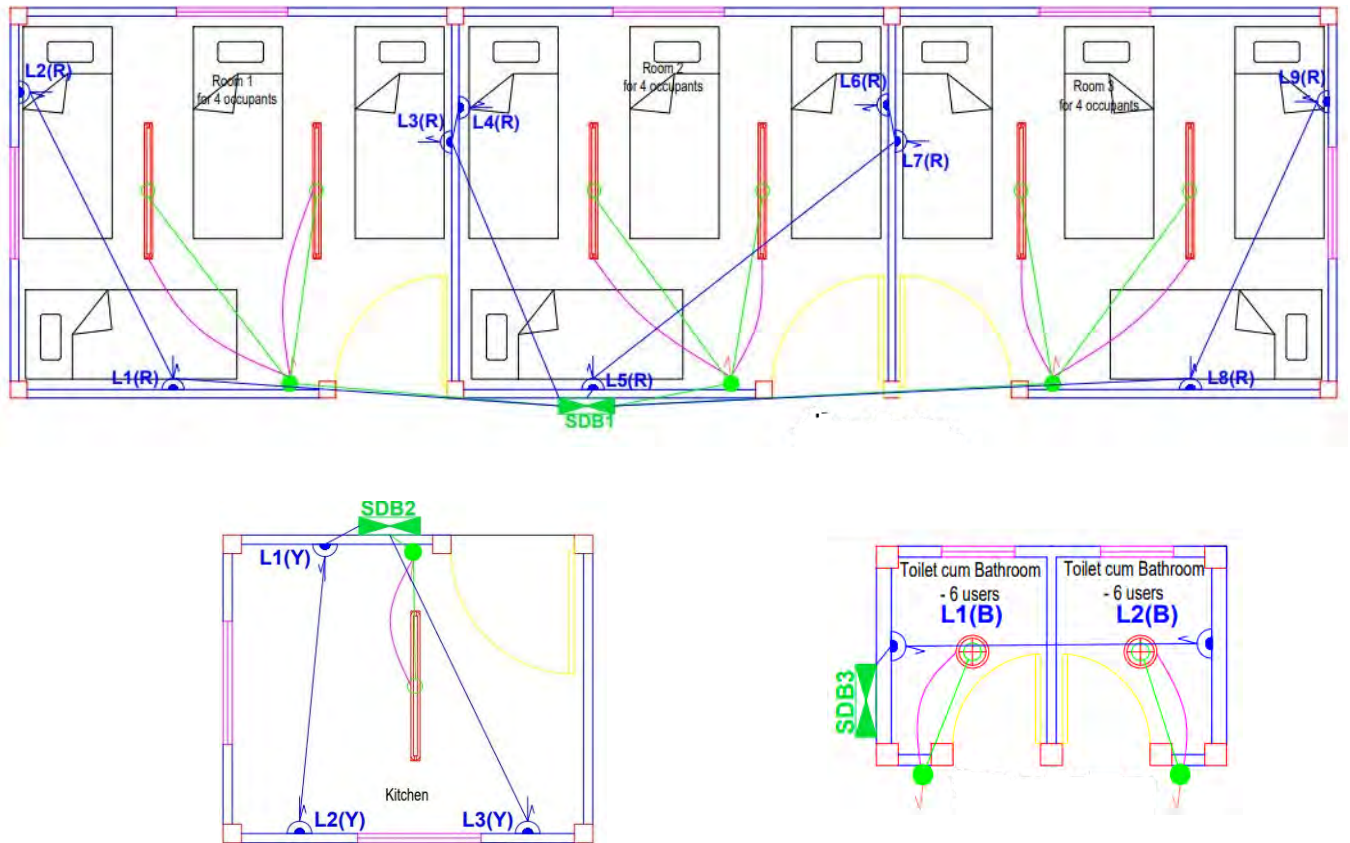


Figure 5.22.6 Light and Power Point Layout

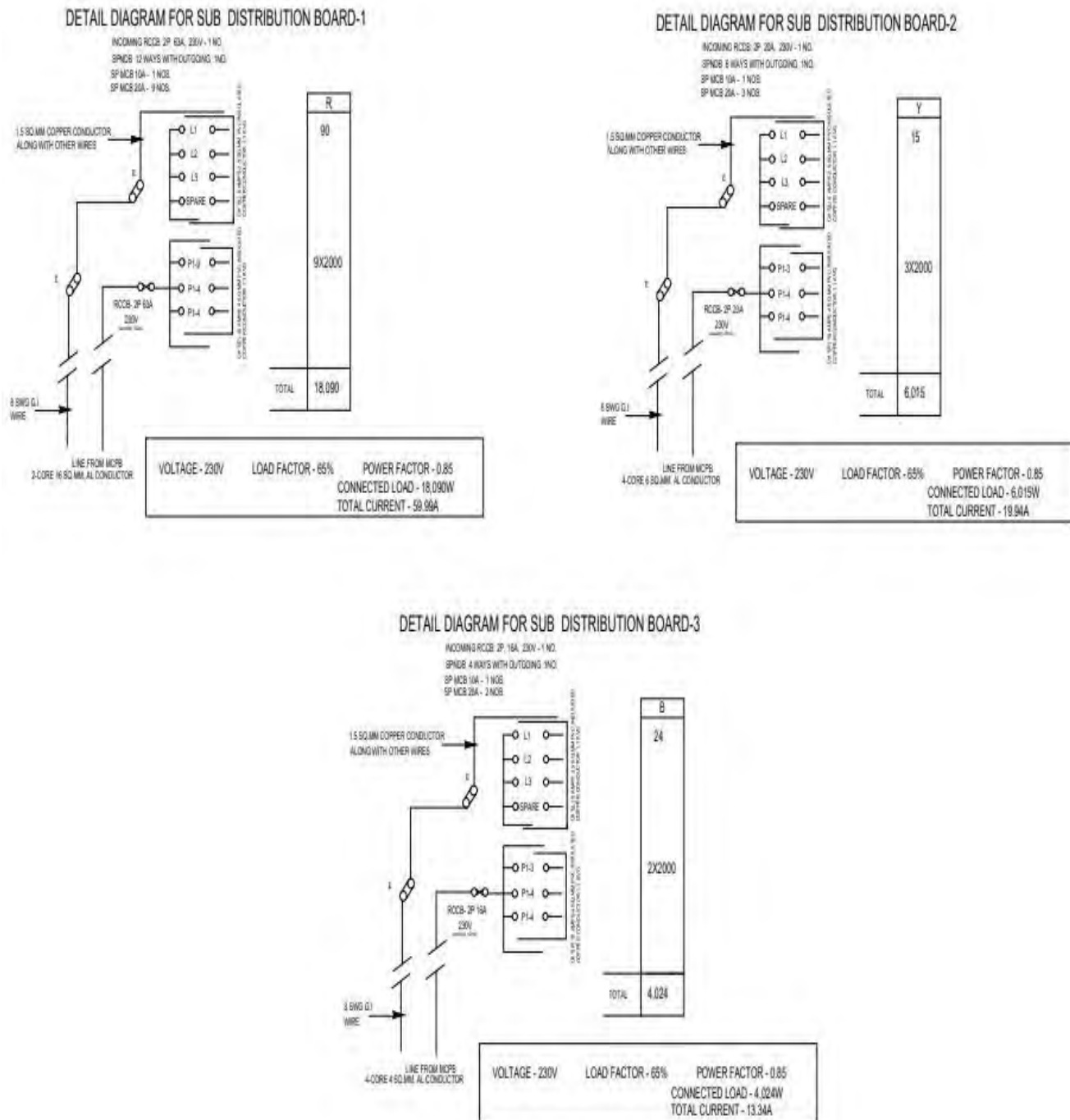


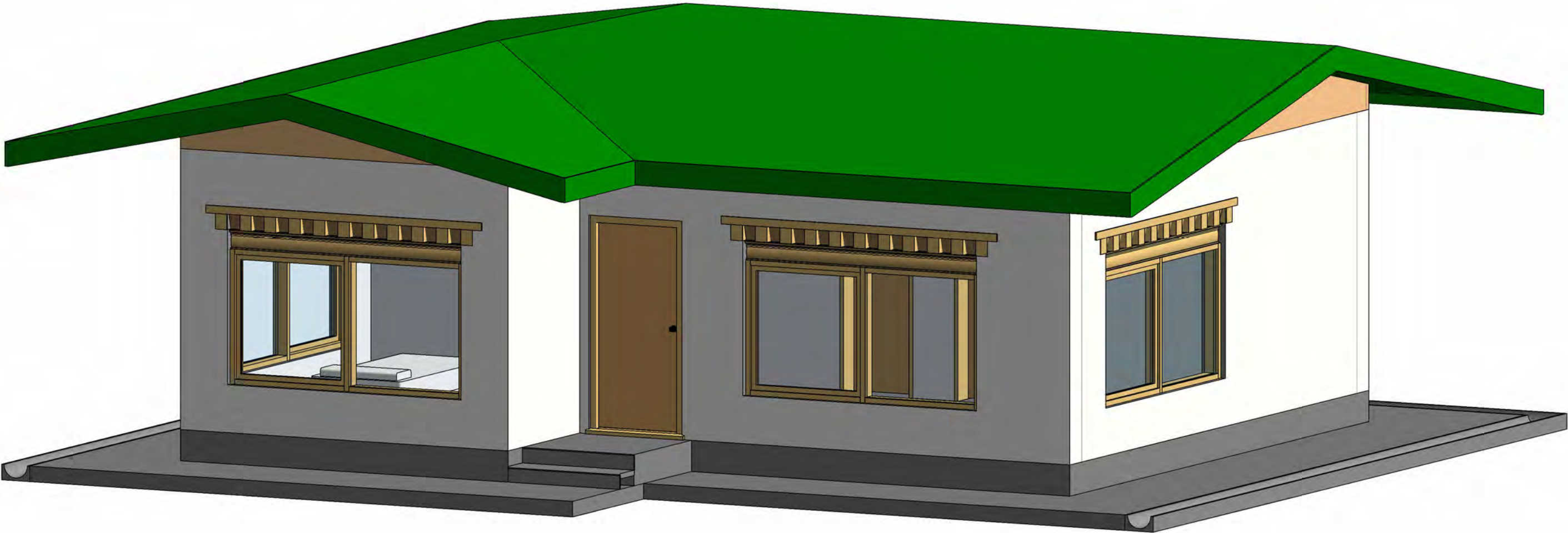
Figure 5.22.7 SDB Detail

OHS002 for Sectional works

Construction and Maintenance of Dwellings for Work force

 Ministry of Infrastructure and Transport Department of Surface Transport Regional Office Lobesa		Nobding Sub-Divison		Title : Contarcter office for PBMC			
		Drawn by:	Rinchen,Engg.	Drawing No :		Revision :	
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HIGH ALTITUDE



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF INFRASTRUCTURE & TRANSPORT

DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT
INFRASTRUCTURE DESIGN DIVISION

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

DATE:
08/24/26

PROJECT TITLE:

National Workforce Dwelling

LOCATION: Various Locations

REVISION DATE DESCRIPTION

1

2

3

4

5

BUILDING NAME:

NWF Dwelling

DESIGNED BY:

P.Z. Tamang, Asst. Architect

CHECKED BY:

Checker

DRAWN BY:

P.Z.Tamang, Asst. Architect

APPROVED BY:

Approver

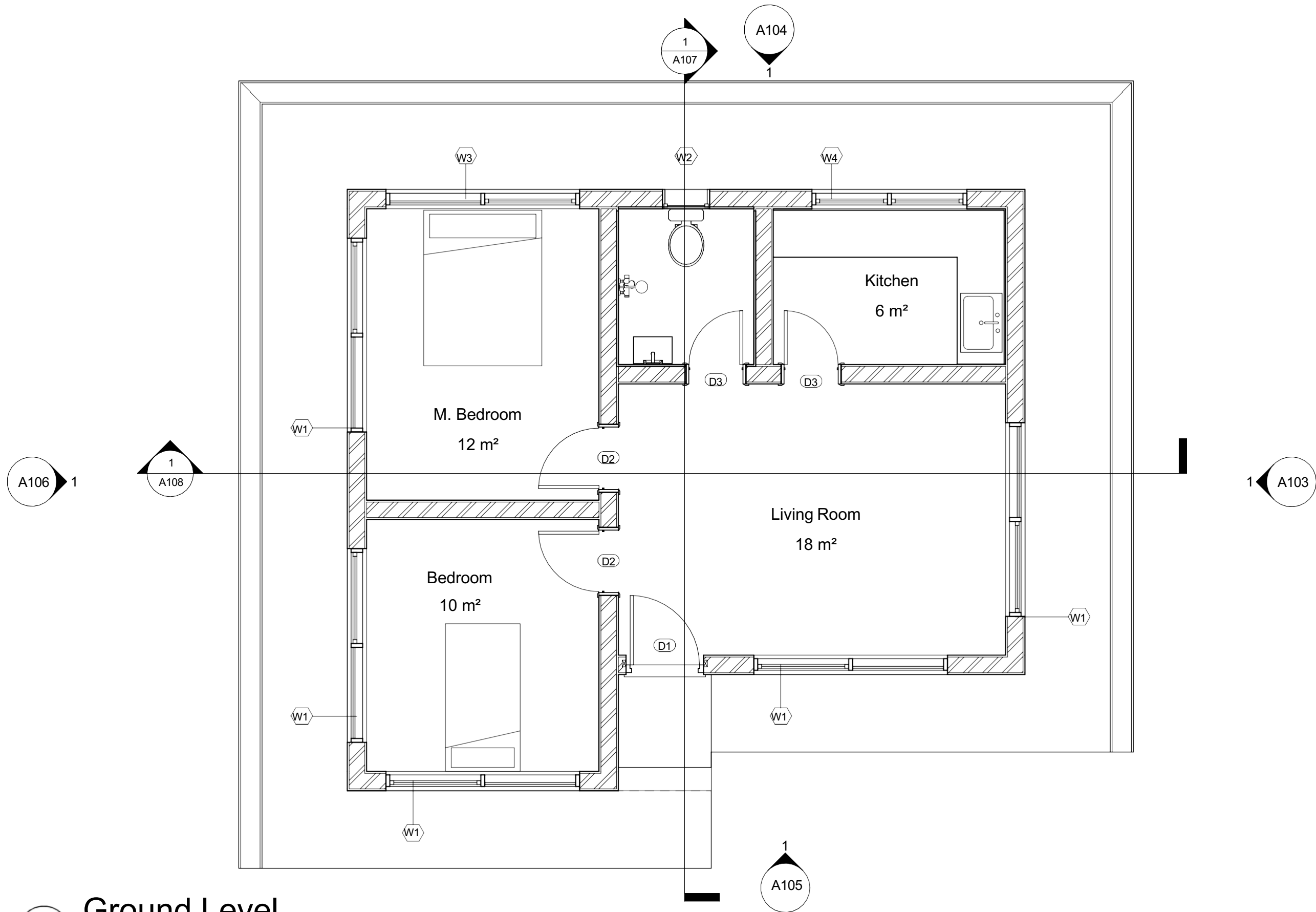
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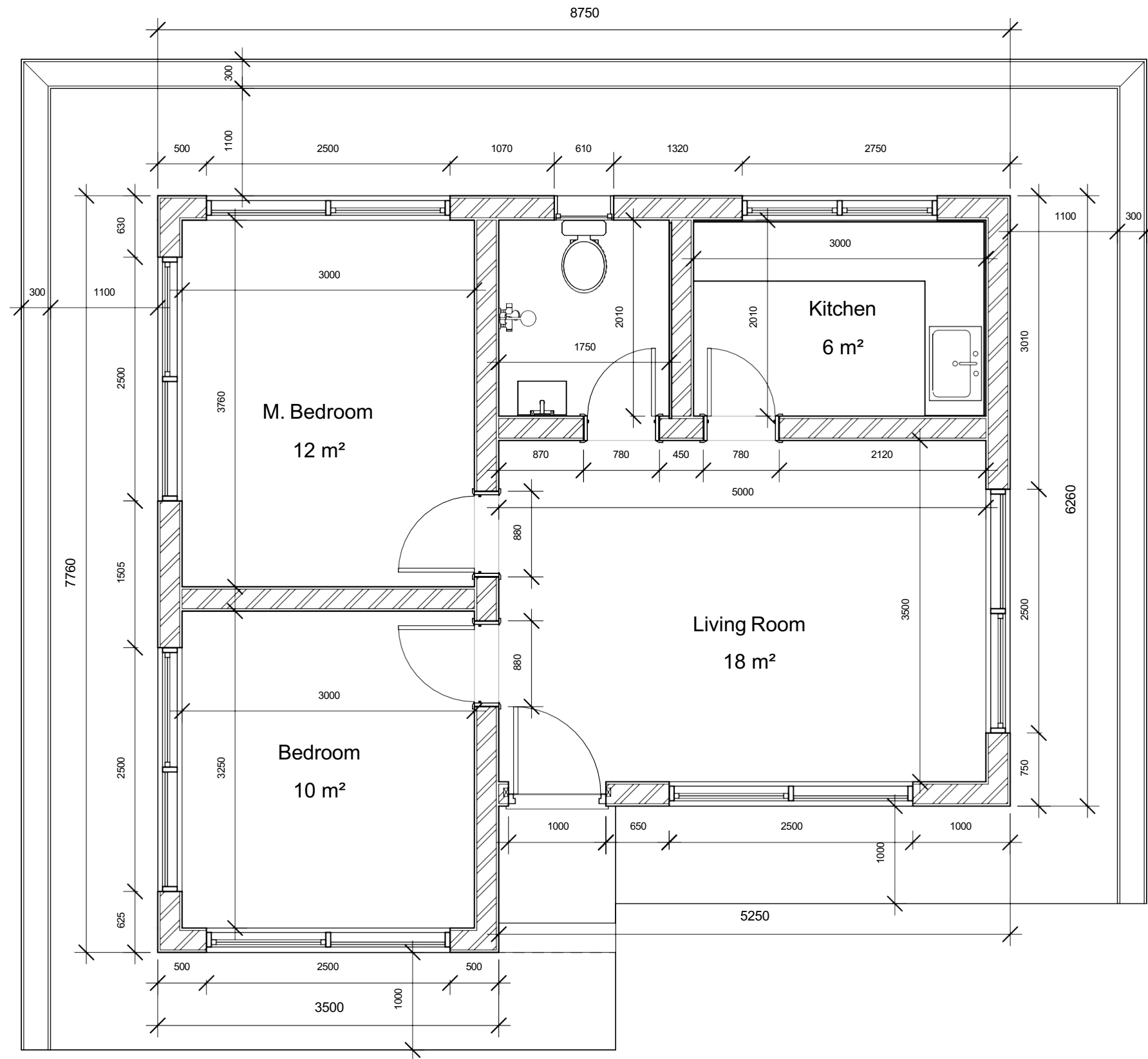
DRAWING NO:

A100



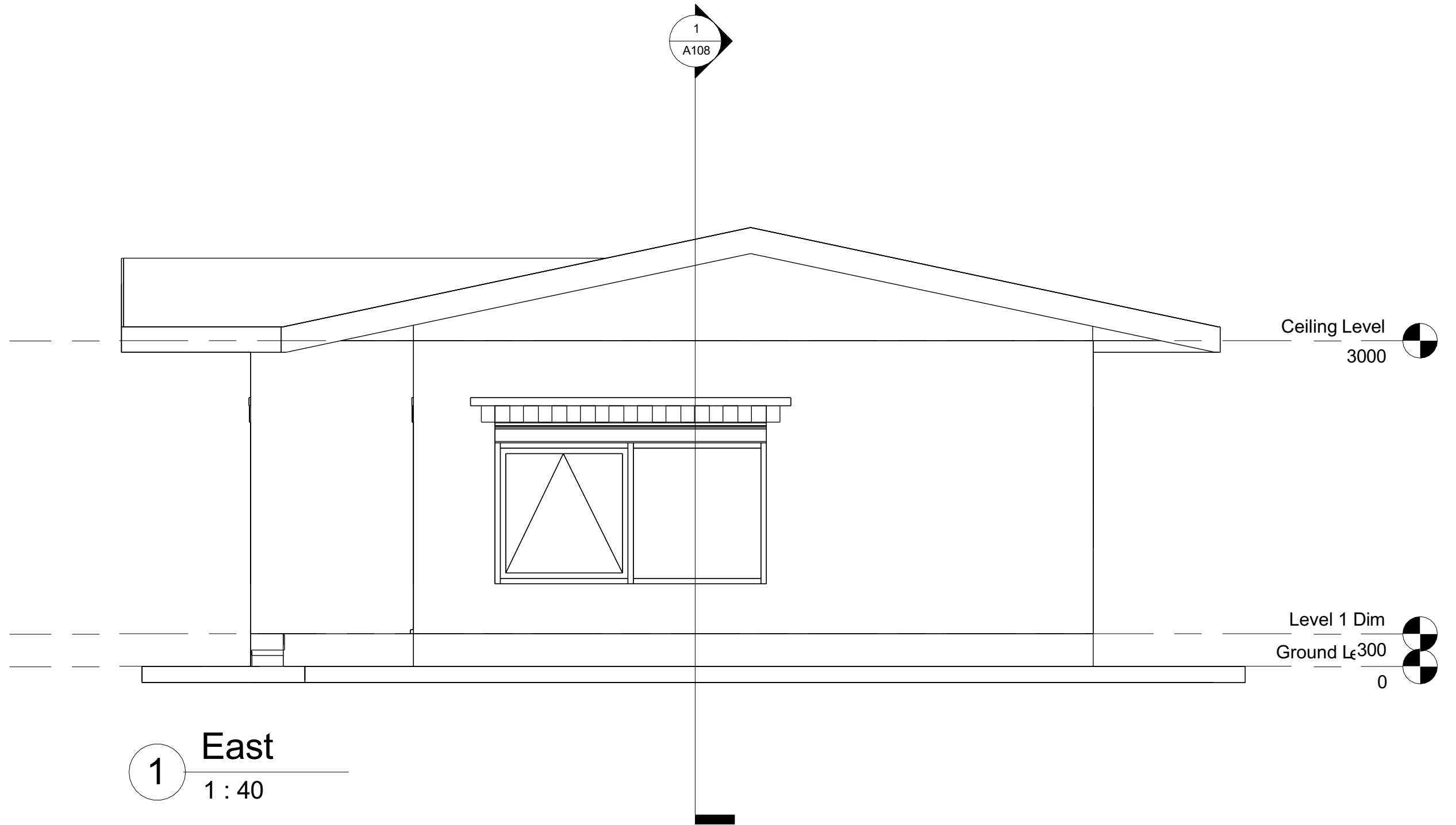
1 Ground Level
1 : 50

	ROYAL GOVERNMENT OF BHUTAN MINISTRY OF INFRASTRUCTURE & TRANSPORT		PROJECT TITLE:	REVISION	DATE	DESCRIPTION	BUILDING NAME:		SHEET NAME:	
			National Workfoce Dwelling	1			NWF Dwelling		Ground Floor Plan	
	2				DESIGNED BY:	DRAWN BY:	SCALE:			
	3							Shova Bhattarai, Architect	Shova Bhattarai, Architect	1 : 50
	4				CHECKED BY:	APPROVED BY:	DRAWING NO:			
5			Checker	Approver				A101		
DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT INFRASTRUCTURE DESIGN DIVISION		LOCATION: Various Locations								
NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.		DATE: 08/19/26								

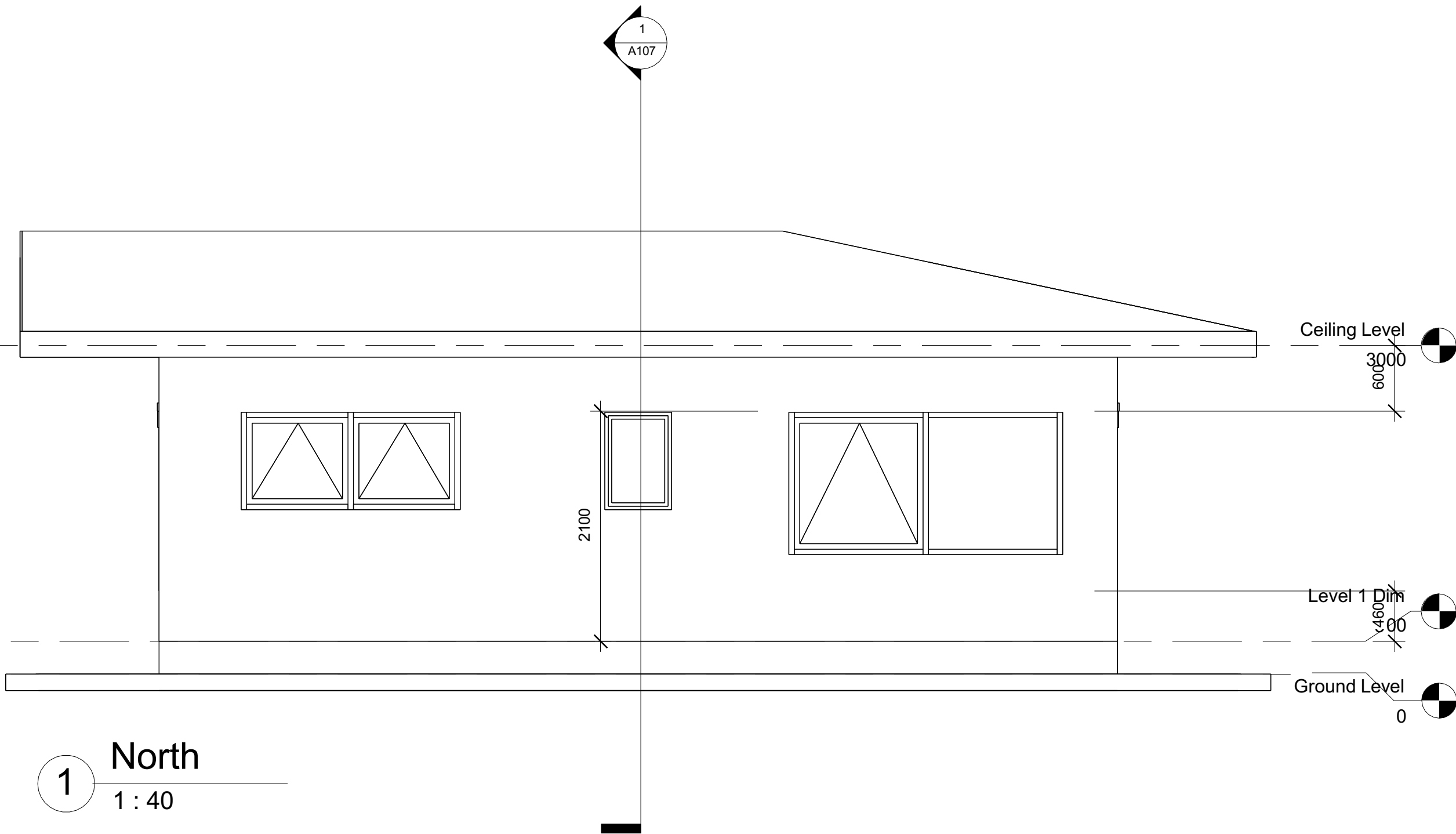


1 Level 1 Dim
1 : 50

	ROYAL GOVERNMENT OF BHUTAN MINISTRY OF INFRASTRUCTURE & TRANSPORT		PROJECT TITLE: National Workfoce Dwelling		REVISION	DATE	DESCRIPTION	BUILDING NAME: NWF Dwelling		SHEET NAME: Ground Floor Plan (Dimensions)	
	DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT INFRASTRUCTURE DESIGN DIVISION		LOCATION: Various Locations		1			DESIGNED BY:		DRAWN BY:	SCALE:
					2			Shova Bhattarai , Architect		Shova Bhattarai, Architect	1 : 50
					3						
					4						
					5						
NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.		DATE: 08/19/26				CHECKED BY: Checker		APPROVED BY: Approver		DRAWING NO: A102	



	ROYAL GOVERNMENT OF BHUTAN MINISTRY OF INFRASTRUCTURE & TRANSPORT		PROJECT TITLE: National Workforce Dwelling	REVISION	DATE	DESCRIPTION	BUILDING NAME: NWF Dwelling		SHEET NAME: East Elevation	
	DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT INFRASTRUCTURE DESIGN DIVISION			1			DESIGNED BY: Shova Bhattarai, Architect		DRAWN BY: Shova Bhattarai, Architect	
	NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.		LOCATION: Various Locations	2			CHECKED BY:		APPROVED BY:	
				3			Checker		Approver	
				4						
		DATE: 08/19/26		5					DRAWING NO: A103	



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF INFRASTRUCTURE & TRANSPORT

DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT
INFRASTRUCTURE DESIGN DIVISION

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

DATE:
08/19/26

PROJECT TITLE:

National Workforce Dwelling

LOCATION: Various Locations

REVISION DATE DESCRIPTION

1

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BUILDING NAME:
NWF Dwelling

DESIGNED BY:
Shova Bhattarai, Architect

CHECKED BY:
Checker

SHEET NAME:
North Elevation

DRAWN BY:
Shova Bhattarai, Architect

APPROVED BY:
Approver

SCALE:
1 : 40

DRAWING NO:
A104



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF INFRASTRUCTURE & TRANSPORT

DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT
INFRASTRUCTURE DESIGN DIVISION

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

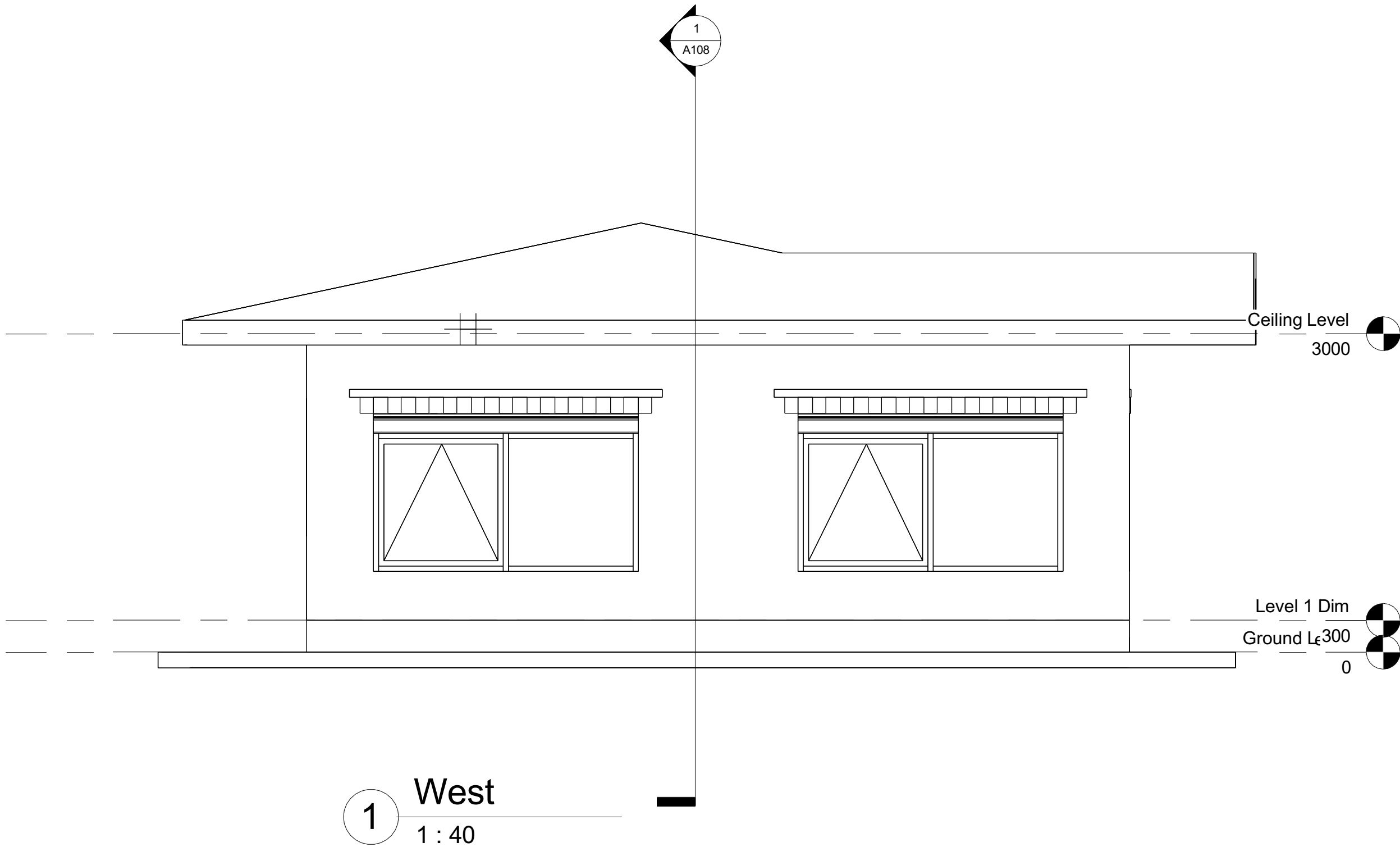
DATE:
08/19/26

PROJECT TITLE:
National Workfoce Dwelling

LOCATION: Various Locations

REVISION	DATE	DESCRIPTION
1		
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BUILDING NAME: NWF Dwelling		SHEET NAME: South Elevation	
DESIGNED BY: Shova Bhattarai, Architect	DRAWN BY: Shova Bhattarai, Architect		SCALE: 1 : 40
CHECKED BY: Checker	APPROVED BY: Approver		DRAWING NO: A105



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF INFRASTRUCTURE & TRANSPORT

DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT
INFRASTRUCTURE DESIGN DIVISION

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

DATE:
08/19/26

PROJECT TITLE:

National Workforce Dwelling

LOCATION: Various Locations

REVISION DATE DESCRIPTION

1

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BUILDING NAME:

NWF Dwelling

DESIGNED BY:

Shova Bhattarai, Architect

CHECKED BY:

Checker

SHEET NAME:

West Elevation

DRAWN BY:

Shova Bhattarai, Architect

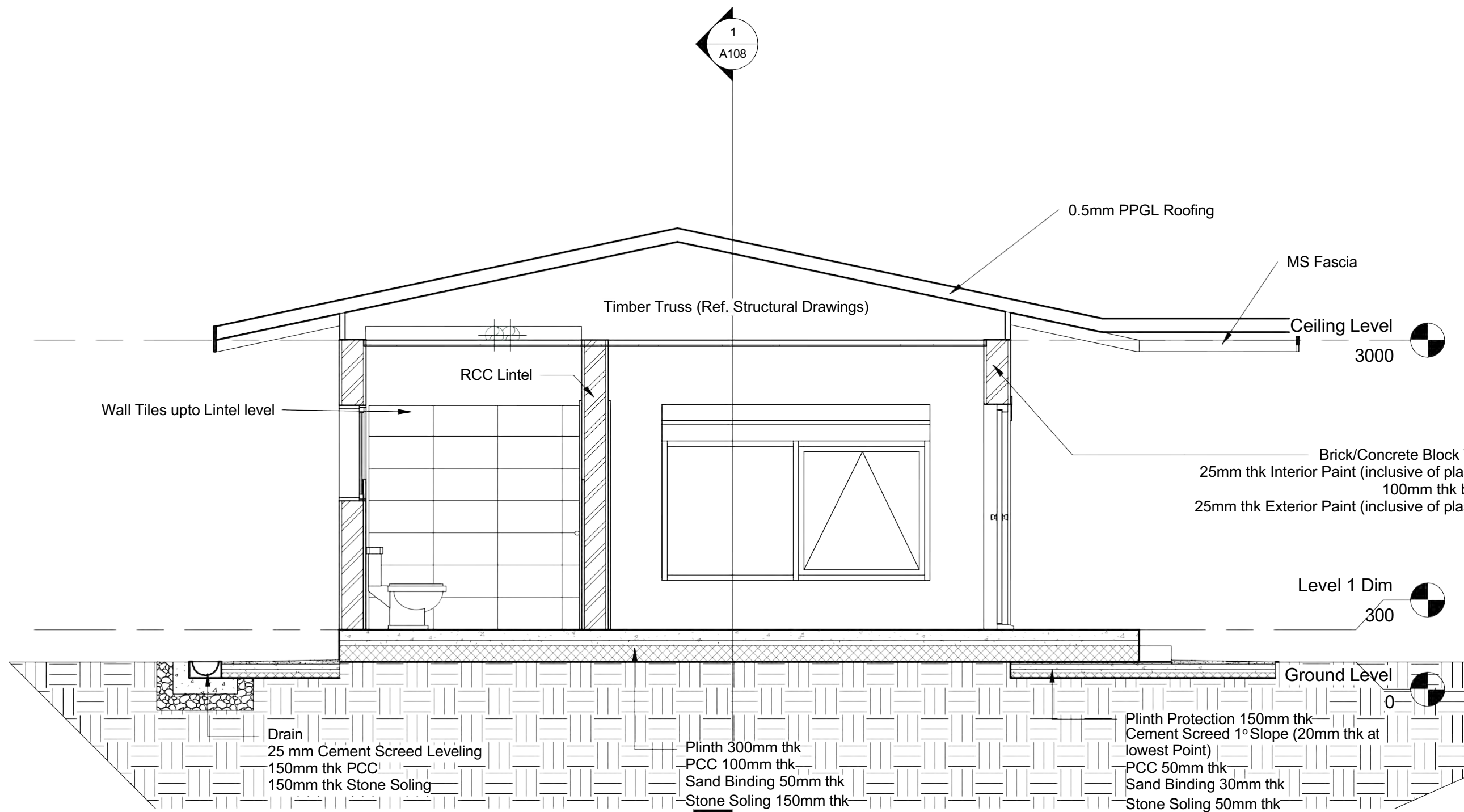
APPROVED BY:

Approver

SCALE:
1 : 40

DRAWING NO:

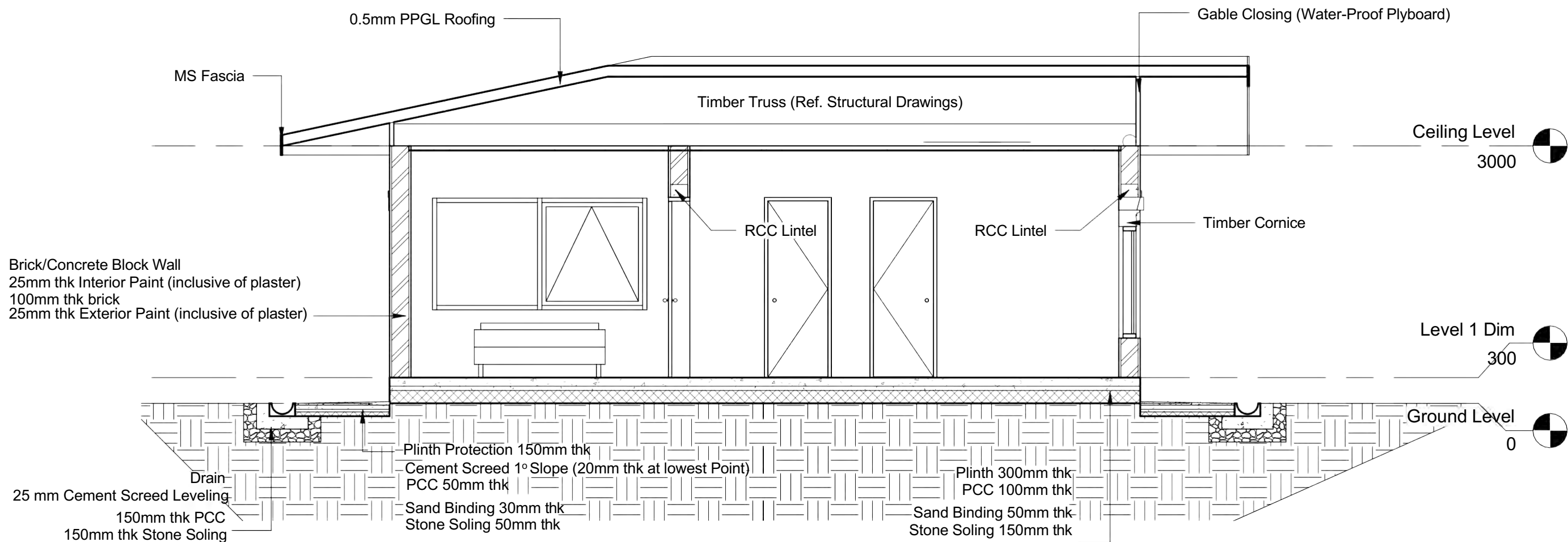
A106



Section 1

1 : 40

	ROYAL GOVERNMENT OF BHUTAN MINISTRY OF INFRASTRUCTURE & TRANSPORT		PROJECT TITLE:	REVISION	DATE	DESCRIPTION	BUILDING NAME:		SHEET NAME:	
			National Workfoce Dwelling	1			NWF Dwelling		Section- 1	
	2				DESIGNED BY:		DRAWN BY:		SCALE:	
	3				Shova Bhattarai, Architect		Shova Bhattarai, Architect		1 : 40	
	4				CHECKED BY:		APPROVED BY:		DRAWING NO:	
	NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.		DATE: 08/19/26	LOCATION: Various Locations	5			Checker	Approver	A107



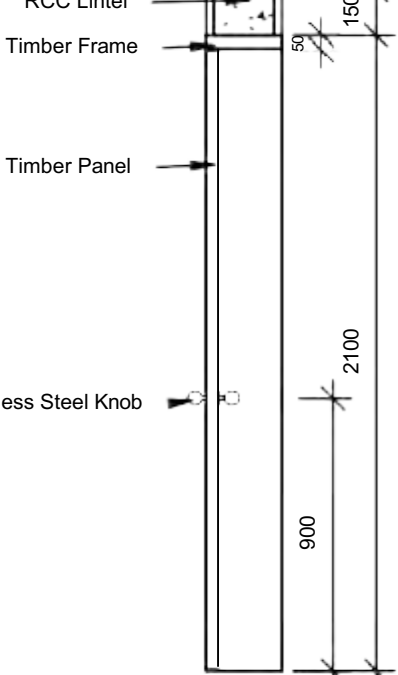
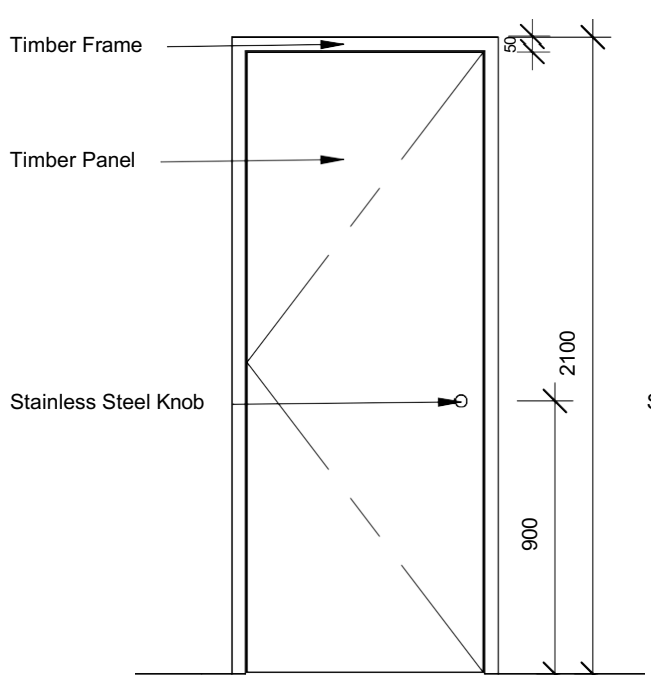
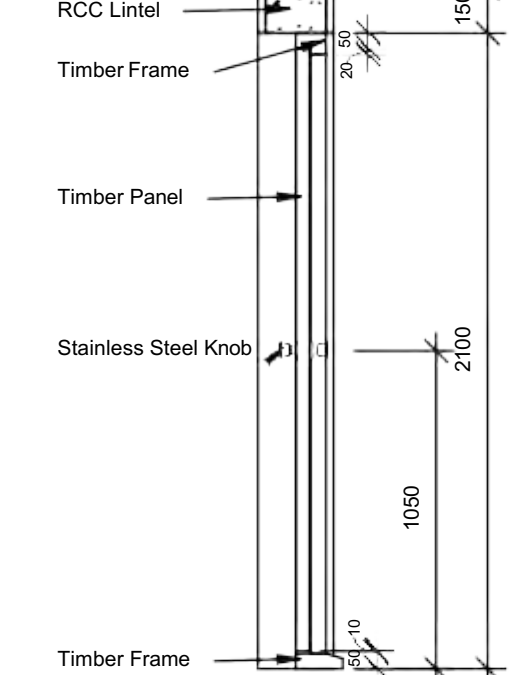
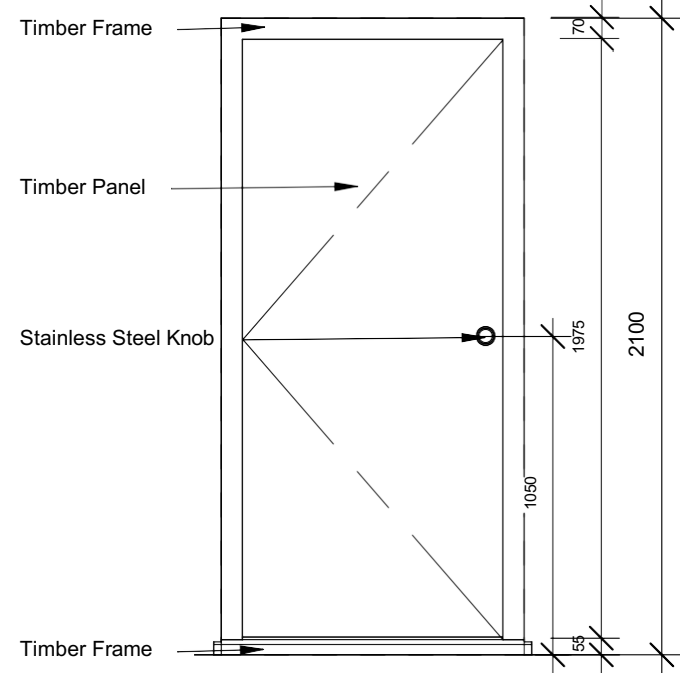
1 Section 2
1 : 50

	ROYAL GOVERNMENT OF BHUTAN MINISTRY OF INFRASTRUCTURE & TRANSPORT		PROJECT TITLE:	REVISION	DATE	DESCRIPTION	BUILDING NAME:		SHEET NAME:	
			National Workfoce Dwelling	1			NWF Dwelling		Section - 2	
	DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT INFRASTRUCTURE DESIGN DIVISION			LOCATION: Various Locations	2			DESIGNED BY:	DRAWN BY:	SCALE:
					3			Shova Bhattarai, Architect	Shova Bhattarai, Architect	1 : 50
					4			CHECKED BY:	APPROVED BY:	DRAWING NO:
NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.		DATE: 08/19/26	5				Checker	Approver	A108	



1 View 1

	ROYAL GOVERNMENT OF BHUTAN MINISTRY OF INFRASTRUCTURE & TRANSPORT		PROJECT TITLE:	REVISION	DATE	DESCRIPTION	BUILDING NAME:		SHEET NAME:	
			National Workfoce Dwelling	1			NWF Dwelling		3D View	
	2				DESIGNED BY:		DRAWN BY:		SCALE:	
	LOCATION: Various Locations	3				Shova Bhattarai, Architect		Shova Bhattarai, Architect		DRAWING NO: A109
		4				CHECKED BY:		APPROVED BY:		
5				Checker		Approver				
NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.		DATE: 08/24/26								

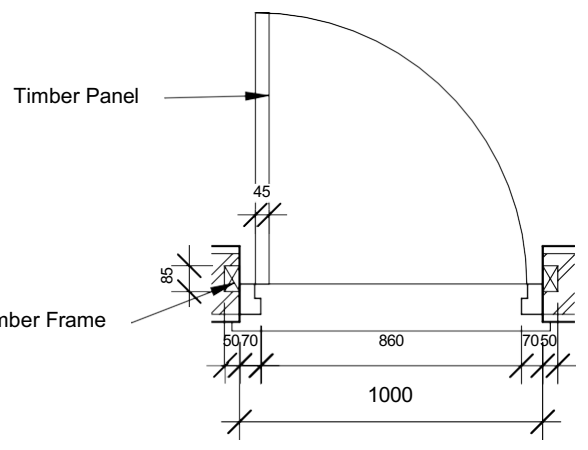


2 Elevation
1 : 25

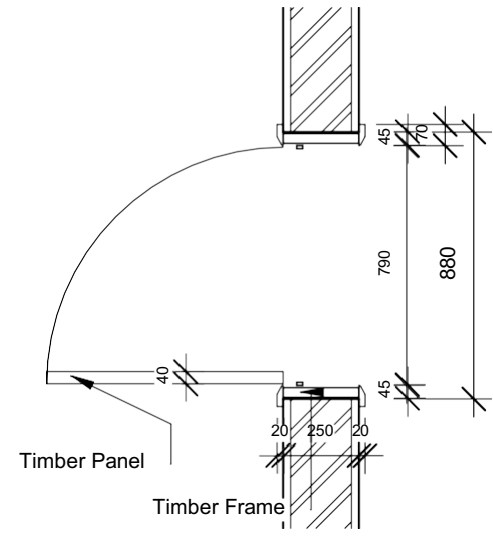
3 Detail Section
1 : 25

5 Elevation
1 : 25

6 Detail Section
1 : 25



1 Plan Detail
1 : 25



4 Plan Detail
1 : 25

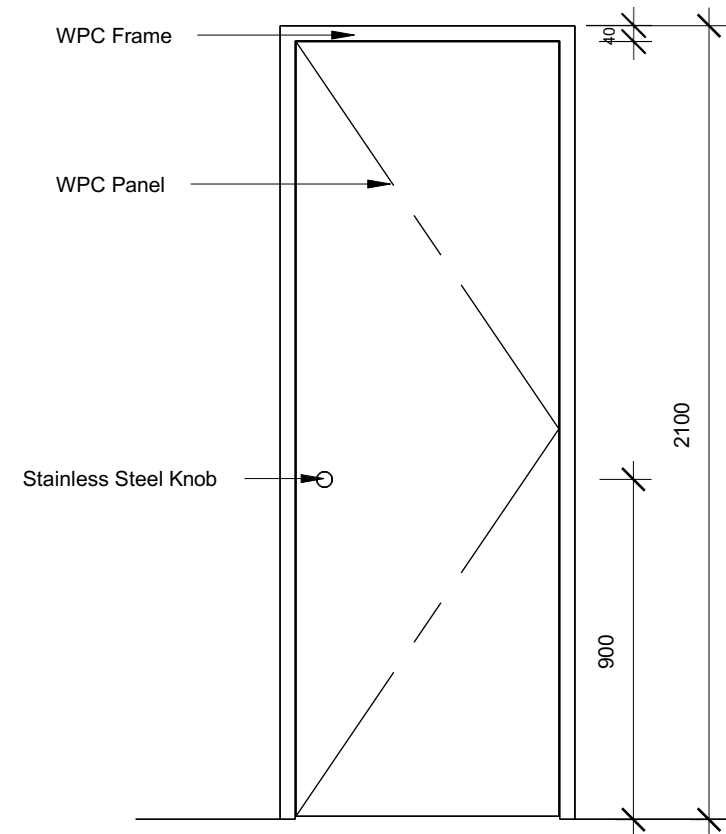


ROYAL GOVERNMENT OF BHUTAN MINISTRY OF INFRASTRUCTURE & TRANSPORT	
DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT INFRASTRUCTURE DESIGN DIVISION	
NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.	DATE: 08/24/26

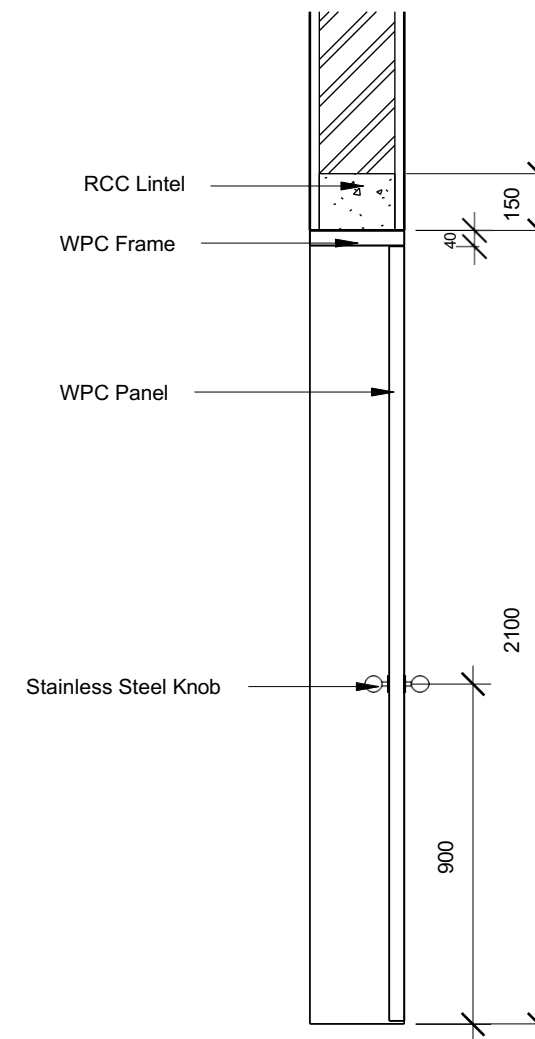
PROJECT TITLE: National Workfoce Dwelling
LOCATION: Various Locations

REVISION	DATE	DESCRIPTION
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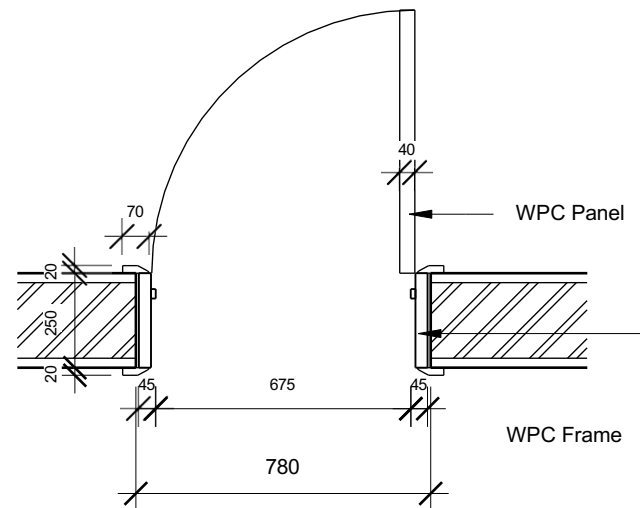
BUILDING NAME: NWF Dwelling		SHEET NAME: Door Detail- D1 & D2	
DESIGNED BY: Shova Bhattarai, Architect	DRAWN BY: Shova Bhattarai, Architect	SCALE: 1 : 25	
CHECKED BY: Checker	APPROVED BY: Approver	DRAWING NO: A110	



2 Elevation
1 : 20



3 Detail Section
1 : 20



1 Plan Detail
1 : 20



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF INFRASTRUCTURE & TRANSPORT

DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT
INFRASTRUCTURE DESIGN DIVISION

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

DATE:
08/24/26

PROJECT TITLE:

National Workforce Dwelling

LOCATION: Various Locations

REVISION

DATE

DESCRIPTION

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BUILDING NAME:

NWF Dwelling

DESIGNED BY:

Shova Bhattarai, Architect

CHECKED BY:

Checker

SHEET NAME:

Door Detail- D3

DRAWN BY:

Shova Bhattarai, Architect

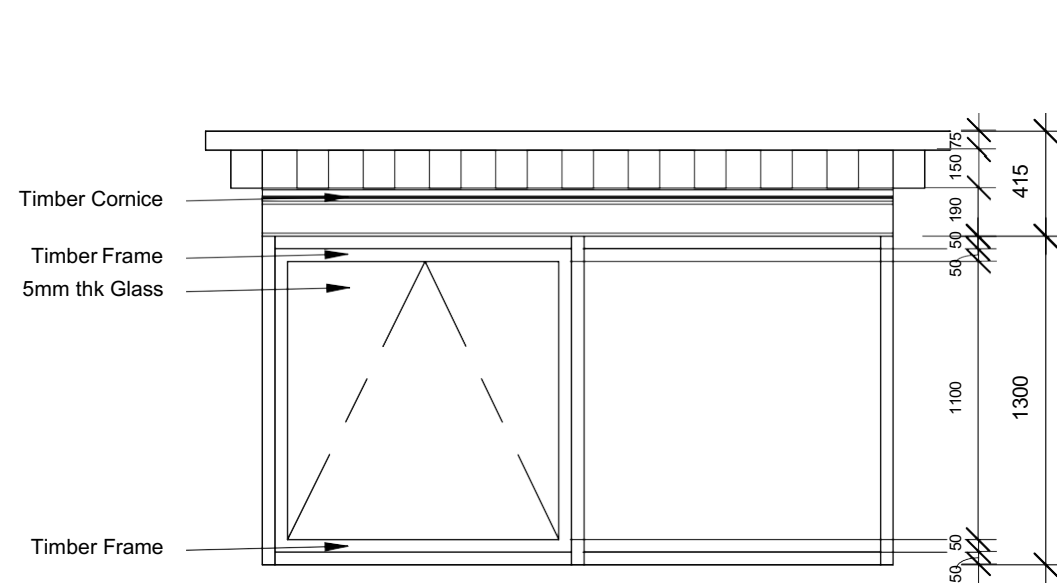
APPROVED BY:

Approver

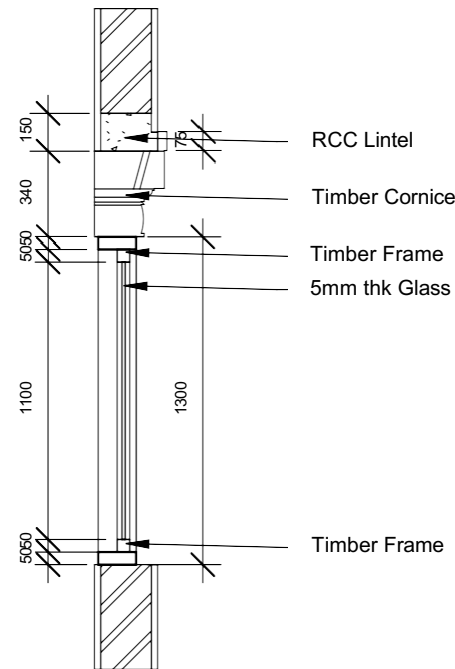
SCALE:
1 : 20

DRAWING NO:

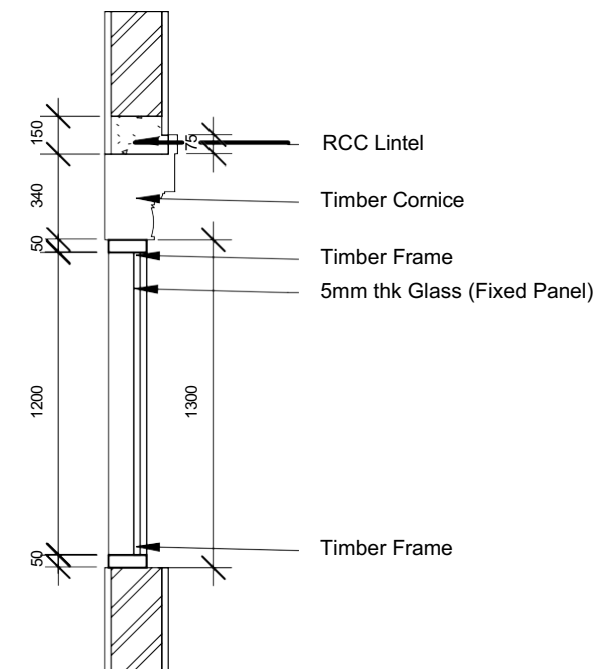
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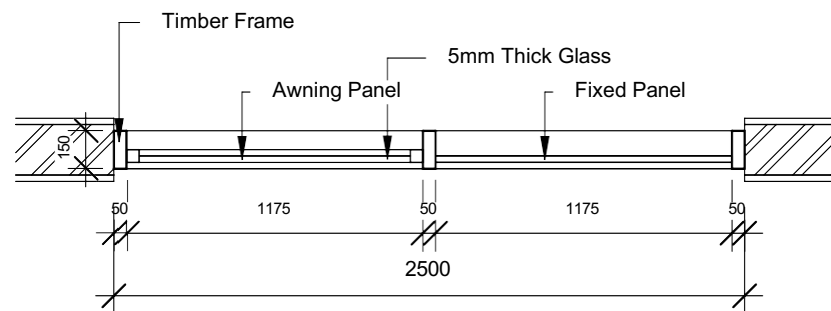
2 Elevation
1 : 30



3 Detail Section
1 : 30



4 Detail Section Fixed Panel
1 : 30



1 Plan Detail
1 : 30



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF INFRASTRUCTURE & TRANSPORT

DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT
INFRASTRUCTURE DESIGN DIVISION

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

DATE:
08/24/26

PROJECT TITLE:
National Workfoce Dwelling

LOCATION: Various Locations

REVISION	DATE	DESCRIPTION
1		
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BUILDING NAME:
NWF Dwelling

DESIGNED BY:
Shova Bhattarai, Architect

CHECKED BY:
Checker

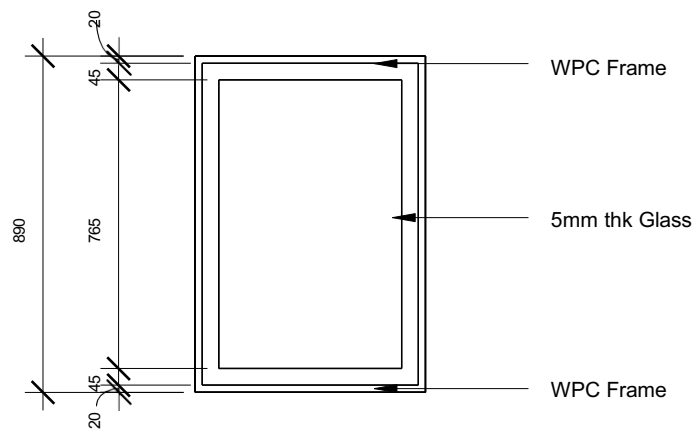
SHEET NAME:
Window Detail- W1

DRAWN BY:
Shova Bhattarai, Architect

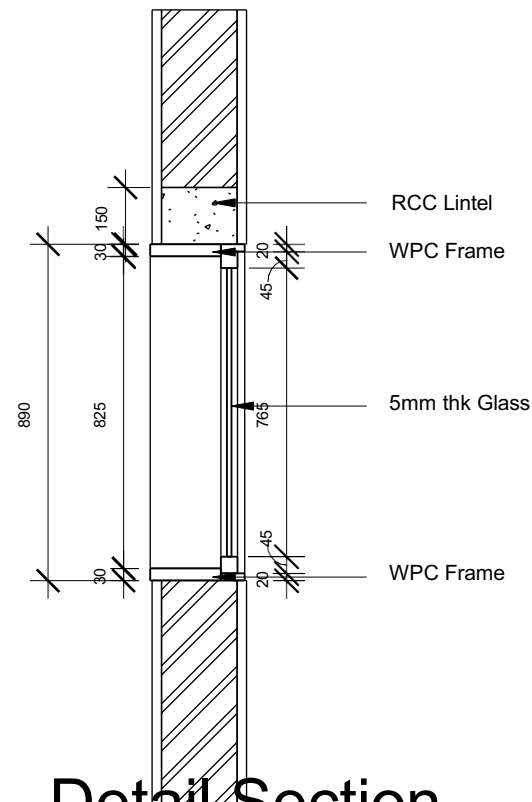
APPROVED BY:
Approver

SCALE:
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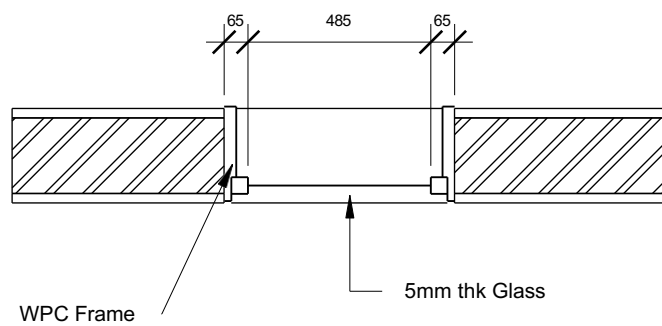
DRAWING NO:
A112



2 Elevation
1 : 20



3 Detail Section
1 : 20



1 Plan Detail
1 : 20



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF INFRASTRUCTURE & TRANSPORT

DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT
INFRASTRUCTURE DESIGN DIVISION

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

DATE:
08/24/26

PROJECT TITLE:

National Workfoce Dwelling

LOCATION: Various Locations

REVISION

DATE

DESCRIPTION

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BUILDING NAME:

NWF Dwelling

DESIGNED BY:

Shova Bhattarai, Architect

CHECKED BY:

Checker

SHEET NAME:

Window Detail-W2

DRAWN BY:

Shova Bhattarai, Architect

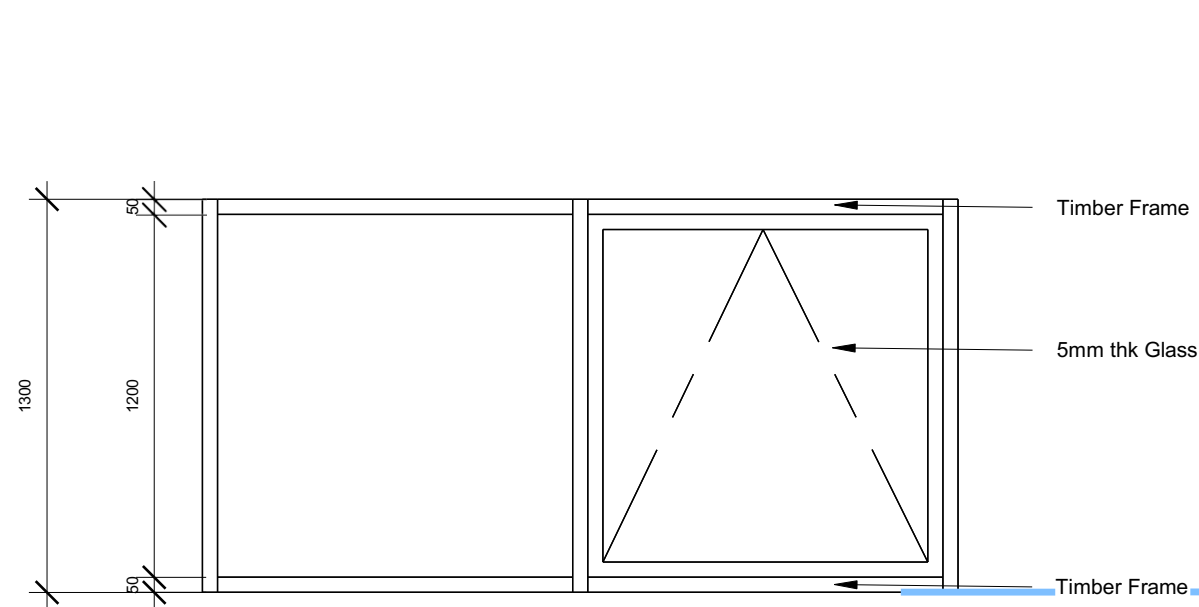
APPROVED BY:

Approver

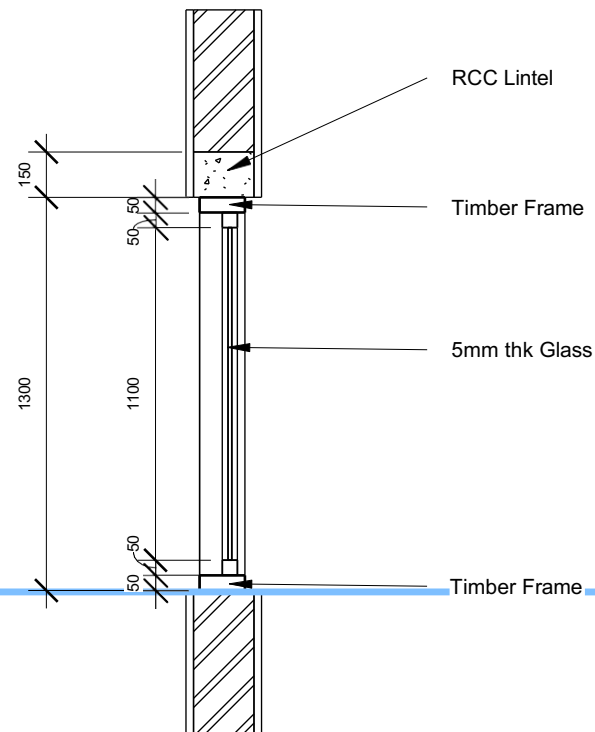
SCALE:
1 : 20

DRAWING NO:

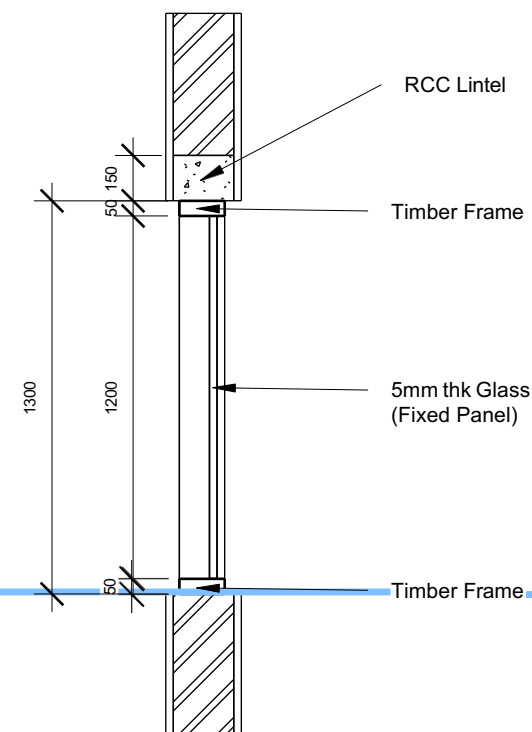
A113



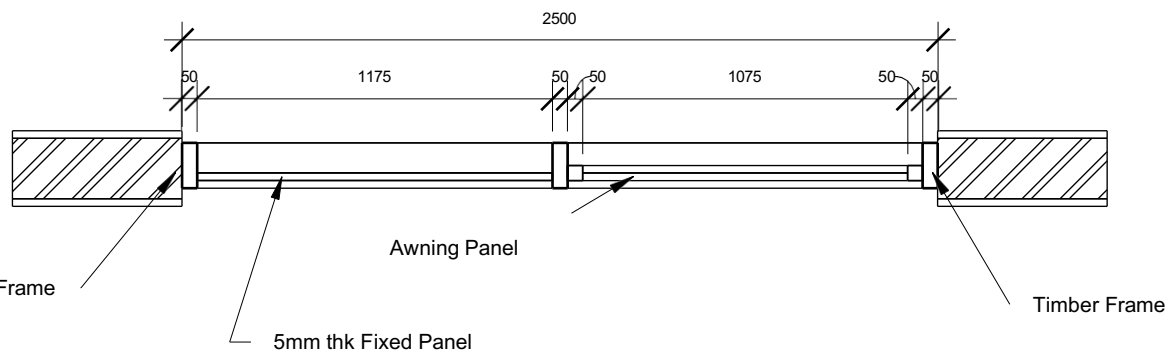
2 Elevation Front
1 : 25



3 Detail Section
1 : 25



4 Detail Section Fixed Panel
1 : 25



1 Plan Detail
1 : 25



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF INFRASTRUCTURE & TRANSPORT

DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT
INFRASTRUCTURE DESIGN DIVISION

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

DATE:
08/24/26

PROJECT TITLE:

National Workfoce Dwelling

LOCATION: Various Locations

REVISION DATE DESCRIPTION

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BUILDING NAME:
NWF Dwelling

DESIGNED BY:
Shova Bhattarai, Architect

CHECKED BY:
Checker

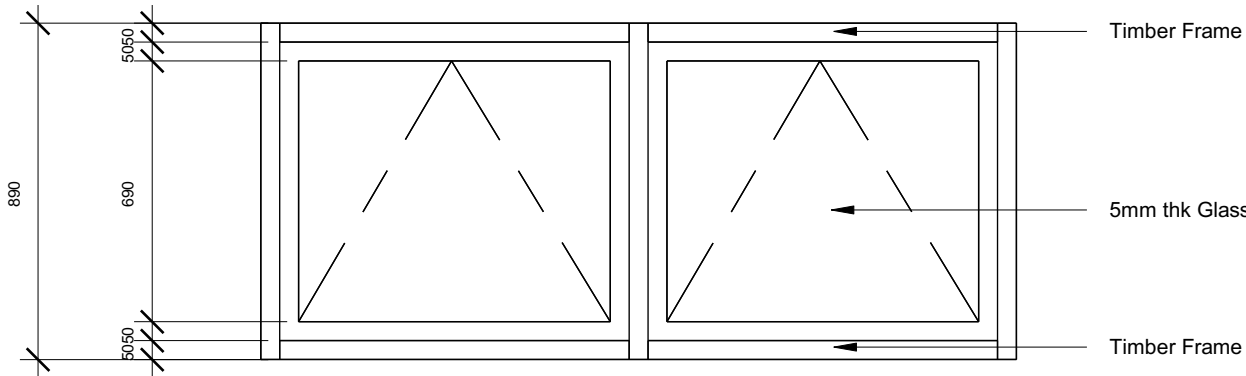
SHEET NAME:
Window Detail-W3

DRAWN BY:
Shova Bhattarai, Architect

APPROVED BY:
Approver

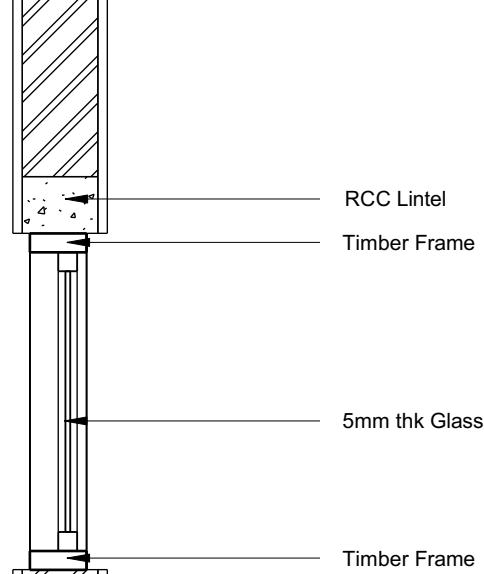
SCALE:
1 : 25

DRAWING NO:
A114



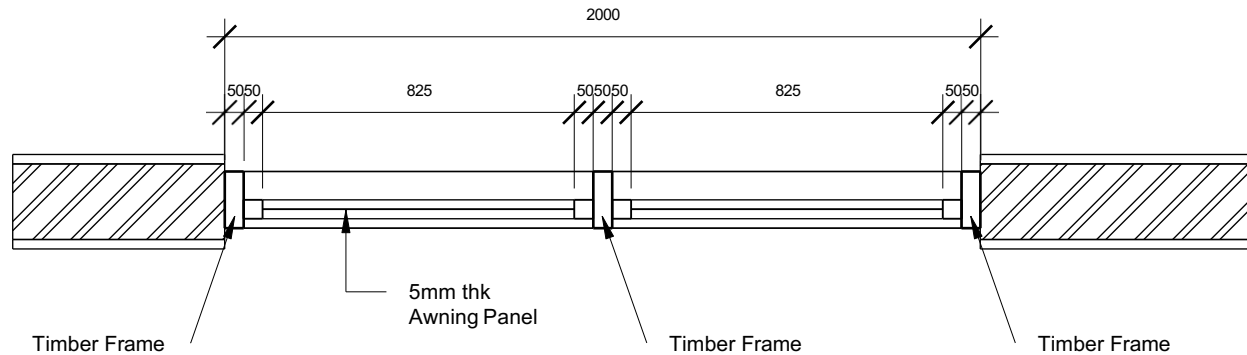
Elevation Front

1 : 20



Detail Section

1 : 20



Plan Detail

1 : 20



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF INFRASTRUCTURE & TRANSPORT

DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT
INFRASTRUCTURE DESIGN DIVISION

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

DATE:
08/24/26

PROJECT TITLE:

National Workfoce Dwelling

LOCATION: Various Locations

REVISION DATE DESCRIPTION

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BUILDING NAME:
NWF Dwelling

DESIGNED BY:
Shova Bhattarai, Architect

CHECKED BY:
Checker

SHEET NAME:
Window Detail- W4

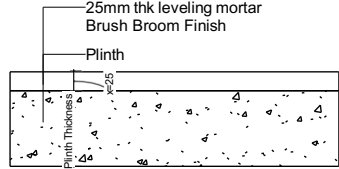
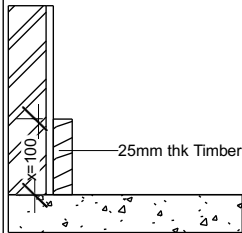
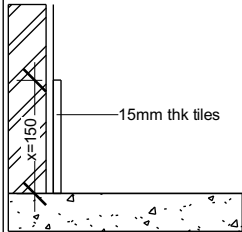
DRAWN BY:
Shova Bhattarai, Architect

APPROVED BY:
Approver

SCALE:
1 : 20

DRAWING NO:
A115

Exterior Finishing					
Entrance Slab and Stairs	Plinth Protection and Drain	Walls	Roof	Ceiling at Roof Overhang	Eaves Board
White non-skid tiles in white cement mortar	75mm thick PCC 1:2:4 over 150mm stone soling, with brush/broom finish on top.	Cement putty over 20mm cement plaster 1:4 mix	Pre-painted Galvulume roofing sheets- PPGL (0.5mm thick)	PPGL (0.5mm thick) lining fixed on the framing system as per the manufacturer's specification.	3mm thick MS sheet over 20x20x3 MS square tube frame welded to truss
		2 or more coats of water-proof plastic paint (exterior grade) over cement primer.			2 or more coats of synthetic enamel paint over red oxide primer.

Internal Finishing				
Item Code	Floor	Skirting	Walls	Ceiling
1			15mm thk Cement Plaster + Cement Primer + White Acrylic Washable Paint	8mm thick Gypsum board fixed on the framing system as per manufacturer's specifications.
2			300*300mm Wall Tiles up to lintel height From lintel height - 15mm thk cement plaster + cement primer + white acrylic washable paint	8mm thick PVC ceiling tiles fixed on the framing system as per manufacturer's specifications.
3			15mm thk cement plaster + cement primer + white acrylic washable paint up to 1000mm (Slab lvl) 300*300mm Wall Tiles from slab level to 1500mm From 1500mm - 15mm thk cement plaster + cement primer + white acrylic washable paint	

Internal Finishing (As Per Room)					
Sl. No	Room (Location)	Floor	Skirting	Walls	Ceiling
1	Bedrooms	1	1	1	1
2	Living Room	1	1	1	1
3	Kitchen	1	2	3	1
4	Toilet	2	2	2	2

Finishing Schedule

1

ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF INFRASTRUCTURE & TRANSPORT

DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT
INFRASTRUCTURE DESIGN DIVISION

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

DATE:
08/24/26

PROJECT TITLE:

National Workfoce Dwelling

LOCATION: Various Locations

REVISION DATE DESCRIPTION

1		
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5		

BUILDING NAME:
NWF Dwelling

DESIGNED BY:
Shova Bhattarai, Architect

CHECKED BY:
Checker

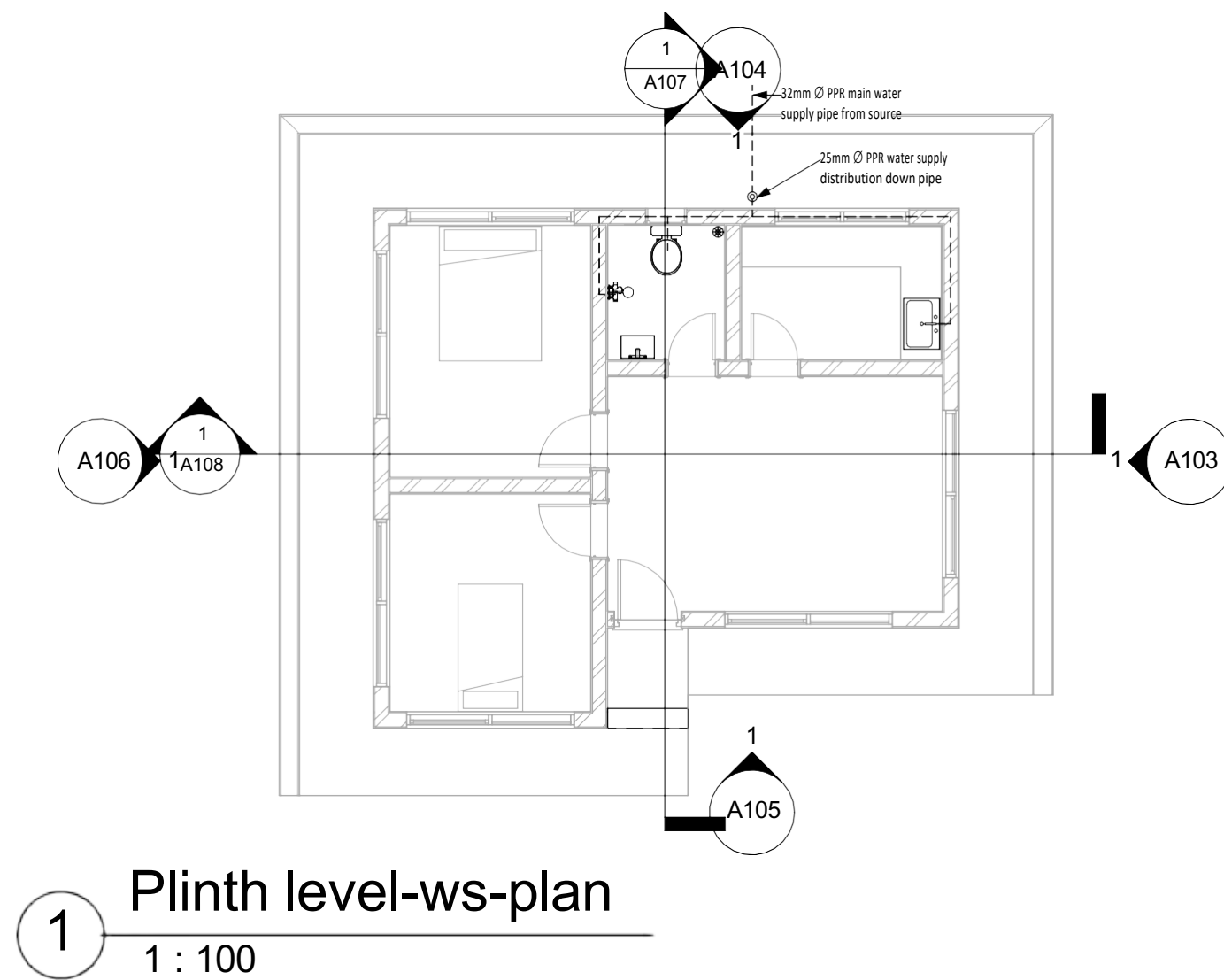
SHEET NAME:
Finishing Schedule

DRAWN BY:
Shova Bhattarai, Architect

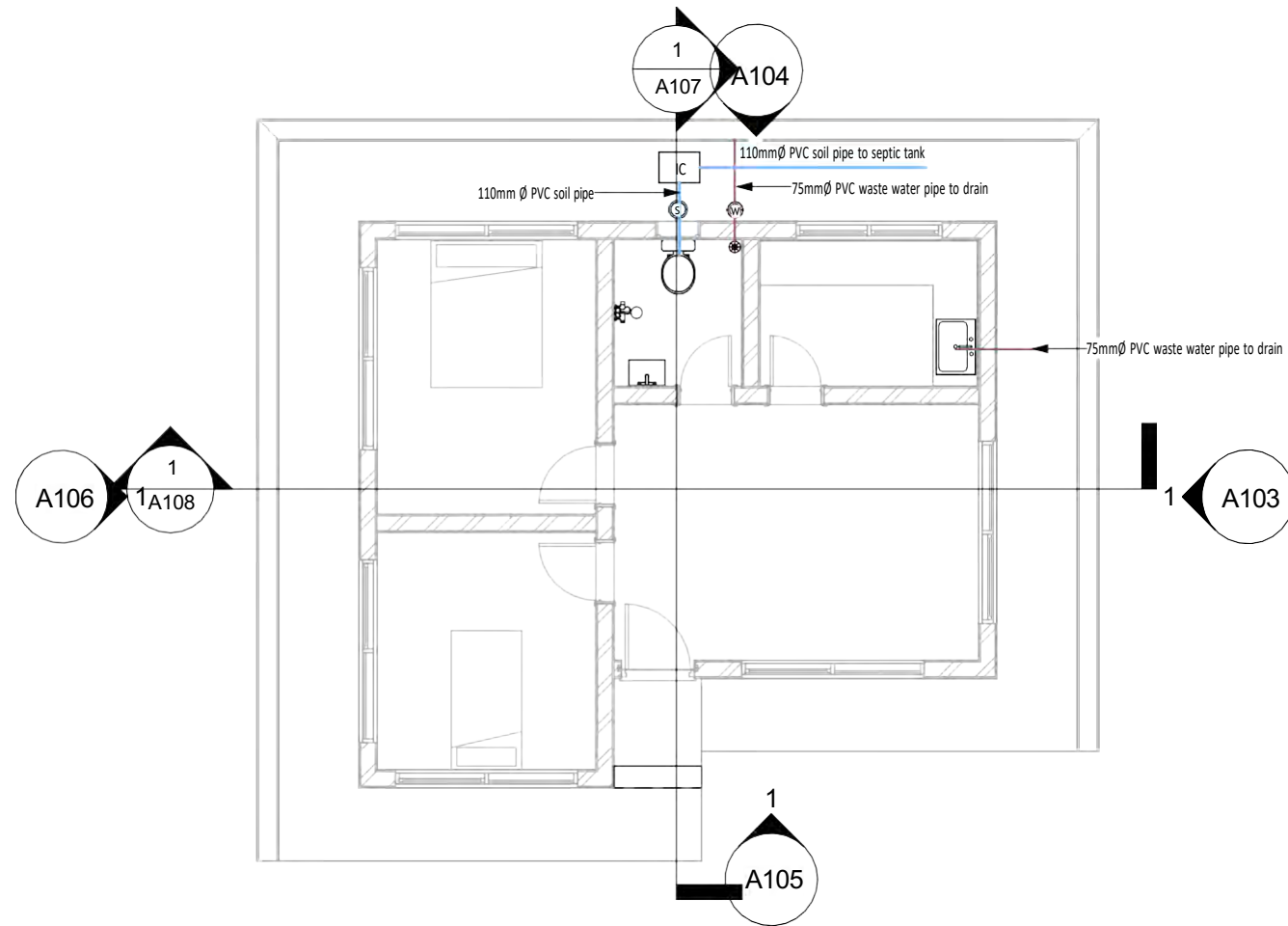
APPROVED BY:
Approver

SCALE:
1 : 1

DRAWING NO:
A116

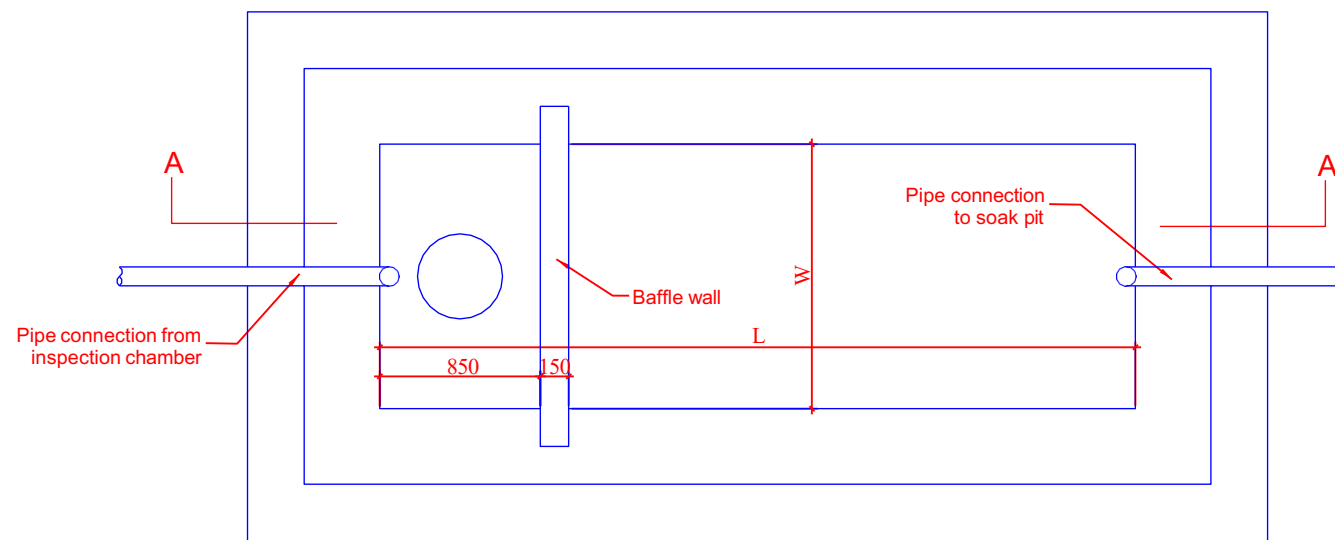


	ROYAL GOVERNMENT OF BHUTAN MINISTRY OF INFRASTRUCTURE & TRANSPORT		PROJECT TITLE:	REVISION	DATE	DESCRIPTION	BUILDING NAME: NWF Dwelling		SHEET NAME: Water Supply Layout Plan			
	DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT INFRASTRUCTURE DESIGN DIVISION		National Workfoce Dwelling	1			DESIGNED BY: Phurba Zangmo Tamang, Asst. Architect	DRAWN BY: Phurba Zangmo Tamang, Asst. Architect	SCALE: 1 : 100	DRAWING NO: A118		
	NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.		LOCATION: Various Locations	2								
				3			CHECKED BY:	APPROVED BY:				
				4								
				5			Checker	Approver				
	DATE: 08/24/26											



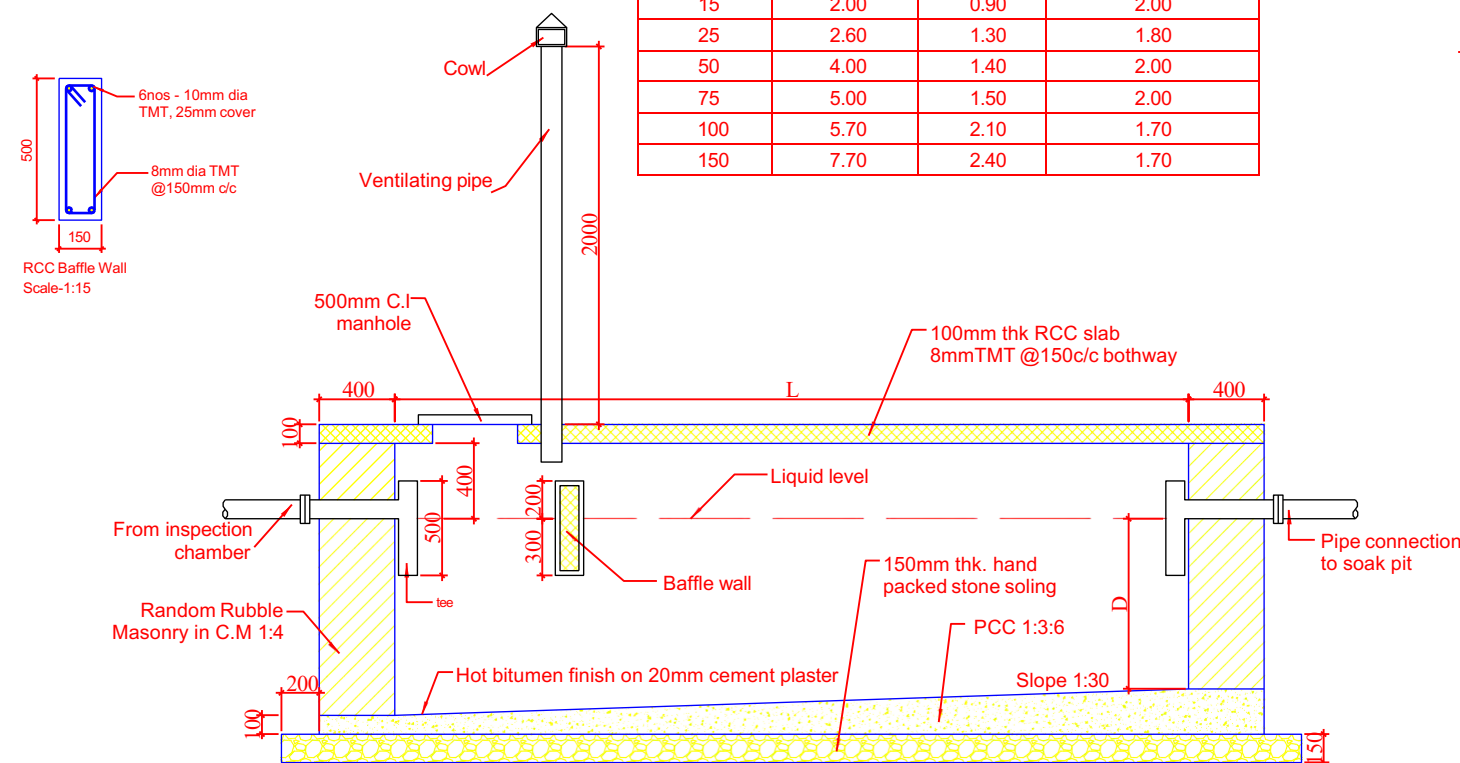
1 Plinth level-san-plan
1 : 100

 འབྲུག་རྒྱལ་ཁབ་ཀྱི་རྒྱུ་རྩུབ་ལྷན་ཁག་གི་འཕུལ་ཁུངས་	ROYAL GOVERNMENT OF BHUTAN MINISTRY OF INFRASTRUCTURE & TRANSPORT		PROJECT TITLE:	REVISION	DATE	DESCRIPTION	BUILDING NAME:		SHEET NAME:		
	DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT INFRASTRUCTURE DESIGN DIVISION		National Workfoce Dwelling	1			NWF Dwelling		Sewarage Layout Plan		
			LOCATION: Various Locations	2			DESIGNED BY:		DRAWN BY:		SCALE:
	NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.	DATE: 08/24/26		3			P.Z Tamang, Asst. Architect		P.Z.Tamang, Asst. Architect		1 : 100
				4			CHECKED BY:		APPROVED BY:		DRAWING NO:
			5			Checker		Approver		A119	

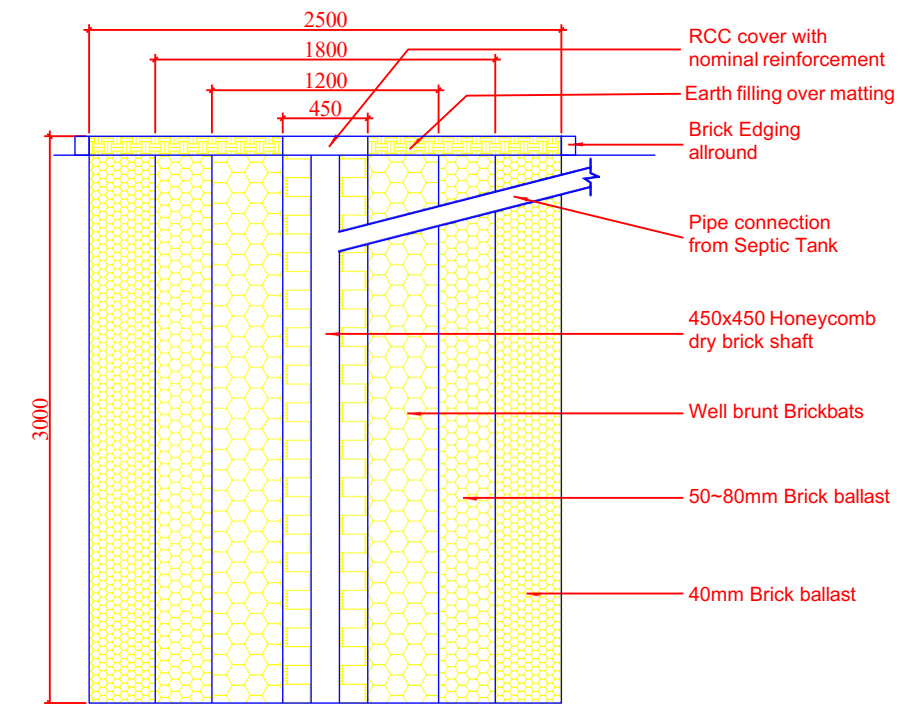


Septic Tank Plan

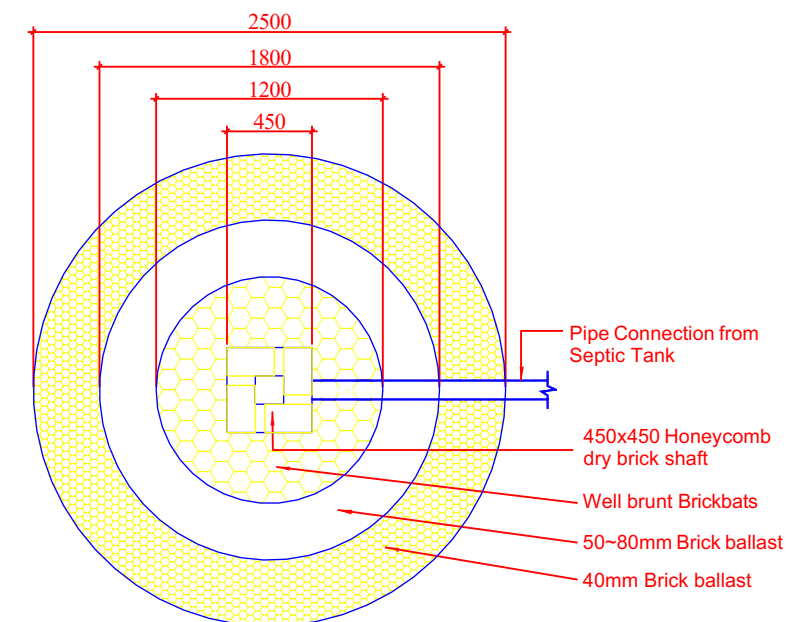
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25	2.60	1.30	1.80
50	4.00	1.40	2.00
75	5.00	1.50	2.00
100	5.70	2.10	1.70
150	7.70	2.40	1.70



Long section of septic tank on A-A



Soak Pit Cross Section



Soak Pit Plan

Septic Tank and Soak pit

1

Detail

1 : 40

ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF INFRASTRUCTURE & TRANSPORT

DEPARTMENT OF INFRASTRUCTURE DEVELOPMENT
INFRASTRUCTURE DESIGN DIVISION

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

DATE:
08/24/26

PROJECT TITLE:

National Workforce Dwelling

LOCATION: Various Locations

REVISION DATE DESCRIPTION

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BUILDING NAME:
NWF Dwelling

DESIGNED BY:
Shova Bhattarai, Architect

CHECKED BY:
Checker

SHEET NAME:
Septic Tank & Soak pit Detail

DRAWN BY:
Shova Bhattarai, Architect

APPROVED BY:
Approver

SCALE:
1 : 40

DRAWING NO:
A120

Annexure 3

Lot 1: Existing Road asset Conditions

Name of Project:	ACCESS Pilot Performance-Based Maintenance Contract
Table No.:	1. Pavement Condition
Survey Date:	October 3 2025

1. Pavement Condition

Ch. Start	Ch. End	1.1 Pavement width	1.2 Potholes	1.3 Alligator cracking - major	1.4 Alligator cracking - minor	1.5 Ravelling	1.6 Exposed base	1.7 Rutting >20mm	1.8 Deformation requiring repair	1.9 Edge break >20cm width	1.10 Shoulder drop off >10cm	1.11 Road roughness	1.12 Year of last overlay	Remarks	Construction year :1975, Widening 2017
Km	Km	m	no.	m2	m2	m2	m2	m	m2	m	m	IRI (m/km)	Year	Remarks and other defects	
59.7	60	7.7	0	0	0	0	0	0	0	0	0	0.0	2026 November	Will be Overlayed 40mm	2017 NEWH
60	61	5.5	0	0	0	0	0	0	0	0	0	6.7	2026 December	Will be Overlayed 40mm	2017 NEWH
61	62	7.5	0	0	0	0	0	0	0	0	0	7.0	2026 December	Will be Overlayed 40mm	2017 NEWH
62	63	7.5	0	0	0	0	0	0	0	0	0	7.1	2026 December	Will be Overlayed 40mm	2017 NEWH
63	64	7.5	0	0	0	0	0	0	0	0	0	7.5	2026 December	Will be Overlayed 40mm	2017 NEWH
64	65	7.5	0	0	0	0	0	0	0	0	0	7.4	2026 December	Will be Overlayed 40mm	2017 NEWH
65	66	7.5	0	0	0	0	0	0	0	0	0	7.3	2026 December	Will be Overlayed 40mm	2017 NEWH
66	67	7.5	0	0	0	0	0	0	0	0	0	7.2	2026 December	Will be Overlayed 40mm	2017 NEWH
67	68	7.5	0	0	0	0	0	0	0	0	0	6.7	2026 December	Will be Overlayed 40mm	2017 NEWH
68	69	7.5	0	0	0	0	0	0	0	0	0	6.4	2026 December	Will be Overlayed 40mm	2017 NEWH
69	70	7.5	0	0	0	0	0	0	0	0	0	7.7	2026 December	Will be Overlayed 40mm	2017 NEWH
70	71	7.5	0	0	0	0	0	0	0	0	0	6.4	2026 December	Will be Overlayed 40mm	2017 NEWH
71	72	7.5	0	0	0	0	0	0	0	0	0	6.3	2026 December	Will be Overlayed 40mm	2017 NEWH
72	73	7.5	0	0	0	0	0	0	0	0	0	6.7	2026 December	Will be Overlayed 40mm	2017 NEWH
73	74	7.5	0	0	0	0	0	0	0	0	0	7.6	2026 December	Will be Overlayed 40mm	2017 NEWH
74	75	7.5	0	0	0	0	0	0	0	0	0	8.6	2026 December	Will be Overlayed 40mm	2017 NEWH
75	76	7.5	0	0	0	0	0	0	0	0	0	8.1	2026 December	Will be Overlayed 40mm	2017 NEWH
76	77	7.5	0	0	0	0	0	0	0	0	0	7.4	2026 December	Will be Overlayed 40mm	2017 NEWH
77	78	7.5	0	0	0	0	0	0	0	0	0	7.6	2026 December	Will be Overlayed 40mm	2017 NEWH
78	79	7.5	0	0	0	0	0	0	0	0	0	7.0	(30 June, 2025)	Overlay of 40 mm (from Ch. 78.035 km)	2017 NEWH
79	80	7.5	0	0	0	0	0	0	0	0	0	6.8	(30 June, 2025)	Overlay of 40 mm.	2017 NEWH
80	81	7.5	0	0	0	0	0	0	0	0	0	7.1	(30 June, 2025)	Overlay of 40 mm (till Ch. 81.590 km)	2017 NEWH
81	82	4	0	0	372	0	0	0	198	0	0	7.0	No overlay	Width 7 m	2017 NEWH
82	83	7.5	0	52	0	0	0	0	326	71	0	8.2	No overlay		2017 NEWH
83	84	7.5	6	33	0	0	0	0	507	0	0	7.3	No overlay		2017 NEWH
84	85	6.5	17	218	60	0	0	0	1067	10	0	7.1	No overlay		2017 NEWH
85	86	5.3	0	0	0	0	0	0	0	0	0	7.0	No overlay	rrow road (4.6 m and 6 m Maximum Wid	2017 NEWH
86	87	5	0	112.5	0	0	0	0	264.75	11	0	6.8	No overlay		2017 NEWH
87	88	7	0	1610	0	0	0	0	54	15	0	7.3	No overlay		2017 NEWH
88	89	7.2	0	244	0	0	0	0	0	0	0	6.9	No overlay		2017 NEWH
89	90	7.2	0	120	170	0	0	0	489	0	0	6.6	No overlay		2017 NEWH
90	91	7.2	0	120	170	0	0	0	489	0	0	6.3	No overlay		2017 NEWH
91	92	7	0	90	45	0	0	0	0	0	0	6.4	No overlay		2017 NEWH
92	93	7	0	205	0	0	0	0	330	0	0	6.8	No overlay		2017 NEWH
93	94	7	1	539	0	0	0	0	0	0	0	8.0	No overlay	Narrow Width (from Ch. 93 Km)	2017 NEWH
94	95	7.5	1	84	0	0	0	0	400	0	0	7.9	No overlay	w width (From Ch. 95.2- 95.35 Width 4	2017 NEWH
95	96	7.5	0	697.5	0	0	0	0	348	17	70	8.4	No overlay	Narrow width (From Ch. 95.2- 95.35 Width 4.9 m)	2017 NEWH
96	97	7.5	0	0	0	0	0	0	0	0	0	7.4	June 2025	Overlay of 40 mm (from 96.06 km till 106.06 km)	2017 NEWH
97	98	7.5	0	0	0	0	0	0	0	0	0	7.4	June 2025	Overlay of 40 mm from 96.06 km till 106.06 km	2017 NEWH
98	99	7.5	0	0	0	0	0	0	0	0	0	7.2	June 2025	Overlay of 40 mm from 96.06 km till 106.06 km	2017 NEWH
99	100	7.5	0	0	0	0	0	0	0	0	0	7.0	June 2025	Overlay of 40 mm from 96.06 km till 106.06 km	2017 NEWH
100	101	7.5	0	0	0	0	0	0	0	0	0	7.2	June 2025	Overlay of 40 mm from 96.06 km till 106.06 km	2017 NEWH
101	102	7.5	0	0	0	0	0	0	0	0	0	7.2	June 2025	Overlay of 40 mm from 96.06 km till 106.06 km	2017 NEWH
102	103	7.5	0	0	0	0	0	0	0	0	0	7.0	June 2025	Overlay of 40 mm from 96.06 km till 106.06 km	2017 NEWH
103	104	7.5	0	0	0	0	0	0	0	0	10	7.0	June 2025	Overlay of 40 mm from 96.06 km till 106.06 km	2017 NEWH
104	105	7.5	0	0	0	0	0	0	0	0	0	7.3	June 2025	Overlay of 40 mm from 96.06 km till 106.06 km	2017 NEWH
			25	4125	817	0	0	0	4472.75	124	80				

ame of Proje	ACCESS Pilot Performance-Based Maintenance Contract	
Table No.:	1. Pavement Condition	

		1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	1.12	Remarks	
Ch. Start	Ch. End	Pavement width	Potholes	Alligator cracking - major	Alligator cracking - minor	Ravelling	Exposed base	Rutting >20mm	Deformation requiring repair	Edge break >20cm width	Shoulder drop off >10cm	Road roughness	Year of last overlay	Remarks and other defects	Construction year :1975, Upgraded 2018
Km	Km	m	no.	m2	m2	m2	m2	m	m2	m	m	IRI (m/km)	Year		
105	106	7.5	0	0	0	0	0	0	0	0	0	7.1	June 2025	Overlay of 40 mm from 96.06 km till 106.06 km	2017 NEWH
106	107	7.5	0	0	1500	0	0	0	180	7	0	8.1	No Overlay		2017 NEWH
107	108	7.5	0	140	0	0	0	0	54	0	0	7.5	No Overlay		2017 NEWH
108	109	7.5	0	140	1500	0	0	0	234	7	0	7.7	No Overlay		2017 NEWH
109	110	7.5	0	200	100	0	0	0	0	0	0	8.0	No Overlay		2017 NEWH
110	111	7.5	0	100	900	0	0	0	0	0	0	7.7	No Overlay		2017 NEWH
111	112	7.5	1	60	185	0	0	0	90	0	0	7.3	No Overlay		2017 NEWH
112	113	7.5	0	260	118	0	0	0	37.5	0	0	7.2	No Overlay		2017 NEWH
113	114	7.5	1	0	100	0	0	0	0	0	0	7.5	No Overlay		2017 NEWH
114	115	7.5	0	0	90	0	0	0	0	0	0	7.3	No Overlay		2017 NEWH
115	116	7.5	0	100	100	0	0	0	0	0		7.0	No Overlay		2017 NEWH
116	117	7.5	1	0	90	0	0	0	65	0	0	7.1	No Overlay		2017 NEWH
117	118	7.5	2	60	81	0	0	0	40	0	0	8.0	No Overlay		2017 NEWH
118	119	7.5	2	20	94	0	0	0	81	0	0	8.6	No Overlay		2017 NEWH
119	120	7.5	1	200	134	0	0	0	0	0	0	7.8	No Overlay		2017 NEWH
120	121	7.5	4	240	100	0	0	0	0	0	0	9.0	No Overlay		2017 NEWH
121	122	7.5	0	0	114	0	0	0	238	0	0	9.9	No Overlay		2017 NEWH
122	123	7.5	0	250	0	0	0	0	0	0	0	9.0	No Overlay		2017 NEWH
123	124	7.5	0	750	0	0	0	0	12	0	0	8.5	No Overlay		2017 NEWH
124	125	7.5	0	1143	85	0	0	0	0	0	0	7.6	No Overlay		2017 NEWH
125	126	7.5	0	885	90	0	0	0	0	0	0	7.2	No Overlay		2017 NEWH
126	127	7.5	0	100	58	0	0	0	48	0	0	6.9	No Overlay		2017 NEWH
127	128	7.5	0	490	70	0	0	0	120	0	0	7.5	No Overlay		2017 NEWH
128	129	7.5	0	975	25	0	0	0	120	0	0	7.5	No Overlay		2017 NEWH
129	130	7.5	0	245	107	0	0	0	0	0	0	6.7	No Overlay		2017 NEWH
130	131	7.5	0	195	15	0	0	0	115	0	0	6.6	No Overlay		2017 NEWH
131	132	7.5	0	45	0	0	0	0	60	0	0	6.5	No Overlay		2017 NEWH
132	133	7.5	0	165	0	0	0	0	0	0	0	7.7	No Overlay		2017 NEWH
133	134	7.5	0	400	30	0	0	0	120	0	0	6.1	No Overlay		2017 NEWH
134	135	7.5	0	550	30	0	0	0	183	0	0	5.7	No Overlay		2017 NEWH
135	136	7.5	0	21	30	0	0	0	945	0	11	7.2	No Overlay		2017 NEWH
Total		7.5	12	7734	5746	0	0	0	2742.5	14	11	3.1	Overall Average		

Name of Project:	ACCESS Pilot Performance-Based Maintenance Contract
	Lot 1: Existing Road asset Conditions
Table No.:	2. Side Drain

3. Side Drains

Drain ID Right	Ch. Start (km)	Ch. End	Type	Condition	Affected Length, (m)	Remarks	Drain ID Left	Ch. Start	Ch. End	Type	Condition	Affected Length, m	Remarks
Lot-1													
	59.7	60	v-shaped hard	Damaged	300m	w= 0.7m h =0.03m	PNH-01 Drain-L 61-62	61.1	61.5	V-shaped hard	Damaged		Base w=0.7m h=0.1m
PNH-01 Drian-R 60-61	60	60.2	v-shaped hard	Damaged	200m	w= 0.7m h =0.03m	PNH-01 Drain-L 61-62	61.55	62	V-shaped hard	Damaged		Base w=0.7 h=0.05
PNH-01 Drian-R 60-62	60.2		v-shaped hard	Missing Section		Base pcc w=0.6 & h =0.1 , L =19m ii. Riser L =7m, b=0.3 &h=0.3	PNH-01-Drain-L- 62.3	62.3	62.4	V-shaped hard	Damaged	25m	riser l=25m,h=0.3 w=0.3
PNH-01 Drian-R 60-63	60.2	60.6	v-shaped hard	Damaged		Base pcc w=0.6 h=0.03	PNH-01-Drain-L- 62.45	62.45	62.6	V-shaped hard	Damaged		Base w=0.7, h=0.05
PNH-01 Drian-R 60-64	60.6		v-shaped hard	Damaged	20m	Base pcc w=0.7 & h =0.15	PNH-01-Drain-L- 63.3	63.3	63.475	V-shaped hard	Damaged		Base w=0.7, h=0.05
PNH-01 Drian-R 60-61	60.6	61	v-shaped hard	Damaged		Base pcc w=0.7 & h=0.04	PNH-01-Drain-L- 63.475	63.475	63.5	V-shaped hard	Missing Section		riser l=25m, h=0.3m, w=0.3m
PNH-01 Drain-R -74-75	74.3	74.4	v-shaped hard	Damaged		riser 10m	PNH-01-Drain-L- 64.1	64.1		V-shaped hard	Missing Section		riser l=5m, w=0.3,h=0.3
PNH-01 Drain-R -75-76	75.2		v-shaped hard	Damaged		riser 4m	PNH-01-Drain-L- 64.1	64.1	64.25	V-shaped hard	Damaged		Base w=0.7, h=0.05
PNH-01 Drain-R -75-76	75.2		v-shaped hard	Damaged	66m	Base pcc w=0.9,h=0.05	PNH-01-Drain-L- 64.6	64.6	64.62	V-shaped hard	Damaged	20.m	Base w=0.75, h=0.15
PNH-01 Drain-R -75-76	75.5		v-shaped hard	Damaged	13m	riser l=13m, w=0.3,h=0.3	PNH-01-Drain-L- 64.7	64.7	64.9	V-shaped hard	Damaged		Base w=0.8, h=0.05
PNH-01 Drain-R -75-76	75.7		v-shaped hard	Damaged	40m	Base w=0.7 h=0.05	PNH-01-Drain-L- 65.17	65.17	65.74	V-shaped hard	Damaged		Base w=0.7, h=0.05
PNH-01 Drain-R -77-78	77.2		v-shaped hard	Damaged	10m	riser	PNH-01-Drain-L- 65.8	65.8	66.7	V-shaped hard	Damaged		Base w=0.7, h=0.05
PNH-01 Drain-R -77-78	77.4		v-shaped hard	Damaged	320m	pcc Base w=0.2,h =0.1	PNH-01-Drain-L- 69.25	69.25		V-shaped hard	Damaged		riser l=10m, w=0.3, h=0.3 ii.pcc Base l=10m, w=0.7,h=0.04
PNH-01 Drain-R -77-78			v-shaped hard	Good			PNH-01-Drain-L- 69.9	69.9		V-shaped hard	Damaged	40m	Base w=0.7, h=0.1, l=30m
PNH-01 Drain-R -77-78	77.4		v-shaped hard	Damaged	12m	Base pcc l=15m,w=0.7 h=0.5 including soling	PNH-01-Drain-L- 72.1	72.1	72.3	V-shaped hard	Damaged		Base pcc w=0.7, h=0.1

PNH-01 Drain-R -77-80	77.5		v-shaped hard	Damaged	25m	Base w=0.7,h=0.15 including soling	PNH-01-Drain-L- 73.4	73.4		V-shaped hard	Damaged		Base l=10m,w=0.7,h=0.15
PNH-01 Drain-R -77-80	77.6		v-shaped hard	Damaged	20m	Base w=0.7,h=0.15	PNH-01-Drain-L- 73.7	73.7		V-shaped hard	Damaged	21m	Base l=21m,w=0.7,h=0.15 ii. riser l=21m, w=0.3,h=0.3
PNH-01 Drain-R -77-80	77.91		v-shaped hard	Damaged	88m	Base w=0.5,h=0.05							
PNH-01 Drain-R -78-79	78.1		v-shaped hard	Damaged	35								
PNH-01 Drain-R -78-79	78.64		v-shaped hard	Damaged	20								
PNH-01 Drain-R -79-80	79.415		V-shaped soft	Damaged									
PNH-01 Drain-R -85-86	85.645		v-shaped hard	Damaged	100								
PNH-01 Drain-R -87-88	87.015	87.421	v-shaped hard	Damaged	406	Till 87.421 the drain size is smaller than its discharge of water							
PNH-01 Drain-R -87-88	87.2		v-shaped hard	Damaged	40								
PNH-01 Drain-R -87-88	87.7		v-shaped hard	Damaged	150								
PNH-01 Drain-R -89-90	89.08		v-shaped hard	Damaged	60								
PNH-01 Drain-R -90-91	91.865	91.928	v-shaped hard	Damaged	63	Till 91.928 damaged							
PNH-01-Drain-R- 97.76	97.76		v-shaped hard	Damaged	100								
PNH-01-Drain-R- 79.415	79.415		v-shaped hard	Damaged									
PNH-01-Drain-R- 87.015	87.015	87.421	v-shaped hard	Damaged	406	Till 87.421 the drain size is smaller than its discharge of water							
PNH-01-Drain-R- 101	101	101.6	v-shaped hard	Damaged	600								

PNH-01-Drain-R- 101.934	101.934	102.064	V-shaped soft	Damaged	130								
PNH-01-Drain-R- 102.614	102.614	102.674	V-shaped soft	Damaged	60								
PNH-01-Drain-R- 103.6	103.6	103.75	V-shaped soft	Damaged	150								
PNH-01-Drain-R- 104.3	104.3	104.44	V-shaped soft	Damaged	140								
Lot-2													
PNH-01-Drain-R- 105.5	105.5	105.635	V-shaped soft	Damaged	135								
PNH-01-Drain-R- 107.64	107.64	108.14	V-shaped soft	Damaged	500								
PNH-01-Drain-R- 108.214	108.214	108.314	V-shaped soft	Damaged	110								
PNH-01-Drain-R- 110.093	110.093	113.4	v-shaped hard	Damaged	3307								
PNH-01-Drain-R- 113.15	113.15	114.4	v-shaped hard	Good	1250								
PNH-01-Drain-R- 114.4	114.4	121	v-shaped hard	Damaged	6600								
PNH-01-Drain-R- 121	121	121.3	v-shaped hard	Good	300								
PNH-01-Drain-R- 121.3	121.3	121.99	v-shaped hard	Damaged	690								
PNH-01-Drain-R- 122	122	130.8	v-shaped hard	Damaged	8800								
PNH-01-Drain-R- 131	131	136.06	v-shaped hard	Damaged	5060								

Retaining Walls													
SI No	Retaining ID	Chainages	Ch. Start	Lat	Long	Altitude	Length,m	Height, m	Type	Location	Condition	Remarks	
Lot-1													
1	PNH-01-RET-60.11	60+110	60.11	27.47800423	89.89711278	1218.69	7	3	RRM	Valley	Good	With Parapets	
2	PNH-01-RET-60.14	60+140	60.14	27.47820812	89.89722543	1220	14	3	RRM	VALLEY	Good	With one damaged Parapet	
3	PNH-01-RET-60.275	60+275	60.275	27.47952421	89.8976959	1228.29	9	6	RRM	valley	Good		
4	PNH-01-RET-60.29	60+290	60.29	27.47955737	89.8977075		14.5	6	RRM	VALLEY	Good		
5	PNH-01-RET-60.325	60+325	60.325	27.47981617	89.897743	1230.39	7.5	1.8	RRM	valley	Good		
6	PNH-01-RET-60.38	60+380	60.38	27.48036351	89.8977905	1233.63	5	3.5	RRM	valley	Good		
7	PNH-01-RET-60.395	60+395	60.395	27.48048447	89.89777446	1234.22	4	2.5	RRM	valley	Good		
8	PNH-01-RET-60.5	60+500	60.5	27.48138408	89.89751375	1239.35	6	3	RRM	valley	Good		
9	PNH-01-RET-60.575	60+575	60.575	27.48223189	89.89720894	1244.44	17	5	RRM	valley	Good		
10	PNH-01-RET-60.75	60+750	60.75	27.48345351	89.89738354	1248.12	100	15	RRM	Valley	Good		
11	PNH-01-RET-60.9	60+900	60.9	27.48462809	89.89808079	1257.23	206	6	RRM	VALLEY	Good		
12	PNH-01-RET-61	61+000	61	27.48539012	89.89851761	1262.7	83.5	4	RRM	VALLEY	Good		
13	PNH-01-RET-61.1	61+100	61.1	27.48581574	89.89902614	1267.73	24	4.5	RRM	Valley	Good	With railings	
14	PNH-01-RET-61.15	61+150	61.15	27.4854009	89.89872684	1269.69	4	1.2	RRM	Valley	Good	without railings	
15	PNH-01-RET-61.185	61+185	61.185	27.4851177	89.89857928	1270.91	7	3	Gabion	Valley	Good	Gabion covered on top by Jungle	
16	PNH-01-RET-61.19	61+190	61.19	27.48504362	89.8985535	1271.18	6	4	Gabion	Valley	Good		
17	PNH-01-RET-61.2	61+200	61.2	27.48490927	89.89852476	1271.76	50		RRM	Valley	Good	With parapet 20	
18	PNH-01-RET-61.3	61+300	61.3	27.48398211	89.89804954	1276.76	20	1	RRM	Valley	Good	With railings on top	

19	PNH-01-RET-61.33	61+330	61.33	27.48371831	89.89798481	1278.45	119	1.5	RRM	Valley	Good	With parapets	
20	PNH-01-RET-61.4	61+400	61.4	27.48319774	89.89787622	1281.32	42	2	RRM	Hill	Good	Army boundary	
21	PNH-01-RET-61.53	61+530	61.53	27.48198894	89.89793608	1284.9	15	2.5	RRM	Hill	Good	Army boundary	
22	PNH-01-RET-61.6	61+600	61.6	27.48161994	89.89805344	1288.19	182	5	RRM	Valley	Good	Retaining wall of 182.5 m	
23	PNH-01-RET-61.56	61+560	61.56	27.48190167	89.89792579	1285.41	19.2	2	RRM	VALLEY	Good	With railings	
24	PNH-01-RET-62.02	62+020	62.02	27.4804763	89.89972409	1298.23	15	1	RRM	Valley	Good		
25	PNH-01-RET-62.135	62+135	62.135	27.48140374	89.90043812	1294.73	21.2	2	RRM	VALLEY	Good	Army boundary wall	
26	PNH-01-RET-62.325	62+325	62.325	27.48251995	89.90185129	1294.96	26	2	RRM	Hill	Good		
27	PNH-01-RET-62.375	62+375	62.375	27.48286869	89.90209087	1295.86	47	3	RRM	VALLEY	Good		
28	PNH-01-RET-62.582	62+582	62.582	27.48402004	89.90375084	1301.69	22	3	RRM	VALLEY	Good		
29	PNH-01-RET-62.678	62+678	62.678	27.48453795	89.9045558-90	1303.43	19	3.3	RRM	VALLEY	Good		
30	PNH-01-RET-62.7	62+700	62.7	27.48458993	89.90480562	1303.78	13	2	Gabion	hill	Good		
31	PNH-01-RET-62.74	62+740	62.74	27.48472626	89.90506338	1304.81	15	2.2	RRM	VALLEY	Good		
32	PNH-01-RET-62.8	62+800	62.8	27.48495299	89.90572171	1305.42	64.5	4.8	RRM	VALLEY	Good		
33	PNH-01-RET-62.9	62+900	62.9	27.48495672	89.90657157	1305.31	12	3	RRM	valley	Good		
34	PNH-01-RET-62.925	62+925	62.925	27.48492923	89.90698652	1305.71	58	4.1	RRM	valley	Good		
35	PNH-01-RET-63.022	63+022	63.022	27.48455985	89.90765825	1305.01	27	3.8	RRM	VALLEY	Minor Damage	soured l=5m, h=2m	
36	PNH-01-RET-63.094	63+094	63.094	27.48433885	89.90826724	1306.47	21.5	3.3	RRM	VALLEY	Good		
37	PNH-01-RET-63.129	63+129	63.129	27.48426679	89.90859579	1307.27	4	2	RRM	VALLEY	Good		
38	PNH-01-RET-63.3	63+300	63.3	27.48421671	89.91021396	1307.73	16	3	RRM	VALLEY	Good		
39	PNH-01-RET-63.325	63+325	63.325	27.48432869	89.91041974	1308.19	63	5	RRM	valley	Good		

40	PNH-01-RET-63.42	63+420	63.42	27.48443654	89.91063531	1308.95	57	4	RRM	valley	Good		
41	PNH-01-RET-63.544	63+544	63.544	27.48506573	89.91265472	1310.94	13.5	3.5	RRM	valley	Good		
42	PNH-01-RET-63.591	63+591	63.591	27.48530295	89.91313767	1311.17	52.5	4.8	RRM	valley	Good		
43	PNH-01-RET-63.658	63+658	63.658	27.48543534	89.91346474	1311.46	39	6	RRM	valley	Good		
44	PNH-01-RET-63.672	63+672	63.672	27.48548169	89.91371094	1311.79	50	2	RRC	Hill	Good		
45	PNH-01-RET-63.729	63+729	63.729	27.48565231	89.91438988	1312.32	36	4	RRM	valley	Good		
46	PNH-01-RET-63.814	63+814	63.814	27.48599797	89.91490876	1311.85	13	3	RRM	valley	Good		
47	PNH-01-RET-63.858	63+858	63.858	27.48623578	89.91527335	1311027	6.5	2.5	RRM	valley	Good		
48	PNH-01-RET-63.898	63+898	63.898	27.48646115	89.91549724	1311.19	5	2.5	RRM	valley	Good		
49	PNH-01-RET-63.9	63+900	63.9	27.48653664	89.91555236	1311.22	19	2.5	RRM	valley	Major Damage	need to reconstruct	
50	PNH-01-RET-63.9	63+900	63.9	27.48662257	89.91562062	1311.37	63	3	Gabions	HILL	Major Damage	need to reconstruct	
51	PNH-01-RET-63.963	63+963	63.963	27.4866974	89.91600673	1311.03	15	4	RRM	valley	Good		
52	PNH-01-RET-63.99	63+990	63.99	27.48708912	89.91640749	1310.09	14	3	RRM	valley	Good		
53	PNH-01-RET-64.17	64+170	64.17	27.48730613	89.91816894	1309.46	81	3	Gabion	HILL	Good		
54	PNH-01-RET-64.407	64+407	64.407	27.48791956	89.92005097	1307.26	106	3	Gabion	hill	Good		
55	PNH-01-RET-64.54	64+540	64.54	27.48846587	89.92101589	1307.28	8.5	3	RRM	valley	Good		
56	PNH-01-RET-64.695	64+695	64.695	27.48892501	89.92254362	1309.1	9.5	5.2	RRM	valley	Good		
57	PNH-01-RET-64.72	64+720	64.72	27.48905492	89.92278657	1309.56	23	4.7	RRM	VALLEY	Good		
58	PNH-01-RET-65.2	65+200	65.2	27.49065858	89.92703882	1314.9	12	2	Gabion	VALLEY	Good		
59	PNH-01-RET-65.2	65+200	65.2	27.49065858	89.92703882	1314.9	16	7	gabion	valley	Good		
60	PNH-01-RET-65.229	65+229	65.229	27.49065176	89.92733503	1314.98	29	3	RRM	HILL	Good		

61	PNH-01-RET-65.229	65+229	65.229	27.49065176	89.92733503	1314.98	27.5	4.5	RRM	valley	Good		
62	PNH-01-RET-65.283	65+283	65.283	27.49050026	89.92771605	1314.27	23.5	3.5	RRM	valley	Good		
63	PNH-01-RET-65.32	65+320	65.32	27.49031476	89.92805322	1313.56	5.8	4	RRM	valley	Good		
64	PNH-01-RET-65.37	65+370	65.37	27.49019805	89.92852126	1314.2	6	3	RRM	VALLEY	Good		
65	PNH-01-RET-65.68	65+680	65.68	27.49035206	89.93180096	1315.04	50	2.85	RRM	HILL	Good		
66	PNH-01-RET-65.68	65+680	65.68	27.49035206	89.93180096	1315.04	11	2	RRM	valley	Good		
67	PNH-01-RET-65.78	65+780	65.78	27.4903932	89.93234516	1314.85	15	2	RRM	hill	Good		
68	PNH-01-RET-65.8	65+800	65.8	27.49044567	89.93290955	1313.86	24	3.55	RRM	VALLEY	Good		
69	PNH-01-RET-65.82	65+820	65.82	27.49046627	89.93310737	1313.54	26	5	RRM	valley	Good		
70	PNH-01-RET-65.82	65+820	65.82	27.49046627	89.93310737	1313.54	26	2.5	RRM	hill	Good		
71	PNH-01-RET-65.89	65+890	65.89	27.49053995	89.93350842	1313.77	11	3	RRM	valley	Good		
72	PNH-01-RET-66.045	66+045	66.045	27.49088287	89.93507424	1313.02	5.8	1.5	RRM	valley	Good		
73	PNH-01-RET-66.12	66+120	66.12	27.49126999	89.93561885	1312.79	8.2	1.7	RRM	hill	Good		
74	PNH-01-RET-66.312	66+312	66.312	27.49248954	89.93696434	1310.43	13.3	3.5	RRM	valley	Good		
75	PNH-01-RET-66.38	66+380	66.38	27.49313794	89.93718152	1310.47	33	4	RRM	VALLEY	Good		
76	PNH-01-RET-66.44	66+440	66.44	27.49342422	89.93750695	1310.71	44	3	gabion	hill	Good		
77	PNH-01-RET-66.62	66+620	66.62	27.49402995	89.93900592	1309.78	42.5	6.5	RRM	valley	Good		
78	PNH-01-RET-66.821	66+821	66.821	27.49536919	89.93996754	1309.7	30	4	RRM	VALLEY	Good		
79	PNH-01-RET-66.873	66+873	66.873	27.49580484	89.94020056	1309.6	20.3	4.5	RRM	VALLEY	Good		
80	PNH-01-RET-67.08	67+080	67.08	27.49658938	89.94192559	1312.84	14	2.8	RRM	VALLEY	Good		
81	PNH-01-RET-67.183	67+183	67.183	27.49687508	89.94284033	1318.75	31	1.5	RRM	hill	Minor Damage		

82	PNH-01-RET-67.2	67+200	67.2	27.49698666	89.9430086	1319.6	22	7	Gabion	VALLEY	Good		
83	PNH-01-RET-67.285	67+285	67.285	27.49680754	89.9437216	1326.52	129	4.1	RRM	VALLEY	Good		
84	PNH-01-RET-67.46	67+460	67.46	27.49764981	89.94505734	1334.76	24	3	RRM	VALLEY	Good		
85	PNH-01-RET-67.489	67+489	67.489	27.49788424	89.94519167	1335.76	24	2	RRM	valley	Good		
86	PNH-01-RET-67.595	67+595	67.595	27.4985559	89.94586421	1338.43	33	3	RRM	valley	Good		
87	PNH-01-RET-67.64	67+640	67.64	27.49884383	89.94609276	1339.13	34	3.5	RRM	VALLEY	Good		
88	PNH-01-RET-67.7	67+700	67.7	27.49937963	89.94629053	1342.44	9	2	RRM	VALLEY	Good		
89	PNH-01-RET-67.74	67+740	67.74	27.49968762	89.94649877	1344.3	19	7	RRM	valley	Good		
90	PNH-01-RET-67.88	67+880	67.88	27.50000613	89.94683911	1344.63	25.5	4	RRM	valley	Good		
91	PNH-01-RET-67.99	67+990	67.99	27.50122105	89.94822088	1342.17	42	5	RRM	valley	Good		
92	PNH-01-RET-68.115	68+115	68.115	27.50201856	89.94891155	1341.08	25	3	RRM	Valley	Good		
93	PNH-01-RET-68.181	68+181	68.181	27.50234041	89.9494057	1339.29	40.5	7	RRM	valley	Good		
94	PNH-01-RET-68.2	68+200	68.2	27.50243856	89.94957853	1338.76	18	2.4	RRM	Hill	Good		
95	PNH-01-RET-68.288	68+288	68.288	27.50255512	89.94983821	1338.19	59	7.5	RRM	valley	Good		
96	PNH-01-RET-68.569	68+569	68.569	27.5042295	89.95248215	1325.92	12.4	4.5	RRM	valley	Good		
97	PNH-01-RET-68.65	68+650	68.65	27.50432452	89.95338737	1328.34	14	2	Gabions	VALLEY	Good		
98	PNH-01-RET-68.7	68+700	68.7	27.50438315	89.95388402	1329.24	16	2	Gabion	hill	Good		
99	PNH-01-RET-68.754	68+754	68.754	27.50443382	89.95443941	1330.19	10	2	Gabion	HILL	Good		
100	PNH-01-RET-68.863	68+863	68.863	27.50480824	89.9553939	1333.78	19	5	Gabion	Hill	Good		
101	PNH-01-RET-68.9	68+900	68.9	27.5049312	89.95572704	1334.93	12	2	RRM	valley	Good		
102	PNH-01-RET-68.926	68+926	68.926	27.50498169	89.9560312	1335.03	16.6	3.5	RRM	valley	Good		

103	PNH-01-RET-68.947	68+947	68.947	27.50497824	89.95623057	1335.24	9	2.5	RRM	valley	Good		
104	PNH-01-RET-69.45	69+450	69.45	27.50569149	89.96122196	1350.95	60	2	RRM	valley	Good		
105	PNH-01-RET-69.45	69+450	69.45	27.50569149	89.96122196	1350.95	60	4.5	RRM	HILL	Good		
106	PNH-01-RET-69.97	69+970	69.97	27.50538815	89.96541841	1351.28	86	3	RRM	HILL	Good		
107	PNH-01-RET-70.36	70+360	70.36	27.50588346	89.96898264	1360.88	17	3	Gabions	HILL	Good		
108	PNH-01-RET-70.425	70+425	70.425	27.50558758	89.96953439	1363.11	28	5	Gabion	hill	Good		
109	PNH-01-RET-70.43	70+430	70.43	27.50551458	89.96977088	1364.3	10	5	Gabion	hill	Good		
110	PNH-01-RET-70.65	70+650	70.65	27.50462814	89.97145807	1376.09	13	2	Gabion	Hill	Good		
111	PNH-01-RET-70.67	70+670	70.67	27.50458359	89.97170073	1376.91	4	2	Gabion	hill	Good		
112	PNH-01-RET-70.673	70+673	70.673	27.50456782	89.97174609	1377.03	13	2	Gabion	hill	Minor Damage	gabion mesh damaged	
113	PNH-01-RET-71.3	71+300	71.3	27.50411308	89.97775671	1408.73	45	3	RRM	valley	Good		
114	PNH-01-RET-71.55	71+550	71.55	27.50554884	89.9795839	1418.96	70	4.5	RRM	valley	Good		
115	PNH-01-RET-71.915	71+915	71.915	27.50531618	89.98291188	1431.86	10	2.5	RRM	valley	Good		
116	PNH-01-RET-72.457	72+457	72.457	27.5076734	89.98740462	1450.46	14	3.8	RRM Head wall	VALLEY	Good		
117	PNH-01-RET-72.676	72+676	72.676	27.50809927	89.98954872	1456.41	12	4	RRM head wall	valley	Good		
118	PNH-01-RET-72.74	72+740	72.74	27.50802871	89.99019562	1459.32	21	6	RRM head wall	valley	Good		
119	PNH-01-RET-72.936	72+936	72.936	27.50754155	89.9920519	1466.6	21	3.5	RRM head wall	valley	Good		
120	PNH-01-RET-73.078	73+078	73.078	27.50728914	89.9932268	1472.47	44	7	RRM	valley	Good		
121	PNH-01-RET-73.153	73+153	73.153	27.50693623	89.99395993	1473.7	114.5	5	RRM	VALLEY	Good		
122	PNH-01-RET-73.63	73+630	73.63	27.50498419	89.99779151	1464.54	46	3	Gabion	HILL	Good		
123	PNH-01-RET-73.66	73+660	73.66	27.50495378	89.99812197	1463.2	59	4	RRM	valley	Good		

124	PNH-01-RET-73.7	73+700	73.7	27.50496804	89.99848817	1461.19	12	2	Gabion	hill	Good		
125	PNH-01-RET-73.83	73+830	73.83	27.50392698	89.99871566	1458.49	12	2.5	RRM	valley	Good		
126	PNH-01-RET-73.83	73+830	73.83	27.50392698	89.99871566	1458.49	5.5	2.5	RRM	hill	Minor Damage		
127	PNH-01-RET-73.83	73+830	73.83	27.50392698	89.99871566	1458.49	27	3.5	RRM	HILL	Good		
128	PNH-01-RET-73.88	73+880	73.88	27.50383954	89.99902713	1460.26	4.7	2	RRM	valley	Good		
129	PNH-01-RET-74.19	74+190	74.19	27.50316628	90.00211281	1476.26	10	3	RRM	Valley	Good		
130	PNH-01-RET-74.22	74+220	74.22	27.50301313	90.00229905	1477.27	35	1.2	RRM	Hill	Good		
131	PNH-01-RET-74.246	74+246	74.246	27.50283538	90.0026268	1478.32	20	2.5	RRM	Hill	Good		
132	PNH-01-RET-74.47	74+470	74.47	27.50307531	90.00468248	1485.86			RRM	valley	Good		
133	PNH-01-RET-74.75	74+750	74.75	27.50356073	90.00747966	1499.47	20	2.5	RRM	hill	Good		
134	PNH-01-RET-74.953	74+953	74.953	27.50493072	90.00847721	1508.46	26	2	RRM	valley	Good		
135	PNH-01-RET-75.12	75+120	75.12	27.50515204	90.01001388	1515.19	29	3	Gabion	HILL	Good		
136	PNH-01-RET-75.34	75+340	75.34	27.50385722	90.00971169	1522.6	17.5	3.8	RRM	VALLEY	Good		
137	PNH-01-RET-75.37	75+370	75.37	27.50359509	90.00998021	1523.4	8.3	5.9	RRM	Valley	Good		
138	PNH-01-RET-75.5	75+500	75.5	27.50384432	90.01069382	1527.29	48	3	Gabion	Hill	Good		
139	PNH-01-RET-75.533	75+533	75.533	27.50368351	90.0112732	1531.03	15	3	Gabion	Hill	Good		
140	PNH-01-RET-75.59	75+590	75.59	27.50353018	90.01184202	1534.63	13	3	Gabion	Valley	Good		
141	PNH-01-RET-75.618	75+618	75.618	27.503451	90.01211709	1535.51	13	5	Gabion	valley	Good		
142	PNH-01-RET-75.632	75+632	75.632	27.50340843	90.01232264	1536.18	28	3	Gabion	Hill	Good		
143	PNH-01-RET-75.795	75+795	75.795	27.50232875	90.01314411	1543.87	15.8	2	RRM	Hill	Good		
144	PNH-01-RET-76.4	76+400	76.4	27.50288874	90.01854328	1574.44	18	5	RRM	valley	Good		

145	PNH-01-RET-76.68	76+680	76.68	27.50122855	90.02047396	1586.22	26	3	Gabion	Hill	Good		
146	PNH-01-RET-76.68	76+680	76.68	27.50122855	90.02047396	1586.22	24	5	RRM	Valley	Good		
147	PNH-01-RET-76.887	76+887	76.887	27.50101315	90.02229165	1597.45	113	4	RRM	Valley	Good		
148	PNH-01-RET-77.213	77+213	77.213	27.50065817	90.02439076	1612.76	13	2.2	RRM	Valley	Good		
149	PNH-01-RET-77.28	77+280	77.28	27.50059212	90.02501025	1615.81	14.6	4.5	RRM	VALLEY	Good		
150	PNH-01-RET-77.281	77+281	77.281	27.50056675	90.02504237	1616.07	14.5	4.5	RRM	Valley	Good		
151	PNH-01-RET-77.525	77+525	77.525	27.49946678	90.027012	1625.84	20	2	RRM	valley	Good		
152	PNH-01-RET-77.7	77+700	77.7	27.49869746	90.02852813	1633.66	15	3	Gabions	HILL	Good		
153	PNH-01-RET-77.8	77+800	77.8	27.49863905	90.02929781	1637.67	30	6	Gabions	VALLEY	Good		
154	PNH-01-RET-77.995	77+995	77.995	27.49794445	90.0307929	1646.96	24	2	Gabions	Hill	Good		
155	PNH-01-RET-78.01	78+010	78.01	27.49710994	90.03080893	1647.11	8	5	Gabion	Valley	Good		
156	PNH-01-RET-77.02	77+020	77.02	27.49772567	90.03094261	1647.86	5	3	Gabion	valley	Good		
157	PNH-01-RET-78.056	78+056	78.056	27.49750403	90.03113701	1648.8	40	2	Gabions	HILL	Good		
158	PNH-01-RET-78.09	78+090	78.09	27.49739754	90.0314287	1649.6	29	7	Gabions	Valley	Good		
159	PNH-01-RET-78.132	78+132	78.132	27.49767004	90.03164918	1652.01	14.5	3	RRM	Valley	Good		
160	PNH-01-RET-78.241	78+241	78.241	27.49860533	90.03191506	1655.59	17.3		RRM	valley	Good		
161	PNH-01-RET-78.251	78+251	78.251	27.49869453	90.03191146	1656.29	22	3	Gabions	HILL	Good		
162	PNH-01-RET-78.3	78+300	78.3	27.49913778	90.01319855	1657.84	85	2	Gabion	HILL	Good		
163	PNH-01-RET-78.3	78+300	78.3	27.49913778	90.01319855	1657.84	85	2	Gabion	HILL	Good		
164	PNH-01-RET-78.38	78+380	78.38	27.49975193	90.03236439	1661.16	40	4	Gabions	HILL	Good		
165	PNH-01-RET-78.464	78+464	78.464	27.50034775	90.03285273	1664.44	39	3	Gabion	Hill	Good		

166	PNH-01-RET-78.526	78+526	78.526	27.50063926	90.0332925	1666.26	56.3	3.5	RRM	Hill	Good		
167	PNH-01-RET-78.647	78+647	78.647	27.50108213	90.03443951	1671.9	51	4	Gabion	Hill	Good		
168	PNH-01-RET-78.745	78+745	78.745	27.50155772	90.0352472	1674.46	20	2.5	RRM	valley	Good		
169	PNH-01-RET-78.784	78+784	78.784	27.50173279	90.0355708	1674.24	37	4	Gabions	HILL	Good		
170	PNH-01-RET-78.8221	78+822	78.8221	27.50194285	90.03589975	1673.51	14.4	4	RCC	Hill	Good		
171	PNH-01-RET-78.87	78+870	78.87	27.50198448	90.03641227	1675.09	7	3	RRM	valley	Good		
172	PNH-01-RET-79.04	79+040	79.04	27.50132595	90.03778621	1685.62	15	2.5	RRM	valley	Good		
173	PNH-01-RET-79.113	79+113	79.113	27.5009773	90.03829426	1689.49	14	3	RRM	valley	Good		
174	PNH-01-RET-79.119	79+119	79.119	27.501004	90.03832521	1689.5	11	4	RRM .	Valley	Good		
175	PNH-01-RET-79.215	79+215	79.215	27.50170717	90.03854439	1690.37	22	3	Gabion	hill	Good		
176	PNH-01-RET-79.393	79+393	79.393	27.50105646	90.04019469	1697.17	20	3	Gabion	hill	Good		
177	PNH-01-RET-79.393	79+393	79.393	27.50105646	90.04019469	1697.17	6	2	RRM	Valley	Good		
178	PNH-01-RET-79.433	79+433	79.433	27.50099581	90.04057835	1698.28	57	3	Gabion	HILL	Good		
179	PNH-01-RET-79.595	79+595	79.595	27.50015135	90.04179095	1703.57	318	3	Gabion	HILL	Good		
180	PNH-01-RET-79.882	79+882	79.882	27.49831841	90.04355917	1710.21	43	4	RRM	HILL	Good		
181	PNH-01-RET-79.9	79+900	79.9	27.49812038	90.04369848	1711.37	25	3.5	RRM	HILL	Good		
182	PNH-01-RET-79.95	79+950	79.95	27.49780014	90.04402504	1714.71	75	3	Gabion	HILL	Good	Damaged 7 Meter	
183	PNH-01-RET-79.982	79+982	79.982	27.4977757	90.04444376	1716.12	42	3	Gabion	HILL	Good		
184	PNH-01-RET-80.067	80+067	80.067	27.49836459	90.04434484	1718.69	49.5	2.6	RRM	HILL	Good		
185	PNH-01-RET-80.324	80+324	80.324	27.49757388	90.04625635	1728.5	17.5	2.5	RRM	Valley	Good		
186	PNH-01-RET-80.379	80+379	80.379	27.49712684	90.04656792	1730.6	12.5	3	RRM	Valley	Good		

187	PNH-01-RET-80.379	80+379	80.379	27.49712684	90.04656792	1730.6	28	2	Gabion	Hill	Good		
188	PNH-01-RET-80.45	80+450	80.45	27.496864	90.04712871	1732.6	40	2.8	Gabions	HILL	Good		
189	PNH-01-RET-80.455	80+455	80.455	27.49685147	90.04717824	1732.83	38	2	Gabions	HILL	Good		
190	PNH-01-RET-80.5	80+500	80.5	27.49673659	90.04762222	1735.25	17	2	Gabions	HILL	Good		
191	PNH-01-RET-80.5	80+500	80.5	27.49673659	90.04762222	1735.25	38	3	Gabions	HILL	Good		
192	PNH-01-RET-80.6	80+600	80.6	27.49672212	90.04835313	1741.29	42	3	Gabions	HILL	Good		
193	PNH-01-RET-80.676	80+676	80.676	27.49717341	90.04789013	1742.13	42	3	RRM	HILL	Good		
194	PNH-01-RET-81.225	81+225	81.225	27.49802022	90.05145492	1760.89	20	7	RRM	Valley	Good		
195	PNH-01-RET-81.237	81+237	81.237	27.49794186	90.05152743	1761.18	18	3	Breast Wall	HILL	Good		
196	PNH-01-RET-81.539	81+539	81.539	27.49809887	90.0544645	1761.86	21	4	Gabion	Valley	Good		
197	PNH-01-RET-81.539	81+539	81.539	27.49809887	90.0544645	1761.86	20	2.5	Breast Wall	HILL	Good		
198	PNH-01-RET-81.717	81+717	81.717	27.49718086	90.05571925	1770.77	37	3	Gabion	Hill	Good		
199	PNH-01-RET-81.764	81+764	81.764	27.4973466	90.0560302	1771.91	27	5	RRM	Valley	Good		
200	PNH-01-RET-81.811	81+811	81.811	27.49779141	90.05612565	1773.79	30	3	RRM	Valley	Good		
201	PNH-01-RET-81.811	81+811	81.811	27.49779141	90.05612565	1773.79	15	3	Gabion	Hill	Good		
202	PNH-01-RET-82.121	82+121	82.121	27.49938402	90.05805204	1785.41	18	1	RRM	Hill	Good		
203	PNH-01-RET-82.121	82+121	82.121	27.49938402	90.05805204	1785.41	36	6	Gabion	Valley	Good		
204	PNH-01-RET-83.345	83+345	83.345	27.50197131	90.06735203	1842.38	13	2	RRM	Valley	Good		
205	PNH-01-RET-83.484	83+484	83.484	27.50085986	90.06726337	1845.5	23	3	RRM	Valley	Good		
206	PNH-01-RET-83.484	83+484	83.484	27.50085986	90.06726337	1845.5	140	2	Gabion wall	Hill side	Good		
207	PNH-01-RET-83.6	83+600	83.6	27.49963783	90.06751993	1850.7	36	4	Gabion	valley	Good		

208	PNH-01-RET-83.6	83+600	83.6	27.49963783	90.06751993	1850.7	32	5	Gabion	valley	Good		
209	PNH-01-RET-83.6	83+600	83.6	27.49963783	90.06751993	1850.7	30	6	Gabion	valley	Good		
210	PNH-01-RET-83.6	83+600	83.6	27.49963783	90.06751993	1850.7	25	7	Gabion	valley	Good		
211	PNH-01-RET-83.6	83+600	83.6	27.49963783	90.06751993	1850.7	11	8	Gabion	valley	Good		
212	PNH-01-RET-83.623	83+623	83.623	27.49961083	90.06754114	1850.99	85	2	Gabion	Hill	Good		
213	PNH-01-RET-83.813	83+813	83.813	27.49871936	90.06882141	1847.97	21	3	Gabion	Hill	Good		
214	PNH-01-RET-84.286	84+286	84.286	27.5007323	90.06970714	1869.63	27	5	RRM	Valley	Good		
215	PNH-01-RET-84.341	84+341	84.341	27.50117601	90.0699008	1873.09	29	5	Gabion	Valley	Good		
216	PNH-01-RET-84.51	84+510	84.51	27.50229398	90.07077052	1880.59	37	3	Gabion	Hill	Good		
217	PNH-01-RET-84.86	84+860	84.86	27.50377443	90.07369588	1898.27	30	3	Gabion	Hill	Good		
218	PNH-01-RET-84.7	84+700	84.7	27.50315389	90.0725367	1892.09	49.5	5	RRM	Valley	Good		
219	PNH-01-RET-85.5	85+500	85.5	27.50315409	90.08010057	1934.07	13	4	RRM	Valley	Good		
220	PNH-01-RET-85.585	85+585	85.585	27.50290434	90.08072509	1937.74	12	3	Gabion	Hill	Good		
221	PNH-01-RET-85.6	85+600	85.6	27.5028228	90.08082603	1938.24	26	2	RRM required	Hill	Minor Damage		
222	PNH-01-RET-85.645	85+645	85.645	27.50263358	90.08122376	1939.59	13	3.5	RRM	Valley	Good		
223	PNH-01-RET-85.755	85+755	85.755	27.5035517	90.08097713	1940.9	54	10	RCC wall	Valley	Good		
224	PNH-01-RET-86.2	86+200	86.2	27.50568174	90.07881759	1953.07	29	10	Macro Net	Hill	Good		
225	PNH-01-RET-86.65	86+650	86.65	27.50699623	90.08280313	1981.17	21	5	Gabion	Valley	Good		
226	PNH-01-RET-86.65	86+650	86.65	27.50699623	90.08280313	1981.17	47	5	RRM	Valley	Good		
227	PNH-01-RET-87.015	87+015	87.015	27.50823721	90.08449969	2002.49	40	3.2	RRM	Hill	Good		
228	PNH-01-RET-87.7	87+700	87.7	27.51121093	90.08991919		30	15	Gabion	Valley	Major Damage		

229	PNH-01-RET-87.151	87+151	87.151	27.50899404	90.08531016		23	3	RRM	Valley	Good		
230	PNH-01-RET-87.185	87+185	87.185	27.50921161	90.0855642		20	4	RRM	Valley	Good		
231	PNH-01-RET-87.868	87+868	87.868	27.51094057	90.09150923		26	9	Gabion	valley	Good		
232	PNH-01-RET-87.872	87+872	87.872	27.51092724	90.09155725		14	7	RRM	valley	Major Damage		
233	PNH-01-RET-87.912	87+912	87.912	27.510953	90.091939		6	7	RRM	Hill	Good		
234	PNH-01-RET-87.93	87+930	87.93	27.51103958	90.09211317		14	9	RRM	valley	Good		
235	PNH-01-RET-83.96	83+960	83.96	27.49812783	90.06958484		27.5	4.5	RRM	valley	Good		
236	PNH-01-RET-88.036	88+036	88.036	27.51122941	90.09313007		14	4.5	RRM	valley	Good		
237	PNH-01-RET-88.057	88+057	88.057	27.5112772	90.09332232		48	4	RRM	valley	Good		
238	PNH-01-RET-88.136	88+136	88.136	27.51155902	90.09405033		18	5	RRM	valley	Good		
239	PNH-01-RET-88.242	88+242	88.242	27.51223479	90.09432174		31	3	RRM	valley	Good		
240	PNH-01-RET-88.3	88+300	88.3	27.5121838	90.09372521		18	3	RRM	valley	Good		
241	PNH-01-RET-88.6	88+600	88.6	27.51400121	90.09221285		15	5	Gabion	valley	Good		
242	PNH-01-RET-88.744	88+744	88.744	27.51514557	90.09263569		31	5	RRM	valley	Good		
243	PNH-01-RET-88.847	88+847	88.847	27.515584	90.09355209		57	3	RRM	valley	Good		
244	PNH-01-RET-89.135	89+135	89.135	27.51682386	90.09538159		33	8	Gabion	valley	Good		
245	PNH-01-RET-89.22	89+220	89.22	27.51754043	90.09517377		80	3	Gabion	hill	Good		
246	PNH-01-RET-89.888	89+888	89.888	27.51941178	90.09763208		5	1.5	RRM	valley	Good		
247	PNH-01-RET-89.918	89+918	89.918	27.51922148	90.09784149		12	2.5	RRM	valley	Good		
248	PNH-01-RET-90.012	90+012	90.012	27.51882628	90.09867838		12	4	RRM	valley	Good		
249	PNH-01-RET-91.139	91+139	91.139	27.52160642	90.10223886		15	2.5	RRM	valley	Good		

250	PNH-01-RET-91.26	91+260	91.26	27.52214162	90.10120129		9	3	RRM	valley	Good		
251	PNH-01-RET-91.429	91+429	91.429	27.5235272	90.10083308		16	4	RRM	valley	Good		
252	PNH-01-RET-90.572	90+572	90.572	27.51835196	90.10399424		11.8	2	RRM	Valley	Good		
253	PNH-01-RET-90.665	90+665	90.665	27.51873727	90.1040975		15.5	1.5	RRM	Valley	Good		
254	PNH-01-RET-90.758	90+758	90.758	27.51934006	90.10442026		17.8	3.4	RRM	Valley	Good		
255	PNH-01-RET-90.807	90+807	90.807	27.51966095	90.10421461		26.5	3	RRM	Valley	Good		
256	PNH-01-RET-90.922	90+922	90.922	27.520287	90.10354689		20	1.8	RRM	Valley	Good		
257	PNH-01-RET-90.983	90+983	90.983	27.52060751	90.10313614		16	1.2	RRM	Valley	Good		
258	PNH-01-RET-91.451	91+451	91.451	27.5237404	90.10077455		23	3	RRM	Valley	Good	P15	
259	PNH-01-RET-91.667	91+667	91.667	27.52504037	90.10084223		16	2	RRM	Valley	Good		
260	PNH-01-RET-91.7	91+700	91.7	27.52501439	90.10119357		6	2	RRM	Valley	Good		
261	PNH-01-RET-91.714	91+714	91.714	27.52500465	90.10129196		17	2.5	RRM	Valley	Good		
262	PNH-01-RET-91.798	91+798	91.798	27.52538534	90.10189608		42	4.5	RRM	Valley	Good		
263	PNH-01-RET-92.048	92+048	92.048	27.52630074	90.10394641		28	6.5	RRM	Valley	Good		
264	PNH-01-RET-92.093	92+093	92.093	27.5262876	90.10439577		5	3	RRM	Valley	Good		
265	PNH-01-RET-92.255	92+255	92.255	27.52717512	90.10383866		4.8	1.7	RRM	Valley	Good		
266	PNH-01-RET-92.255	92+255	92.255	27.52717512	90.10383866		7.8	1.9	RRM	Valley	Good		
267	PNH-01-RET-92.255	92+255	92.255	27.52717512	90.10383866		5.3	2.1	RRM	Valley	Good		
268	PNH-01-RET-92.255	92+255	92.255	27.52717512	90.10383866		6.3	1.2	RRM	Valley	Good		
269	PNH-01-RET-92.35	92+350	92.35	27.52771776	90.10331182		29	7	RRM	Valley	Good		
270	PNH-01-RET-92.926	92+926	92.926	27.53186	90.10345132		39	4	Gabion	Valley	Good		

271	PNH-01-RET-93.049	93+049	93.049	27.53280777	90.10397068		39	4	Gabion	Valley	Good		
272	PNH-01-RET-93.049	93+049	93.049	27.53280777	90.10397068		26.5	2.5	RRM	Valley	Good	P13 required	
273	PNH-01-RET-93.084	93+084	93.084	27.53305895	90.10418142		26	8	Gabion	Valley	Good		
274	PNH-01-RET-93.268	93+268	93.268	27.53423073	90.10513282		50	6	RRM	Valley	Good		
275	PNH-01-RET-93.431	93+431	93.431	27.53512713	90.10628696		21	3	RRM	Valley	Good		
276	PNH-01-RET-93.596	93+596	93.596	27.53627846	90.10679927		24	6	RRM	Valley	Good		
277	PNH-01-RET-93.673	93+673	93.673	27.53683965	90.10714309		13.4	4.5	RRM	Valley	Good		
278	PNH-01-RET-93.673	93+673	93.673	27.53683965	90.10714309		15.4	4.2	RRM	Valley	Good		
279	PNH-01-RET-93.752	93+752	93.752	27.53747598	90.10748312		16.7	3	RRM	Valley	Good		
280	PNH-01-RET-93.763	93+763	93.763	27.53756257	90.10751032		20.5	4	RRM	Valley	Good		
281	PNH-01-RET-93.823	93+823	93.823	27.53807205	90.10764254		20.5	4	RRM	Valley	Good		
282	PNH-01-RET-93.823	93+823	93.823	27.53807205	90.10764254		41.8	4	RRM	Valley	Good		
283	PNH-01-RET-93.9	93+900	93.9	27.5387685	90.10773803		52.8	4	RRM	Valley	Good		
284	PNH-01-RET-93.988	93+988	93.988	27.53951872	90.10777442		16.5	4.5	RRM	Valley	Good		
285	PNH-01-RET-94.046	94+046	94.046	27.54005444	90.10776451		10	2	RRM	Valley	Good		
286	PNH-01-RET-94.046	94+046	94.046	27.54005444	90.10776451		5.2	3	RRM	Valley	Good		
287	PNH-01-RET-94.214	94+214	94.214	27.54137513	90.10828568		21	3	RRM	Valley	Good		
288	PNH-01-RET-94.214	94+214	94.214	27.54137513	90.10828568		21	3	RRM	Valley	Good		
289	PNH-01-RET-94.242	94+242	94.242	27.54155575	90.10850507		40.2	4.2	RRM	Valley	Good		
290	PNH-01-RET-94.492	94+492	94.492	27.5427885	90.11049873		30.5	3.8	RRM	Valley	Good		
291	PNH-01-RET-94.935	94+935	94.935	27.5451443	90.11381763		37	7	RRM	Valley	Good		

292	PNH-01-RET-95.245	95+245	95.245	27.54562057	90.11677729		12.5	1.5	RRM	Valley	Good		
293	PNH-01-RET-95.3	95+300	95.3	27.54576338	90.11729725		24	7	Gabion wall	Valley	Good		
294	PNH-01-RET-95.5	95+500	95.5	27.54580017	90.11923744		12	2.6	RRM	Valley	Good		
295	PNH-01-RET-95.55	95+550	95.55	27.54565555	90.11969362		36	6	RRM	Valley	Good		
296	PNH-01-RET-95.6	95+600	95.6	27.54559156	90.12016526		8	9	RRM	Valley	Good		
297	PNH-01-RET-96	96+000	96	27.54537641	90.12314055		17	10	RRM	valley	Good		
298	PNH-01-RET-96.093	96+093	96.093	27.54480104	90.12374332		23.45	2.5	RRM	valley	Good		
299	PNH-01-RET-96.144	96+144	96.144	27.54466647	90.12418606		13.4	8	RRM	valley	Good		
300	PNH-01-RET-96.3	96+300	96.3	27.54545058	90.1253605		21.4	5.5	RRM	valley	Good		
301	PNH-01-RET-96.627	96+627	96.627	27.54492658	90.12846793		10	2.5	RRM	valley	Good	P5 required	
302	PNH-01-RET-96.67	96+670	96.67	27.54471485	90.12884162		26	2.5	RRM	valley	Good	P11 required	
303	PNH-01-RET-96.67	96+670	96.67	27.54471485	90.12884162		26	2.5	RRM	valley	Good	P11 required	
304	PNH-01-RET-96.8	96+800	96.8	27.54435181	90.13007917		22	3	Gabion	Hill	Good		
305	PNH-01-RET-96.82	96+820	96.82	27.54432706	90.13027414		13	3	RRM	Hill	Good		
306	PNH-01-RET-96.8	96+800	96.8	27.54435181	90.13007917		23	3	Gabion	Hill	Good		
307	PNH-01-RET-96.89	96+890	96.89	27.54425004	90.13096464		60	3	RRM	Hill	Good		
308	PNH-01-RET-96.9	96+900	96.9	27.54422101	90.13106072		10	2	RRM	Hill	Good		
309	PNH-01-RET-96.67	96+670	96.67	27.54471485	90.12884162		14	4	Gabion	valley	Good		
310	PNH-01-RET-97.137	97+137	97.137	27.54414893	90.13311389		24.3	5	RRM	valley	Good	P13	
311	PNH-01-RET-97.327	97+327	97.327	27.54493536	90.1338222		35	8	Gabion	valley	Good		
312	PNH-01-RET-97.408	97+408	97.408	27.54518592	90.13455042		41	5	RRM	valley	Good	D7	

313	PNH-01-RET-97.562	97+562	97.562	27.54648577	90.13482299		38	5	RRM	valley	Good	D9	
314	PNH-01-RET-97.621	97+621	97.621	27.54676732	90.13530761		13	3	RRM	valley	Good	D9	
315	PNH-01-RET-97.658	97+658	97.658	27.54707113	90.13538473		13	3	RRM	valley	Good	D9	
316	PNH-01-RET-97.726	97+726	97.726	27.54764494	90.13561526		14	1.7	RRM	valley	Good	P9	
317	PNH-01-RET-97.81	97+810	97.81	27.54805985	90.13623153		8.6	1.2	RRM	valley	Good	D5	
318	PNH-01-RET-97.969	97+969	97.969	27.54769388	90.13759626		62.2	2.5	RRM	valley	Good	P5 required 12	
319	PNH-01-RET-98.118	98+118	98.118	27.5480201	90.13904595		15	1.5	RRM	valley	Good		
320	PNH-01-RET-98.218	98+218	98.218	27.54778888	90.14000379		34.5	5	Gabion	valley	Good		
321	PNH-01-RET-98.39	98+390	98.39	27.54693381	90.14131712		17.6	3	RRM	valley	Good		
322	PNH-01-RET-98.42	98+420	98.42	27.54674839	90.14153209		150	3	Gabion	Hill	Good		
323	PNH-01-RET-98.57	98+570	98.57	27.54631345	90.14288718		20.3	3	RRM	Hill	Good		
324	PNH-01-RET-98.593	98+593	98.593	27.5462542	90.14307882		94	3	Gabion	Hill	Good		
325	PNH-01-RET-98.721	98+721	98.721	27.54544647	90.14396609		10.5	5	RRM	valley	Good		
326	PNH-01-RET-98.721	98+721	98.721	27.54544647	90.14396609		8	3	RRM	valley	Good		
327	PNH-01-RET-98.8	98+800	98.8	27.54487451	90.14442702		14.3	3.2	RRM	valley	Good		
328	PNH-01-RET-98.83	98+830	98.83	27.54464721	90.14459206		9.4	3	RRM	Hill	Good		
329	PNH-01-RET-98.84	98+840	98.84	27.54456875	90.14463965		17	2	RRM	Hill	Good		
330	PNH-01-RET-98.84	98+840	98.84	27.54456875	90.14463965		16.3	3	RRM	Valley	Good		
331	PNH-01-RET-98.85	98+850	98.85	27.54449382	90.14469397		28	2	RRM	Hill	Good		
332	PNH-01-RET-98.9	98+900	98.9	27.54431306	90.14507319		63	3	Gabion	Hill	Good		
333	PNH-01-RET-98.951	98+951	98.951	27.54436922	90.14556093		23	2.5	RRM	Valley	Good	P12	

334	PNH-01-RET-99.042	99+042	99.042	27.54455622	90.14613536		18	5	RRM	Valley	Good	P10	
335	PNH-01-RET-99.081	99+081	99.081	27.54475466	90.14580874		1+2	3.5	RRM	Valley	Good	P6	
336	PNH-01-RET-99.259	99+259	99.259	27.54610627	90.14560696		33	3	Gabion	Hill	Good		
337	PNH-01-RET-99.27	99+270	99.27	27.54624158	90.14559381		8	8	Gabion	Hill	Good		
338	PNH-01-RET-99.375	99+375	99.375	27.54687659	90.14610598		6	3	RRM	Valley	Good		
339	PNH-01-RET-99.4	99+400	99.4	27.54685063	90.14635639		28	6	Gabion	Valley	Good		
340	PNH-01-RET-99.611	99+611	99.611	27.54577502	90.14786566		25	3	Gabion	Hill	Good		
341	PNH-01-RET-99.716	99+716	99.716	27.54613864	90.14872935		51.6	3.3	RRM	Valley	Good	P28	
342	PNH-01-RET-99.9	99+900	99.9	27.54537656	90.14999447		13	3.6	RRM	Hill	Good		
343	PNH-01-RET-99.9	99+900	99.9	27.54537656	90.14999447		24	2	Gabion	Valley	Good		
344	PNH-01-RET-99.935	99+935	99.935	27.54518666	90.15027414		96.5	8	RRM	Valley	Good	P52	
345	PNH-01-RET-99.935	99+935	99.935	27.54518666	90.15027414		22	3	RRM	Hill	Good		
346	PNH-01-RET-100.095	100+095	100.095	27.54615046	90.15022375		11	1.5	RRM	Hill	Good		
347	PNH-01-RET-100.1	100+100	100.1	27.5461604	90.15027508		9	3.9	RRM	Hill	Good		
348	PNH-01-RET-100.484	100+484	100.484	27.54356228	90.15216647		10	3	Gabion	Valley	Good		
349	PNH-01-RET-100.5	100+500	100.5	27.54350969	90.15236031		11	4	Gabion	Valley	Good		
350	PNH-01-RET-100.5	100+500	100.5	27.54350969	90.15236031		24	5	Gabion	Valley	Good		
351	PNH-01-RET-100.708	100+708	100.708	27.54389036	90.15385829		15	5	Gabion	Valley	Good		
352	PNH-01-RET-100.721	100+721	100.721	27.54379251	90.1539655		18	6	Gabion	Valley	Good		
353	PNH-01-RET-100.721	100+721	100.721	27.54379251	90.1539655		8	7	Gabion	Valley	Good		
354	PNH-01-RET-100.789	100+789	100.789	27.54325379	90.15382398		26	5	Gabion	Valley	Good		

355	PNH-01-RET-100.83	100+830	100.83	27.54287331	90.1537243		32	9	Gabion	Valley	Good		
356	PNH-01-RET-101.6	101+600	101.6	27.54034392	90.15831038		9	1	Gabion	Valley	Good		
357	PNH-01-RET-101.662	101+662	101.662	27.53989257	90.15806716		32	7	Gabion	Valley	Good		
358	PNH-01-RET-101.934	101+934	101.934	27.54035345	90.15979585		19	4	Gabion	Valley	Good		
359	PNH-01-RET-102.19	102+190	102.19	27.53981032	90.16121151		7	3	Gabion	Valley	Good		
360	PNH-01-RET-102.19	102+190	102.19	27.53981032	90.16121151		8	4	Gabion	Valley	Good		
361	PNH-01-RET-102.19	102+190	102.19	27.53981032	90.16121151		15	6	Gabion	Valley	Good		
362	PNH-01-RET-102.19	102+190	102.19	27.53981032	90.16121151		12	7	Gabion	Valley	Good		
363	PNH-01-RET-102.5	102+500	102.5	27.54013235	90.1626919		18	3	RRM	Valley	Good		
364	PNH-01-RET-102.524	102+524	102.524	27.53997061	90.16277917		12	3	RRM	Valley	Good		
365	PNH-01-RET-102.717	102+717	102.717	27.53887565	90.16421667		29	3	Gabion	Valley	Good		
366	PNH-01-RET-102.764	102+764	102.764	27.53906717	90.16440734		13.8	3.5	RRM	Valley	Good		
367	PNH-01-RET-102.849	102+849	102.849	27.53980149	90.164359		66	6	Gabion	Valley	Good		
368	PNH-01-RET-102.992	102+992	102.992	27.53952136	90.1657001		42	3	Gabion	Hill	Good		
369	PNH-01-RET-102.992	102+992	102.992	27.53952136	90.1657001		36	5	Gabion	Valley	Good		
370	PNH-01-RET-103.08	103+080	103.08	27.53960254	90.16659053		3.8	2.5	RRM	Valley	Good	P3 required	
371	PNH-01-RET-103.1	103+100	103.1	27.53963211	90.1667877		15	3.5	RRM	Valley	Good	P1 required	
372	PNH-01-RET-103.342	103+342	103.342	27.54082778	90.16558962		64	3	RRM	Valley	Good		
373	PNH-01-RET-103.43	103+430	103.43	27.54123568	90.1648212		7	2	RRM	Valley	Good		
374	PNH-01-RET-103.8	103+800	103.8	27.54217645	90.166846		11	3	Gabion	Hill	Good		
375	PNH-01-RET-103.835	103+835	103.835	27.54202134	90.16715217		29	3	Gabion	Hill	Good		

376	PNH-01-RET-104.067	104+067	104.067	27.54148232	90.16931779		13	6	Gabion	Valley	Good		
377	PNH-01-RET-104.067	104+067	104.067	27.54148232	90.16931779		31	7	Gabion	Valley	Good		
378	PNH-01-RET-104.2	104+200	104.2	27.54120814	90.17055536		33	7	Gabion	Valley	Good		
379	PNH-01-RET-104.3	104+300	104.3	27.54127762	90.17147009		25	6	Gabion	Valley	Good		
380	PNH-01-RET-104.3	104+300	104.3	27.54127762	90.17147009		38	7	Gabion	Valley	Good		
381	PNH-01-RET-104.434	104+434	104.434	27.54136974	90.17239679		41	8	Gabion	Valley	Good		
382	PNH-01-RET-104.667	104+667	104.667	27.54037457	90.17425666		10	4	Gabion	Valley	Good		
383	PNH-01-RET-104.667	104+667	104.667	27.54037457	90.17425666		14	7	Gabion	Valley	Good		
384	PNH-01-RET-104.667	104+667	104.667	27.54037457	90.17425666		16	8	Gabion	Valley	Good		
385	PNH-01-RET-104.711	104+711	104.711	27.53997659	90.17422564		52	3	Gabion	Hill	Good		
386	PNH-01-RET-104.89	104+890	104.89	27.53985226	90.17571313		9	2.5	RRM	Valley	Good		
387	PNH-01-RET-104.915	104+915	104.915	27.53968119	90.1758752		35	7	Gabion	Valley	Good		
388	PNH-01-RET-104.93	104+930	104.93	27.53956383	90.17595158		66	6	Gabion	Valley	Good		
Lot-2													
389	PNH-01-RET-105.059	105+059	105.059	27.53852774	90.17638401		11	3	RRM	Valley	Good		
390	PNH-01-RET-105.151	105+151	105.151	27.53857036	90.17692168		41	6	Gabion	Valley	Good		
391	PNH-01-RET-105.321	105+321	105.321	27.53986532	90.17747627		11	2	RRM	Valley	Good	P3 required	
392	PNH-01-RET-105.352	105+352	105.352	27.53988218	90.17777616		23	3	RRM	Valley	Good		
393	PNH-01-RET-105.428	105+428	105.428	27.53976207	90.1785108		17	2.5	RRM	Valley	Good		
394	PNH-01-RET-105.546	105+546	105.546	27.53918889	90.17947318		20.5	2	RRM	Valley	Good		
395	PNH-01-RET-105.7	105+700	105.7	27.53949092	90.18005618		11	3	RRM	Valley	Good		

396	PNH-01-RET-105.856	105+856	105.856	27.5393767	90.18151117		19	2.8	RRM	Valley	Good		
397	PNH-01-RET-105.856	105+856	105.856	27.5393767	90.18151117		19	2.8	RRM	Valley	Good		
398	PNH-01-RET-105.968	105+968	105.968	27.5396327	90.18233989		10.3	2.1	RRM	Valley	Good		
399	PNH-01-RET-106.349	106+349	106.349	27.5414344	90.18088653		11	0.9	RRM	Valley	Good		
400	PNH-01-RET-106.58	106+580	106.58	27.54067479	90.18247379		16	2.5	RRM	Valley	Good		
401	PNH-01-RET-106.975	106+975	106.975	27.53840787	90.18520955		19.5	3	RRM	Valley	Good		
402	PNH-01-RET-107.059	107+059	107.059	27.53778427	90.18557717		19	2	RRM	Valley	Good		
403	PNH-01-RET-107.214	107+214	107.214	27.53738643	90.18461787		27.5	3	RRM	Valley	Good		
404	PNH-01-RET-108.096	108+096	108.096	27.53499531	90.18103765		18	3	RRM	Valley	Good		
405	PNH-01-RET-108.3	108+300	108.3	27.53329764	90.18143528		28.5	3	RRM	Valley	Good		
406	PNH-01-RET-108.39	108+390	108.39	27.53261489	90.18118183		35.4	4	RRM	Valley	Good	P17	
407	PNH-01-RET-108.525	108+525	108.525	27.53301829	90.18014404		5	4	RRM	Valley	Good	P23	
408	PNH-01-RET-108.539	108+539	108.539	27.53306842	90.18006212		33	3.5	RRM	Valley	Good	Pr 15	
409	PNH-01-RET-108.563	108+563	108.563	27.53318784	90.17985139		16.8	5	RRM	Valley	Good	Rp 6	
410	PNH-01-RET-108.639	108+639	108.639	27.53369541	90.17941188		20	4.5	RRM	Valley	Good	Pr 9	
411	PNH-01-RET-109.412	109+412	109.412	27.53129353	90.17630382		47.3	4	RRM	Valley	Good	P27	
412	PNH-01-RET-109.779	109+779	109.779	27.5308916	90.17399601		37.5	2	RRM	Valley	Good	Pr 15	
413	PNH-01-RET-109.864	109+864	109.864	27.5301877	90.17384077		12	3	RRM	Valley	Good	Pr 5	
414	PNH-01-RET-110.197	110+197	110.197	27.52917687	90.17231035		32	7.5	RRM	Valley	Good		
415	PNH-01-RET-110.197	110+197	110.197	27.52917687	90.17231035		32	7.5	Gabion	Hill	Good		
416	PNH-01-RET-110.2	110+200	110.2	27.52921319	90.17228003		44	2	Gabion	Hill	Good		

417	PNH-01-RET-110.63	110+630	110.63	27.52941194	90.17313418		16.7	4	RRM	Valley	Good		
418	PNH-01-RET-110.9	110+900	110.9	27.52973281	90.17528372		20	4	RRM	Valley	Good		
419	PNH-01-RET-110.92	110+920	110.92	27.52962206	90.17544288		13.5	3.5	RRM	Valley	Good		
420	PNH-01-RET-111.38	111+380	111.38	27.53002437	90.17890397		13	3.5	RRM		Minor Damage	2 parapets needed	
421	PNH-01-RET-111.43	111+430	111.43	27.52976568	90.17931261		13.4	4	RRM	Valley	Minor Damage	7 parapets needed	
422	PNH-01-RET-111.43	111+430	111.43	27.52976568	90.17931261		13.4	4	RRM	Valley	Minor Damage	7 parapets needed	
423	PNH-01-RET-112	112+000	112	27.52907882	90.18375215		20.2	5	RRM		Minor Damage	1 needed , 9 existing parapet	
424	PNH-01-RET-112.027	112+027	112.027	27.5292868	90.18380842		17	4.5	RRM		Minor Damage	1 needed 8 existing	
425	PNH-01-RET-112.264	112+264	112.264	27.5304468	90.18497528		40.5		RRM		Good	21 existing , 3 replacement	
426	PNH-01-RET-112.605	112+605	112.605	27.53007073	90.1877841		9.5	2.5	RRM		Minor Damage	2 needed, 5 existing	
427	PNH-01-RET-112.448	112+448	112.448	27.52978456	90.1863473		26	10	gabion wall		Good		
428	PNH-01-RET-112.1	112+100	112.1	27.52995007	90.18371461		50	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion	
429	PNH-01-RET-112.3	112+300	112.3	27.53044994	90.18537275		60	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion	
430	PNH-01-RET-112.5	112+500	112.5	27.53010643	90.18675924		380	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion	
431	PNH-01-RET-112.9	112+900	112.9	27.52900826	90.18989576		50	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion	
432	PNH-01-RET-113.1	113+100	113.1	27.5296474	90.19118572		650	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion	
433	PNH-01-RET-113.839	113+839	113.839	27.53005407	90.19738059		190	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion	
434	PNH-01-RET-114	114+000	114	27.53051958	90.19885412		70	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion	
435	PNH-01-RET-114.179	114+179	114.179	27.53178219	90.19959433		70	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion	
436	PNH-01-RET-114.656	114+656	114.656	27.53531629	90.20161801		70	1.5	Breast Wall	Hill Side	Good	Required for Snow Retaintion	
437	PNH-01-RET-115.353	115+353	115.353	27.53796519	90.20640729		32	2.4	RRM	Hill	Good	Required 3 Parapets	

438	PNH-01-RET-115.556	115+556	115.556	27.53825765	90.20841647		31	1.5	RRM	Hill	Good	Required 1 Parapets	
439	PNH-01-RET-115.7	115+700	115.7	27.53749748	90.2095998		44	4	Gabion Wall	Valley	Good		
440	PNH-01-RET-118.118	118+118	118.118	27.5455587	90.21714046		50	3.5	RRM	Valley	Good		
441	PNH-01-RET-119.448	119+448	119.448	27.53492559	90.22193924		26	10	gabion	hill	Good		
442	PNH-01-RET-119.619	119+619	119.619	27.53384374	90.22310343		120	1.5	RRM	hill	Good		
443	PNH-01-RET-119.75	119+750	119.75	27.53314362	90.22409236		43.5	2.5	RRM	valley	Good		
444	PNH-01-RET-119.8	119+800	119.8	27.53306563	90.22457609		50	2.5	RRM	hill	Good		
445	PNH-01-RET-119.88	119+880	119.88	27.53270344	90.22524535		34	2	RRM	hill	Good		
446	PNH-01-RET-119.942	119+942	119.942	27.53246649	90.22578304		9	5	gabion	hill	Good		
447	PNH-01-RET-119.95	119+950	119.95	27.53242052	90.22586687		13	5	gabion	hill	Good		
448	PNH-01-RET-120	120+000	120	27.53215309	90.22626116		30	5	gabion	hill	Good		
449	PNH-01-RET-120.05	120+050	120.05	27.5317469	90.22642942		34	2	gabion	valley	Good		
450	PNH-01-RET-120.07	120+070	120.07	27.53166046	90.22659859		7.5	3.5	RRM	valley	Good		
451	PNH-01-RET-120.1	120+100	120.1	27.53153979	90.22687046		24	4.5	RRM	valley	Good	p-4,r4	
452	PNH-01-RET-120.21	120+210	120.21	27.53101562	90.22779022		32	2.75	RRM	valley	Good		
453	PNH-01-RET-120.37	120+370	120.37	27.53035018	90.22911826		19	6	gabion	valley	Good		
454	PNH-01-RET-120.38	120+380	120.38	27.53029468	90.22919701		17	2	gabion	hill	Good		
455	PNH-01-RET-120.43	120+430	120.43	27.52999186	90.22956894		33	6	gabion	valley	Good		
456	PNH-01-RET-120.44	120+440	120.44	27.52993521	90.22964575		15	2	gabion	hill	Good		
457	PNH-01-RET-120.55	120+550	120.55	27.52954261	90.23062908		37	4	gabion	hill	Good		
458	PNH-01-RET-120.65	120+650	120.65	27.52924785	90.23144902		54	5	gabion	hill	Good		

459	PNH-01-RET-120.85	120+850	120.85	27.52843699	90.23308529		64	8	gabion	valley	Good		
460	PNH-01-RET-120.9	120+900	120.9	27.52818881	90.23350234		23	3	gabion	hill	Good		
461	PNH-01-RET-124.207	124+207	124.207	27.51753946	90.25429983		30	2.7	RRM	hill	Good		
462	PNH-01-RET-124.349	124+349	124.349	27.51761015	90.25563361		29	2.7	RRM	hill	Good		
463	PNH-01-RET-124.363	124+363	124.363	27.51758413	90.25577994		48	3.5	RRM	valley	Good		
464	PNH-01-RET-124.48	124+480	124.48	27.51746923	90.2569003		85	7	RRM	valley	Good		
465	PNH-01-RET-125.8	125+800	125.8	27.51720296	90.26897847		13	2	RRM	hill	Good		
466	PNH-01-RET-125.25	125+250	125.25	27.51755777	90.26379014		14	3.5	RRM	hill	Good	gabion 1 m on top	
467	PNH-01-RET-118.995	118+995	118.995	27.5386359	90.22063648		25	3.5	RRM	hill	Good		
468	PNH-01-RET-125.27	125+270	125.27	27.51743233	90.26393077		8	4	gabion	hill	Good		
469	PNH-01-RET-125.29	125+290	125.29	27.51732981	90.26409335		33	2	gabion	hill	Good		
470	PNH-01-RET-125.33	125+330	125.33	27.51715652	90.26444133		20	3	RRM	hill	Good		
471	PNH-01-RET-125.4	125+400	125.4	27.51702831	90.26511621		15	2.3	RRM	valley	Good		
472	PNH-01-RET-125.42	125+420	125.42	27.51708499	90.26530258		64	3	RRM	hil	Good		
473	PNH-01-RET-125.52	125+520	125.52	27.51720477	90.26628622		23	3	RRM	hill	Good		
474	PNH-01-RET-125.63	125+630	125.63	27.51700087	90.26736498		60	2	RRM	hill	Good		
475	PNH-01-RET-125.75	125+750	125.75	27.51707328	90.26849406		16	3.25	RRM	hill	Good		
476	PNH-01-RET-125.79	125+790	125.79	27.51719214	90.26887552		13	3.5	RRM	valley	Good	needs one parpet	
477	PNH-01-RET-126.24	126+240	126.24	27.51715401	90.2730849		13.5	2.7	RRM	valley	Good		
478	PNH-01-RET-126.34	126+340	126.34	27.51760102	90.27394606		15	4	RRM	valley	Good		
479	PNH-01-RET-126.42	126+420	126.42	27.5176265	90.2747383		9	2	RRM	valley	Good		

480	PNH-01-RET-126.5	126+500	126.5	27.51764707	90.27552898		31	3.5	RRM	hill	Good		
481	PNH-01-RET-126.68	126+680	126.68	27.51898948	90.27558765		47	3	RRM	hill	Good		
482	PNH-01-RET-126.777	126+777	126.777	27.51967684	90.27506206		6	3.6	RRM	valley	Minor Damage	needs three parapet	
483	PNH-01-RET-126.9	126+900	126.9	27.52018216	90.27593518		7	3	gabion	hill	Good		
484	PNH-01-RET-126.89	126+890	126.89	27.52010549	90.27588859		33	3	RRM	valley	Good		
485	PNH-01-RET-126.92	126+920	126.92	27.52035037	90.27594215		18	3	gabion	hill	Good		
486	PNH-01-RET-127.53	127+530	127.53	27.52341878	90.27492077		26	2	gabion	hill	Good		
487	PNH-01-RET-127.79	127+790	127.79	27.52368414	90.27712123		43	6	gabion	valley	Good		
488	PNH-01-RET-128	128+000	128	27.52236988	90.27771185		31	3	RRM	valley	Good	wing wall	
489	PNH-01-RET-128.18	128+180	128.18	27.52079034	90.27758181		40	2	gabion	hill	Minor Damage	proper drainage required	
490	PNH-01-RET-128.14	128+140	128.14	27.5211393	90.27763443		20	2	gabion	hill	Good	proper drainage required	
491	PNH-01-RET-128.42	128+420	128.42	27.51870641	90.27779591		18	2.5	RRM	valley	Minor Damage	4 required parapet,8 existing	
492	PNH-01-RET-128.55	128+550	128.55	27.51775313	90.2784563		38	2.5	RRM	valley	Minor Damage	2 parapets required	
493	PNH-01-RET-128.8	128+800	128.8	27.51590795	90.27890976		46	3	gabion	valley	Minor Damage	6 m replacement	
494	PNH-01-RET-128.8	128+800	128.8	27.51590795	90.27890976		21	2.75	RRM	valley	Good		
495	PNH-01-RET-128.9	128+900	128.9	27.51514505	90.27942622		14	1.5	RRM	valley	Good		
496	PNH-01-RET-128.9	128+900	128.9	27.51514505	90.27942622		9	3	gabion	hill	Minor Damage	bulging ,wall is tilted a lil bit	
497	PNH-01-RET-129.314	129+314	129.314	27.51301462	90.28241282		24	3	gabion	hill	Good		
498	PNH-01-RET-129.45	129+450	129.45	27.51222826	90.28348605		4.3	1	RRM	valley	Good		
499	PNH-01-RET-129.664	129+664	129.664	27.51153739	90.28542908		10	1.2	RRM	valley	Good		
500	PNH-01-RET-130	130+000	130	27.51080284	90.28856074		40	3	gabion	hill	Good		

501	PNH-01-RET-130.1	130+100	130.1	27.51115868	90.28943509		11	1	RRM	valley	Good		
502	PNH-01-RET-130.645	130+645	130.645	27.51153271	90.29449182		11.35	4	RRM	valley	Minor Damage	1 parapets needed	
503	PNH-01-RET-130.9	130+900	130.9	27.51301235	90.2956724		15	3	RRM	valley	Good	4 parapets needed	
504	PNH-01-RET-131.526	131+526	131.526	27.5181305	90.29642862		15.5	4	RRM	valley	Good		
505	PNH-01-RET-131.561	131+561	131.561	27.51815216	90.29677847		70	4	Gabion	Hill	Good		
506	PNH-01-RET-131.644	131+644	131.644	27.51871121	90.29695837		31.7	3	RRM	Hill	Good		
507	PNH-01-RET-131.692	131+692	131.692	27.51890728	90.2965075		22	4	Gabion	Hill	Good		
508	PNH-01-RET-131.879	131+879	131.879	27.51988237	90.29738027		6	0.7	RRM	Hill	Good		
509	PNH-01-RET-131.981	131+981	131.981	27.52068075	90.29783555		53	4	RRM	valley	Good		
510	PNH-01-RET-132.067	132+067	132.067	27.52126861	90.2983188		86.7	8	RRM	valley	Good		
511	PNH-01-RET-132.338	132+338	132.338	27.52255843	90.29895421		60	4.6	RRM	valley	Good		
512	PNH-01-RET-132.515	132+515	132.515	27.52095633	90.29902993		28	3	Gabion	Hill	Good		
513	PNH-01-RET-132.555	132+555	132.555	27.5206014	90.29896832		20	7	Gabion	Valley	Good		
514	PNH-01-RET-132.605	132+605	132.605	27.52020216	90.29874059		15	5	Gabion	Valley	Good		
515	PNH-01-RET-132.794	132+794	132.794	27.51883331	90.29842924		6	0.7	RRM	Hill	Good		
516	PNH-01-RET-132.871	132+871	132.871	27.51812642	90.29853965		22.6	4.5	RRM	Valley	Good		
517	PNH-01-RET-133.143	133+143	133.143	27.51615067	90.29725786		31	7	RRM	valley	Good		
518	PNH-01-RET-133.4	133+400	133.4	27.51396424	90.29736925		21	6	RRM	valley	Good		
519	PNH-01-RET-133.468	133+468	133.468	27.51341419	90.29757385		62	2	Gabion	Hill	Good		
520	PNH-01-RET-133.468	133+468	133.468	27.51341419	90.29757385		58	8	Gabion	Valley	Good		
521	PNH-01-RET-133.537	133+537	133.537	27.5128393	90.29785191		11.2	2	Gabion	Valley	Good		

[illegible]

Culverts

Sl No	Culvert ID	Chainages	Ch.	Latitude	Longitude	Type	Length, m	Width, m	Height, m	Condition	Remarks
Lot-1											
1	PNH-01-Cul60.61	60+610	60.61	27.48223189	89.89720894	Box culvert	8.5	1	1	Good	No damages
2	PNH-01-Cul61.225	61+225	61.225	27.48463152	89.89846433	Box culvert	7.5	1	1.5	Blocked	Parapets Damaged or Missing, need to construct parapet at hill side
3	PNH-01-CUL-62.185	62+185	62.185	27.4816776	89.9008482	Box culvert	7.5	1	1	Good	No intervention.
4	PNH-01-CUL-62.515	62+515	62.515	27.48351267	89.90330624	Box culvert	9	1	1	Good	Parapet missing at valley side
5	PNH-01-CUL-62.6	62+600	62.6	27.48415124	89.9037808	Box culvert	8.5	1	1	Good	parapet missing at hill side
6	PNH-01-CUL-62.865	62+865	62.865	27.48498688	89.90628259	H/pipe	9	0.6	0.6	Good	
7	PNH-01-CUL-62.953	62+953	62.953	27.48488334	89.90717131	Box culvert	7.5	1	1	Structures Damaged	toe wall scoured, Plum concrete l=5m, b=1.5, h=1.5m. Gabion wall 5x3m ht.
8	PNH-01-CUL-63.015	63+015	63.015	27.4846058	89.90758526	H/pipe	10	0.9	0.9	Good	
9	PNH-01-CUL-63.25	63+250	63.25	27.48406706	89.90983708	Box culvert	9.5	1	1	Good	parapet damaged at hill side
10	PNH-01-CUL-63.46	63+460	63.46	27.48471607	89.91178506	H/pipe	7.5	0.6	0.6	Good	parapet lno. missing at hill side
11	PNH-01-CUL-63.63	63+630	63.63	27.48538809	89.91332906	Box culvert	11	1.1	1.3	Good	parapet missing at v.side
12	PNH-01-CUL-63.855	63+855	63.855	27.48625989	89.91530759	H/pipe	10	0.6	0.6	Good	
13	PNH-01-CUL-64.015	64+015	64.015	27.48711061	89.91644686	Box culvert	7.5	1	1	Good	
14	PNH-01-CUL-64.125	64+125	64.125	27.48724277	89.9176354	H/pipe	12.5	1.2	1.2	Good	parapet missing at H.side
15	PNH-01-CUL-64.33	64+330	64.33	27.48897622	89.91927035	Box culvert	30	1.2	1.2	Good	
16	PNH-01-CUL-64.43	64+430	64.43	27.48791094	89.92008538	H/pipe	10	1.2	1.2	Good	
17	PNH-01-CUL-64.545	64+545	64.545	27.48846587	89.92101589	H/pipe	12.5	1.2	1.2	Good	
18	PNH-01-CUL-64.74	64+740	64.74	27.48909595	89.92289371	H/pipe	12.5	1	1	Good	
19	PNH-01-CUL-64.875	64+875	64.875	27.48966459	89.92400509	Box culvert	15	1.5	1	Good	
20	PNH-01-CUL-64.97	64+970	64.97	27.48996061	89.92493778	Box culvert	10.5	1.2	1.5	Good	
21	PNH-01-CUL-65.18	65+180	65.18	27.49017038	89.92622781	H/pipe	12.5	0.6	0.6	Good	
22	PNH-01-CUL-65.2	65+200	65.2	27.49062471	89.92694569	Box culvert	10	1	1	Good	

23	PNH-01-CUL-65.32	65+320	65.32	27.49031476	89.92805322	H/pipe	7.5	0.6	0.6	Good	
24	PNH-01-CUL-65.515	65+515	65.515	27.49064051	89.92987668	Box culvert	15	1	1	Good	
25	PNH-01-CUL-65.715	65+715	65.715	27.49035392	89.93184823	Box culvert	8.5	1	1.3	Good	
26	PNH-01-CUL-65.835	65+835	65.835	27.49045644	89.93301858	Box culvert	11	1	1.5	Good	
27	PNH-01-CUL-65.885	65+885	65.885	27.49053995	89.93350842	Box culvert	11.3	1	1	Good	
28	PNH-01-CUL-66.045	66+045	66.045	27.4909119	89.9351104	Box culvert	10	1	1	Good	
29	PNH-01-CUL-66.26	66+260	66.26	27.49212572	89.93666274	Box culvert	10	1	1.1	Good	
30	PNH-01-CUL-66.43	66+430	66.43	27.49327133	89.93732479	Box culvert	14	1.2	1.5	Good	
31	PNH-01-CUL-66.515	66+515	66.515	27.4939137	89.93800062	Box culvert	12.5	1	1.2	Good	
32	PNH-01-CUL-66.638	66+638	66.638	27.49409662	89.9391722	H/pipe	10	0.6	0.6	Good	
33	PNH-01-CUL-66.7	66+700	66.7	27.49432589	89.93977674	H/pipe	7.5	0.6	0.6	Good	
34	PNH-01-CUL-66.937	66+937	66.937	27.49624691	89.94053333	Box culvert	7.5	1	1	Good	
35	PNH-01-CUL-67.225	67+225	67.225	27.49711677	89.94320732	Box culvert	15	1	1	Good	
36	PNH-01-CUL-67.3	67+300	67.3	27.49682936	89.94391575	Box culvert	7.5	1	1	Good	
37	PNH-01-CUL-67.73	67+730	67.73	27.49961293	89.94643507	Box culvert	11	1	1	Good	
38	PNH-01-CUL-67.92	67+920	67.92	27.50066698	89.94780107	Box culvert	9.4	1	1	Good	
39	PNH-01-CUL-68.03	68+030	68.03	27.50158486	8.90948E+11	Box culvert	7.5	1	1	Good	
40	PNH-01-CUL-68.357	68+357	68.357	27.50310459	89.95086536	Box culvert	7.5	1	1	Blocked	near tag sing chung druk machine yar'
41	PNH-01-CUL-68.52	68+520	68.52	27.50407169	89.9520848	Box culvert	7.5	1	1	Good	
42	PNH-01-CUL-68.569	68+569	68.569	27.5042295	89.95248215	H/pipe	12.5	1.2	1.2	Good	
43	PNH-01-CUL-68.724	68+724	68.724	27.50439136	89.95409332	Box culvert	9	1	1	Good	
44	PNH-01-CUL-68.875	68+875	68.875	27.50495642	89.95582695	Box culvert	10.3	1.2	1	Parapets Damaged or Missing	parapet 1 no
45	PNH-01-CUL-69.01	69+010	69.01	27.50506816	89.95681952	Box culvert	9.2	1	1.2	Good	
46	PNH-01-CUL-69.24	69+240	69.24	27.50590076	89.95867913	Box culvert	7.5	1	1	Good	

47	PNH-01-CUL-69.85	69+850	69.85	27.50597323	89.96437033	Box culvert	10	1	1	Blocked	
48	PNH-01-CUL-70.08	70+080	70.08	27.50568962	89.9663169	Box culvert	9	1	1	Good	
49	PNH-01-CUL-70.36	70+360	70.36	27.50591053	89.96893995	Box culvert	11.5	1	1	Good	parapet missing both side
50	PNH-01-CUL-70.67	70+670	70.67	27.50459619	89.97165373	Box culvert	10	1	1	Parapets Damaged or Missing	parapet 1 missing at hill side
51	PNH-01-CUL-70.887	70+887	70.887	27.50412341	89.97367309	Box culvert	10.5	1	1	Good	
52	PNH-01-CUL-71.19	71+190	71.19	27.50396898	89.97657749	Box culvert	10.5	1	1.2	Good	
53	PNH-01-CUL-71.47	71+470	71.47	27.50506239	89.97880817	Box culvert	10.5	1	1	Good	
54	PNH-01-CUL-71.528	71+528	71.528	27.5054286	89.97925463	Box culvert	10.5	1	1	Good	
55	PNH-01-CUL-71.74	71+740	71.74	27.50578596	89.98123267	Box culvert	10.5	1.5	1.5	Parapets Damaged or Missing	parapet damaged at hill side
56	PNH-01-CUL-71.915	71+915	71.915	27.50531645	89.98285434	Box culvert	10.5	1	1	Good	
57	PNH-01-CUL-72.24	72+240	72.24	27.50641852	89.98569782	Box culvert	10	1	1	Good	
58	PNH-01-CUL-72.457	72+457	72.457	27.5076734	89.98740462	Box culvert	11.5	1	1	Good	
59	PNH-01-CUL-72.676	72+676	72.676	27.50809927	89.98954872	Box culvert	11.5	1	1	Good	
60	PNH-01-CUL-72.746	72+746	72.746	27.50801975	89.99024681	Box culvert	14	1	1.5	Good	
61	PNH-01-CUL-72.936	72+936	72.936	27.50754155	89.9920519	Box culvert	9.5	1	1.5	Parapets Damaged or Missing	
62	PNH-01-CUL-73.078	73+078	73.078	27.50725466	89.9934258	Box culvert	10	1	1.5	Good	
63	PNH-01-CUL-73.153	73+153	73.153	27.50690901	89.9940419	Box culvert	9.5	1	1	Good	
64	PNH-01-CUL-73.3	73+300	73.3	27.50591281	89.99500143	Box culvert	10	1	1.5	Parapets Damaged or Missing	
65	PNH-01-CUL-73.56	73+560	73.56	27.50514037	89.99715433	Box culvert	7.5			Blocked	
66	PNH-01-CUL-73.76	73+760	73.76	27.50427414	89.99869561	Bridge	50	5.5	0	Good	
67	PNH-01-CUL-74.132	74+132	74.132	27.50338543	89.00157728	H/pipe	15	0.9	0.9	Blocked	
68	PNH-01-CUL-74.2	74+200	74.2	27.50316628	90.00211281	Box culvert	10	2	2	Good	
69	PNH-01-CUL-74.47	74+470	74.47	27.50336875	90.00472317	Box culvert	10	1	1	Parapets Damaged or Missing	
70	PNH-01-CUL-74.83	74+830	74.83	27.50398651	90.00798653	Box culvert	9	1	1	Blocked	

71	PNH-01-CUL-75.3	75+300	75.3	27.50361589	90.00988395	Bridge	10.8	7	0	Structures Damaged	missing railings too
72	PNH-01-CUL-75.71	75+710	75.71	27.50300047	90.01285751	H/pipe	7.5	0.6	0.6	Parapets Damaged or Missing	
73	PNH-01-CUL-75.778	75+778	75.778	27.50241203	90.01303433	Box culvert	17.5	0.6	0.6	Good	
74	PNH-01-CUL-76.159	76+159	76.159	27.50219241	90.01628198	Box culvert	10.5	1	0.6	Good	
75	PNH-01-CUL-76.318	76+318	76.318	27.50257563	90.01783127	Box culvert	10.5	1	1.1	Good	
76	PNH-01-CUL-76.671	76+671	76.671	27.50127311	90.02038837	Box culvert	10.5	1	1.1	Good	
77	PNH-01-CUL-77.75	77+750	77.75	27.49849772	90.02870368	Box culvert	13.2	1	1	Good	
78	PNH-01-CUL-77.851	77+851	77.851	27.49866644	90.02975678	Box culvert	9	1	1	Good	
79	PNH-01-CUL-78.1	78+100	78.1	27.49741801	90.03147231	Box culvert	9	1.5	1.5	Good	
80	PNH-01-CUL-78.251	78+251	78.251	27.49888272	90.03189103	Box culvert	7.5	1	1	Parapets Damaged or Missing	1 missing at hill side
81	PNH-01-CUL-78.38	78+380	78.38	27.49980439	90.03239865	H/pipe	10	0.9	0.9	Good	
82	PNH-01-CUL-78.64	78+640	78.64	27.5010611	90.03436574	Box culvert	10	2	1	Parapets Damaged or Missing	1 no missing at v side
83	PNH-01-CUL-78.834	78+834	78.834	27.50197882	90.03601488	H/pipe	10	0.9	0.9	Good	
84	PNH-01-CUL-78.969	78+969	78.969	27.50176652	90.03735869	H/pipe	7.5	0.6	0.6	Blocked	
85	PNH-01-CUL-79.115	79+115	79.115	27.5009773	90.03829426	Box culvert	10	2	3	Good	
86	PNH-01-CUL-79.192	79+192	79.192	27.50165422	90.03835504	H/pipe	12.5	0.9	0.9	Parapets Damaged or Missing	damaged at v side
87	PNH-01-CUL-79.415	79+415	79.415	27.50100466	90.04041665	H/pipe	12.5	1.2	1.2	Parapets Damaged or Missing	1 damaged at v side
88	PNH-01-CUL-79.742	79+742	79.742	27.4992461	90.04288338	Box culvert	9	1	1	Good	
89	PNH-01-CUL-79.865	79+865	79.865	27.49835631	90.04353672	Box culvert	9	1	1	Good	
90	PNH-01-CUL-79.982	79+982	79.982	27.49770926	90.0443891	Box culvert	9	1	1	Good	
91	PNH-01-CUL-80.379	80+379	80.379	27.49715942	90.04654137	Box culvert	10	1	1	Good	
92	PNH-01-CUL-80.57	80+570	80.57	27.49651762	90.04824587	Box culvert	9	1	1	Good	
93	PNH-01-CUL-80.716	80+716	80.716	27.49752628	90.04770761	HP Culvert	10.5	1	1	Catch Basin, inlet damaged	
94	PNH-01-CUL-80.879	80+879	80.879	27.49855549	90.04842418	Box culvert	10.5	1	1	Blocked	

95	PNH-01-CUL-81.237	81+237	81.237	27.49799556	90.05149269	Box culvert	10.5	1	1	Good	
96	PNH-01-CUL-81.496	81+496	81.496	27.49804208	90.05402781	HP Culvert	10	1.2	1.2	Good	
97	PNH-01-CUL-81.57	81+570	81.57	27.49813941	90.05477487	Box culvert	15	1.5	1	Good	
98	PNH-01-CUL-81.707	81+707	81.707	27.4972978	90.05558531	Box culvert	15	3	3	Good	
99	PNH-01-CUL-81.881	81+881	81.881	27.49831061	90.05621672	Box culvert	10	1	1	Blocked	
100	PNH-01-CUL-82.162	82+162	82.162	27.49947765	90.05838784	Box culvert	10	1	1	Good	
101	PNH-01-CUL-82.9	82+900	82.9	27.502736	90.06438432	HP Culvert	10	0.9	0.9	Good	
102	PNH-01-CUL-83.123	83+123	83.123	27.50367727	90.06621788	Box culvert	10	1	1	Blocked	
103	PNH-01-CUL-83.17	83+170	83.17	27.50356441	90.06669284	H/pipe	10	0.25	0.25	Good	
104	PNH-01-CUL-83.623	83+623	83.623	27.49971734	90.06748215	HP Culvert	10	0.6	0.6	Good	
105	PNH-01-CUL-83.586	83+586	83.586	27.50002532	90.06743929	Box culvert	10	1	1	Good	
106	PNH-01-CUL-85.285	85+285	85.285	27.50336626	90.0777845	Box culvert	10	1	1	Good	
107	PNH-01-CUL-85.645	85+645	85.645	27.50263695	90.08117927	RCC culvert	12	2	3	Good	
108	PNH-01-CUL-85.765	85+765	85.765	27.50348721	90.08102782	Causeway	12	1	1	Good	
109	PNH-01-CUL-86.557	86+557	86.557	27.50692155	90.08181108	Box culvert	10	1	1	Good	
110	PNH-01-CUL-86.8	86+800	86.8	27.50672775	90.08420549	RCC culvert	11	3	4	Good	
111	PNH-01-CUL-87.185	87+185	87.185	27.50921161	90.0855642	RCC culvert	10	7	5	Good	
112	PNH-01-CUL-89.175	89+175	89.175	27.5171782	90.09534476	hume pipe	10	20		Good	
113	PNH-01-CUL-89.7	89+700	89.7	27.5202794	90.09606937	Box culvert	10	1	1	Good	
114	PNH-01-CUL-90.557	90+557	90.557	27.51841847	90.10386343	RCC culvert	15	4	1.5	Good	
115	PNH-01-CUL-90.66	90+660	90.66	27.51870154	90.10412987	Causeway	10	0.9	0.9	Good	
116	PNH-01-CUL-90.718	90+718	90.718	27.51915489	90.10409463	Box culvert	10	1	1	Good	
117	PNH-01-CUL-90.983	90+983	90.983	27.52060751	90.10313614	Box culvert	10	1.5	1	Structures Damaged	
118	PNH-01-CUL-91.153	91+153	91.153	27.52170669	90.10213846	Box culvert	10	1	1	Good	

119	PNH-01-CUL-91.506	91+506	91.506	27.52403925	90.10036557	Box culvert	10	1.5	1.5	Good	
120	PNH-01-CUL-91.725	91+725	91.725	27.52501054	90.10143983	Box culvert	10	1	1	Blocked	
121	PNH-01-CUL-92.098	92+098	92.098	27.52629839	90.10444291	Box culvert	12	1	1	Good	
122	PNH-01-CUL-92.465	92+465	92.465	27.52850407	90.10268994	Box culvert	12	1	1	Good	
123	PNH-01-CUL-92.685	92+685	92.685	27.52993585	90.10294473	Box culvert	10	1	1	Good	
124	PNH-01-CUL-93.268	93+268	93.268	27.53423073	90.10513282	Box culvert	10	1	1	Good	
125	PNH-01-CUL-93.431	93+431	93.431	27.53512713	90.10628696	Box culvert	10	1	1	Good	
126	PNH-01-CUL-93.89	93+890	93.89	27.53868142	90.10772358	Box culvert	10	1	1	Good	
127	PNH-01-CUL-93.988	93+988	93.988	27.53951872	90.10777442	Box culvert	10	1	1	Good	
128	PNH-01-CUL-94.282	94+282	94.282	27.54160577	90.10890238	Box culvert	10	1	1.2	Good	
129	PNH-01-CUL-94.654	94+654	94.654	27.54382858	90.11159317	Box culvert	10	1	1.5	Good	
130	PNH-01-CUL-94.965	94+965	94.965	27.54520026	90.11411294	Box culvert	10	1	1.5	Good	
131	PNH-01-CUL-95.6	95+600	95.6	27.54559156	90.12016526	RCC culvert	13	3	2	Good	
132	PNH-01-CUL-96.093	96+093	96.093	27.54480104	90.12374332	RCC culvert	13	3	2	Good	
133	PNH-01-CUL-96.3	96+300	96.3	27.54545058	90.1253605	Box culvert	10	1	1	Good	
134	PNH-01-CUL-96.749	96+749	96.749	27.54451902	90.12956083	Box culvert	10	1	1	Good	P 2 required
135	PNH-01-CUL-96.92	96+920	96.92	27.54413616	90.13123974	Box culvert	10	2.5	2.5	Good	
136	PNH-01-CUL-97.137	97+137	97.137	27.54414893	90.13311389	Box culvert	10	2.5	2.5	Good	
137	PNH-01-CUL-97.562	97+562	97.562	27.54648577	90.13482299	Box culvert	12	1	1.5	Good	
138	PNH-01-CUL-97.726	97+726	97.726	27.54764494	90.13561526	Box culvert	10	1	1.5	Good	
139	PNH-01-CUL-98.073	98+073	98.073	27.5478918	90.13861656	Box culvert	10	1	1.5	Good	
140	PNH-01-CUL-98.42	98+420	98.42	27.54674839	90.14153209	Box culvert	15	1	1.5	Good	
141	PNH-01-CUL-98.8	98+800	98.8	27.54487451	90.14442702	Box culvert	15	1	1.5	Good	
142	PNH-01-CUL-98.951	98+951	98.951	27.54436922	90.14556093	RCC culvert	15	1	1.5	Structures Damaged	

143	PNH-01-CUL-99.146	99+146	99.146	27.54519148	90.14537559	RCC culvert	12	1	1.5	Good	
144	PNH-01-CUL-99.488	99+488	99.488	27.54628211	90.14690453	RCC culvert	12	1	1.5	Good	
145	PNH-01-CUL-99.9	99+900	99.9	27.54537656	90.14999447	Box culvert	15	1	1	Good	
146	PNH-01-CUL-100.5	100+500	100.5	27.54350969	90.15236031	Box culvert	15	1	1	Good	
147	PNH-01-CUL-100.872	100+872	100.872	27.54211	90.15413	Box culvert	12	1	1	Good	
148	PNH-01-CUL-101.108	101+108	101.108	27.54265332	90.15565988	Box culvert	12	1	1.5	Good	
149	PNH-01-CUL-101.327	101+327	101.327	27.54253661	90.15772431	Box culvert	12	1	1.5	Good	
150	PNH-01-CUL-101.66	101+660	101.66	27.53989257	90.15806716	H/pipe	12	0.9	0.9	Good	
151	PNH-01-CUL-101.934	101+934	101.934	27.54035345	90.15979585	Box culvert	12	1	1.5	Good	
152	PNH-01-CUL-102.2	102+200	102.2	27.53974714	90.16128193	Box culvert	12	1	1.5	Good	
153	PNH-01-CUL-103.032	103+032	103.032	27.53952358	90.16609539	Box culvert	12	1	1.5	Good	
154	PNH-01-CUL-103.08	103+080	103.08	27.53960254	90.16659053	RCC culvert	12	1	1.5	Blocked	
155	PNH-01-CUL-103.426	103+426	103.426	27.54122058	90.16486827	H/pipe	10	1.2	1.2	Good	
156	PNH-01-CUL-104.067	104+067	104.067	27.54148232	90.16931779	Box culvert	12	1	1.5	Good	
157	PNH-01-CUL-104.208	104+208	104.208	27.54119991	90.17060496	Box culvert	15	1	1.5	Good	
158	PNH-01-CUL-104.434	104+434	104.434	27.54136974	90.17239679	Box culvert	14	1	1	Good	
159	PNH-01-CUL-104.667	104+667	104.667	27.54037457	90.17425666	Box culvert	12	1.5	1.5	Good	
160	PNH-01-CUL-104.915	104+915	104.915	27.53968119	90.1758752	Box culvert	12	1	1	Good	
Lot-2											
161	PNH-01-CUL-105	105+000	105	27.53895912	90.1761359	H/pipe	12	0.9	0.9	Blocked	
162	PNH-01-CUL-105.059	105+059	105.059	27.53852774	90.17638401	Box culvert	12	3	3	Good	
163	PNH-01-CUL-105.277	105+277	105.277	27.53948953	90.17737903	Box culvert	12	1	1	Good	
164	PNH-01-CUL-105.327	105+327	105.327	27.53988416	90.17752375	Box culvert	12	1	1	Good	
165	PNH-01-CUL-105.546	105+546	105.546	27.53918889	90.17947318	Box culvert	12	1	1.5	Good	

166	PNH-01-CUL-105.856	105+856	105.856	27.5393767	90.18151117	Box culvert	12	3.5	2	Good	
167	PNH-01-CUL-105.968	105+968	105.968	27.5396327	90.18233989	Box culvert	11	3.5	2.25	Good	
168	PNH-01-CUL-106.209	106+209	106.209	27.54065339	90.18183547	Box culvert	11	1	2	Good	
169	PNH-01-CUL-107	107+000	107	27.53822735	90.18535549	RCC culvert	10	7.5	2	Good	
170	PNH-01-CUL-107.214	107+214	107.214	27.53738643	90.18461787	RCC culvert	10	7.5	2	Good	
171	PNH-01-CUL-107.685	107+685	107.685	27.53600159	90.18359357	H/pipe	10	7.5	2	Good	
172	PNH-01-CUL-108.214	108+214	108.214	27.53407065	90.18132562	Box culvert	10	7.5	2	Good	
173	PNH-01-CUL-108.311	108+311	108.311	27.53321765	90.18139196	Box culvert	10	7.5	2	Good	
174	PNH-01-CUL-108.311	108+311	108.311	27.53321765	90.18139196	Box culvert	10	3	3	Good	
175	PNH-01-CUL-108.85	108+850	108.85	27.53358358	90.17828576	Box culvert	10	1	1	Good	
176	PNH-01-CUL-109.04	109+040	109.04	27.53329521	90.17692255	Box culvert	10	1	1	Good	
177	PNH-01-CUL-109.3	109+300	109.3	27.53219989	90.17605935	Box culvert	10	1.5	1	Good	
178	PNH-01-CUL-109.415	109+415	109.415	27.53129353	90.17630382	Box culvert	10	1.5	1	Good	
179	PNH-01-CUL-109.77	109+770	109.77	27.53093567	90.17399502	Box culvert	10	1.5	1	Good	
180	PNH-01-CUL-110.074	110+074	110.074	27.52989328	90.17273535	Box culvert	10	1	1	Parapets Damaged or Missing	
181	PNH-01-CUL-110.573	110+573	110.573	27.52902186	90.17297261	Box culvert	10	1	1	Parapets Damaged or Missing	
182	PNH-01-CUL-110.687	110+687	110.687	27.52950242	90.17349919	Box culvert	10	1	1	Good	
183	PNH-01-CUL-111.031	111+031	111.031	27.52919644	90.17641324	Box culvert	10	1	1	Good	
184	PNH-01-CUL-111.495	111+495	111.495	27.52931824	90.17972929	H/pipe	0.6	1.2	1.2	Good	One parapet needed
185	PNH-01-CUL-111.733	111+733	111.733	27.52988827	90.1813489	H/pipe	0.6	1.2	1.2	Good	4 parapets
186	PNH-01-CUL-111.927	111+927	111.927	27.52923824	90.18312098	H/pipe	0.6	1.2	1.2	Good	
187	PNH-01-CUL-112.2	112+200	112.2	27.53049006	90.18437851	H/pipe	0.6	1.2	1.2	Good	
188	PNH-01-CUL-112.36	112+360	112.36	27.53001738	90.18571567	H/pipe	0.6	1.2	1.2	Good	
189	PNH-01-CUL-112.636	112+636	112.636	27.5298886	90.18800621	H/pipe	0.6	1.2	1.2	Good	1 parapet needed

190	PNH-01-CUL-112.805	112+805	112.805	27.528802000	90.189624000	H/pipe	10.00	0.90	0.90	Good	
191	PNH-01-CUL-112.900	112+900	112.9	27.529398000	90.190328000	Box culvert	10	1	1	Good	Required 1 parapet
192	PNH-01-CUL-113.154	113+154	113.154	27.52933597	90.19153661	H/pipe	0.6	1.2	1.2	Good	Required 1 parapet
193	PNH-01-CUL-113.392	113+392	113.392	27.529348000	90.193498000	H/pipe	10	0.9	0.9	Good	Accident prone area
194	PNH-01-CUL-113.579	113+579	113.579	27.5298618	90.19514984	H/pipe	0.6	1.2	1.5	Good	
195	PNH-01-CUL-113.831	113+831	113.831	27.53003459	90.19733676	Box culvert	10	1.2	1.2	Good	
196	PNH-01-CUL-113.832	114+000	114	27.530437000	90.198894000	H/pipe	10.00	0.90	0.90	Good	
197	PNH-01-CUL-114.174	114+174	114.174	27.53173768	90.19958979	H/pipe	0.6	1.2	1.2	Good	
198	PNH-01-CUL-114.4	114+400	114.4	27.53339409	90.20085287	H/pipe	0.6	1.2	1.5	Good	required 1 parapet
199	PNH-01-CUL-114.656	114+656	114.656	27.53531629	90.20161801	H/pipe	0.6	1.2	1.5	Good	
200	PNH-01-CUL-115.743	115+743	115.743	27.53724244	90.20988377	H/pipe	0.6	1.2	2	Good	
201	PNH-01-CUL-117.250	117+250	117.25	27.538788000	90.217707000	RCC culvert	10.00	1.00		Good	
202	PNH-01-CUL-117.656	117+656	117.656	27.545537000	90.215799000	RCC culvert	10.00	1.00		Good	
203	PNH-01-CUL-117.900	117+900	117.9	27.547402000	90.216169000	RCC culvert	10.00	2.50		Good	
204	PNH-01-CUL-118.024	118+24	118.024	27.547415000	90.216338000	Box culvert	10.00	1.00		Good	
205	PNH-01-CUL-118.4	118+400	118.4	27.54318386	90.21767883	Box culvert	10	2.1	3	Parapets Damaged or Missing	1 parapet needed
206	PNH-01-CUL-118.653	118+653	118.653	27.54133119	90.21900906	H/pipe	9			Parapets Damaged or Missing	1 parapet need valley side
207	PNH-01-CUL-118.995	118+995	118.995	27.5386359	90.22063648	Box culvert	11	1.75	2.5		2 parapets need
208	PNH-01-CUL-119.1	119+100	119.1	27.5377259	90.22081568	Box culvert	10	5	5		
209	PNH-01-CUL-119.9	119+900	119.9	27.53265455	90.22543887	Box culvert	10	2	1.5	Parapets Damaged or Missing	2 parapet
210	PNH-01-CUL-120.07	120+070	120.07	27.53166046	90.22659859	Box culvert	11.5	1.7	3.5	Parapets Damaged or Missing	1 parapet needed
211	PNH-01-CUL-120.34	120+340	120.34	27.5305398	90.22890892	Box culvert	10	2	1.5	Parapets Damaged or Missing	2 parapets, RRM wall with 20*4
212	PNH-01-CUL-120.57	120+570	120.57	27.52938717	90.23072918	Box culvert	11	1	2	Parapets Damaged or Missing	
213	PNH-01-CUL-120.68	120+680	120.68	27.5290069	90.2315878	Box culvert	11	1.75	2.5	Parapets Damaged or Missing	

214	PNH-01-CUL-120.878	120+878	120.878	27.52831095	90.23329448	Box culvert	10	4.5	4.5	Parapets Damaged or Missing	parapet damaged
215	PNH-01-CUL-121.202	121+202	121.202	27.52767627	90.23599028	Box culvert	10	1.5	1.5	Good	
216	PNH-01-CUL-121.864	121+864	121.864	27.52780215	90.24244942	Box culvert	10	1.5	1.5	Parapets Damaged or Missing	
217	PNH-01-CUL-121.99	121+990	121.99	27.52843897	90.24351734	Box culvert	10	1.2	1.2	Good	
218	PNH-01-CUL-122.074	122+074	122.074	27.52888531	90.24413522	Box culvert	10	1.2	1.2	Good	
219	PNH-01-CUL-122.41	122+410	122.41	27.52618104	90.2446739	Box culvert	10	1.2	1.2	Good	
220	PNH-01-CUL-122.784	122+784	122.784	27.5230468	90.24546803	Box culvert	10	1.2	1.2	Good	
221	PNH-01-CUL-122.269	123+269	123.269	27.52004000	90.24671700	RCC culvert	10.00	1.00	1.50	Good	
222	PNH-01-CUL-123.4	123+400	123.4	27.51833999	90.24673279	Box culvert	10	1.2	1.2	Good	
223	PNH-01-CUL-124.16	124+160	124.16	27.51752486	90.25384801	Box culvert	10	2	1.8	Parapets Damaged or Missing	one parapet
224	PNH-01-CUL-124.39	124+390	124.39	27.51757845	90.25607811	Box culvert	10	2.3	2	Good	
225	PNH-01-CUL-124.8	124+800	124.8	27.51713039	90.25973612	Box culvert	10	1.2	1.5	Parapets Damaged or Missing	one parapet
226	PNH-01-CUL-125.3	125+300	125.3	27.5172813	90.26417775	Box culvert	11	1	1.2	Good	gabion wall wing wall (18 *3)
227	PNH-01-CUL-126.72	126+720	126.72	27.51925242	90.27536511	Box culvert	11	2	1.5	Good	
228	PNH-01-CUL-126.91	126+910	126.91	27.52026569	90.27595572	Box culvert	10	2	2.5	Good	
229	PNH-01-CUL-127.58	127+580	127.58	27.52326637	90.27539419	Box culvert	11	2.5	1.6	Parapets Damaged or Missing	near the landslides need new inlet to prevent landslide
230	PNH-01-CUL-127.95	127+950	127.95	27.52279594	90.27756465	Box culvert	7	11	4	Good	bridge ?
231	PNH-01-CUL-128.24	128+240	128.24	27.52025473	90.27756904	Box culvert	11	2	1.2	Good	
232	PNH-01-CUL-128.83	128+830	128.83	27.51569188	90.2790774	Box culvert	10	2	2.75	Good	
233	PNH-01-CUL-130.03	130+030	130.03	27.51082793	90.28885494	Box culvert	9	2	1.5	Good	
234	PNH-01-CUL-130.23	130+230	130.23	27.51116324	90.29071374	Box culvert	9	1.5	1.75	Good	inlet clearing
235	PNH-01-CUL-130.63	130+630	130.63	27.51150008	90.29434466	H/pipe	0.9			Good	
236	PNH-01-CUL-131.251	131+251	131.251	27.5159388	90.29547485	H/pipe	10.6	1	1	Good	
237	PNH-01-CUL-132.019	132+019	132.019	27.52087161	90.29810502	Box culvert	10	1.5	2	Good	

[illegible]

ACCESS Pilot Performance-Based Maintenance Contract												
6. Crash Barriers												
Barrier ID Right	Ch. Start	Length(m/Parapets number)	Type	Condition	Remarks		Barrier ID Left	Ch. Start	Length,m	Type	Condition	Remarks
Lot-1												
PNH-01-RAIL-R60.0	60.11	3 numbers	Parapets	Good								
PNH-01-RAIL-R60.2	60.2	400	W metal-beam	Good			PNH-01-RAIL-L- 60.25	60.25	50 meters	W beam	Major	Replace
PNH-01-RAIL-R- 61.22	61.22	20 parapets on RW	Parapets	Good			PNH-01-RAIL-L- 60.3	60.3		W Beam		No damage
PNH-01-RAIL-R- 61.56	61.56	Steel railings	Steel Barrier	Good			PNH-01-RAIL-L- 60.4	60.4	16 meters	replace	Minor	Damaged
PNH-01-RAIL-R- 61.57	61.57	Parapet 13	Parapets	Good			PNH-01-RAIL-L- 60.425	60.425	replace	W beam	Major	Damaged
PNH-01-RAIL-R-		Steel and concrete parapets	Parapets	Good			PNH-01-RAIL-L- 60.475	60.475	4 panels	W beam	Major	Damaged
PNH-01-RAIL-R- 61.7	61.7	Parapets 45	Parapets	Good			PNH-01-RAIL-L- 60.53	60.53		W beam	No damage	
PNH-01-RAIL-R- 61.95	61.95		Parapets	Good			PNH-01-RAIL-L- 60.575	60.575	3 panels	W beam	Not there	
PNH-01-RAIL-R- 62.68	62.68	70	W metal-beam	Good			PNH-01-RAIL-L- 60.6	60.6	8 numbers	Parapet	Good	Parapet on top of culvert and wall
PNH-01-RAIL-R- 62.678	62.678	parapet 10	Parapets	Good			PNH-01-RAIL-L- 60.65	60.65	12 panels	W beam	Damaged	
PNH-01-RAIL-R- 62.7	62.7	37	W metal-beam	Good			PNH-01-RAIL-L- 61.95	61.95	19	parapet	good	
PNH-01-RAIL-R- 62.755	62.755	25	W metal-beam	Good			PNH-01-RAIL-L- 62.345	62.345	20	parapet	good	
PNH-01-RAIL-R- 62.8	62.8	parapet 35	Parapets	Good			PNH-01-RAIL-L- 61.95	61.95	19	parapet	good	
PNH-01-RAIL-R- 62.865	62.865	25	W metal-beam	Good			PNH-01-RAIL-L- 60.98	60.98	9 numbers	Parapet	Good	parapets
PNH-01-RAIL-R- 62.9	62.9	25	W metal-beam	Good								
PNH-01-RAIL-R- 62.925	62.925	parapet 32	Parapets	Good								
PNH-01-RAIL-R- 63	63	37	W metal-beam	Good								
PNH-01-RAIL-R- 63.33	63.33	parapet 11	Parapets	Good	missing 2 nos							
PNH-01-RAIL-R- 63.048	63.048	45	W metal-beam	Good								
PNH-01-RAIL-R- 63.094	63.094	parapet 2 nos	Parapets	Good								
PNH-01-RAIL-R- 63.1	63.1	33	W metal-beam	Good								
PNH-01-RAIL-R- 63.134	63.134	125	W metal-beam	Good								
PNH-01-RAIL-R- 63.266	63.266	61	W metal-beam	Good								
PNH-01-RAIL-R- 63.3	63.3	parapet 3	Parapets	Good								
PNH-01-RAIL-R- 63.325	63.325	parapet 34	Parapets	Good								
PNH-01-RAIL-R- 63.42	63.42	parapet 32	Parapets	Good								
PNH-01-RAIL-R- 63.477	63.477	72	W metal-beam	Good	New crash barrier							
PNH-01-RAIL-R- 63.544	63.544	parapet 13	Parapets	Good								
PNH-01-RAIL-R- 63.591	63.591	parapet 27	Parapets	Good								
PNH-01-RAIL-R- 63.658	63.658	parapet 20	Parapets	Good								
PNH-01-RAIL-R- 63.729	63.729	parapet 20	Parapets	Good								
PNH-01-RAIL-R- 63.898	63.898	parapet 3	Parapets	Good								
PNH-01-RAIL-R- 63.99	63.99	parapet 8	Parapets	Good								
PNH-01-RAIL-R- 64.005	64.005	100	W metal-beam	Good				60.75	122 numbers	Parapet	Good	.7*8
PNH-01-RAIL-R- 64.43	64.43	113	W metal-beam	Good								
PNH-01-RAIL-R- 64.54	64.54	parapet 4	Parapets	Good								
PNH-01-RAIL-R- 64.695	64.695	185	W metal-beam	Good								
PNH-01-RAIL-R- 64.695	64.695	parapet 5	Parapets	Good								
PNH-01-RAIL-R- 64.72	64.72	parapet 13	Parapets	Good								
PNH-01-RAIL-R- 64.945	64.945	173	W metal-beam	Good								
PNH-01-RAIL-R- 64.97	64.97	parapet 2	Parapets	Good								
PNH-01-RAIL-R- 65.18	65.18	parapet 2	Parapets	Good								
PNH-01-RAIL-R- 65.2	65.2	parapet 2	Parapets	Major Damage	2 nos							
PNH-01-RAIL-R- 65.229	65.229	parapet 15	Parapets	Good								
PNH-01-RAIL-R- 65.285	65.285	parapet 2 nos	Parapets	Good								
PNH-01-RAIL-R- 65.32	65.32	parapet 2	Parapets	Good								
PNH-01-RAIL-R- 65.37	65.37	parapet 3	Parapets	Good								
PNH-01-RAIL-R- 65.52	65.52	parapet 1	Parapets	Good								
PNH-01-RAIL-R- 65.715	65.715	parapet 12	Parapets	Good								
PNH-01-RAIL-R- 65.835	65.835	parapet 14	Parapets	Good								
PNH-01-RAIL-R- 65.89	65.89	parapet 2	Parapets	Good								
PNH-01-RAIL-R- 66.045	66.045	parapet 5	Parapets	Good								
PNH-01-RAIL-R- 66.26	66.26	parapet 2	Parapets	Good								
PNH-01-RAIL-R- 66.312	66.312	parapet 3.	Parapets	Good	missing 5 nos							
PNH-01-RAIL-R- 66.4	66.4	parapet 18	Parapets	Good								
PNH-01-RAIL-R- 66.515	66.515	parapet 1	Parapets	Good								
PNH-01-RAIL-R- 66.627	66.627	parapet 23	Parapets	Good								
PNH-01-RAIL-R- 66.7	66.7	parapet 2	Parapets	Minor Damage								
PNH-01-RAIL-R- 66.87	66.87	parapet 9	Parapets	Good								
PNH-01-RAIL-R- 66.937	66.937	parapet 2	Parapets	Good								
PNH-01-RAIL-R- 67.3	67.3	parapet 72	Parapets	Good								
PNH-01-RAIL-R- 67.46	67.46	parapet 2	Parapets	Good	1 missing							
PNH-01-RAIL-R- 67.489	67.489	parapet 10	Parapets	Minor Damage	need to repair 1 no							
PNH-01-RAIL-R- 67.64	67.64	parapet 6	Parapets	Good								
PNH-01-RAIL-R- 67.88	67.88	parapet 11	Parapets	Good								
PNH-01-RAIL-R- 67.92	67.92	parapet 1	Parapets	Good								
PNH-01-RAIL-R- 67.99	67.99	parapet 25	Parapets	Good								
PNH-01-RAIL-R- 68.115	68.115	parapet 3	Parapets	Good	1 missing							
PNH-01-RAIL-R- 68.181	68.181	parapet 22	Parapets	Good								
PNH-01-RAIL-R- 68.288	68.288	parapet 29	Parapets	Good								
PNH-01-RAIL-R- 68.52	68.52	parapet 1	Parapets	Good								
PNH-01-RAIL-R- 68.569	68.569	parapet 8	Parapets	Good								
PNH-01-RAIL-R- 68.72	68.72	parapet 2	Parapets	Good								
PNH-01-RAIL-R- 68.86	68.86	p 7	Parapets	Good								

PNH-01-RAIL-R- 90.758	90.758	P10	Parapets	Good								
PNH-01-RAIL-R- 90.807	90.807	P22	Parapets	Good								
PNH-01-RAIL-R- 90.983	90.983	P3	Parapets	Minor Damage	7 required							
PNH-01-RAIL-R- 91.667	91.667	P4	Parapets	Good								
PNH-01-RAIL-R- 91.798	91.798	P23	Parapets	Good								
PNH-01-RAIL-R- 92.048	92.048	P4	Parapets	Good								
PNH-01-RAIL-R- 92.255	92.255	P16	Parapets	Good								
PNH-01-RAIL-R- 93.268	93.268	P30	Parapets	Good								
PNH-01-RAIL-R- 93.431	93.431	P12	Parapets	Good								
PNH-01-RAIL-R- 96.3	96.3	P2	Parapets	Good	Required 8 nos							
PNH-01-RAIL-R- 98.951	98.951	P12	Parapets	Good								
PNH-01-RAIL-R- 99.375	99.375	P3	Parapets	Good	1damaged							
PNH-01-RAIL-R- 99.9	99.9	P52	Parapets	Good								
PNH-01-RAIL-R- 103.1	103.1	P8	Parapets	Good	1 required							
PNH-01-RAIL-R- 103.84	103.84		W metal-beam	Major Damage								
Lot-2												
PNH-01-RAIL-R- 105.059	105.059	P8	Parapets	Good								
PNH-01-RAIL-R- 106.58	106.58	P5	Parapets	Good	2 required							
PNH-01-RAIL-R- 110	110	124	W metal-beam	Minor Damage	Needs to repair							
PNH-01-RAIL-R- 110.078	110.078	84	W metal-beam	Minor Damage	Needs to repair							
PNH-01-RAIL-R- 110.197	110.197	p17	Parapets	Good								
PNH-01-RAIL-R- 113.391	113.391		Parapets	Major Damage	required 2 parapet							
PNH-01-RAIL-R- 126.1	126.1		W metal-beam	Major Damage	required 250 m							
PNH-01-RAIL-R- 127.1	127.1	127.3	W metal-beam	Major Damage	requires crash barrier							
PNH-01-RAIL-R- 148.7	148.7	100	W metal-beam	Good								
PNH-01-RAIL-R- 149.7	149.7	150	W metal-beam	Good								
PNH-01-RAIL-R- 148.7	148.7	100	W metal-beam	Good								

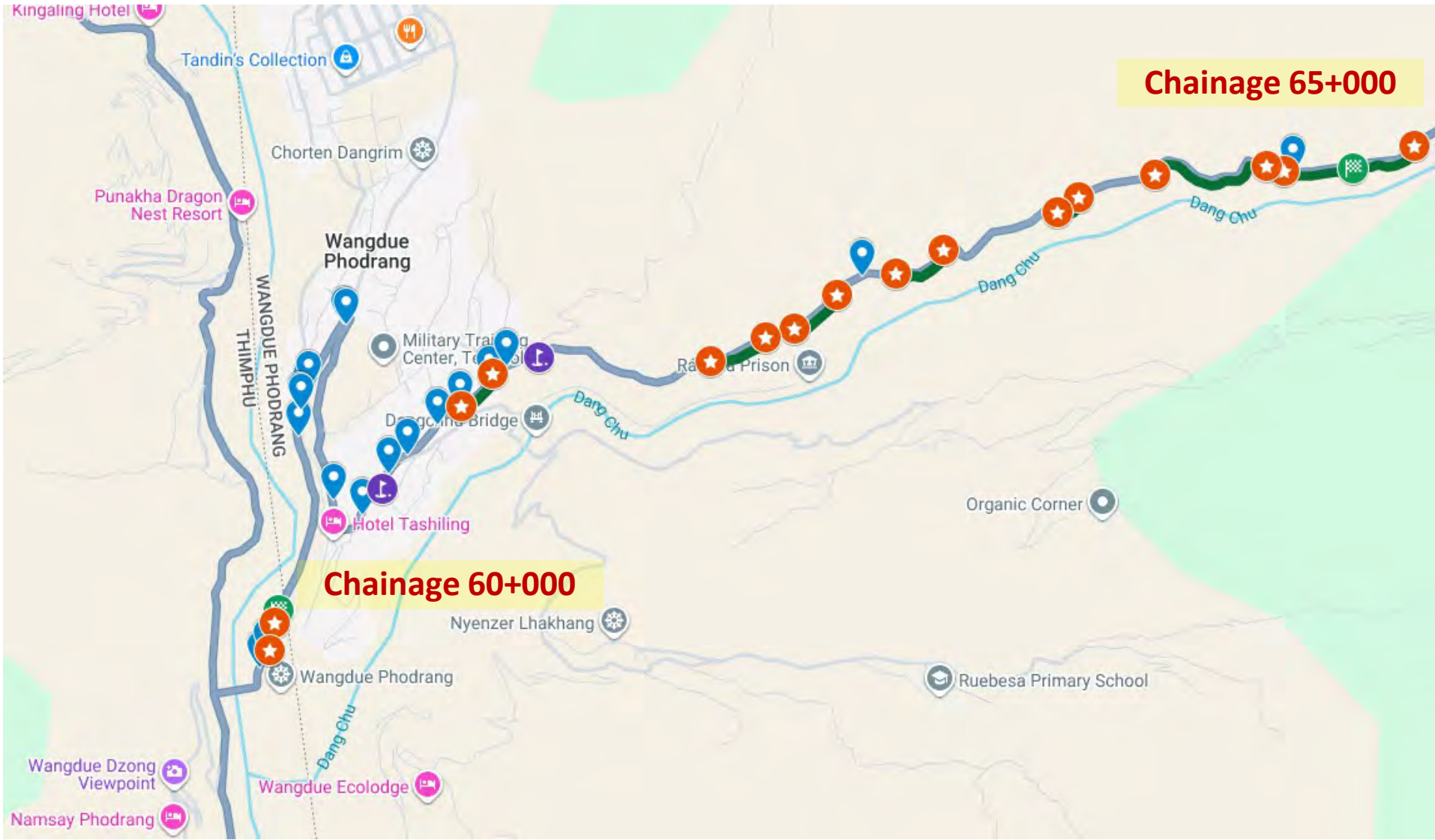
Name of Project:		ACCESS Pilot Performance-Based Maintenance Contract														
Table No.:		5. Slopes														
Sl No	Slope ID	Name	Local Place Name	Distance	Latitude	Longitude	Elevation	Year of Occurrence	Disaster Type	Collapse Side	Collapse Height	Disaster Volume	Affected Length	Area	Environmental and Social Considerations	Critical Observation
Lot-1																
1	LOPNH001002	Rock Slope Failure	Rabuna	64	27.5025	89.9133	1320	2020	Rock Slope Failure	Mountain Side	30	1050	70	210	1.Side drain fully blocked and structure damaged. ii.Gabion b/wall damaged. iii.irrigation pipe and concrete drain damaged.	1.detached rock is exposed. ii.rocks are found to be hard and cannot be broken by hammer or cannot be easily removed by human. iii.Terrace deposited. iv .Bare land with minimum vegetation. v.leakage in irrigation
Lot-2																
2	LOPNH001001	Chuserbhu	chuserbhu	136	27.4994	90.3136	2515	2019	Rock Slope Failure	Mountain Side	24	6075	162	2430	Road is damaged and side drains blocked. Boulders went into river.	Road edge and shoulders damaged. LDrain totally blocked and damaged.

Name of Project:	ACCESS Pilot Performance-Based Maintenance Contract		
Table No.:	10. Bridges		
Source: BMS			

Sl no	ROAD ID bridge ID	Ch,	Bridge Name	Bridge Type	Bridge Length	Total Width	Deck Type	Wearing Course Type	Remarks
Lot-1									
1	PNH-01 Bridge89	67.4	Phenchimeri Zam	RCC Slab	11	7.7	RCC	Concrete	
2	PNH-01 Bridge287	69.7	Chuzomsa Zam	PC Box Girder	47.5	7.5	RCC	Asphalt	
3	PNH-01 Bridge288	73	Tewki Zam	Steel truss	44	6	RCC	Asphalt	
4	PNH-01 Bridge332	87	Wachey Zam	Rigid frame	11.6	7.7	Rigid frame	Asphalt	Railing at upstream side damaged
5	PNH-01 Bridge379	83.912	Gemzina Zam	RCC Deck Girder	16	7.7	RCC	NA	
Lot-2									
6	PNH-01 Bridge105	133	Nikachu Zam	PC Box girder	45	7.5	RCC	Asphalt	
7	PNH-01 Bridge173	136.05	Chuserbu Zam	Rcc Slab	18	7.1	RCC	Premix Bitumen Carpet (Asphalt)	

Annex-4: Road Safety Works for Lot-1

Chainage 60+000 to 65+000



Source: Google Maps

Delineators (Guide Posts)						
No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
26	62+750	62+100	650	25	22	Valley-side

Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
9	78+000	60+000	18000	-	0

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
1	59+900	60+000	100	Valley-side
2	62+500	62+600	100	Valley-side
3	63+400	63+600	200	Valley-side
4	63+700	63+900	200	Valley-side
5	64+200	64+400	100	Valley-side
6	64+800	64+900	100	Valley-side

Traffic Signs			
No.	Chainage	Sign type	Sign facing
1	59+800	Narrow Road Ahead	East-bound
2	59+850	Speed-limit - 30km/h	East-bound
3	60+715	Narrow Road Ahead	West-bound
4	60+715	Speed-limit - 30km/h	West-bound
5	60+620	Junction Ahead	East-bound
6	60+775	Junction Ahead	West-bound
7	60+800	Speed-limit - 40km/h	East-bound
8	61+050	Junction Ahead	East-bound
9	61+120	Junction Ahead	West-bound
10	61+750	"U" Turn	East-bound
11	Horizontal curvature: 61+800 to 61+900	2 x 7 Chevron Signs (double-sided) at 15m spacing - Total 14 signs (to be installed on 7 poles)	Facing both east-bound and west-bound traffic
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25	61+950	"U" Turn	West-bound
26	62+130	Junction Ahead	East-bound
27	62+190	Junction Ahead	West-bound
28	62+360	Junction Ahead	East-bound
29	62+430	Junction Ahead	West-bound
30	62+590	Junction Ahead	East-bound
31	62+690	Junction Ahead	West-bound
32	63+050	Winding Alignment	East-bound
33	64+800	Winding Alignment	West-bound
34	64+750 - 65+250	Speed-limit - 40km/h	East-bound
35	64+750 - 65+250	Speed-limit - 40km/h	West-bound

Chainage 65+000 to 70+000



Source: Google Maps

Delineators (Guide Posts)						
No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
24	70+500	69+850	650	40	16	Valley-side
25	69+550	68+500	1050	40	27	Valley-side

Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
9	78+000	60+000	18000	-	0

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
7	65+200	65+600	400	Valley-side
8	65+700	66+100	400	Valley-side
9	66+300	66+700	400	Valley-side
10	66+700	67+200	500	Valley-side
11	67+500	68+000	500	Valley-side
12	68+100	68+200	100	Valley-side
13	68+350	68+500	150	Valley-side

Traffic Signs			
No.	Chainage	Sign type	Sign facing
36	69+750	Junction Ahead	East-bound
37	69+960	Junction Ahead	West-bound
38	69+750 - 70+250	Speed-limit - 40km/h	East-bound
39	69+750 - 70+250	Speed-limit - 40km/h	West-bound

Traffic Calming Measures (Thermoplastic Transverse Bar Markings)			
No.	Chainage	No. of Bars, Length of Each Bar	Note
1	69+500	6 bars, 7.5m length	Chuzomsa village
2	69+600	6 bars, 7.5m length	Chuzomsa village

Chainage 70+000 to 75+000



Source: Google Maps

Delineators (Guide Posts)

No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
23	74+900	73+500	1400	25	92	Valley-side

Road Markings

No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
9	78+000	60+000	18000	-	0

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)

No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Safety Barriers

No.	Chainage		Length (m)	Side
	From	To		
14	70+500	70+700	200	Valley-side
15	70+800	72+100	1300	Valley-side
16	72+700	72+900	200	Valley-side
17	73+100		100	Valley-side
18	73+200		100	Valley-side
19	73+300	73+500	200	Valley-side
20	74+500	74+600	100	Valley-side
21	74+900	75+100	200	Valley-side

Traffic Signs

No.	Chainage	Sign type	Sign facing
40	73+790	"Turn Right"	East-bound
41	73+890	Junction Ahead	East-bound
42	74+100	Junction Ahead	West-bound
43	74+750 - 75+250	Speed-limit - 40km/h	East-bound
44	74+750 - 75+250	Speed-limit - 40km/h	West-bound

Traffic Calming Measures
(Thermoplastic Transverse Bar Markings)

No.	Chainage	No. of Bars, Length of Each Bar	Note
3	74+200	6 bars, 7.5m length	Tiki Zampa village
4	74+300	6 bars, 7.5m length	Tiki Zampa village

Chainage 75+000 to 80+000



Source: Google Maps

Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
8	81+500	78+000	3500	-	0
9	78+000	60+000	18000	-	0

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
22	75+500	75+900	400	Valley-side
23	76+300	76+500	200	Valley-side
24	77+100	77+400	300	Valley-side
25	77+700	78+300	600	Valley-side
26	78+300	78+700	400	Valley-side
27	78+700	79+400	700	Valley-side
28	79+600	80+400	800	Valley-side

Traffic Signs			
No.	Chainage	Sign type	Sign facing
45	77+500	Junction Ahead	East-bound
46	77+600	Junction Ahead	West-bound
47	79+750 - 80+250	Speed-limit - 40km/h	East-bound
48	79+750 - 80+250	Speed-limit - 40km/h	West-bound

Chainage 80+000 to 85+000



Source: Google Maps

Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
29	80+600	80+700	100	Valley-side
30	80+700	80+900	200	Valley-side
31	81+900	82+200	300	Valley-side
32	84+050	84+200	150	Valley-side
33	84+300	84+400	100	Valley-side

Traffic Signs			
No.	Chainage	Sign type	Sign facing
49	82+370	Warning sign for DIP	East-bound
50	82+430	Warning sign for DIP	West-bound
51	84+750 - 85+250	Speed-limit - 40km/h	East-bound
52	84+750 - 85+250	Speed-limit - 40km/h	West-bound

Delineators (Guide Posts)						
No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
21	84+050	83+000	1050	20	52	Valley-side
22	81+900	80+900	1000	25	40	Valley-side

Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
7	96+000	81+500	14500	Refresh / redo road markings	14500
8	81+500	78+000	3500	-	0

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Chainage 85+000 to 90+000



Source: Google Maps

Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
34	85+750	85+900	200	Valley-side
35	86+000	86+300	300	Valley-side
36	88+200		100	Valley-side

Traffic Signs			
No.	Chainage	Sign type	Sign facing
53	89+600	Junction Ahead	East-bound
54	89+730	Junction Ahead	West-bound
55	89+750 - 90+250	Speed-limit - 40km/h	East-bound
56	89+750 - 90+250	Speed-limit - 40km/h	West-bound

Delineators (Guide Posts)						
No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
20	89+400	86+300	3100	40 (20 at winding)	100	Valley-side

Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
7	96+000	81+500	14500	Refresh / redo road markings	14500

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Chainage 90+000 to 95+000



Source: Google Maps

Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
37	90+500	90+600	100	Valley-side
38	91+550	91+650	100	Valley-side
39	91+950	92+100	100	Valley-side
40	92+500	93+000	500	Valley-side
41	93+500		100	Valley-side
42	93+900	94+100	200	Valley-side
43	94+750		100	Valley-side

Traffic Signs			
No.	Chainage	Sign type	Sign facing
57	90+370	Winding Alignment	East-bound
58	93+500	Winding Alignment	West-bound
59	94+750 - 95+250	Speed-limit - 40km/h	East-bound
60	94+750 - 95+250	Speed-limit - 40km/h	West-bound

Delineators (Guide Posts)						
No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
18	93+450	93+000	450	25	18	Valley-side
19	91+550	90+600	950	25	38	Valley-side

Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
7	96+000	81+500	14500	Refresh / redo road markings	14500

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Chainage 95+000 to 100+000



Source: Google Maps

Delineators (Guide Posts)

No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
16	100+000	98+900	1100	20	55	Valley-side
17	97+100	95+900	1200	20	52	Valley-side

Road Markings

No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
6	106+200	96+000	10200	-	0
7	96+000	81+500	14500	Refresh / redo road markings	14500

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)

No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
1	96+000	98+951	2951	Straight: 18m, Warning: 9m, Curve / overtaking prohibition: 6m	800
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

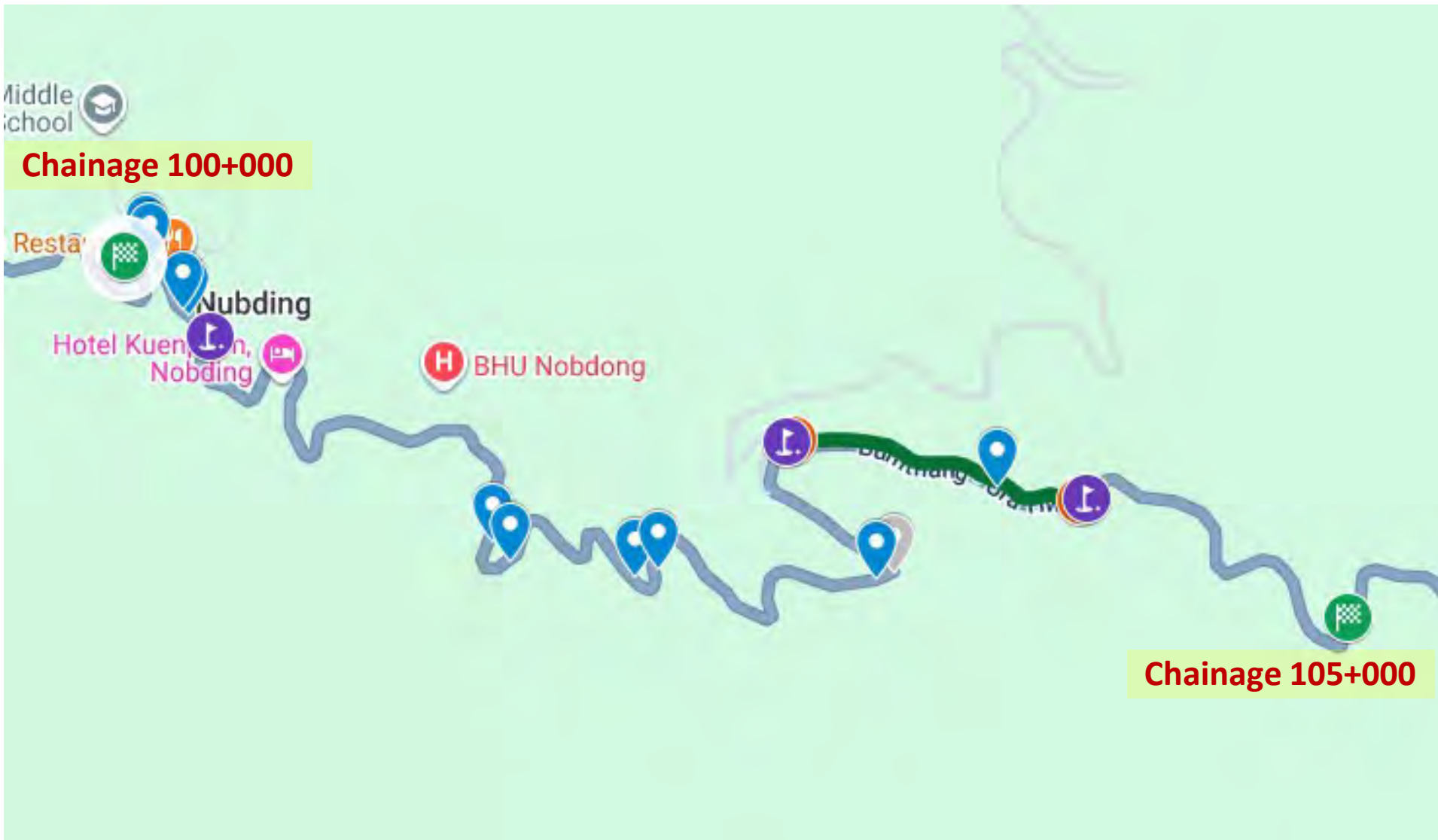
Safety Barriers

No.	Chainage		Length (m)	Side
	From	To		
44	95+000	95+500	500	Valley-side
45	95+550	95+900	350	Valley-side
46	96+550	96+700	150	Valley-side
47	97+100	97+300	200	Valley-side
48	97+500		100	Valley-side
49	97+650	97+950	300	Valley-side
50	98+100	98+600	500	Valley-side
51	98+700	98+900	200	Valley-side
52	98+900		50	Mountain-side
53	99+250		50	Valley-side

Traffic Signs

No.	Chainage	Sign type	Sign facing
61	95+950	Slippery Road Condition	East-bound
62	99+000	Slippery Road Condition	West-bound
63	99+840	"U" Turn	East-bound
64	Horizontal curvature: 99+970 to 100+020	2 x 5 Chevron Signs (double-sided) at 15m spacing - Total 10 signs (to be installed on 5 poles)	Facing both east-bound and west-bound traffic
65			
66			
67			
68			
69			
70			
71			
72			
73			
74	99+940	"U" Turn	West-bound

Chainage 100+000 to 105+000



Source: Google Maps

Delineators (Guide Posts)

No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
14	107+200	104+400	2800	20	140	Valley-side
15	103+700	100+300	3400	20	170	Valley-side

Road Markings

No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
6	106+200	96+000	10200	-	0

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)

No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
2	103+000	105+900	2900	Straight: 18m, Warning: 9m, Curve / overtaking prohibition: 6m	800
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Safety Barriers

No.	Chainage		Length (m)	Side
	From	To		
54	103+700	104+400	700	Valley-side

Traffic Signs

No.	Chainage	Sign type	Sign facing
75	100+050	Pedestrian Crossing	East-bound
76	100+070	Pedestrian Crossing	West-bound
77	100+200	Pedestrian Crossing	East-bound
78	100+220	Pedestrian Crossing	West-bound
79	99+750 - 100+250	Speed-limit - 40km/h	East-bound
80	99+750 - 100+250	Speed-limit - 40km/h	West-bound
81	101+550	"U" Turn	East-bound
82	Horizontal curvature: 101+570 to 101+630	2 x 5 Chevron Signs (double-sided) at 15m spacing - Total 10 signs (to be installed on 5 poles)	Facing both east-bound and west-bound traffic
83			
84			
85			
86			
87			
88			
89			
90			
91			
92	101+670	"U" Turn	West-bound
93	102+120	"U" Turn	East-bound
94	Horizontal curvature: 102+140 to 102+200	2 x 5 Chevron Signs (double-sided) at 15m spacing - Total 10 signs (to be installed on 5 poles)	Facing both east-bound and west-bound traffic
95			
96			
97			
98			
99			
100			
101			
102			
103			
104	102+220	"U" Turn	West-bound
105	102+960	Slippery Road Condition	East-bound
106	103+900	Winding Alignment	East-bound

Annex-4: Road Safety Works for Lot-2

Chainage 105+000 to 110+000



Source: Google Maps

Delineators (Guide Posts)						
No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
14	107+200	104+400	2800	20	140	Valley-side

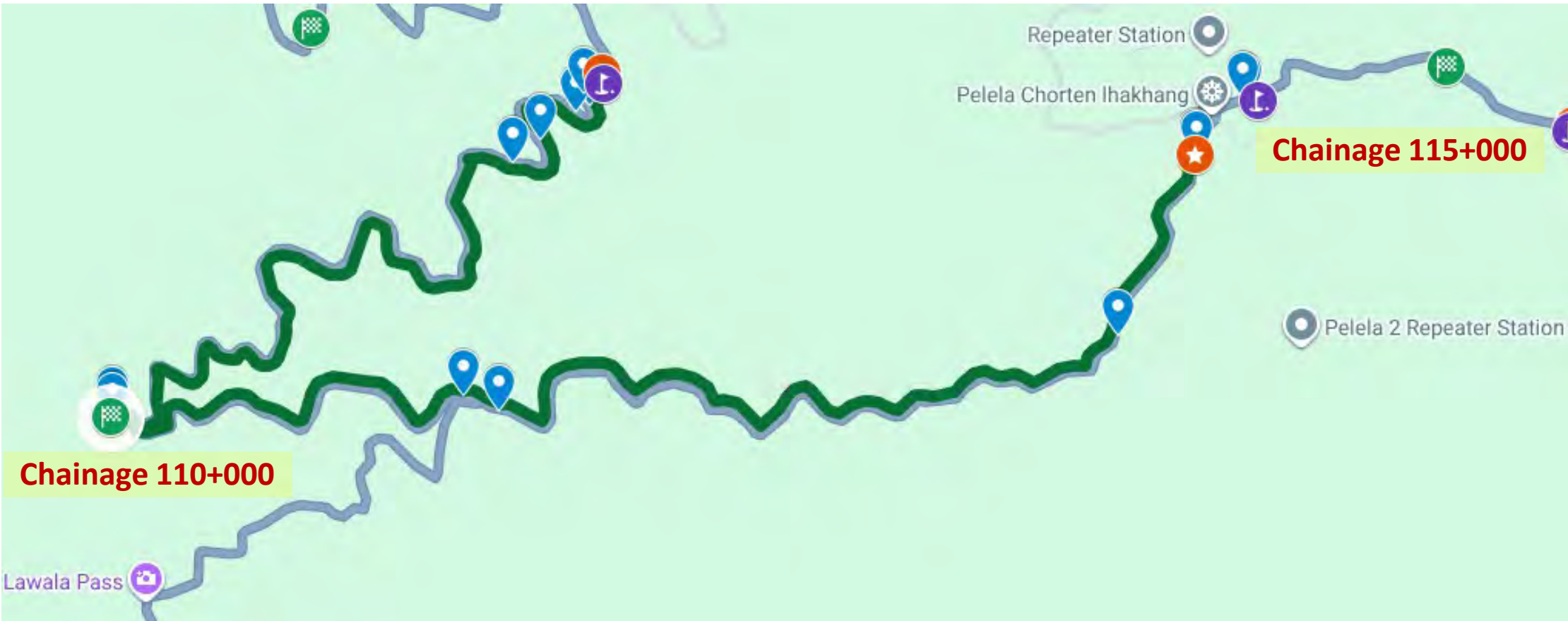
Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
5	124+000	106+200	17800	Refresh / redo road markings	17800
6	106+200	96+000	10200	-	0

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
2	103+000	105+900	2900	Straight: 18m, Warning: 9m, Curve / overtaking prohibition: 6m	800
3	107+000	118+000	11000		2900
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
55	107+200	114+800	4500	Valley-side

Traffic Signs			
No.	Chainage	Sign type	Sign facing
107	105+950	Slippery Road Condition	West-bound
108	104+750 - 105+250	Speed-limit - 40km/h	East-bound
109	104+750 - 105+250	Speed-limit - 40km/h	West-bound
110	106+030	"U" Turn	East-bound
111-126	Horizontal curvature: 106+100 to 106+200	2 x 8 Chevron Signs (double-sided) at 20m spacing - Total 16 signs (to be installed on 8 poles)	Facing both east-bound and west-bound traffic
127	106+270	"U" Turn	West-bound
128	106+970	Slippery Road Condition	East-bound
129	107+000	"U" Turn	East-bound
130-137	Horizontal curvature: 107+030 to 107+070	2 x 4 Chevron Signs (double-sided) at 15m spacing - Total 8 signs (to be installed on 4 poles)	Facing both east-bound and west-bound traffic
138	107+100	"U" Turn	West-bound
139	107+390	"U" Turn	East-bound
140-151	Horizontal curvature: 107+410 to 107+490	2 x 6 Chevron Signs (double-sided) at 15m spacing - Total 12 signs (to be installed on 6 poles)	Facing both east-bound and west-bound traffic
152	107+510	"U" Turn	West-bound
153	109+750 - 110+250	Speed-limit - 40km/h	East-bound
154	109+750 - 110+250	Speed-limit - 40km/h	West-bound
155	109+900	"U" Turn	East-bound
156-163	Horizontal curvature: 109+930 to 109+970	2 x 4 Chevron Signs (double-sided) at 10m spacing - Total 8 signs (to be installed on 4 poles)	Facing both east-bound and west-bound traffic
164	110+000	"U" Turn	West-bound

Chainage 110+000 to 115+000



Source: Google Maps

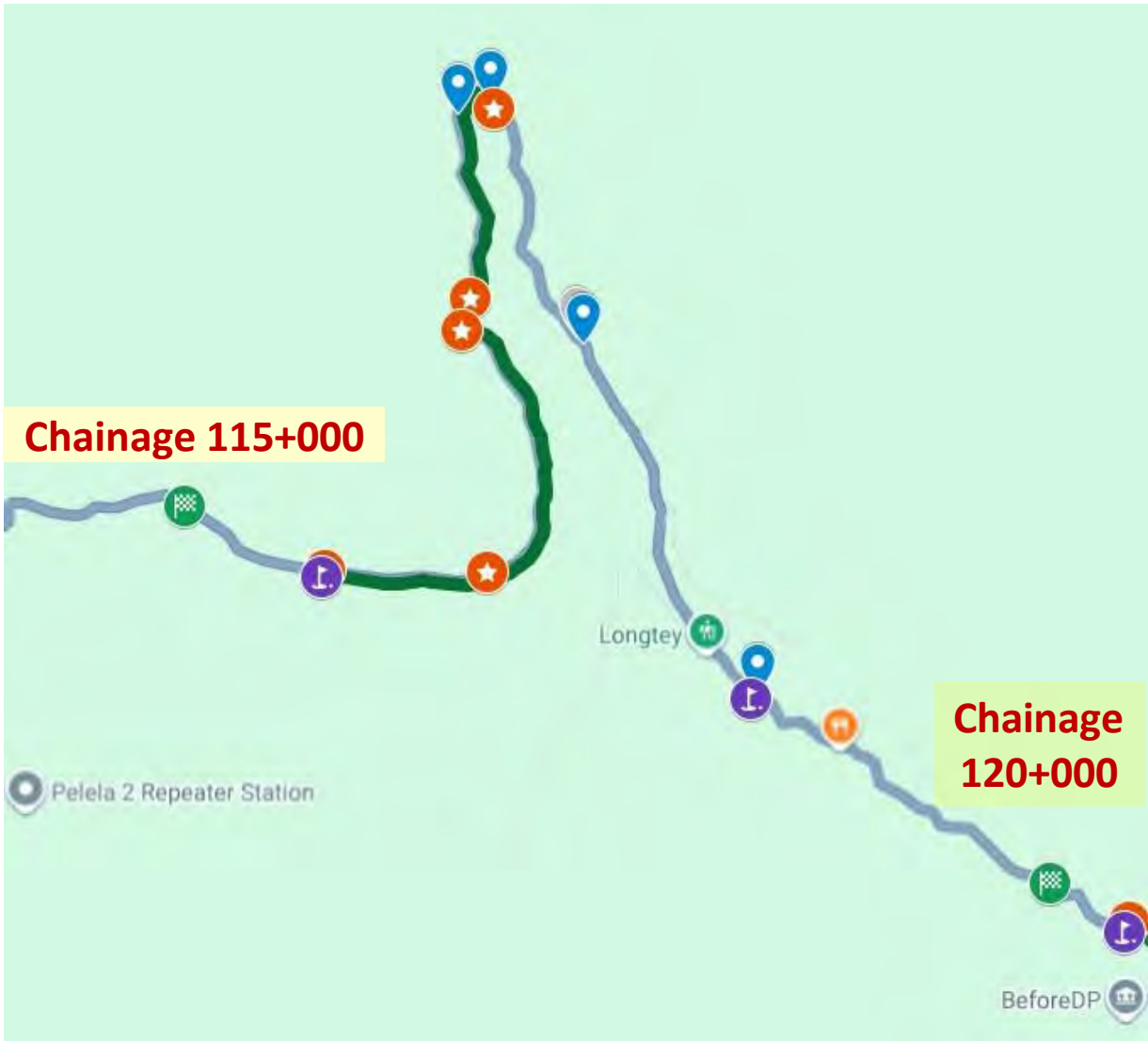
Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
55	107+200	114+800	4500	Valley-side

Traffic Signs			
No.	Chainage	Sign type	Sign facing
165	111+300	Junction Ahead	East-bound
166	111+400	Junction Ahead	West-bound
167	113+530	Winding Alignment	West-bound
168	114+100	Junction Ahead	East-bound
169	114+100	Slippery Road Condition	West-bound
170	114+360	Slippery Road Condition	East-bound
171	114+360	Junction Ahead	West-bound
172	114+750 - 115+250	Speed-limit - 40km/h	East-bound
173	114+750 - 115+250	Speed-limit - 40km/h	West-bound

Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
5	124+000	106+200	17800	Refresh / redo road markings	17,800

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
3	107+000	118+000	11000	Straight: 18m, Warning: 9m, Curve / overtaking prohibition: 6m	2900
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Chainage 115+000 to 120+000



Source: Google Maps

Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
56	116+000	116+400	400	Valley-side
57	116+400	117+100	700	Valley-side
58	117+200	117+900	700	Valley-side

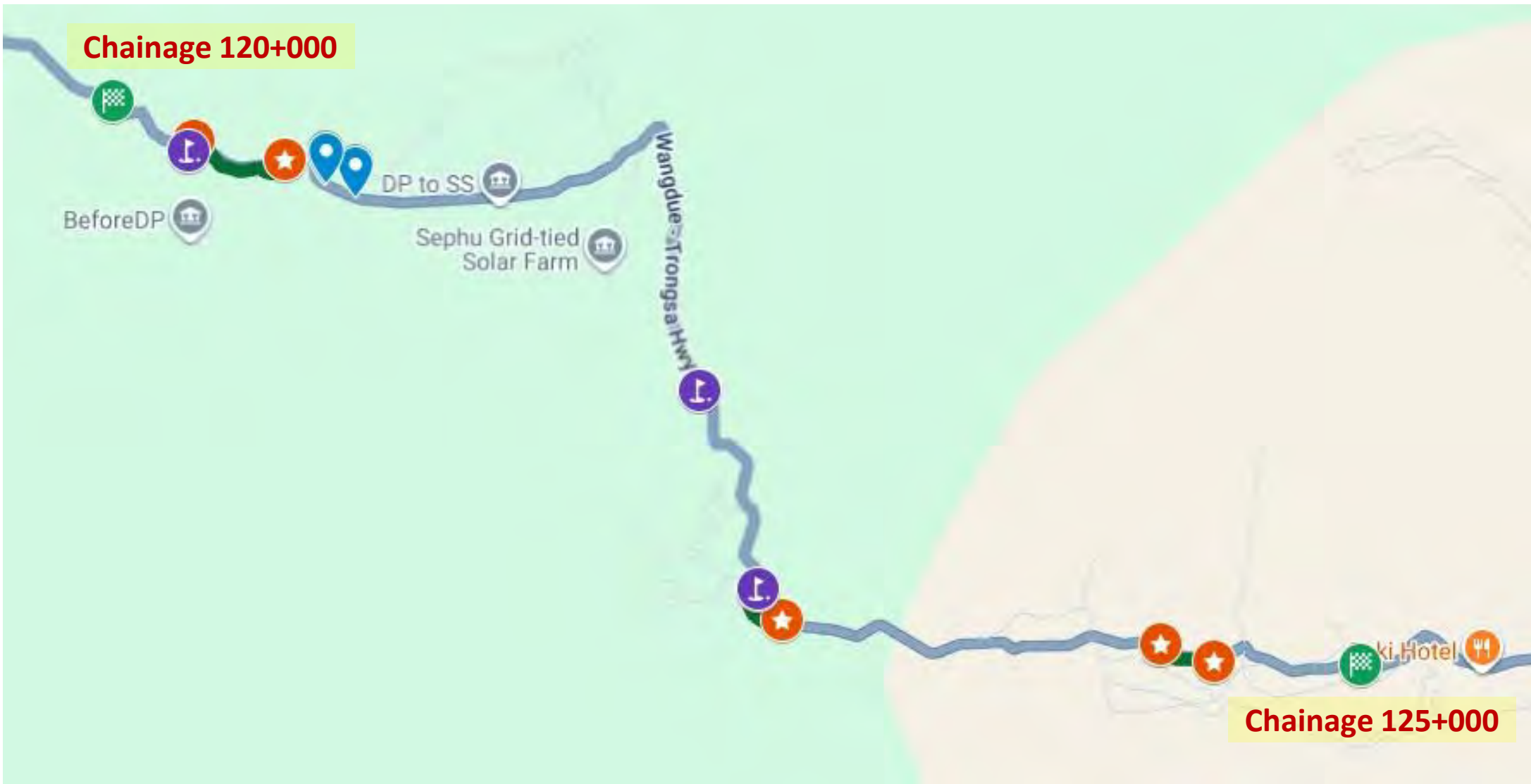
Traffic Signs			
No.	Chainage	Sign type	Sign facing
174	117+720	"U" Turn	East-bound
175	Horizontal curvature: 117+750 to 117+850	2 x 6 Chevron Signs (double-sided) at 15m spacing - Total 12 signs (to be installed on 6 poles)	Facing both east-bound and west-bound traffic
176			
177			
178			
179			
180			
181			
182			
183			
184			
185			
186			
187	117+860	"U" Turn	West-bound
188	118+020	Slippery Road Condition	West-bound
189	119+060	Winding Alignment	East-bound
190	119+750 - 120+250	Speed-limit - 40km/h	East-bound
191	119+750 - 120+250	Speed-limit - 40km/h	West-bound

Delineators (Guide Posts)						
No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
12	120+800	119+600	1200	25	48	Valley-side
13	116+000	115+000	1000	40 (12 at curves)	35	Valley-side

Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
5	124+000	106+200	17800	Refresh / redo road markings	17,800

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
3	107+000	118+000	11000	Straight: 18m, Warning: 9m, Curve / overtaking prohibition: 6m	2900
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Chainage 120+000 to 125+000



Source: Google Maps

Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
59	120+800	121+000	200	Valley-side
60	123+215	123+350	135	Valley-side
61	124+450	124+600	150	Valley-side

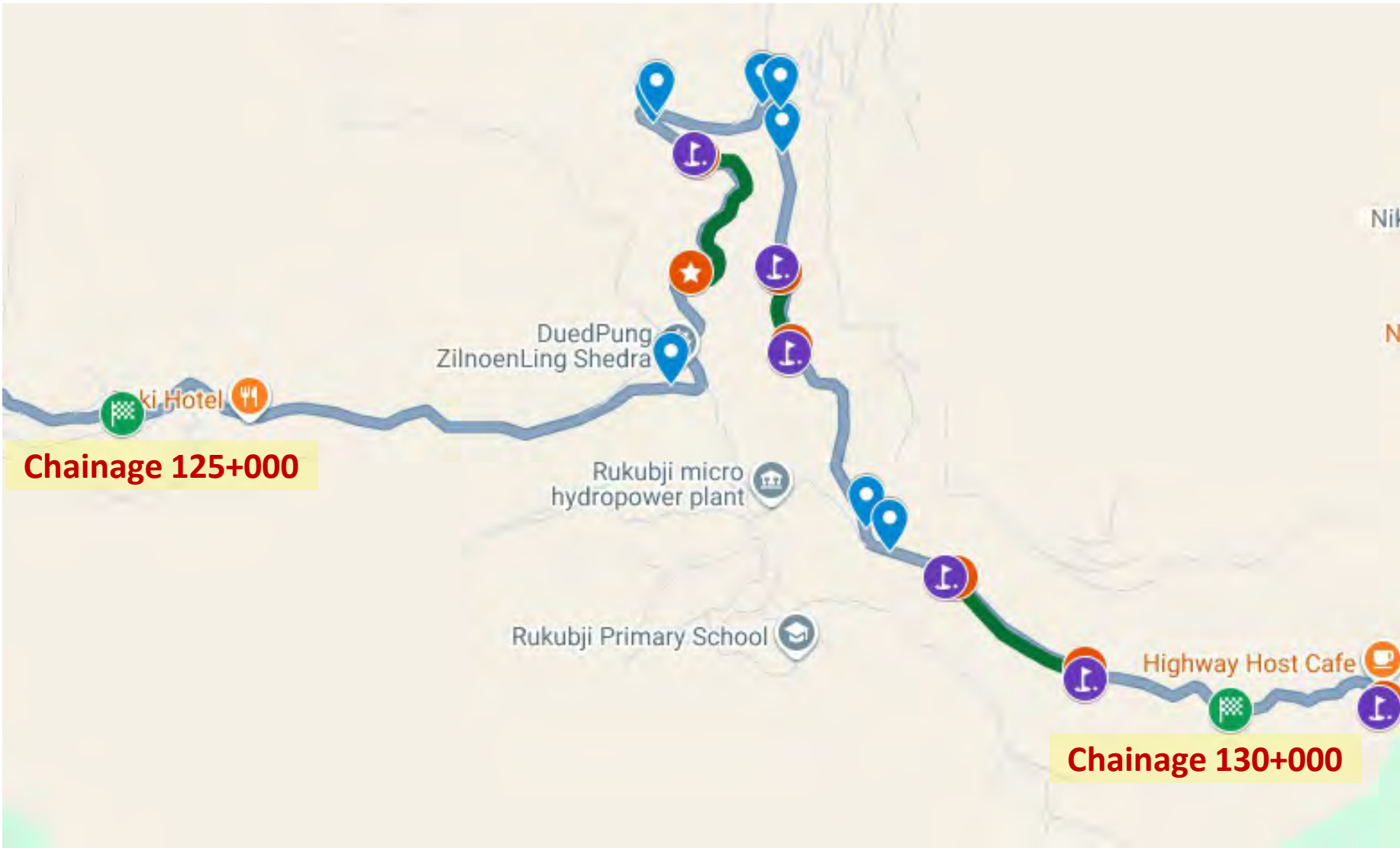
Traffic Signs			
No.	Chainage	Sign type	Sign facing
192	120+660	Junction Ahead	East-bound
193	120+660	Winding Alignment	West-bound
194	120+750	Junction Ahead	West-bound
195	124+750 - 125+250	Speed-limit - 40km/h	East-bound
196	124+750 - 125+250	Speed-limit - 40km/h	West-bound

Delineators (Guide Posts)						
No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
11	123+250	122+650	600	20	30	Valley-side
12	120+800	119+600	1200	25	48	Valley-side

Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
4	130+500	124+000	6500	Refresh / redo road markings	6500
5	124+000	106+200	17800		17,800

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Chainage 125+000 to 130+000



Source: Google Maps

Delineators (Guide Posts)						
No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
8	130+500	129+700	800	25	32	Valley-side
9	129+300	128+550	750	25	30	Valley-side
10	128+400	127+300	1100	40	27	Valley-side

Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
4	130+500	124+000	6500	Refresh / redo road markings	6500

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
62	126+900	127+300	400	Valley-side
63	128+400	128+550	150	Valley-side
64	129+300	129+700	400	Valley-side

Traffic Signs			
No.	Chainage	Sign type	Sign facing
197	126+420	Winding Alignment	East-bound
198	127+410	"U" Turn	East-bound
199	Horizontal curvature: 127+430 to 127+470	2 x 4 Chevron Signs (double-sided) at 10m spacing - Total 8 signs (to be installed on 4 poles)	Facing both east-bound and west-bound traffic
200			
201			
202			
203			
204			
205			
206			
207	127+490	"U" Turn	West-bound
208	127+810	"U" Turn	East-bound
209	Horizontal curvature: 127+820 to 127+880	2 x 5 Chevron Signs (double-sided) at 15m spacing - Total 10 signs (to be installed on 5 poles)	Facing both east-bound and west-bound traffic
210			
211			
212			
213			
214			
215			
216			
217			
218			
219	127+890	"U" Turn	West-bound
220	127+900	Winding Alignment	West-bound
221	128+970	Junction Ahead	East-bound
222	129+060	Junction Ahead	West-bound
223	129+750 - 130+250	Speed-limit - 40km/h	East-bound
224	129+750 - 130+250	Speed-limit - 40km/h	West-bound

Traffic Calming Measures (Thermoplastic Transverse Bar Markings)			
No.	Chainage	No. of Bars, Length of Each Bar	Note
5	126+400	6 bars, 7.5m length	
6	126+650	6 bars, 7.5m length	

Chainage 130+000 to 136+000



Source: Google Maps

Road Markings					
No.	Chainage		Length (m)	Actions Recommended	Length to be redone / refreshed (m)
	From	To			
1	136+066	135+800	266	Install road markings (centre line and edge lines)	266
2	135+800	134+800	1000	Refresh / redo road markings	1000
3	134+800	130+500	4300	Refresh / redo road markings	4300
4	130+500	124+000	6500	Refresh / redo road markings	6500

Road Pavement Reflectors (Road studs / Cat's eyes / Reflective Pavement Markers - RPMs)					
No.	Chainage		Length (m)	Spacing (m)	Tentative no. of reflectors needed
	From	To			
4	11 x "U" turn locations as identified in the signs schedule		1545	Warning: 9m, Curve / overtaking prohibition: 6m	850
5	Other sharp / deficit curvature locations along the corridor - 30 (each location: 200m)		6000	Warning: 9m, Curve / overtaking prohibition: 6m	3900

Safety Barriers				
No.	Chainage		Length (m)	Side
	From	To		
65	130+500	131+500	1000	Valley-side
66	133+600	133+700	100	Valley-side
67	134+000	134+100	100	Valley-side

Traffic Signs			
No.	Chainage	Sign type	Sign facing
225	131+740	Junction Ahead	East-bound
226	131+820	Junction Ahead	West-bound
227	132+350	Junction Ahead	East-bound
228	132+450	Junction Ahead	West-bound
229	134+750 - 135+250	Speed-limit - 40km/h	East-bound
230	136+050	Speed-limit - 40km/h	West-bound
231	14 no. of "No Overtaking" signs to be installed (7 each directions)	14 no. of "No Overtaking" signs to be installed (7 each directions) - centre line marking at these locations shall be solid (continuous)	7 signs facing each direction
232			
233			
234			
235			
236			
237			
238			
239			
240			
241	6 no. of "Acent or Descent" signs to be installed (3 each directions)	6 no. of "No Overtaking" signs to be installed (3 each directions)	3 signs facing each direction
242			
243			
244			
245			
246			
247			
248			
249			
250			

Traffic Calming Measures (Thermoplastic Transverse Bar Markings)			
No.	Chainage	No. of Bars, Length of Each Bar	Note
7	131+600	6 bars, 7.5m length	
8	131+900	6 bars, 7.5m length	

Delineators (Guide Posts)						
No.	Chainage		Length (m)	Spacing (m)	Number of Delineators	Side
	From	To				
1	136+000	135+400	600	50	12	Valley-side
2	135+400	134+900	500	25	19	Valley-side
3	134+900	134+100	800	40	19	Valley-side
4	134+000	133+700	300	25	11	Valley-side
5	133+600	132+500	1100	25	43	Valley-side
6	132+400	132+200	200	40	5	Valley-side
7	132+000	131+900	100	25	4	Valley-side
8	130+500	129+700	800	25	32	Valley-side

Annex-5: Initial Repairs

Name of Project:	ACCESS Pilot Performance-Based Maintenance Contract		
Table No.:		1. Pavement Condition	

1. Pavement Condition

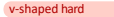
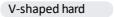
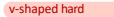
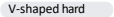
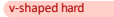
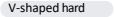
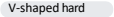
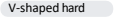
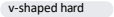
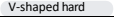
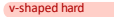
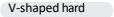
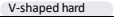
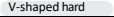
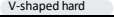
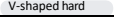
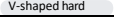
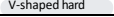
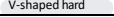
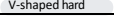
Ch. Start	Ch. End	1.1 Pavement width	1.2 Potholes	1.3 Alligator cracking - major	1.4 Alligator cracking - minor	1.5 Ravelling	1.6 Exposed base	1.7 Rutting >20mm	1.8 Deformation requiring repair	1.9 Edge break >20cm width	1.10 Shoulder drop off >10cm	1.11 Road roughness	1.12 Year of last overlay	Remarks	Construction year :1975, Upgraded 2018	Photos
		m	no.	m2	m2	m2	m2	m	m2	m	m	IRI (m/km)	Year	Remarks and other defects		
81	82	4	0	0	372	0	0	0	198	0	0	7.0	No overlay	Width 7m	2017 NEWH	
82	83	7.5	0	52	0	0	0	0	326	71	0	8.2	No overlay		2017 NEWH	
83	84	7.5	6	33	0	0	0	0	507	0	0	7.3	No overlay		2017 NEWH	
84	85	6.5	17	218	60	0	0	0	1067	10	0	7.1	No overlay		2017 NEWH	
85	86	5.3	0	0	0	0	0	0	0	0	0	7.0	No overlay	Narrow road (4.6 m and 6 m Maximum Width)	2017 NEWH	
86	87	5	0	112.5	0	0	0	0	264.75	11	0	6.8	No overlay		2017 NEWH	
87	88	7	0	1610	0	0	0	0	54	15	0	7.3	No overlay		2017 NEWH	
88	89	7.2	0	244	0	0	0	0	0	0	0	6.9	No overlay		2017 NEWH	
89	90	7.2	0	120	170	0	0	0	489	0	0	6.6	No overlay		2017 NEWH	
90	91	7.2	0	120	170	0	0	0	489	0	0	6.3	No overlay		2017 NEWH	
91	92	7	0	90	45	0	0	0	0	0	0	6.4	No overlay		2017 NEWH	
92	93	7	0	205	0	0	0	0	330	0	0	6.8	No overlay		2017 NEWH	
93	94	7	1	539	0	0	0	0	0	0	0	8.0	No overlay	Narrow Width (from Ch. 93 Km)	2017 NEWH	
94	95	7.5	1	84	0	0	0	0	400	0	0	7.9	No overlay	Narrow width (From Ch. 95.2- 95.35 Width 4.9 m)	2017 NEWH	
95	96	7.5	0	697.5	0	0	0	0	348	17	70	8.4	No overlay	Narrow width (From Ch. 95.2- 95.35 Width 4.9 m)	2017 NEWH	

Name of Project: ACCESS Pilot Performance-Based Maintenance Contract
Table No.: 3. Side Drains
Survey Date:
Surveyor Name:
Weather Conditions:
Exceptional Circumstances:

3. Side Drains

Add missing drains using ID format. Record in Remarks field.

Identify where additional drain is required and use ID format. Record in Remarks field.

Drain ID Right	Ch. Start	Ch. End	Type	Condition	Affected Length, m	Remarks	Drain ID Left	Ch. Start	Ch. End	Type	Condition	Affected Length, m	Remarks
PNH-01 Drian-R 60-61	60	60.2			200m	w= 0.7m h =0.03m	PNH-01 Drain-L 61-62	61.1	61.5				Base w=0.7m h=0.1m
PNH-01 Drian-R 60-62	60.2					Base pcc w=0.6 & h =0.1 , L =19m ii. Riser L =7m, b=0.3 &h=0.3	PNH-01 Drain-L 61-62	61.55	62				Base w=0.7 h=0.05
PNH-01 Drian-R 60-63	60.2	60.6				Base pcc w=0.6 h=0.03		62.3	62.4			25m	riser l=25m,h=0.3 w=0.3
PNH-01 Drian-R 60-64	60.6				20m	Base pcc w=0.7 & h =0.15		62.45	62.6				Base w=0.7, h=0.05
PNH-01 Drian-R 60-61	60.6	61				Base pcc w=0.7 & h=0.04		63.3	63.475				Base w=0.7, h=0.05
PNH-01 Drain-R -62-63	62.4						PNH-01 Drain-L 61.5						
PNH-01 Drain-R -74-75	74.3	74.4				riser 10m		63.475	63.5				riser l=25m, h=0.3m, w= 0.3m
PNH-01 Drain-R -75-76	75.2					riser 4m		64.1					riser l=5m, w=0.3,h=0.3
PNH-01 Drain-R -75-76	75.2				66m	Base pcc w=0.9,h=0.05		64.1	64.25				Base w=0.7, h=0.05
PNH-01 Drain-R -75-76	75.5				13m	riser l=13m, w=0.3,h=0.3		64.6	64.62			20m	Base w=0.75, h=0.15
PNH-01 Drain-R -75-76	75.7				40m	Base w=0.7 h=0.05		64.7	64.9				Base w=0.8, h=0.05
PNH-01 Drain-R -77-78	77.2				10m	riser		65.17	65.74				Base w=0.7, h=0.05
PNH-01 Drain-R -77-78	77.4				320m	pcc Base w=0.2,h =0.1		65.8	66.7				Base w=0.7, h=0.05
PNH-01 Drain-R -77-78								69.25					riser l=10m, w=0.3, h=0.3 ii.pcc Base l=10m, w=0.7,h=0.04
PNH-01 Drain-R -77-78	77.4				12m	Base pcc l=15m,w=0.7 h=0.5 including soling		69.9				40m	Base w=0.7, h=0.1, l=30 m
PNH-01 Drain-R -77-80	77.5				25m	Base w=0.7,h=0.15 including soling		72.1	72.3				Base pcc w=0.7, h=0.1
PNH-01 Drain-R -77-80	77.6				20m	Base w=0.7,h=0.15		73.4					Base l=10m,w=0.7,h=0.1 5

Name of Project: ACCESS Pilot Performance-Based Maintenance Contract
Table No.: 3. Side Drains
Survey Date:
Surveyor Name:
Weather Conditions:
Exceptional Circumstances:

3. Side Drains

Add missing drains using ID format. Record in Remarks field.

Identify where additional drain is required and use ID format. Record in Remarks field.

Drain ID Right	Ch. Start	Ch. End	Type	Condition	Affected Length, m	Remarks	Drain ID Left	Ch. Start	Ch. End	Type	Condition	Affected Length, m	Remarks
PNH-01 Drain-R -77-80	77.91		v-shaped hard	Damaged	88m	Base w=0.5,h=0.05		73.7		V-shaped hard	Damaged	21m	Base l=21m,w=0.7,h=0.1
PNH-01 Drain-R -78-79	78.1		v-shaped hard	Damaged	35								
PNH-01 Drain-R -78-79	78.64		v-shaped hard	Damaged	20								
PNH-01 Drain-R -79-80	79.415		V-shaped soft	Damaged				56					
PNH-01 Drain-R -85-86	85.645		v-shaped hard	Damaged	100								
PNH-01 Drain-R -87-88	87.015	87.421	v-shaped hard	Damaged	406	Till 87.421 the drain size is smaller than its discharge of water							
PNH-01 Drain-R -87-88	87.2		v-shaped hard	Damaged	40								
PNH-01 Drain-R -87-88	87.7		v-shaped hard	Damaged	150								
PNH-01 Drain-R -89-90	89.08		v-shaped hard	Damaged	60								
PNH-01 Drain-R -90-91	91.865	91.928	v-shaped hard	Damaged	63	Till 91.928 damaged							
"PNH-01 Drain-R & "	97.76		v-shaped hard	Damaged	100								
	79.415		v-shaped hard	Damaged				56					
	87.015	87.421	v-shaped hard	Damaged	406	Till 87.421 the drain size is smaller than its discharge of water							
	101	101.6	v-shaped hard	Damaged	600								
	101.934	102.064	V-shaped soft	Damaged	130								

5 ii. riser l=21m, w=0.3,h=0.3

Name of Project: ACCESS Pilot Performance-Based Maintenance Contract
Table No.: 3. Side Drains
Survey Date:
Surveyor Name:
Weather Conditions:
Exceptional Circumstances:

3. Side Drains
Add missing drains using ID format. Record in Remarks field.
Identify where additional drain is required and use ID format. Record in Remarks field.

Drain ID Right	Ch. Start	Ch. End	Type	Condition	Affected Length, m	Remarks	Drain ID Left	Ch. Start	Ch. End	Type	Condition	Affected Len	Remarks
	102.614	102.674	V-shaped soft	Damaged	60								
	103.6	103.75	V-shaped soft	Damaged	150								
	104.3	104.44	V-shaped soft	Damaged	140								

SI No	Culvert ID	Chainages	Ch.	Latitude	Longitude	Type	Length, m	Width, m	Height, m	Condition	Remarks	Photos (ROMDAS And Site Images)	otos from Romd as
7	PNH-01-CUL-62.953	62+953	62.953	27.48488334	89.90717131	Box culvert	7.5	1	1	Structures Damaged	toe wall scoured, Plum concrete		
44	PNH-01-CUL-68.875	68+875	68.875	27.50495642	89.95582695	Box culvert	10.3	1.2	1	Parapets Damaged or Missing		parapet 1 no	
50	PNH-01-CUL-70.67	70+670	70.67	27.50459619	89.97165373	Box culvert	10	1	1	Parapets Damaged or Missing		parapet 1 missing at hill side	
55	PNH-01-CUL-71.74	71+740	71.74	27.50578596	89.98123267	Box culvert	10.5	1.5	1.5	Parapets Damaged or Missing		parapet damaged at hill side	
61	PNH-01-CUL-72.936	72+936	72.936	27.50754155	89.9920519	Box culvert	9.5	1	1.5	Parapets Damaged or Missing			
64	PNH-01-CUL-73.3	73+300	73.3	27.50591281	89.99500143	Box culvert	10	1	1.5	Parapets Damaged or Missing			
69	PNH-01-CUL-74.47	74+470	74.47	27.50336875	90.00472317	Box culvert	10	1	1	Parapets Damaged or Missing			
71	PNH-01-CUL-75.3	75+300	75.3	27.50361589	90.00988395	Bridge	10.8	7	0	Structures Damaged		missing railings too	
72	PNH-01-CUL-75.71	75+710	75.71	27.50300047	90.01285751	H/pipe	7.5	0.6	0.6	Parapets Damaged or Missing			
80	PNH-01-CUL-78.251	78+251	78.251	27.49888272	90.03189103	Box culvert	7.5	1	1	Parapets Damaged or Missing		1 missing at hill side	
82	PNH-01-CUL-78.64	78+640	78.64	27.5010611	90.03436574	Box culvert	10	2	1	Parapets Damaged or Missing		1 no missing at v side	
86	PNH-01-CUL-79.192	79+192	79.192	27.50165422	90.03835504	H/pipe	12.5	0.9	0.9	Parapets Damaged or Missing		damaged at v side	
87	PNH-01-CUL-79.415	79+415	79.415	27.50100466	90.04041665	H/pipe	12.5	1.2	1.2	Parapets Damaged or Missing		1 damaged at v side	
93	PNH-01-CUL-80.716	80+716	80.716	27.49752628	90.04770761	HP Culvert	10.5	1	1	Catch Basin, inlet damaged			
117	PNH-01-CUL-90.983	90+983	90.983	27.52060751	90.10313614	Box culvert	10	1.5	1	Structures Damaged			
142	PNH-01-CUL-98.951	98+951	98.951	27.54436922	90.14556093	RCC culvert	15	1	1.5	Structures Damaged			
180	PNH-01-CUL-110.074	110+074	110.074	27.52989328	90.17273535	Box culvert	10	1	1	Parapets Damaged or Missing			
181	PNH-01-CUL-110.573	110+573	110.573	27.52902186	90.17297261	Box culvert	10	1	1	Parapets Damaged or Missing			
205	PNH-01-CUL-118.4	118+400	118.4	27.54318386	90.21767883	Box culvert	10	2.1	3	Parapets Damaged or Missing		1 parapet needed	
206	PNH-01-CUL-118.653	118+653	118.653	27.54133119	90.21900906	H/pipe	9			Parapets Damaged or Missing		1 parapet need valley side	
209	PNH-01-CUL-119.9	119+900	119.9	27.53265455	90.22543887	Box culvert	10	2	1.5	Parapets Damaged or Missing		2 parapet	
210	PNH-01-CUL-120.07	120+070	120.07	27.53166046	90.22659859	Box culvert	11.5	1.7	3.5	Parapets Damaged or Missing		1 parapet needed	
211	PNH-01-CUL-120.34	120+340	120.34	27.5305398	90.22890892	Box culvert	10	2	1.5	Parapets Damaged or Missing		2 parapets, RRM wall with 20*4	
212	PNH-01-CUL-120.57	120+570	120.57	27.52938717	90.23072918	Box culvert	11	1	2	Parapets Damaged or Missing			
213	PNH-01-CUL-120.68	120+680	120.68	27.5290069	90.2315878	Box culvert	11	1.75	2.5	Parapets Damaged or Missing			
214	PNH-01-CUL-120.878	120+878	120.878	27.52831095	90.23329448	Box culvert	10	4.5	4.5	Parapets Damaged or Missing		parapet damaged	
216	PNH-01-CUL-121.864	121+864	121.864	27.52780215	90.24244942	Box culvert	10	1.5	1.5	Parapets Damaged or Missing			
223	PNH-01-CUL-124.16	124+160	124.16	27.51752486	90.25384801	Box culvert	10	2	1.8	Parapets Damaged or Missing		one parapet	
225	PNH-01-CUL-124.8	124+800	124.8	27.51713039	90.25973612	Box culvert	10	1.2	1.5	Parapets Damaged or Missing		one parapet	
229	PNH-01-CUL-127.58	127+580	127.58	27.52326637	90.27539419	Box culvert	11	2.5	1.6	Parapets Damaged or Missing	near the landslides need new inlet to prevent landslide		

SI No	Retaining ID	Chainages	Ch. Start	Lat	Long	Altitude	Length,m	Height, m	Type	Location	Condition	Remarks
35	PNH-01-RET-63.022	63+022	63.022	27.48455985	89.90765825	1305.01	27	3.8	RRM	VALLEY	Minor Damage	soured l=5m, h=2m
49	PNH-01-RET-63.9	63+900	63.9	27.48653664	89.91555236	1311.22	19	2.5	RRM	valley	Major Damage	need to reconstruct
50	PNH-01-RET-63.9	63+900	63.9	27.48662257	89.91562062	1311.37	63	3	Gabions	HILL	Major Damage	need to reconstruct
81	PNH-01-RET-67.183	67+183	67.183	27.49687508	89.94284033	1318.75	31	1.5	RRM	hill	Minor Damage	
112	PNH-01-RET-70.673	70+673	70.673	27.50456782	89.97174609	1377.03	13	2	Gabion	hill	Minor Damage	gabion mesh damaged
126	PNH-01-RET-73.83	73+830	73.83	27.50392698	89.99871566	1458.49	5.5	2.5	RRM	hill	Minor Damage	
221	PNH-01-RET-85.6	85+600	85.6	27.5028228	90.08082603	1938.24	26	2	RRM required	Hill	Minor Damage	
228	PNH-01-RET-87.7	87+700	87.7	27.51121093	90.08991919		30	15	Gabion	Valley	Major Damage	
232	PNH-01-RET-87.872	87+872	87.872	27.51092724	90.09155725		14	7	RRM	valley	Major Damage	
420	PNH-01-RET-111.38	111+380	111.38	27.53002437	90.17890397		13	3.5	RRM		Minor Damage	2 parapets needed
421	PNH-01-RET-111.43	111+430	111.43	27.52976568	90.17931261		13.4	4	RRM	Valley	Minor Damage	7 parapets needed
422	PNH-01-RET-111.43	111+430	111.43	27.52976568	90.17931261		13.4	4	RRM	Valley	Minor Damage	7 parapets needed
423	PNH-01-RET-112	112+000	112	27.52907882	90.18375215		20.2	5	RRM		Minor Damage	1 needed , 9 existing parapet
424	PNH-01-RET-112.027	112+027	112.027	27.5292868	90.18380842		17	4.5	RRM		Minor Damage	1 needed 8 existing
426	PNH-01-RET-112.605	112+605	112.605	27.53007073	90.1877841		9.5	2.5	RRM		Minor Damage	2 needed, 5 existing

428	PNH-01-RET-112.1	112+100	112.1	27.52995007	90.18371461		50	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
429	PNH-01-RET-112.3	112+300	112.3	27.53044994	90.18537275		60	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
430	PNH-01-RET-112.5	112+500	112.5	27.53010643	90.18675924		380	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
431	PNH-01-RET-112.9	112+900	112.9	27.52900826	90.18989576		50	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
432	PNH-01-RET-113.1	113+100	113.1	27.5296474	90.19118572		650	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
433	PNH-01-RET-113.839	113+839	113.839	27.53005407	90.19738059		190	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
434	PNH-01-RET-114	114+000	114	27.53051958	90.19885412		70	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
435	PNH-01-RET-114.179	114+179	114.179	27.53178219	90.19959433		70	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
482	PNH-01-RET-126.777	126+777	126.777	27.51967684	90.27506206		6	3.6	RRM	valley	Minor Damage	needs three parapet
489	PNH-01-RET-128.18	128+180	128.18	27.52079034	90.27758181		40	2	gabion	hill	Minor Damage	proper drainage required
491	PNH-01-RET-128.42	128+420	128.42	27.51870641	90.27779591		18	2.5	RRM	valley	Minor Damage	4 required parapet,8 existing
492	PNH-01-RET-128.55	128+550	128.55	27.51775313	90.2784563		38	2.5	RRM	valley	Minor Damage	2 parapets required
493	PNH-01-RET-128.8	128+800	128.8	27.51590795	90.27890976		46	3	gabion	valley	Minor Damage	6 m replacement
496	PNH-01-RET-128.9	128+900	128.9	27.51514505	90.27942622		9	3	gabion	hill	Minor Damage	bulging ,wall is tilted a lil bit
502	PNH-01-RET-130.645	130+645	130.645	27.51153271	90.29449182		11.35	4	RRM	vally	Minor Damage	1 parapets needed

Name of Project:	ACCESS Pilot Performance-Based Maintenance Contract	
Table No.:	1. Pavement Condition	

Ch. Start	Ch. End	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	1.11	1.12	Remarks	Construction year :1975, Upgraded 2018	Photos
		Pavement width	Potholes	Alligator cracking - major	Alligator cracking - minor	Ravelling	Exposed base	Rutting >20mm	Deformation requiring repair	Edge break >20cm width	Shoulder drop off >10cm	Road roughness	Year of last overlay	Remarks and other defects		
Km	Km	m	no.	m2	m2	m2	m2	m	m2	m	m	IRI (m/km)	Year			
105	106	7.5	0	0	0	0	0	0	0	0	0	7.1	June 2025	Overlay of 40 mm from 96.06 km till 106.06 km	2017 NEWH	
106	107	7.5	0	0	1500	0	0	0	180	7	0	8.1	No Overlay		2017 NEWH	
107	108	7.5	0	140	0	0	0	0	54	0	0	7.5	No Overlay		2017 NEWH	
108	109	7.5	0	140	1500	0	0	0	234	7	0	7.7	No Overlay		2017 NEWH	
109	110	7.5	0	200	100	0	0	0	0	0	0	8.0	No Overlay		2017 NEWH	
110	111	7.5	0	100	900	0	0	0	0	0	0	7.7	No Overlay		2017 NEWH	
111	112	7.5	1	60	185	0	0	0	90	0	0	7.3	No Overlay		2017 NEWH	
112	113	7.5	0	260	118	0	0	0	37.5	0	0	7.2	No Overlay		2017 NEWH	
113	114	7.5	1	0	100	0	0	0	0	0	0	7.5	No Overlay		2017 NEWH	
114	115	7.5	0	0	90	0	0	0	0	0	0	7.3	No Overlay		2017 NEWH	
115	116	7.5	0	100	100	0	0	0	0	0	0	7.0	No Overlay		2017 NEWH	
116	117	7.5	1	0	90	0	0	0	65	0	0	7.1	No Overlay		2017 NEWH	
117	118	7.5	2	60	81	0	0	0	40	0	0	8.0	No Overlay		2017 NEWH	
118	119	7.5	2	20	94	0	0	0	81	0	0	8.6	No Overlay		2017 NEWH	
119	120	7.5	1	200	134	0	0	0	0	0	0	7.8	No Overlay		2017 NEWH	
120	121	7.5	4	240	100	0	0	0	0	0	0	9.0	No Overlay		2017 NEWH	
121	122	7.5	0	0	114	0	0	0	238	0	0	9.9	No Overlay		2017 NEWH	
122	123	7.5	0	250	0	0	0	0	0	0	0	9.0	No Overlay		2017 NEWH	
123	124	7.5	0	750	0	0	0	0	12	0	0	8.5	No Overlay		2017 NEWH	
124	125	7.5	0	1143	85	0	0	0	0	0	0	7.6	No Overlay		2017 NEWH	
125	126	7.5	0	885	90	0	0	0	0	0	0	7.2	No Overlay		2017 NEWH	
126	127	7.5	0	100	58	0	0	0	48	0	0	6.9	No Overlay		2017 NEWH	
127	128	7.5	0	490	70	0	0	0	120	0	0	7.5	No Overlay		2017 NEWH	
128	129	7.5	0	975	25	0	0	0	120	0	0	7.5	No Overlay		2017 NEWH	
129	130	7.5	0	245	107	0	0	0	0	0	0	6.7	No Overlay		2017 NEWH	
130	131	7.5	0	195	15	0	0	0	115	0	0	6.6	No Overlay		2017 NEWH	
131	132	7.5	0	45	0	0	0	0	60	0	0	6.5	No Overlay		2017 NEWH	
132	133	7.5	0	165	0	0	0	0	0	0	0	7.7	No Overlay		2017 NEWH	
133	134	7.5	0	400	30	0	0	0	120	0	0	6.1	No Overlay		2017 NEWH	
134	135	7.5	0	550	30	0	0	0	183	0	0	5.7	No Overlay		2017 NEWH	
135	136	7.5	0	21	30	0	0	0	945	0	11	7.2	No Overlay		2017 NEWH	
Total		7.5	12	7734	5746	0	0	0	2742.5	14	11	3.1	Overall Average			

2. Side Drains

Drain ID Right	Ch. Start (km)	Ch. End	Type	Condition	Affected Length, (m)	Remarks	Drain ID Left	Ch. Start	Ch. End	Type	Condition	Affected Length, m	Remarks
PNH-01-Drain-R- 105.5	105.5	105.635	V-shaped soft	Damaged	135								
PNH-01-Drain-R- 107.64	107.64	108.14	V-shaped soft	Damaged	500								
PNH-01-Drain-R- 108.214	108.214	108.314	V-shaped soft	Damaged	110								
PNH-01-Drain-R- 110.093	110.093	113.4	v-shaped hard	Damaged	3307								
PNH-01-Drain-R- 113.15	113.15	114.4	v-shaped hard	Good	1250								
PNH-01-Drain-R- 114.4	114.4	121	v-shaped hard	Damaged	6600								
PNH-01-Drain-R- 121	121	121.3	v-shaped hard	Good	300								
PNH-01-Drain-R- 121.3	121.3	121.99	v-shaped hard	Damaged	690								
PNH-01-Drain-R- 122	122	130.8	v-shaped hard	Damaged	8800								
PNH-01-Drain-R- 131	131	136.06	v-shaped hard	Damaged	5060								

3. Culverts Inventory											
Sl No	Culvert ID	Chainages	Ch.	Latitude	Longitude	Type	Length, m	Width, m	Height, m	Condition	Remarks
1	PNH-01-CUL-105	105+000	105	27.53895912	90.1761359	H/pipe	12	0.9	0.9	Blocked	
2	PNH-01-CUL-105.059	105+059	105.059	27.53852774	90.17638401	Box culvert	12	3	3	Good	
3	PNH-01-CUL-105.277	105+277	105.277	27.53948953	90.17737903	Box culvert	12	1	1	Good	
4	PNH-01-CUL-105.327	105+327	105.327	27.53988416	90.17752375	Box culvert	12	1	1	Good	
5	PNH-01-CUL-105.546	105+546	105.546	27.53918889	90.17947318	Box culvert	12	1	1.5	Good	
6	PNH-01-CUL-105.856	105+856	105.856	27.5393767	90.18151117	Box culvert	12	3.5	2	Good	
7	PNH-01-CUL-105.968	105+968	105.968	27.5396327	90.18233989	Box culvert	11	3.5	2.25	Good	
8	PNH-01-CUL-106.209	106+209	106.209	27.54065339	90.18183547	Box culvert	11	1	2	Good	
9	PNH-01-CUL-107	107+000	107	27.53822735	90.18535549	RCC culvert	10	7.5	2	Good	
10	PNH-01-CUL-107.214	107+214	107.214	27.53738643	90.18461787	RCC culvert	10	7.5	2	Good	
11	PNH-01-CUL-107.685	107+685	107.685	27.53600159	90.18359357	H/pipe	10	7.5	2	Good	
12	PNH-01-CUL-108.214	108+214	108.214	27.53407065	90.18132562	Box culvert	10	7.5	2	Good	
13	PNH-01-CUL-108.311	108+311	108.311	27.53321765	90.18139196	Box culvert	10	7.5	2	Good	
14	PNH-01-CUL-108.311	108+311	108.311	27.53321765	90.18139196	Box culvert	10	3	3	Good	
15	PNH-01-CUL-108.85	108+850	108.85	27.53358358	90.17828576	Box culvert	10	1	1	Good	
16	PNH-01-CUL-109.04	109+040	109.04	27.53329521	90.17692255	Box culvert	10	1	1	Good	
17	PNH-01-CUL-109.3	109+300	109.3	27.53219989	90.17605935	Box culvert	10	1.5	1	Good	
18	PNH-01-CUL-109.415	109+415	109.415	27.53129353	90.17630382	Box culvert	10	1.5	1	Good	
19	PNH-01-CUL-109.77	109+770	109.77	27.53093567	90.17399502	Box culvert	10	1.5	1	Good	
20	PNH-01-CUL-110.074	110+074	110.074	27.52989328	90.17273535	Box culvert	10	1	1	Parapets Damaged or	
21	PNH-01-CUL-110.573	110+573	110.573	27.52902186	90.17297261	Box culvert	10	1	1	Parapets Damaged or	
22	PNH-01-CUL-110.687	110+687	110.687	27.52950242	90.17349919	Box culvert	10	1	1	Good	
23	PNH-01-CUL-111.031	111+031	111.031	27.52919644	90.17641324	Box culvert	10	1	1	Good	
24	PNH-01-CUL-111.495	111+495	111.495	27.52931824	90.17972929	H/pipe	0.6	1.2	1.2	Good	One parapet needed
25	PNH-01-CUL-111.733	111+733	111.733	27.52988827	90.1813489	H/pipe	0.6	1.2	1.2	Good	4 parapets
26	PNH-01-CUL-111.927	111+927	111.927	27.52923824	90.18312098	H/pipe	0.6	1.2	1.2	Good	
27	PNH-01-CUL-112.2	112+200	112.2	27.53049006	90.18437851	H/pipe	0.6	1.2	1.2	Good	
28	PNH-01-CUL-112.36	112+360	112.36	27.53001738	90.18571567	H/pipe	0.6	1.2	1.2	Good	
29	PNH-01-CUL-112.636	112+636	112.636	27.5298886	90.18800621	H/pipe	0.6	1.2	1.2	Good	1 parapet needed
30	PNH-01-CUL-112.805	112+805	112.805	27.52880200	90.18962400	H/pipe	10.00	0.90	0.90	Good	
31	PNH-01-CUL-112.900	112+900	112.9	27.52939800	90.19032800	Box culvert	10	1	1	Good	Required 1 parapet
32	PNH-01-CUL-113.154	113+154	113.154	27.52933597	90.19153661	H/pipe	0.6	1.2	1.2	Good	Required 1 parapet
33	PNH-01-CUL-113.392	113+392	113.392	27.52934800	90.19349800	H/pipe	10	0.9	0.9	Good	Accident prone area
34	PNH-01-CUL-113.579	113+579	113.579	27.5298618	90.19514984	H/pipe	0.6	1.2	1.5	Good	
35	PNH-01-CUL-113.831	113+831	113.831	27.53003459	90.19733676	Box culvert	10	1.2	1.2	Good	
36	PNH-01-CUL-113.832	114+000	114	27.53043700	90.19889400	H/pipe	10.00	0.90	0.90	Good	
37	PNH-01-CUL-114.174	114+174	114.174	27.53173768	90.19958979	H/pipe	0.6	1.2	1.2	Good	
38	PNH-01-CUL-114.4	114+400	114.4	27.53339409	90.20085287	H/pipe	0.6	1.2	1.5	Good	required 1 parapet
39	PNH-01-CUL-114.656	114+656	114.656	27.53531629	90.20161801	H/pipe	0.6	1.2	1.5	Good	
40	PNH-01-CUL-115.743	115+743	115.743	27.53724244	90.20988377	H/pipe	0.6	1.2	2	Good	
41	PNH-01-CUL-117.250	117+250	117.25	27.53878800	90.21770700	RCC culvert	10.00	1.00		Good	
42	PNH-01-CUL-117.656	117+656	117.656	27.54553700	90.21579900	RCC culvert	10.00	1.00		Good	
43	PNH-01-CUL-117.900	117+900	117.9	27.54740200	90.21616900	RCC culvert	10.00	2.50		Good	
44	PNH-01-CUL-118.024	118+24	118.024	27.54741500	90.21633800	Box culvert	10.00	1.00		Good	
45	PNH-01-CUL-118.4	118+400	118.4	27.54318386	90.21767883	Box culvert	10	2.1	3	Parapets Damaged or	1 parapet needed
46	PNH-01-CUL-118.653	118+653	118.653	27.54133119	90.21900906	H/pipe	9			Parapets Damaged or	1 parapet need valley side
47	PNH-01-CUL-118.995	118+995	118.995	27.5386359	90.22063648	Box culvert	11	1.75	2.5		2 parapets need
48	PNH-01-CUL-119.1	119+100	119.1	27.5377259	90.22081568	Box culvert	10	5	5		
49	PNH-01-CUL-119.9	119+900	119.9	27.53265455	90.22543887	Box culvert	10	2	1.5	Parapets Damaged or	2 parapet
50	PNH-01-CUL-120.07	120+070	120.07	27.53166046	90.22659859	Box culvert	11.5	1.7	3.5	Parapets Damaged or	1 parapet needed
51	PNH-01-CUL-120.34	120+340	120.34	27.5305398	90.22890892	Box culvert	10	2	1.5	Parapets Damaged or	2 parapets, RRM wall with 20*4
52	PNH-01-CUL-120.57	120+570	120.57	27.52938717	90.23072918	Box culvert	11	1	2	Parapets Damaged or	
53	PNH-01-CUL-120.68	120+680	120.68	27.5290069	90.2315878	Box culvert	11	1.75	2.5	Parapets Damaged or	

3. Culverts Inventory											
Sl No	Culvert ID	Chainages	Ch.	Latitude	Longitude	Type	Length, m	Width, m	Height, m	Condition	Remarks
54	PNH-01-CUL-120.878	120+878	120.878	27.52831095	90.23329448	Box culvert	10	4.5	4.5	Parapets Damaged or	parapet damaged
55	PNH-01-CUL-121.202	121+202	121.202	27.52767627	90.23599028	Box culvert	10	1.5	1.5	Good	
56	PNH-01-CUL-121.864	121+864	121.864	27.52780215	90.24244942	Box culvert	10	1.5	1.5	Parapets Damaged or	
57	PNH-01-CUL-121.99	121+990	121.99	27.52843897	90.24351734	Box culvert	10	1.2	1.2	Good	
58	PNH-01-CUL-122.074	122+074	122.074	27.52888531	90.24413522	Box culvert	10	1.2	1.2	Good	
59	PNH-01-CUL-122.41	122+410	122.41	27.52618104	90.2446739	Box culvert	10	1.2	1.2	Good	
60	PNH-01-CUL-122.784	122+784	122.784	27.5230468	90.24546803	Box culvert	10	1.2	1.2	Good	
61	PNH-01-CUL-122.269	123+269	123.269	27.520040000	90.246717000	RCC culvert	10.00	1.00	1.50	Good	
62	PNH-01-CUL-123.4	123+400	123.4	27.51833999	90.24673279	Box culvert	10	1.2	1.2	Good	
63	PNH-01-CUL-124.16	124+160	124.16	27.51752486	90.25384801	Box culvert	10	2	1.8	Parapets Damaged or	one parapet
64	PNH-01-CUL-124.39	124+390	124.39	27.51757845	90.25607811	Box culvert	10	2.3	2	Good	
65	PNH-01-CUL-124.8	124+800	124.8	27.51713039	90.25973612	Box culvert	10	1.2	1.5	Parapets Damaged or	one parapet
66	PNH-01-CUL-125.3	125+300	125.3	27.5172813	90.26417775	Box culvert	11	1	1.2	Good	gabion wall wing wall (18 *3)
67	PNH-01-CUL-126.72	126+720	126.72	27.51925242	90.27536511	Box culvert	11	2	1.5	Good	
68	PNH-01-CUL-126.91	126+910	126.91	27.52026569	90.27595572	Box culvert	10	2	2.5	Good	
69	PNH-01-CUL-127.58	127+580	127.58	27.52326637	90.27539419	Box culvert	11	2.5	1.6	Parapets Damaged or	near the landslides need new inlet to
70	PNH-01-CUL-127.95	127+950	127.95	27.52279594	90.27756465	Box culvert	7	11	4	Good	bridge ?
71	PNH-01-CUL-128.24	128+240	128.24	27.52025473	90.27756904	Box culvert	11	2	1.2	Good	
72	PNH-01-CUL-128.83	128+830	128.83	27.51569188	90.2790774	Box culvert	10	2	2.75	Good	
73	PNH-01-CUL-130.03	130+030	130.03	27.51082793	90.28885494	Box culvert	9	2	1.5	Good	
74	PNH-01-CUL-130.23	130+230	130.23	27.51116324	90.29071374	Box culvert	9	1.5	1.75	Good	inlet clearing
75	PNH-01-CUL-130.63	130+630	130.63	27.51150008	90.29434466	H/pipe	0.9			Good	
76	PNH-01-CUL-131.251	131+251	131.251	27.5159388	90.29547485	H/pipe	10.6	1	1	Good	
77	PNH-01-CUL-132.019	132+019	132.019	27.52087161	90.29810502	Box culvert	10	1.5	2	Good	
78	PNH-01-CUL-132.325	132+325	132.325	27.5226432	90.29892378	Box culvert	10	1	1.8	Good	
79	PNH-01-CUL-132.692	132+692	132.692	27.51968189	90.29815796	Box culvert	10	1	1	Good	
80	PNH-01-CUL-132.887	132+887	132.887	27.51799393	90.29856807	HP Culvert	10	0.9	0.9	Good	
81	PNH-01-CUL-132.924	132+924	132.924	27.51767814	90.29855985	Box culvert	10	1.5	1.5	Good	
82	PNH-01-CUL-133.411	133+411	133.411	27.51387821	90.29739587	Box culvert	10	2	2	Good	
83	PNH-01-CUL-133.653	133+653	133.653	27.51224338	90.2987271	Box culvert	10	2	2	Good	
84	PNH-01-CUL-133.9	133+900	133.9	27.51028748	90.29964383	Box culvert	10	2	2	Good	
85	PNH-01-CUL-134.262	134+262	134.262	27.50796288	90.30208551	Box culvert	10	2	2	Good	
86	PNH-01-CUL-134.554	134+554	134.554	27.50610114	90.30402689	Box culvert	10	2	2	Good	
87	PNH-01-CUL-134.554	134+554	134.554	27.50610114	90.30402689	H/pipe	10	2	2	Good	
88	PNH-01-CUL-134.818	134+818	134.818	27.50437543	90.30576007	HP Culvert	10	1	1.5	Good	
89	PNH-01-CUL-135.05	135+050	135.05	27.50334696	90.30774409	Box culvert	10	2	1.5	Good	
90	PNH-01-CUL-135.464	135+464	135.464	27.50126648	90.31059555	Box culvert	10	1.5	1.5	Good	required 1 parapet

Retaining Walls inventory												
SI No	Retaining ID	Chaingages	Ch. Start	Lat	Long	Altitude	Length,m	Height, m	Type	Location	Condition	Remarks
349	PNH-01-RET-100.5	100+500	100.5	27.54350969	90.15236031		11	4	Gabion	Valley	Good	
350	PNH-01-RET-100.5	100+500	100.5	27.54350969	90.15236031		24	5	Gabion	Valley	Good	
351	PNH-01-RET-100.708	100+708	100.708	27.54389036	90.15385829		15	5	Gabion	Valley	Good	
352	PNH-01-RET-100.721	100+721	100.721	27.54379251	90.1539655		18	6	Gabion	Valley	Good	
353	PNH-01-RET-100.721	100+721	100.721	27.54379251	90.1539655		8	7	Gabion	Valley	Good	
354	PNH-01-RET-100.789	100+789	100.789	27.54325379	90.15382398		26	5	Gabion	Valley	Good	
355	PNH-01-RET-100.83	100+830	100.83	27.54287331	90.1537243		32	9	Gabion	Valley	Good	
356	PNH-01-RET-101.6	101+600	101.6	27.54034392	90.15831038		9	1	Gabion	Valley	Good	
357	PNH-01-RET-101.662	101+662	101.662	27.53989257	90.15806716		32	7	Gabion	Valley	Good	
358	PNH-01-RET-101.934	101+934	101.934	27.54035345	90.15979585		19	4	Gabion	Valley	Good	
359	PNH-01-RET-102.19	102+190	102.19	27.53981032	90.16121151		7	3	Gabion	Valley	Good	
360	PNH-01-RET-102.19	102+190	102.19	27.53981032	90.16121151		8	4	Gabion	Valley	Good	
361	PNH-01-RET-102.19	102+190	102.19	27.53981032	90.16121151		15	6	Gabion	Valley	Good	
362	PNH-01-RET-102.19	102+190	102.19	27.53981032	90.16121151		12	7	Gabion	Valley	Good	
363	PNH-01-RET-102.5	102+500	102.5	27.54013235	90.1626919		18	3	RRM	Valley	Good	
364	PNH-01-RET-102.524	102+524	102.524	27.53997061	90.16277917		12	3	RRM	Valley	Good	
365	PNH-01-RET-102.717	102+717	102.717	27.53887565	90.16421667		29	3	Gabion	Valley	Good	
366	PNH-01-RET-102.764	102+764	102.764	27.53906717	90.16440734		13.8	3.5	RRM	Valley	Good	
367	PNH-01-RET-102.849	102+849	102.849	27.53980149	90.164359		66	6	Gabion	Valley	Good	
368	PNH-01-RET-102.992	102+992	102.992	27.53952136	90.1657001		42	3	Gabion	Hill	Good	
369	PNH-01-RET-102.992	102+992	102.992	27.53952136	90.1657001		36	5	Gabion	Valley	Good	
370	PNH-01-RET-103.08	103+080	103.08	27.53960254	90.16659053		3.8	2.5	RRM	Valley	Good	P3 required
371	PNH-01-RET-103.1	103+100	103.1	27.53963211	90.1667877		15	3.5	RRM	Valley	Good	P1 required
372	PNH-01-RET-103.342	103+342	103.342	27.54082778	90.16558962		64	3	RRM	Valley	Good	
373	PNH-01-RET-103.43	103+430	103.43	27.54123568	90.1648212		7	2	RRM	Valley	Good	
374	PNH-01-RET-103.8	103+800	103.8	27.54217645	90.166846		11	3	Gabion	Hill	Good	
375	PNH-01-RET-103.835	103+835	103.835	27.54202134	90.16715217		29	3	Gabion	Hill	Good	
376	PNH-01-RET-104.067	104+067	104.067	27.54148232	90.16931779		13	6	Gabion	Valley	Good	
377	PNH-01-RET-104.067	104+067	104.067	27.54148232	90.16931779		31	7	Gabion	Valley	Good	
378	PNH-01-RET-104.2	104+200	104.2	27.54120814	90.17055536		33	7	Gabion	Valley	Good	
379	PNH-01-RET-104.3	104+300	104.3	27.54127762	90.17147009		25	6	Gabion	Valley	Good	
380	PNH-01-RET-104.3	104+300	104.3	27.54127762	90.17147009		38	7	Gabion	Valley	Good	
381	PNH-01-RET-104.434	104+434	104.434	27.54136974	90.17239679		41	8	Gabion	Valley	Good	
382	PNH-01-RET-104.667	104+667	104.667	27.54037457	90.17425666		10	4	Gabion	Valley	Good	

383	PNH-01-RET-104.667	104+667	104.667	27.54037457	90.17425666		14	7	Gabion	Valley	Good	
384	PNH-01-RET-104.667	104+667	104.667	27.54037457	90.17425666		16	8	Gabion	Valley	Good	
385	PNH-01-RET-104.711	104+711	104.711	27.53997659	90.17422564		52	3	Gabion	Hill	Good	
386	PNH-01-RET-104.89	104+890	104.89	27.53985226	90.17571313		9	2.5	RRM	Valley	Good	
387	PNH-01-RET-104.915	104+915	104.915	27.53968119	90.1758752		35	7	Gabion	Valley	Good	
388	PNH-01-RET-104.93	104+930	104.93	27.53956383	90.17595158		66	6	Gabion	Valley	Good	
389	PNH-01-RET-105.059	105+059	105.059	27.53852774	90.17638401		11	3	RRM	Valley	Good	
390	PNH-01-RET-105.151	105+151	105.151	27.53857036	90.17692168		41	6	Gabion	Valley	Good	
391	PNH-01-RET-105.321	105+321	105.321	27.53986532	90.17747627		11	2	RRM	Valley	Good	P3 required
392	PNH-01-RET-105.352	105+352	105.352	27.53988218	90.17777616		23	3	RRM	Valley	Good	
393	PNH-01-RET-105.428	105+428	105.428	27.53976207	90.1785108		17	2.5	RRM	Valley	Good	
394	PNH-01-RET-105.546	105+546	105.546	27.53918889	90.17947318		20.5	2	RRM	Valley	Good	
395	PNH-01-RET-105.7	105+700	105.7	27.53949092	90.18005618		11	3	RRM	Valley	Good	
396	PNH-01-RET-105.856	105+856	105.856	27.5393767	90.18151117		19	2.8	RRM	Valley	Good	
397	PNH-01-RET-105.856	105+856	105.856	27.5393767	90.18151117		19	2.8	RRM	Valley	Good	
398	PNH-01-RET-105.968	105+968	105.968	27.5396327	90.18233989		10.3	2.1	RRM	Valley	Good	
399	PNH-01-RET-106.349	106+349	106.349	27.5414344	90.18088653		11	0.9	RRM	Valley	Good	
400	PNH-01-RET-106.58	106+580	106.58	27.54067479	90.18247379		16	2.5	RRM	Valley	Good	
401	PNH-01-RET-106.975	106+975	106.975	27.53840787	90.18520955		19.5	3	RRM	Valley	Good	
402	PNH-01-RET-107.059	107+059	107.059	27.53778427	90.18557717		19	2	RRM	Valley	Good	
403	PNH-01-RET-107.214	107+214	107.214	27.53738643	90.18461787		27.5	3	RRM	Valley	Good	
404	PNH-01-RET-108.096	108+096	108.096	27.53499531	90.18103765		18	3	RRM	Valley	Good	
405	PNH-01-RET-108.3	108+300	108.3	27.53329764	90.18143528		28.5	3	RRM	Valley	Good	
406	PNH-01-RET-108.39	108+390	108.39	27.53261489	90.18118183		35.4	4	RRM	Valley	Good	P17
407	PNH-01-RET-108.525	108+525	108.525	27.53301829	90.18014404		5	4	RRM	Valley	Good	P23
408	PNH-01-RET-108.539	108+539	108.539	27.53306842	90.18006212		33	3.5	RRM	Valley	Good	Pr 15
409	PNH-01-RET-108.563	108+563	108.563	27.53318784	90.17985139		16.8	5	RRM	Valley	Good	Rp 6
410	PNH-01-RET-108.639	108+639	108.639	27.53369541	90.17941188		20	4.5	RRM	Valley	Good	Pr 9
411	PNH-01-RET-109.412	109+412	109.412	27.53129353	90.17630382		47.3	4	RRM	Valley	Good	P27
412	PNH-01-RET-109.779	109+779	109.779	27.5308916	90.17399601		37.5	2	RRM	Valley	Good	Pr 15
413	PNH-01-RET-109.864	109+864	109.864	27.5301877	90.17384077		12	3	RRM	Valley	Good	Pr 5
414	PNH-01-RET-110.197	110+197	110.197	27.52917687	90.17231035		32	7.5	RRM	Valley	Good	
415	PNH-01-RET-110.197	110+197	110.197	27.52917687	90.17231035		32	7.5	Gabion	Hill	Good	
416	PNH-01-RET-110.2	110+200	110.2	27.52921319	90.17228003		44	2	Gabion	Hill	Good	
417	PNH-01-RET-110.63	110+630	110.63	27.52941194	90.17313418		16.7	4	RRM	Valley	Good	

418	PNH-01-RET-110.9	110+900	110.9	27.52973281	90.17528372		20	4	RRM	Valley	Good	
419	PNH-01-RET-110.92	110+920	110.92	27.52962206	90.17544288		13.5	3.5	RRM	Valley	Good	
420	PNH-01-RET-111.38	111+380	111.38	27.53002437	90.17890397		13	3.5	RRM		Minor Damage	2 parapets needed
421	PNH-01-RET-111.43	111+430	111.43	27.52976568	90.17931261		13.4	4	RRM	Valley	Minor Damage	7 parapets needed
422	PNH-01-RET-111.43	111+430	111.43	27.52976568	90.17931261		13.4	4	RRM	Valley	Minor Damage	7 parapets needed
423	PNH-01-RET-112	112+000	112	27.52907882	90.18375215		20.2	5	RRM		Minor Damage	1 needed , 9 existing parapet
424	PNH-01-RET-112.027	112+027	112.027	27.5292868	90.18380842		17	4.5	RRM		Minor Damage	1 needed 8 existing
425	PNH-01-RET-112.264	112+264	112.264	27.5304468	90.18497528		40.5		RRM		Good	21 existing , 3 replacement
426	PNH-01-RET-112.605	112+605	112.605	27.53007073	90.1877841		9.5	2.5	RRM		Minor Damage	2 needed, 5 existing
427	PNH-01-RET-112.448	112+448	112.448	27.52978456	90.1863473		26	10	gabion wall		Good	
428	PNH-01-RET-112.1	112+100	112.1	27.52995007	90.18371461		50	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
429	PNH-01-RET-112.3	112+300	112.3	27.53044994	90.18537275		60	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
430	PNH-01-RET-112.5	112+500	112.5	27.53010643	90.18675924		380	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
431	PNH-01-RET-112.9	112+900	112.9	27.52900826	90.18989576		50	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
432	PNH-01-RET-113.1	113+100	113.1	27.5296474	90.19118572		650	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
433	PNH-01-RET-113.839	113+839	113.839	27.53005407	90.19738059		190	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
434	PNH-01-RET-114	114+000	114	27.53051958	90.19885412		70	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
435	PNH-01-RET-114.179	114+179	114.179	27.53178219	90.19959433		70	1.5	Breast Wall	Hill Side	Minor Damage	Required for Snow Retaintion
436	PNH-01-RET-114.656	114+656	114.656	27.53531629	90.20161801		70	1.5	Breast Wall	Hill Side	Good	Required for Snow Retaintion
437	PNH-01-RET-115.353	115+353	115.353	27.53796519	90.20640729		32	2.4	RRM	Hill	Good	Required 3 Parapets
438	PNH-01-RET-115.556	115+556	115.556	27.53825765	90.20841647		31	1.5	RRM	Hill	Good	Required 1 Parapets
439	PNH-01-RET-115.7	115+700	115.7	27.53749748	90.2095998		44	4	Gabion Wall	Valley	Good	
440	PNH-01-RET-118.118	118+118	118.118	27.5455587	90.21714046		50	3.5	RRM	Valley	Good	
441	PNH-01-RET-119.448	119+448	119.448	27.53492559	90.22193924		26	10	gabion	hill	Good	
442	PNH-01-RET-119.619	119+619	119.619	27.53384374	90.22310343		120	1.5	RRM	hill	Good	
443	PNH-01-RET-119.75	119+750	119.75	27.53314362	90.22409236		43.5	2.5	RRM	valley	Good	
444	PNH-01-RET-119.8	119+800	119.8	27.53306563	90.22457609		50	2.5	RRM	hill	Good	
445	PNH-01-RET-119.88	119+880	119.88	27.53270344	90.22524535		34	2	RRM	hill	Good	
446	PNH-01-RET-119.942	119+942	119.942	27.53246649	90.22578304		9	5	gabion	hill	Good	
447	PNH-01-RET-119.95	119+950	119.95	27.53242052	90.22586687		13	5	gabion	hill	Good	
448	PNH-01-RET-120	120+000	120	27.53215309	90.22626116		30	5	gabion	hill	Good	
449	PNH-01-RET-120.05	120+050	120.05	27.5317469	90.22642942		34	2	gabion	valley	Good	
450	PNH-01-RET-120.07	120+070	120.07	27.53166046	90.22659859		7.5	3.5	RRM	valley	Good	
451	PNH-01-RET-120.1	120+100	120.1	27.53153979	90.22687046		24	4.5	RRM	valley	Good	p-4,r4
452	PNH-01-RET-120.21	120+210	120.21	27.53101562	90.22779022		32	2.75	RRM	valley	Good	

453	PNH-01-RET-120.37	120+370	120.37	27.53035018	90.22911826		19	6	gabion	valley	Good	
454	PNH-01-RET-120.38	120+380	120.38	27.53029468	90.22919701		17	2	gabion	hill	Good	
455	PNH-01-RET-120.43	120+430	120.43	27.52999186	90.22956894		33	6	gabion	valley	Good	
456	PNH-01-RET-120.44	120+440	120.44	27.52993521	90.22964575		15	2	gabion	hill	Good	
457	PNH-01-RET-120.55	120+550	120.55	27.52954261	90.23062908		37	4	gabion	hill	Good	
458	PNH-01-RET-120.65	120+650	120.65	27.52924785	90.23144902		54	5	gabion	hill	Good	
459	PNH-01-RET-120.85	120+850	120.85	27.52843699	90.23308529		64	8	gabion	valley	Good	
460	PNH-01-RET-120.9	120+900	120.9	27.52818881	90.23350234		23	3	gabion	hill	Good	
461	PNH-01-RET-124.207	124+207	124.207	27.51753946	90.25429983		30	2.7	RRM	hill	Good	
462	PNH-01-RET-124.349	124+349	124.349	27.51761015	90.25563361		29	2.7	RRM	hill	Good	
463	PNH-01-RET-124.363	124+363	124.363	27.51758413	90.25577994		48	3.5	RRM	valley	Good	
464	PNH-01-RET-124.48	124+480	124.48	27.51746923	90.2569003		85	7	RRM	valley	Good	
465	PNH-01-RET-125.8	125+800	125.8	27.51720296	90.26897847		13	2	RRM	hill	Good	
466	PNH-01-RET-125.25	125+250	125.25	27.51755777	90.26379014		14	3.5	RRM	hill	Good	gabion 1 m on top
467	PNH-01-RET-118.995	118+995	118.995	27.5386359	90.22063648		25	3.5	RRM	hill	Good	
468	PNH-01-RET-125.27	125+270	125.27	27.51743233	90.26393077		8	4	gabion	hill	Good	
469	PNH-01-RET-125.29	125+290	125.29	27.51732981	90.26409335		33	2	gabion	hill	Good	
470	PNH-01-RET-125.33	125+330	125.33	27.51715652	90.26444133		20	3	RRM	hill	Good	
471	PNH-01-RET-125.4	125+400	125.4	27.51702831	90.26511621		15	2.3	RRM	valley	Good	
472	PNH-01-RET-125.42	125+420	125.42	27.51708499	90.26530258		64	3	RRM	hil	Good	
473	PNH-01-RET-125.52	125+520	125.52	27.51720477	90.26628622		23	3	RRM	hill	Good	
474	PNH-01-RET-125.63	125+630	125.63	27.51700087	90.26736498		60	2	RRM	hill	Good	
475	PNH-01-RET-125.75	125+750	125.75	27.51707328	90.26849406		16	3.25	RRM	hill	Good	
476	PNH-01-RET-125.79	125+790	125.79	27.51719214	90.26887552		13	3.5	RRM	valley	Good	needs one parapet
477	PNH-01-RET-126.24	126+240	126.24	27.51715401	90.2730849		13.5	2.7	RRM	valley	Good	
478	PNH-01-RET-126.34	126+340	126.34	27.51760102	90.27394606		15	4	RRM	valley	Good	
479	PNH-01-RET-126.42	126+420	126.42	27.5176265	90.2747383		9	2	RRM	valley	Good	
480	PNH-01-RET-126.5	126+500	126.5	27.51764707	90.27552898		31	3.5	RRM	hill	Good	
481	PNH-01-RET-126.68	126+680	126.68	27.51898948	90.27558765		47	3	RRM	hill	Good	
482	PNH-01-RET-126.777	126+777	126.777	27.51967684	90.27506206		6	3.6	RRM	valley	Minor Damage	needs three parapet
483	PNH-01-RET-126.9	126+900	126.9	27.52018216	90.27593518		7	3	gabion	hill	Good	
484	PNH-01-RET-126.89	126+890	126.89	27.52010549	90.27588859		33	3	RRM	valley	Good	
485	PNH-01-RET-126.92	126+920	126.92	27.52035037	90.27594215		18	3	gabion	hill	Good	
486	PNH-01-RET-127.53	127+530	127.53	27.52341878	90.27492077		26	2	gabion	hill	Good	
487	PNH-01-RET-127.79	127+790	127.79	27.52368414	90.27712123		43	6	gabion	valley	Good	

488	PNH-01-RET-128	128+000	128	27.52236988	90.27771185		31	3	RRM	valley	Good	wing wall
489	PNH-01-RET-128.18	128+180	128.18	27.52079034	90.27758181		40	2	gabion	hill	Minor Damage	proper drainage required
490	PNH-01-RET-128.14	128+140	128.14	27.5211393	90.27763443		20	2	gabion	hill	Good	proper drainage required
491	PNH-01-RET-128.42	128+420	128.42	27.51870641	90.27779591		18	2.5	RRM	valley	Minor Damage	4 required parapet,8 existing
492	PNH-01-RET-128.55	128+550	128.55	27.51775313	90.2784563		38	2.5	RRM	valley	Minor Damage	2 parapets required
493	PNH-01-RET-128.8	128+800	128.8	27.51590795	90.27890976		46	3	gabion	valley	Minor Damage	6 m replacement
494	PNH-01-RET-128.8	128+800	128.8	27.51590795	90.27890976		21	2.75	RRM	valley	Good	
495	PNH-01-RET-128.9	128+900	128.9	27.51514505	90.27942622		14	1.5	RRM	valley	Good	
496	PNH-01-RET-128.9	128+900	128.9	27.51514505	90.27942622		9	3	gabion	hill	Minor Damage	bulging ,wall is tilted a lil bit
497	PNH-01-RET-129.314	129+314	129.314	27.51301462	90.28241282		24	3	gabion	hill	Good	
498	PNH-01-RET-129.45	129+450	129.45	27.51222826	90.28348605		4.3	1	RRM	valley	Good	
499	PNH-01-RET-129.664	129+664	129.664	27.51153739	90.28542908		10	1.2	RRM	valley	Good	
500	PNH-01-RET-130	130+000	130	27.51080284	90.28856074		40	3	gabion	hill	Good	
501	PNH-01-RET-130.1	130+100	130.1	27.51115868	90.28943509		11	1	RRM	valley	Good	
502	PNH-01-RET-130.645	130+645	130.645	27.51153271	90.29449182		11.35	4	RRM	vally	Minor Damage	1 parapets needed
503	PNH-01-RET-130.9	130+900	130.9	27.51301235	90.2956724		15	3	RRM	valley	Good	4 parapets needed
504	PNH-01-RET-131.526	131+526	131.526	27.5181305	90.29642862		15.5	4	RRM	valley	Good	
505	PNH-01-RET-131.561	131+561	131.561	27.51815216	90.29677847		70	4	Gabion	Hill	Good	
506	PNH-01-RET-131.644	131+644	131.644	27.51871121	90.29695837		31.7	3	RRM	Hill	Good	
507	PNH-01-RET-131.692	131+692	131.692	27.51890728	90.2965075		22	4	Gabion	Hill	Good	
508	PNH-01-RET-131.879	131+879	131.879	27.51988237	90.29738027		6	0.7	RRM	Hill	Good	
509	PNH-01-RET-131.981	131+981	131.981	27.52068075	90.29783555		53	4	RRM	valley	Good	
510	PNH-01-RET-132.067	132+067	132.067	27.52126861	90.2983188		86.7	8	RRM	valley	Good	
511	PNH-01-RET-132.338	132+338	132.338	27.52255843	90.29895421		60	4.6	RRM	valley	Good	
512	PNH-01-RET-132.515	132+515	132.515	27.52095633	90.29902993		28	3	Gabion	Hill	Good	
513	PNH-01-RET-132.555	132+555	132.555	27.5206014	90.29896832		20	7	Gabion	Valley	Good	
514	PNH-01-RET-132.605	132+605	132.605	27.52020216	90.29874059		15	5	Gabion	Valley	Good	
515	PNH-01-RET-132.794	132+794	132.794	27.51883331	90.29842924		6	0.7	RRM	Hill	Good	
516	PNH-01-RET-132.871	132+871	132.871	27.51812642	90.29853965		22.6	4.5	RRM	Valley	Good	
517	PNH-01-RET-133.143	133+143	133.143	27.51615067	90.29725786		31	7	RRM	valley	Good	
518	PNH-01-RET-133.4	133+400	133.4	27.51396424	90.29736925		21	6	RRM	valley	Good	
519	PNH-01-RET-133.468	133+468	133.468	27.51341419	90.29757385		62	2	Gabion	Hill	Good	
520	PNH-01-RET-133.468	133+468	133.468	27.51341419	90.29757385		58	8	Gabion	Valley	Good	
521	PNH-01-RET-133.537	133+537	133.537	27.5128393	90.29785191		11.2	2	Gabion	Valley	Good	
522	PNH-01-RET-133.644	133+644	133.644	27.51228972	90.29864049		11.4	2	RRM	Hill	Good	

523	PNH-01-RET-133.653	133+653	133.653	27.51224338	90.2987271		15.4	2	RRM	Valley	Good	
524	PNH-01-RET-133.758	133+758	133.758	27.51153896	90.29937076		19.4	3.5	RRM	valley	Good	
525	PNH-01-RET-134.138	134+138	134.138	27.50882094	90.30130627		61	3	Gabion	Hill	Good	
526	PNH-01-RET-134.374	134+374	134.374	27.50742862	90.30301014		65	3	Gabion	Hill	Good	
527	PNH-01-RET-134.554	134+554	134.554	27.50610114	90.30402689		12.5	3	RRM	Valley	Good	
528	PNH-01-RET-134.62	134+620	134.62	27.50556238	90.30438986		8.3	5	RRM	Valley	Good	
529	PNH-01-RET-134.818	134+818	134.818	27.50437543	90.30576007		13.5	4	RRM	Valley	Good	
530	PNH-01-RET-134.882	134+882	134.882	27.50404292	90.30630016		6	2	RRM	Valley	Good	
531	PNH-01-RET-134.9	134+900	134.9	27.50391075	90.30643959		88	3	Gabion	Hill	Good	
532	PNH-01-RET-135.05	135+050	135.05	27.50334696	90.30774409		15	5	Gabion	Valley	Good	

ACCESS Pilot Performance-Based Maintenance Contract

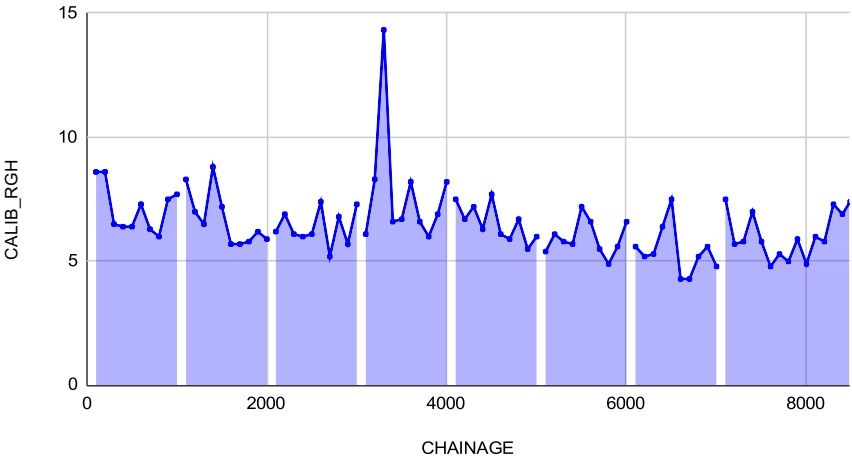
Table No.:	6. Crash Barriers				
Barrier ID Right	Ch. Start	Length,m	Type	Condition	Remarks
PNH-01-RAIL-R- 105.059	105.059	P8	Parapets	Good	
PNH-01-RAIL-R- 106.58	106.58	P5	Parapets	Good	2 required
PNH-01-RAIL-R- 110	110	124	W metal-beam	Minor Damage	Needs to repair
PNH-01-RAIL-R- 110.078	110.078	84	W metal-beam	Minor Damage	Needs to repair
PNH-01-RAIL-R- 110.197	110.197	p17	Parapets	Good	
PNH-01-RAIL-R- 113.391	113.391		Parapets	Major Damage	Required 2 parapet
PNH-01-RAIL-R- 126.1	126.1		W metal-beam	Major Damage	required 250 m
PNH-01-RAIL-R- 127.1	127.1	127.3	W metal-beam	Major Damage	requires crash barrier
PNH-01-RAIL-R- 148.7	148.7	100	W metal-beam	Good	
PNH-01-RAIL-R- 149.7	149.7	150	W metal-beam	Good	
PNH-01-RAIL-R- 148.7	148.7	100	W metal-beam	Good	

Name of Project:	ACCESS Pilot Performance-Based Maintenance Contract		
Table No.:	8. Bridges		
Source: BMS			

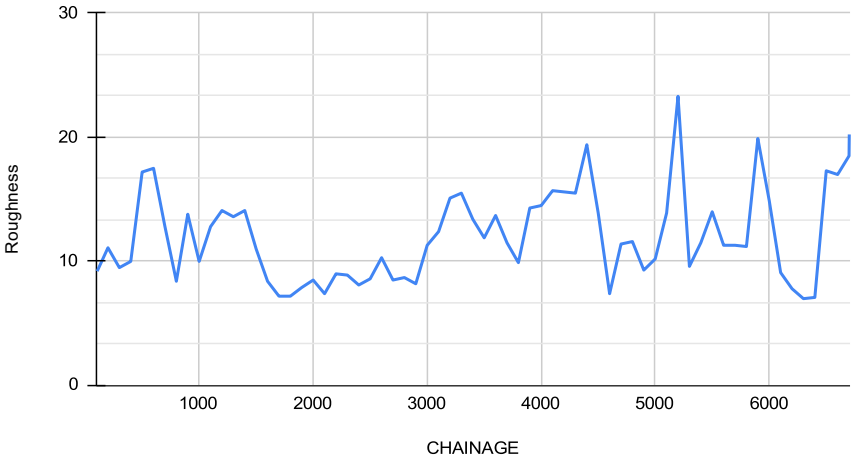
Sl no	ROAD ID bridge ID	Ch,	Bridge Name	Bridge Type	ridge Length	otal Width	Deck Type	Wearing Course Type
6	PNH-01 Bridge105	133	Nikachu Zam	PC Box girder	45	7.5	RCC	Asphalt
7	PNH-01 Bridge173	136.05	Chuserbu Zam	Rcc Slab	18	7.1	RCC	Premix Bitumen Carpet (Asphalt)

Name of Project:	ACCESS Pilot Performance-Based Maintenance Contract										
Table No.:		2. IRI Map									
Survey Date:	October 2025										

Roughness Vs Chainage (Phobjikha DR)



Roughness vs. Chainage (Gangtey DR)



Culverts								
ROAD ID	culvert ID		Type	Length (m)	width (m)	height (m)	Condition	Remarks on Repair
Phobjikha DR								
DRWP-05	DRWP-06- 0.3	0.30	HP		0.65		Good	
DRWP-06	DRWP-06- 1.1	1.10	HP		0.45		Blocked	
DRWP-06	DRWP-06- 2.6	2.60	HP		0.45		Good	parapet required
DRWP-06	DRWP-06- 2.9	2.90	HP		0.45		Good	
DRWP-06	DRWP-06- 3.19	3.19	HP		0.65		Good	
DRWP-06	DRWP-06- 3.36	3.36	HP		0.45		Good	blocked
DRWP-06	DRWP-06- 3.56	3.56	HP		0.65		Paraperts Damaged	1 parapet required
DRWP-06	DRWP-06- 3.87	3.87	HP		0.65		Paraperts Damaged	1 parapet
DRWP-06	DRWP-06- 4.26	4.26	HP		0.45		Good	1 parapet
DRWP-06	DRWP-06- 4.77	4.77	HP		0.45			
DRWP-06	DRWP-06- 5.12	5.12	HP		0.45		Good	parapet required
DRWP-06	DRWP-06- 5.3	5.30	HP		0.65		Paraperts Damaged	2parapet needed
DRWP-06	DRWP-06- 5.58	5.58	HP		0.9		Good	1parpets required
DRWP-06	DRWP-06- 6.1	6.10	HP		0.45		Good	parapets required
Gangtey DR								
DRWP-13	DRWP-13- 1.1	1.10	HP		0.65		Good	
DRWP-13	DRWP-13- 1.48	1.48	HP				Good	parapets required, blocked
DRWP-13	DRWP-13- 1.65	1.65	HP		0.9		Good	parapets required
DRWP-13	DRWP-13- 1.92	1.92	HP		0.65		Paraperts Damaged	1parpets required
DRWP-13	DRWP-13- 2.136	2.14	HP		0.3		Blocked	parapets required
DRWP-13	DRWP-13- 2.244	2.24	HP		0.9		Blocked	parapets required
DRWP-13	DRWP-13- 2.44	2.44	HP		0.65		Blocked	parapets needed
DRWP-13	DRWP-13- 2.6	2.60	HP		0.9		Good	1 parapet
DRWP-13	DRWP-13-		HP					
DRWP-13	DRWP-13- 3.156	3.16	Box	5	5	5	Good	railings required both sides
DRWP-13	DRWP-13- 3.22	3.22	HP		0.65		Good	
DRWP-13	DRWP-13- 3.28	3.28	HP		0.9		Good	parapets required

General OHS Requirement

OHS001 Incorporation of Occupational Health and Safety measures at construction sites, including Insurance, Personal Protective Equipment (PPE), First Aid kits, Boundary Fencing, Scaffolding, Safety nets, Traffic management, signage, etc, as listed in the specifications. The standards and specifications for the Insurance, OHS materials and (or) equipment shall comply with the Labour and Employment Act - 2007, Regulation on Occupational Health, Safety and Welfare - 2012, and other relevant national documents. All OHS items will remain the property of the bidder upon completion of the project.

The following list of OHS inputs are the minimal mandatory requirements at a construction site. These requirements had been derived in consensus with the Department of Labour (DoL), Ministry of Labour and Human Resources (MoLHR).

Insurance

Every worker shall be insured for the entire period of construction. The capital sum to be insured shall be as per the requirements of Labour and Employment Act of Bhutan - 2007 and its regulations.

Personal Protective Equipment (PPE)

Every worker shall be provided with minimal PPE to minimize exposure to hazard and to ensure safety at the construction sites “at all times”. The PPE could be grouped and provided as below:

- ☐ To be provided to all:
 - Safety helmet
 - Safety shoes
 - Protective gloves
 - High visibility Vest
 - Dust mask
- ☐ To be provided to specific workers: ¹
 - Safety belt
 - Safety harness
 - Safety goggle and spectacle
 - Ear muffs
 - Ear plugs
 - Welding shield/glass

Common Protection Measures (CPMs)

- First Aid tool box with aid kits
- Medical examination and records
- Adequate safety signs and signboards
- Boundary fence/barricade

¹ Specific workers include (but not limited to) those workers working at height, welders, workers engaged in works with high noise level, etc.

- Fire and electrical safety
- Fall protection (scaffolding and safety net)
- Trained OHS Officer/ Safety Supervisor/Safety Representative 2
- Trained first aider 3
- Safety and health orientation to new workers and safety training
- Housekeeping
- Traffic management at construction site
- Trenching and excavation safety

The standards and specifications for the OHS materials and (or) equipment shall be in compliance with the Labour and Employment Act - 2007, Regulation on Occupational Health, Safety and Welfare - 2012, and other relevant national documents.

The list of the OHS requirements as per the above list with additional list (if any) shall be attached along the Bill of Quantities (BoQ) along with an appropriate item description to allow the bidder to quote reasonably against the item, and to enable strict compliance and ease the monitoring during the project implementation time.

The procuring agency may allow the reuse of OHS items so long as these reused items serve the intended purpose. Furthermore, all OHS items will remain as the property of the bidder upon completion of the project. This is to encourage the bidders to conscientiously assess the OHS cost and quote reasonably keeping in view the reusability of such items in later projects.

Procuring agencies may also include the OHS officer and the first aider as 'key personnel' required by Labour and Employment Act – 2007 and its regulations depending on the complexity of the project.

Monitoring: Once OHS is integrated into the project cost and the work awarded, the contractor will have to mandatorily mobilize the resources. The site engineers and the respective Procuring Agencies will have to monitor and ensure that the OHS requirements are provided by the contractor at site and used appropriately "at all times". Besides this regular monitoring, a Third-Party monitoring of OHS will also be carried out by the Construction Development Board and the Ministry of Labour from time to time.

Mode of Payment: It is recommended that the payment mode be designed to suit the procuring agency. Before making the payment, the project engineer/site engineer and the project manager should verify and confirm that the OHS input requirements have been mobilized and implemented at site. It is also recommended that the payment be made in phases depending on the nature and duration of the project.

No additional payment for OHS shall be made for Variations (Change of rate, time extension, deviation, price adjustment, additional works, etc.)

General Note: The guideline is prepared fundamentally for the purpose of estimation of the cost of OHS in the project. For the purpose of the payment, it shall be based on the contractor's quoted amount/contract agreement.

In case of works executed departmentally, the agencies have to insure the workers and procure the PPE/CPM following proper procuring procedures. The items must be properly stored for future use and inventory of the same must be maintained.

Accommodation Standard

OHS002 Providing temporary living accommodation which includes bed room, kitchen, and toilet cum bathroom including proper water supply and electricity as per the drawing and temporary living accommodation standards. The accommodation facilities must be dismantled and cleaned upon the completion of the project. All reusable materials of the accommodation facilities will remain as the property of the bidder upon completion of the project.

When providing living accommodation to workers at construction sites, the objective should be to ensure adequate and decent accommodation and a suitable living environment for workers. The provision of accommodation to workers shall align with the objectives of Occupational Health and Safety. Therefore, it shall meet certain minimum specifications in respect of the nature and standard of the accommodation, and facilities to be made available.

The following specifications are drawn for the provision of accommodation to workers in Bhutanese construction industry based on international labour standards.

Location

The temporary living accommodation for employees should be constructed at the safest place where there is no risk of flooding, landslide, collapse hazards, falling boulders and other elements.

Accommodation

- a) Gender friendly living accommodation should be provided.
- b) Accommodation should be constructed where workers are protected against the elements (such as wind, cold, rain, heat, etc.)
- c) There should be one room for every 4 employees. Adequate headroom and movement space shall be provided. The size of the room shall be at least 3.5 square meters per person (refer drawing).
- d) A separate kitchen shall be provided if employees cook by themselves. However, if the meals are provided by the employer, a common dining room, canteen or mess room, located away from the sleeping areas should be provided.
- e) A separate pour-flush toilet cum bathroom, washing facilities for male and female shall be provided. There shall be one toilet cum bathroom for every six users. The size of the toilet shall comply with the Building Code of Bhutan/ the attached drawing.
- f) The floors of each room shall be constructed of wood or concrete. Floor shall be provided with good finishes. All wooden floors shall be elevated not less than 1 foot above the ground level at all points to prevent dampness and to permit free circulation of air beneath.
- g) The walls of the bed room and the kitchen must be constructed preferably with ply boards of at least 10 mm thickness (or equivalent) and CGI/ PPI Sheet for roofing. For toilets, both walls and roof shall be constructed with CGI/ PPI sheets (or equivalent).

- h) There should be adequate natural light during the daytime and adequate artificial light (refer drawing).
- i) Adequate ventilation to ensure sufficient movement of air in all conditions of weather and climate.

Health and Hygiene

- a) An adequate and convenient water supply shall be provided for drinking, cooking, bathing, and laundry purposes.
- b) The accommodation should maintain good sanitation and hygiene (proper drainage system, proper waste management, good housekeeping, etc.).
- c) Measures should be taken to prevent the spread of diseases, especially communicable diseases.

Safety at temporary accommodation site

- a) Any electricity supplied for the accommodation should abide by the Electricity Act of Bhutan, 2001.
- b) There should not be any exposed live wire or unattended electrical switches & sockets in the living accommodation.
- c) Every cable used for any purpose should have a plug at one end.
- d) Combustible, explosive, and highly flammable materials should not be stored in the living accommodation.
- e) Fire safety measures should be taken, including installing and maintaining fire equipment.
- f) As far as possible, floors, walls, ceilings and equipment should be constructed to minimize health risks.

The accommodation shall be provided and maintained for the entire contract period including the time extension if any or the delays. The complete work of providing temporary living accommodation to workers at construction sites shall be treated as an item of work under Occupational Health and Safety.

The construction shall be durable taking into account local conditions, such as liability to earthquakes, flood and landslide. The materials used for accommodation will remain as the property of the bidder upon completion of the project. The reuse of the materials may be permitted as long as these reused items serve the intended purpose or as approved by the procuring agency.