

Standard Bidding Document

Construction of Dubair Road - Package-I (Works)

National

Single Stage-Two Envelope

CORRIGENDUM # 1	CORR-P67895-001
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REQUEST FOR BIDS

PROCUREMENT OF CIVIL WORKS

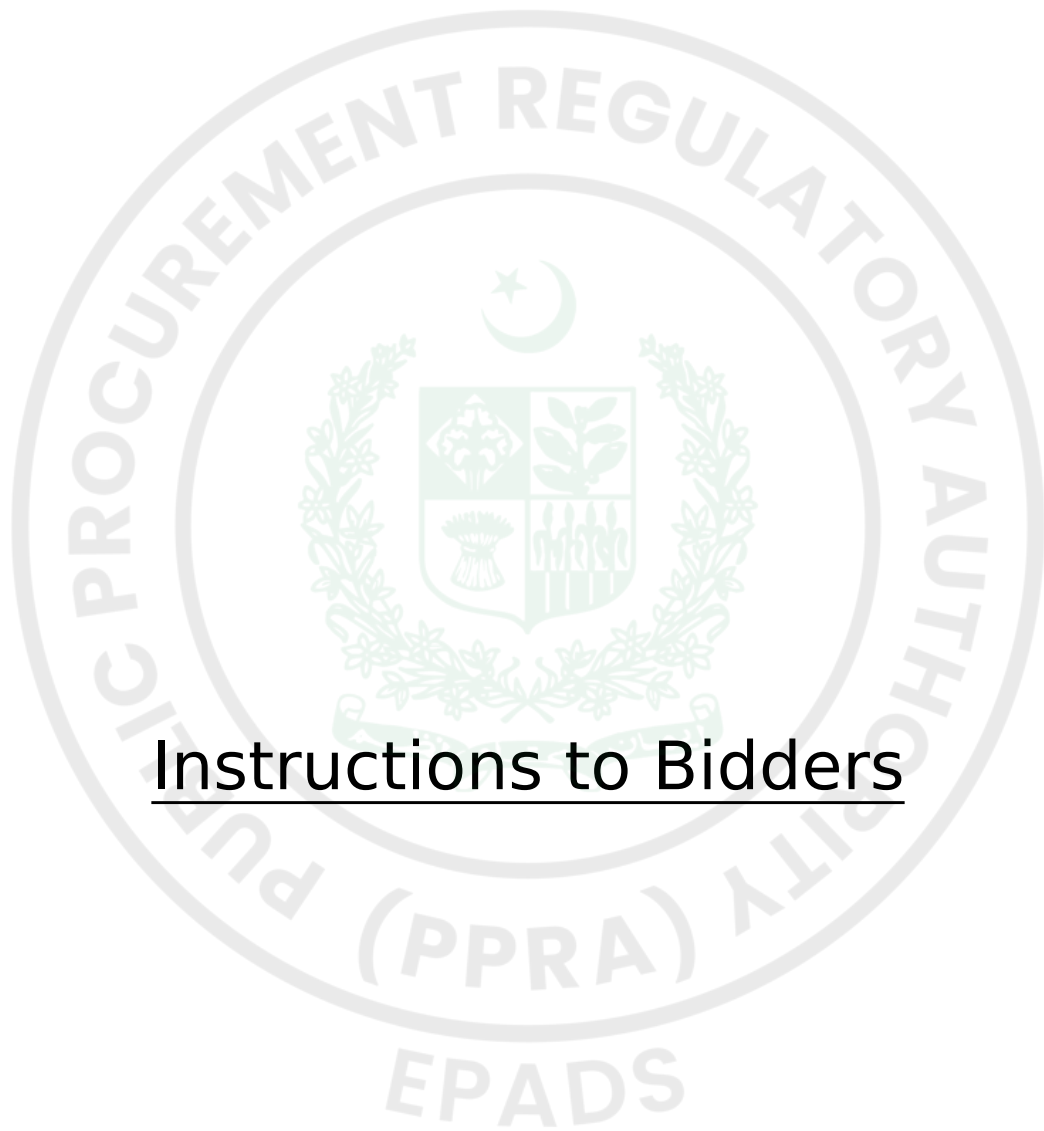
1. The **GM/PD Dasu HPP, (Dasu Hydropower Project) (Water and Power Development Authority (WAPDA) / Member (Water))** has reserved Funds for the procurement planned for FY **2026-27**. The **GM/PD Dasu HPP, (Dasu Hydropower Project) (Water and Power Development Authority (WAPDA) / Member (Water))** intends to apply part of the proceeds of this Fund to cover eligible payments under the contract for the "**Construction of Dubair Road - Package-I**" with the reference of "**P67895**".
2. The **GM/PD Dasu HPP, (Dasu Hydropower Project) (Water and Power Development Authority (WAPDA) / Member (Water))** invites electronic Bids from eligible Bidders for procurement of Works (**Construction of Dubair Road - Package-I**) described in the bidding documents on **EPADS v2.0**.
3. **Single Stage-Two Envelope** will be used by adopting **Least Cost Based Selection (LCBS)** Technique for the subject procurement, in line with the Public Procurement Rules, 2004 and any Regulations, Regulatory Guides, Procurement Guidelines or Instructions issued by the Authority from time to time.
4. All Bids must be accompanied by a Bid Security amounting described in Bid Security Section in Bidding Document in the form of **Pay Order, Call at Deposit, Bank Guarantee**. Or all bids must be accompanied by bid securing declaration in the format specified in the Bidding documents
5. E-Bidding documents, containing detailed terms & conditions, specifications and requirements etc. are available on **e-Pak Acquisition and Disposal System (EPADS)** at **<https://epads.gov.pk/opportunities/federal/procurements/67895>** for all the interested bidders registered on **EPADS v2.0**. Bidders are required to get themselves registered on **EPADS v2.0** to participate in Bidding process.
6. The e-bids, prepared in accordance with the instructions in the e-Bidding documents, must be submitted through **EPADS v2.0** on or before **Wednesday, September 2, 2026 11:00 AM**. E-bids will be opened by using

EPADS v2.0 on the same day at **Wednesday, September 2, 2026 11:30 AM**. Manual submission of Bids shall not be entertained. Those vendor who have not yet registered on the new version of **EPADS v2.0**, may register themselves on <https://pa.epads.gov.pk/>. A tutorial to explain the registration process is available at <https://www.youtube.com/watch?v=MNW6T38v7tc>.

In terms of Rules 48 of Public Procurement Rules, 2004 Grievance Redressal Committee (GRC) is notified for the subject procurement and notification copy is available on the procuring agency's website and on Authority's website at (www.ppra.org.pk).

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Instructions to Bidders

A. INTRODUCTION

1. Scope of Bid

1.1. The Procuring agency/Employer (PA), as indicated in the **Bid Data Sheet** (BDS) invites Bids for the execution of Works as specified in the BDS and **Section V- Works Requirements**. The name, identification, and number of lots (contracts) of this National/ International Competitive Bidding process are specified in the BDS.

2. Source of Funds

2.1. Source of funds as referred in Clause 2 of Bid Data Sheet.

3. Eligible Bidders

3.1. A bidder may be natural person, company or firm or public or semi-public agency of Pakistan or any foreign country, or any combination of them with a formal existing agreement (on Judicial Papers) in the form of a joint venture or consortium. In the case of a joint venture or consortium, all members shall be jointly and severally liable for the execution of the Contract in accordance with the terms and conditions of the Contract. The joint venture or consortium shall nominate a Lead Member as nominated in the BDS, who shall have the authority to conduct all business for and on behalf of any and all the members of the joint venture or consortium during the Bidding process, and in case of award of contract, during the execution of contract. Verifiable copy of the agreement that forms a joint venture, consortium or association shall be required to be submitted as part of the Bid.

Any bid submitted by the joint venture, consortium or association shall indicate the part of proposed contract to be performed by each party and each party shall be evaluated (or post qualified if required) with respect to its contribution only, and the responsibilities of each party shall not be substantially altered without prior written approval of the Procuring Agency and in line with any instructions issued by the Authority.

(The limit on the number of members of JV or Consortium may be prescribed

in BDS, in accordance with the guidelines issued by the PPRA).

3.2. The invitation for bids is open to all prospective bidders subject to any provisions of incorporation or licensing by the respective national/international incorporating agency or statutory body established for that particular trade or business. Procuring agencies shall specify the registration/licensing requirements for the foreign bidder keeping in view the requirement of that business.

3.3. A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidders may be considered to have a conflict of interest with one or more parties in this Bidding process, if they:

3.3.1. are associated or have been associated in the past, directly or indirectly with a firm or any of its affiliates which have been engaged by the Procuring agency/Employer to provide consulting services for the preparation of design or technical specifications of the works that are the subject of the bid; or

3.3.2. have controlling shareholders in common; or

3.3.3. receive or have received any direct or indirect subsidy from any of them; or

3.3.4. have the same legal representative for purposes of this Bid; or

3.3.5. have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another bidder, or influence the decisions of the Procuring agency/Employer regarding this Bidding process; or

3.3.6. Submit more than one bid in this bidding process.

3.4. A Bidder may be ineligible if –

3.4.1. he is declared bankrupt or, in the case of company or firm, insolvent;

3.4.2. payments in favor of the bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting (in accordance with the national laws) in the total or partial loss of the right to administer and dispose of its property;

3.4.3. the bidder is convicted, by a final judgment of a Court of Law or relevant Professional Statutory Body, of any offence involving professional conduct;

3.4.4. The bidder is debarred/ blacklisted by a national level Procuring agency/Employer and hence debarred due to involvement in corrupt and fraudulent practices, or performance failure or due to breach of bid securing declaration.

3.5. As and when required, bidders shall provide to the Procuring agency/Employer evidence of their eligibility, proof of compliance with the necessary legal requirements to carry out the contract effectively.

3.6. Bidders shall submit proposal relating to the nature, conditions and modalities of sub-contracting wherever the sub-contracting of any elements of the contract is envisaged.

4. Eligible Material and Equipment

4.1. All the material and equipment to be mobilized under the contract shall have their origin in eligible source countries, and all expenditures made under the contract will be limited to such materials and equipment. For this purpose, ineligible countries are stated in the section-IV titled as “Eligible Countries”.

B. BIDDING DOCUMENTS

5. Contents of Bidding Documents

5.1. The scope of Works, bidding procedures, and terms and conditions of the contract are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents which should be read in

conjunction with any addenda issued in accordance with ITB 7.1 include:

- i. Section I -Invitation for Bids
- ii. Section II Instructions to Bidders (ITBs)
- iii. Section III Bid Data Sheet (BDS)
- iv. Section IV Eligible Countries
- v. Section V Evaluation and Qualification Criteria
- vi. Section VI Works Requirements Technical Specifications & Schedule of Requirements
- vii. Section VII Standard Bidding Forms
- viii. Section VIII General Conditions of Contract (GCC)
- ix. Section IX Particular Conditions of Contract (PCC)
- x. Section X Contract Forms

5.2. The bidder is expected to examine all instructions, forms, specifications, terms and conditions prescribed in the bidding documents. Failure to furnish all the information required in the bidding documents will be at the bidder's risk and may result in the rejection of his bid.

6. Clarification of Bidding Document, Pre-bid Meeting

6.1. A prospective bidder requiring any clarification of the bidding document may notify the Procuring agency/Employer through **EPADS v2.0**.

6.2. The Procuring agency/Employer shall respond to the request for clarification in accordance with the Public Procurement Rules 2004, Rule No.31 i.e. **Clarification of bids**.

6.3. Should the Procuring Agency deem it necessary to amend the BIDDING document as a result of a clarification, it shall do so following the procedure under **ITB 7**.

6.4. If indicated in the **BDS**, the bidder's designated representative is invited at the bidder's cost to attend a pre-bid meeting at the place, date and time mentioned in the BDS. During this pre-bid meeting, prospective bidders may request clarification of the schedule of requirement, the evaluation criteria or any other aspects of the bidding documents.

6.5. Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be uploaded on **EPADS v2.0**. Any modification to the bidding documents that may become necessary as a result of the pre-bid meeting shall be made by the Procuring agency/Employer exclusively through the use of an Addendum pursuant to **ITB 7**. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

6.6. 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.

6.7. The bidder and any of its authorized personnel will be granted permission by the Procuring agency/Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the bidder and its personnel will release and indemnify the Procuring agency/Employer 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. Amendment of Bidding Documents

7.1. The procuring agency may issue notification of any change, addition, modification or deletion in accordance with the PP Rules 2004, rule no. 23 i.e. **Bidding Documents**.

7.2. To give prospective bidders reasonable time in which to take an addendum/corrigendum into account in preparing their bids, the Procuring

agency/Employer may, at its discretion, extend the deadline for the submission of bids:

*Provided that the Procuring agency/Employer shall extend the deadline for submission of bid in pursuance of PP Rules 2004, rule no. 27 i.e. **Extension of time for submission of bids**, if such an addendum is issued within last three (03) days of the bid submission deadline.*

C. PREPARATION OF BIDS

8. Language of Bid

8.1. The bid prepared by the bidder, as well as all correspondence and documents relating to the bid exchanged by the bidder and the Procuring agency/Employer shall be written in the English language unless specified in the **BDS**. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation of the relevant pages in the English language unless specified in the **BDS**, in which case, for purposes of interpretation of the bidder, the translation shall govern.

9. Documents Constituting the Bids

9.1. The Bids prepared by the Bidder shall constitute of all the documents required in the **BDS**.

10. Documents Establishing Eligibility of Material, Equipment and Works, their Conformity to Bidding Documents

10.1. The bid prepared by the bidder shall constitute the following components: -

10.1.1. Documentary evidence established in accordance with **ITB 10** that the material and equipment to be utilized by the Bidder for the executions of works are eligible material and equipment and conform to the Bidding Documents;

10.1.2. Documentary evidence established in accordance with **ITB 11** that the bidder has been authorized to carry out the Construction works;

10.1.3. Documentary evidence established in accordance with **ITB 11** that the bidder is eligible and/or qualified for the subject bidding process;

10.1.4. Form of Bid and Bid Prices completed in accordance with **ITB 12** and **13**;

10.1.5. Completed schedules as required, including priced Bill of Quantities in accordance with **ITB 13**.

10.1.6. Technical Proposal completed in all aspects in accordance with **ITB-15**.

10.1.7. Bid security or Bid Securing Declaration furnished in accordance with **ITB 17**;

10.1.8. Any other document required in the **BDS**.

10.2. In addition to the requirements, 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.

10.3. The bidder shall furnish, as part of its bid, all those documents establishing the eligibility in conformity to the terms and conditions specified in the bidding documents for all material, equipment and works which the bidder proposes to execute.

10.4. The documentary evidence of conformity of the material, equipment and works to the Bidding Documents may be in the form of literature, drawings, and data, and shall consist of:

10.4.1. a detailed description of the work methodology, approach, schedule and resources to be mobilized at site;

10.4.2. an item-by-item commentary on the Procuring agency/Employer's Technical Specifications demonstrating substantial responsiveness of the material, equipment and works to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications;

10.4.3. any other procurement specific documentation requirement as stated in the **BDS**.

10.5. The required documents and other accompanying documents must be in English. In case any other language than English is used the pertinent translation into English shall be attached to the original version.

11. Documents Establishing Eligibility and Qualification of the Bidder

11.1. The bidder shall furnish, as part of its bid, all those documents establishing the bidder's eligibility to participate in the bidding process and/or its qualification to perform the contract if its bid is accepted.

11.2. The documentary evidence of the bidder's eligibility to bid shall establish to the satisfaction of the Procuring agency/Employer that the bidder, at the time of submission of its bid, is from an eligible country as defined in Section-IV titled as "Eligible Countries".

11.3. The documentary evidence of the bidder's qualification to perform the contract if its bid is accepted shall establish to the satisfaction of Procuring agency/Employer that:

11.3.1. The bidder has the financial and technical capability necessary to perform the Contract, meets the qualification criteria specified in Section-V, Evaluation and Qualification Criteria and **BDS**.

11.3.2. In the case of a bidder not doing business within Pakistan, the bidder is or will be (if awarded the contract) represented by a local bidder (Joint Venture) in accordance with the PEC works bylaws, and in case of award of works such foreign firm is required to participate in the execution of works to carry out its obligations as prescribed in the Conditions of Contract and /or Technical Specifications.

11.3.3. That the bidder meets the qualification criteria listed in Section-V, Evaluation and Qualification Criteria and **BDS**.

12. **Forms of Bid**

12.1. The Bidder shall fill the Form of Bids furnished in the bidding documents. The Bids Form must be completed without any alterations to its format and no substitute shall be accepted.

13. **Bid Prices**

13.1. The bid prices quoted by the bidder in the Standard bid Forms, Bill of Quantities and in the Price Schedules shall conform to the requirements specified below or exclusively mentioned hereafter in the bidding documents.

13.2. The bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. If a Price Schedule shows items listed but not priced, their prices shall be construed to be included in the prices of other items in the Bill of Quantities and will not be paid for separately by the Procuring agency/Employer.

13.3. Items not listed in the Price Schedule shall be assumed not to be included in the bid, and provided that the bid is still substantially responsive in their absence or due to their nominal nature, the corresponding average price of the respective item(s) of the remaining substantially responsive bidder(s) shall be construed to be the price of those missing item(s):

Provided that:

13.3.1. where there is only one (substantially) responsive bidder, or

13.3.2. where there is provision for alternate proposals and the respective items are not listed in the other bids,

The Procuring agency/Employer may fix the price of missing items in accordance with market survey, and the same shall be considered as final price.

13.4. The Bid price to be quoted in the Form of Bid in accordance with ITB 12 shall be the total price of the bid.

13.5. Unless otherwise specified in the **BDS** and the Contract, the rates and 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.

13.6. If so specified in ITB 1.1, bids may be invited for individual lots (contracts) or for any combination of lots (packages).

13.7. Prices quoted by the Bidder shall be fixed during the bidder's performance of the contract and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and shall be rejected, pursuant to **ITB 27**, unless otherwise price adjustment is permissible under Conditions of the Contract.

13.8. All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date twenty-eight (28) days prior to the deadline for submission of bids, shall be included in the rates and prices and the total bid price submitted by the bidder.

14. Currencies of Bid and Payment

14.1. Prices shall be quoted in Pakistani Rupees unless otherwise specified in the **BDS**. Comparison of bids and tie of bid shall be treated in accordance with the PP rules 2004, rule no. 30.

15. Documents Comprising the Technical Proposal

15.1. The bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section VII - Standard Bid Forms, in sufficient detail to demonstrate the adequacy of the bidder's proposal to meet the work requirements and the completion time.

16. Bid Validity Period

16.1. Bids shall remain valid for the period specified in the BDS after the bid submission deadline prescribed by the Procuring agency/Employer. A bid valid for a shorter period shall be rejected by the Procuring agency/Employer as non-responsive. The period of bid validity will be determined from the complementary bid securing instrument i.e. the expiry period of bid security or bid securing declaration as the case may be.

16.2. Under exceptional circumstances, prior to the expiration of the initial Bids/Bid validity period, the Procuring Agency may request the Bidders' consent to an extension of the period of validity of their Bids/Bid. Such request for extension of the period of bid validity shall be carried out in accordance with the PP rules 2004, rule no. 26 i.e. Bid Validity.

17. Bid Security or Bid Securing Declaration

17.1. Pursuant to ITB 11.1 unless otherwise specified in the BDS, the bidder shall furnish as part of its bid, a Bid Security in accordance with the PP Rules 2004, rule no. 25 in the amount and currency specified in the BDS or Bid Securing Declaration as specified in the BDS in the format provided in Section VII (Standard Bidding Forms).

In case Procuring agency/Employer is inviting bids in lots / packages, the bidder shall be required to submit his bid security against the respective lot/package for which he is submitting his bid.

Until the development of functionality of auto verification of financial instrument in **EPADS v2.0**, the scanned copy of bid security or bid securing declaration, as the case may be, shall be uploaded on **EPADS v2.0** whereas the original instrument to be submitted to the procuring agency before closing of bid submission deadline,

17.2. The Bid Security shall be denominated in the local currency or in another freely convertible currency, and it shall be in the form specified in the BDS which shall be in any of the following:

17.2.1. A bank guarantee, an irrevocable letter of credit issued by a Scheduled bank in the form provided in the Bidding Documents or another form acceptable to the Procuring agency/Employer and valid for twenty-

eight (28) days beyond the end of the validity of the Bid. This shall also apply if the period for Bid Validity is extended. In either case, the form must include the complete name of the bidder;

17.2.2. A cashier's or certified cheque; or

17.2.3. Another security as indicated in the **BDS**.

17.3. The Bid Security or Bid Securing Declaration shall be in accordance with the Form of the Bid Security or Bid Securing Declaration included in Section VII (Standard Bidding Forms) or another form approved by the Procuring agency/Employer prior to the bid submission.

17.4. The Bid Security shall be payable promptly upon written demand by the Procuring agency/Employer in case any of the conditions listed in **ITB 17.9** are invoked.

17.5. Any bid not accompanied by a Bid Security or Bid Securing Declaration in accordance with **ITB 17.1 or 17.3** shall be rejected by the Procuring agency/Employer and shall be declared as non-responsive bid, pursuant to **ITB 27**.

17.6. Unsuccessful bidders' Bid Security will be discharged or returned as promptly as possible, however in no case later than thirty (30) days after the expiration of the period of Bid Validity prescribed by the Procuring agency/Employer pursuant to **ITB 16**. The Procuring agency/Employer shall make no claim to the amount of the Bid Security, and shall promptly return the Bid Security document, after whichever of the following that occurs earliest:

17.6.1. The expiry of the Bid Security;

17.6.2. The entry into force of a procurement contract and the provision of a performance security (or guarantee), for the performance of the contract if such a security (or guarantee), is required by the Bidding documents;

17.6.3. The rejection by the Procuring agency/Employer of all Bids;

17.6.4. The withdrawal of the bid prior to the deadline for the submission of bids, unless the bidding documents stipulate that no such withdrawal is permitted.

17.7. The successful bidder's Bid Security will be discharged upon the bidder signing the contract pursuant to **ITB 40**, or furnishing the performance security (or guarantee), pursuant to **ITB 41**.

17.8. The Bid Security may be forfeited or the Bid Securing Declaration executed:

if a Bidder:

17.8.1. Withdraws its Bid during the period of Bid Validity as specified by the Procuring agency/Employer, and referred by the bidder on the Form of Bid except as provided for in ITB 16.2; or

17.8.2. In the case of a successful bidder, if the bidder fails:

17.8.2.1. to sign the contract in accordance with ITB 40; or

17.8.2.2. to furnish performance security (or guarantee) in accordance with ITB 41.

17.9. In case of Bid Security issued by the foreign bank is allowed by the Procuring agency/Employer, the same should be counter guaranteed by a corresponding bank in Pakistan. Furthermore, in case of joint venture, it should be in the name of Joint venture to ensure joint responsibility. In case the JV is not legally constituted at the time of bid submission, the bid security or bid securing declaration shall be in the names of all future members as named in the letter of bid.

18. Withdrawal of Bids

18.1. Before bid submission deadline, any 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 the corresponding must accompany the respective written notice.

19. Format and Signing of Bid

19.1. The Bidder shall prepare and submit Bids through EPADS with due diligence after carefully reading all the terms and condition before bid submission deadline.

D. SUBMISSION OF BIDS

20. Submission of Bids

20.1. All bids shall be submitted through **EPADS v2.0**.

21. Deadline for Submission of Bids

21.1. All bids shall be received through **EPADS v2.0** not later than bid submission deadline as specified in the **BDS**.

21.2. The Procuring agency/Employer may, under exceptional circumstances and at its discretion, extend the deadline for the submission of bids, pursuant to PP Rules 2025, rule no.39 Extension of Time for submission of bid, by amending the Bidding Documents in accordance with ITB 7, in which case all rights and obligations of the Procuring agency/Employer and bidders previously subject to the deadline will thereafter be subject to the new deadline.

22. Substitution and Modification of bids

22.1. A bidder may substitute or modify his bid after it has been submitted, provided that written notice of the substitution or modification of the bid, is received by the Procuring agency/Employer prior to the deadline for submission of bids.

22.2. Revised bid may be submitted after the substitution or modification made in the original bid in accordance with the provisions referred in ITB 18.

E. OPENING AND EVALUATION OF BIDS

23. Opening of Bids

23.1. The Procuring Agency will open bids in accordance with the PP rules 2004, rule no 28 and as specified in the **BDS**.

24. Confidentiality

24.1. Information relating to the examination, clarification, evaluation and comparison of bids and recommendation of contract award shall not be disclosed to bidders or any other persons not officially concerned with such process until the time of the announcement of the respective evaluation report.

25. Clarification of Bids

25.1. Clarification of Bidding Documents shall be carried out in accordance with the PP Rules 2025, rule no 38 i.e. Clarifications.

25.2. The alteration or modification in the bid which in any case affect the following parameters will be considered as a change in the substance of a bid:

- 25.2.1. evaluation & qualification criteria;
- 25.2.2. required scope of work;
- 25.2.3. contract price;
- 25.2.4. all securities requirements;
- 25.2.5. tax requirements;
- 25.2.6. terms and conditions of bidding documents.
- 25.2.7. change in the ranking of the bidder

26. Preliminary Examination of Bids

26.1. Prior to the detailed evaluation of bids, the Procuring agency/Employer will determine whether each bid:

26.1.1. meets the eligibility criteria defined in ITB 3 and ITB 4;

26.1.2. has been prepared as per the format and contents defined by the Procuring agency/Employer in the bidding documents;

26.1.3. has been properly signed;

26.1.4. is accompanied by the required securities; and

26.1.5. is substantially responsive to the requirements of the bidding documents.

The Procuring agency/Employer's determination of a bid's substantial responsiveness will be based on the contents of the bid itself.

26.2. A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding Documents, without material deviation or reservation. A material deviation or reservation is one that: -

26.2.1. affects in any substantial way the scope, quality, or performance of the Works;

26.2.2. limits in any substantial way, inconsistent with the bidding documents, the Procuring agency/Employer's rights or the bidders' obligations under the Contract; or

26.2.3. if rectified, would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

26.3. The Procuring agency/Employer will confirm that the documents and information specified under ITB 9, 10 and 11 have been provided in the bid. If any of these documents or information is missing, or is not provided in accordance with the Instructions to Bidders, the bid shall be rejected.

26.4. The Procuring agency/Employer may waive-off any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.

Explanation: A minor informality, non-conformity or irregularity is one that is merely a matter of form and not of substance. It also pertains to some

immaterial defect in a Bid or variation of a bid from the exact requirements of the invitation that can be corrected or waived without being prejudicial to other bidders. The defect or variation is immaterial when the effect on quantity, quality, or delivery is negligible when contrasted with the total cost or scope of the works. The Procuring agency/Employer either shall give the bidder an opportunity to cure any deficiency resulting from a minor informality or irregularity in a bid or waive the deficiency, whichever is advantageous to the Procuring agency/Employer. Examples of minor informalities or irregularities include failure of a bidder to –

26.4.1. Submit the number of copies of signed bids required by the invitation;

26.4.2. Furnish required information concerning the number of its employees;

26.4.3. the firm submitting a bid has formally adopted or authorized, before the date set for opening of bids, the execution of documents by typewritten, printed, or stamped signature and submits evidence of such authorization and the bid carries such a signature.

26.5. Provided that a Technical Bid is substantially responsive, the Procuring agency/Employer may request the bidder to submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Technical Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any such aspect of the technical Proposal linked with the ranking of the bidders. Failure of the bidder to comply with the request may result in the rejection of its bid.

26.6. Provided that a Technical Bid is substantially responsive, the Procuring agency/Employer shall rectify quantifiable nonmaterial nonconformities or omissions related to the Financial Proposal. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of the missing or nonconforming item or component.

26.7. If a bid is not substantially responsive, it will be rejected by the Procuring agency/Employer and may not subsequently be evaluated for

complete technical responsiveness.

27. Examination of Terms and Conditions; Technical Evaluation

27.1. The Procuring agency/Employer shall examine the bid to confirm that all terms and conditions specified in the GCC and the PCC have been accepted by the bidder without any material deviation or reservation.

For this purpose:

“Deviation” means departure from the requirements specified in the Bidding Document.

“Reservation” means setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document.

27.2. The Procuring agency/Employer shall evaluate the technical aspects of the bid submitted in accordance with ITB 30, to confirm that all requirements specified in Section VI – Works Requirement, Technical Specifications of the Bidding Documents have been met without material deviation or reservation.

27.3. If after the examination of the terms and conditions and the technical evaluation, the Procuring agency/Employer determines that the bid is not substantially responsive in accordance with ITB 27, it shall reject the bid.

28. Correction of Arithmetic Errors

28.1. Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: -

28.1.1. if there is a discrepancy between unit prices and the sub-total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the sub-total price shall be corrected, unless in the opinion of the Procuring agency/Employer there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;

28.1.2. if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail, and the total shall be corrected; and

28.1.3. where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.

28.1.4. Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.

28.2. The amount stated in the Bid will, be rectified by the Procuring agency/Employer in accordance with the above procedure for the correction of errors and, with, the concurrence of the bidder, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount, its bid shall be rejected after forfeiture of Bid Security or execution of the Bid Securing Declaration, as the case may be, in accordance with ITB 41.3.

29. Conversion to Single Currency

29.1. The unit rates and the prices shall be quoted by the bidder entirely in Pak rupees. A bidder expecting to incur expenditures in other currencies for inputs to the Works from outside the Procuring agency/Employer's country (referred to as the "Foreign Currency Requirements") shall indicate the same in the letter of bid-financial proposal. The proportion of the Bid Price (excluding Provisional Sums) needed by him for the payment of such Foreign Currency Requirements either (i) entirely in the currency of the Bidder's home country or, (ii) at the bidder's option, entirely in Pak rupees provided always that a bidder expecting to incur expenditures in a currency or currencies other than those stated in (i) and (ii) above for a portion of the foreign currency requirements, and wishing to be paid accordingly, shall indicate the respective portions in his bid. Comparison of bids quoted in different currencies and conversion of bids into a single currency shall be carried out in accordance with the PP Rule 2004, rule no. 30 (2).

30. Evaluation of Bids

30.1. The Procuring agency/Employer shall evaluate and compare only the bids determined to be substantially responsive, pursuant to ITB 27.

30.2. In evaluating the Technical Proposal of each Bid, the Procuring agency/Employer shall use the criteria and methodologies listed in the BDS and in terms of works requirement. No other evaluation criteria or methodologies shall be permitted.

30.3. The Procuring agency/Employer's evaluation of a bid will take into account:

30.3.1. the bid price, excluding provisional sums and the provision, if any, for contingencies in the summary bill of quantities, but including day work items, where priced competitively;

30.3.2. converting the amount resulting from applying above, if relevant, to a single currency in accordance with ITB 29;

30.4. 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.

30.5. If these bidding documents allow bidders to quote separate prices for different lots, and the award to a single bidder of multiple lots, the methodology of evaluation to determine the lowest evaluated lot combinations in the Form of Bid, is specified in the BDS.

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

Explanation:

“Unbalanced” or “front-loaded” bids consist of deliberately submitting bids with artificially high prices or unit rates for the early stages of a construction project, offset by artificially low prices or unit rates for the later stages of the project, to improve the contractor’s cash flow.

31. Domestic Preference

31.1. If the BDS so specifies, the Procuring agency/Employer will grant a margin of preference to the domestic contractor in line with the rules, regulations, regulatory guides or instructions issued by the Authority from time to time.

32. Determination of Successful Bid

32.1. The Procuring agency/Employer shall compare the evaluated bids in accordance with the predefined bidding procedure, of all substantially responsive bids to determine the Successful bidder.

33. Qualification of Bidder

33.1. The Procuring agency/Employer shall determine to its satisfaction whether the bidder is substantially responsive and whose bid is declared as Successful bid either continues to meet (if prequalification applies) or meets (if post-qualification applies) the qualifying criteria specified in Evaluation and Qualification Criteria.

Note: In case of international bidding, the parameters for incorporation or licensing within Pakistan may be fulfilled as part of post qualification.

33.2. The determination shall be based upon an examination of the documentary evidence of the bidder’s qualifications submitted by the bidder, pursuant to ITB 11.

33.3. Prior to contract award, the Procuring agency/Employer will verify that the successful bidder (including each member of a JV) is not blacklisted/debarred. The Procuring agency/Employer will conduct the same verification for each sub-contractor proposed by the successful bidder.

34. Sub-Contractors

34.1. The bidder shall provide details regarding any specialized sub-contractor to the Procuring agency/Employer. In case change of sub-contractors, the bidder shall promptly notify the Procuring agency/Employer and obtain approval for replacement of sub-contractors.

34.2. Bidders may propose sub-contracting up to the percentage of total value of contracts or the volume of works as specified in the BDS.

35. Abnormally Low Financial Bid

35.1. A procuring Agency may reject abnormally low bids in accordance with the PP Rules 2025 rule no. 43. The decision of the Procuring agency/Employer to reject a bid and reasons for the decision shall be recorded in the procurement proceedings and promptly communicated to the bidder concerned. Moreover, the Procuring agency/Employer shall not incur any liability solely by rejecting abnormally bid

Guidance for Procuring agency/Employer:

An abnormally low bid means, in the light of the Procuring agency/Employer's estimate and of all the bids submitted, the bid appears to be abnormally low by not providing a margin for normal levels of profit. In order to identify the Abnormally Low Bid (ALB) following approaches can be considered to minimize the scope of subjectivity:

35.1.1. Comparing the bid price with the cost estimate;

35.1.2. Comparing the bid price with the bids offered by other bidders submitting substantially responsive bids; and

35.1.3. Comparing the bid price with prices paid in similar contracts in the recent past either government- or development partner-funded.

35.2. The Procuring agency/Employer will determine to its satisfaction whether the bidder that is selected as having submitted the successful bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in ITB 11

35.3. The determination will take into account the bidder's financial and technical capabilities. It will be based upon an examination of the

documentary evidence of the bidder's qualifications submitted by the bidder, pursuant to ITB 11, as well as such other information as the Procuring agency/Employer deems necessary and appropriate. Factors not included in these bidding documents shall not be used in the evaluation of the bidders' qualifications.

35.4. Procuring agency/Employer may seek "Certificate for Independent Price Determination" from the bidder and the results of reference checks may be used in determining award of contract.

Explanation: *The Certificate shall be furnished by the bidder. The bidder shall certify that the price is determined keeping in view of all the essential aspects such as raw material, its processing, value addition, optimization of resources due to economy of scale, transportation, insurance and margin of profit etc.*

35.5. An affirmative determination will be a prerequisite for award of the contract to the bidder. A negative determination will result in rejection of the bidder's bid, in which event the Procuring agency/Employer will proceed to the next ranked bidder to make a similar determination of that bidder's capabilities to perform satisfactorily.

F. AWARD OF CONTRACT

36. Criteria of Award

36.1. Subject to ITB 36 and 37, the Procuring agency/Employer will award the Contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents and who has been declared as Successful Bidder, provided that such bidder has been determined to be:

36.1.1. eligible in accordance with the provisions of ITB 3;

36.1.2. is determined to be qualified to perform the Contract satisfactorily; and

36.1.3. Successful negotiations have been concluded, if any.

37. Negotiations

37.1. The Committee of the Procuring agency/Employer may negotiate with the Most Advantageous Bidder relating to the following areas:

37.1.1. a minor alteration to the technical (drawings, design technical specifications) details of the statement of works;

37.1.2. Methodology, work plan, staffing in view to streamline the work;

37.1.3. a minor amendment to the Particular conditions of Contract;

37.1.4. finalizing payment arrangements;

37.1.5. clarifying details that were not apparent or could not be finalized at the time of Bidding;

37.2. Where negotiation fails to result into an agreement, the Procuring agency/Employer may invite the next ranked bidder for negotiations. Where negotiations are commenced with the next ranked bidder, the Procuring agency/Employer shall not reopen earlier negotiations.

38. Procuring agency/Employer's Right to reject All Bids

38.1. The procuring agency has the right to reject all bids in accordance with the PP Rules 2025 rule no. 45. However, the Authority (i.e. PPRA) may call from the Procuring agency/Employer the justification of those grounds.

39. Notification of Award

39.1. The procuring agency shall announce and publish the evaluation result in accordance with the PP Rules 2004, rule no. 40.

39.2. Where no complaints have been lodged, the bidder whose bid has been accepted will be notified of the award by the Procuring agency/Employer prior to expiration of the bid validity period through EPADS. However, the Procuring agency/Employer shall not award any procurement contract at least for five (05) days after the announcement of final evaluation report. The notification letter (herein after and in the condition of the contract and contract form called "Letter of Acceptance"

will specify the sum that the Procuring agency/Employer will pay the successful bidder in consideration for the execution and completion of the works as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price).

39.3. The notification of award will constitute the formation of the Contract, subject to the bidder furnishing the Performance Security (or guarantee) in accordance with ITB 41 and signing of the contract in accordance with ITB 40.

39.4. Upon the successful bidder's furnishing of the performance security (or guarantee) pursuant to ITB 41, the Procuring agency/Employer will promptly notify each unsuccessful bidder, the name of the successful bidder and the Contract amount and will discharge the Bid Security or Bid Securing Declaration of the bidder(s) pursuant to ITB 17.

40. Signing of Contract

40.1. Promptly after notification of award, Procuring agency/Employer shall send the successful bidder the draft agreement, incorporating all terms and conditions as agreed by the parties to the contract.

40.2. Immediately after the Redressal of grievance by the GRC, and after fulfillment of all conditions precedent of the Contract Form, the successful bidder and the Procuring agency/Employer shall sign the contract.

40.3. Where no formal signing of a contract is required, work order issued to the bidder shall be construed to be the contract.

41. Performance Security (or Guarantee)

41.1. After the receipt of the Letter of Acceptance, the successful bidder, within the specified time, shall deliver to the Procuring agency/Employer a Performance Guarantee in the amount and in the form stipulated in the BDS and PCC, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the Conditions of Contract.

41.2. If the Performance Guarantee is provided by the successful bidder and it shall be in the form specified in the BDS which shall be in any of the

following:

41.2.1. certified cheque, cashier's or manager's cheque, or bank draft;

41.2.2. irrevocable letter of credit issued by a scheduled bank of Pakistan or in the case of an irrevocable letter of credit issued by a foreign bank, the letter shall be confirmed or authenticated by a scheduled bank of Pakistan;

41.2.3. bank guarantee confirmed by a reputable local bank or, in the case of a successful foreign bidder, bonded by a foreign bank; or

41.2.4. surety bond callable upon demand issued by any reputable surety or insurance company.

Any Performance Guarantee submitted shall be enforceable in Pakistan.

41.3. Failure of the Most Advantageous Bidder to comply with the requirement of ITB 40 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security or declare blacklisted (in case bid securing declaration is submitted) in which event the Procuring agency/Employer may make the award to the next most advantageous bidder or reinitiate the procurement process afresh (as a case may be).

42. Advance Payment

42.1. Advance payment will be provided to the bidder in percentage and in the manner as agreed by the both parties in terms of Conditions of the Contract.

42.2. The Procuring agency/Employer will provide an advance payment as stipulated in the Conditions of Contract, subject to a maximum amount, as stated and/or Conditions of the Contract. The advance payment request shall be accompanied by an advance payment security (guarantee) in the form provided in Section X. For the purpose of receiving the advance payment, the bidder shall make and estimate of, and include in its bid, the expenses that will relate to the purchase of equipment, machinery, materials, and on the engagement of labor during the first month beginning with the date of the Procuring agency/Employer's "Notice to Commence" as specified in the PCC.

43. General Performance of the Bidders

43.1. The Procuring agency/Employer reserves the right to obtain information regarding performance of the bidders on their previously awarded contracts / works. The Procuring agency/Employer may seek information / report from the previous employer for consideration. However, the Procuring agency/Employer shall incorporate such parameters in the evaluation criteria and accordingly decide the fate of the bid submitted.

44. Corrupt & Fraudulent Practices

44.1. Procuring agencies (including beneficiaries of Government funded projects and procurement) as well as Bidders/Suppliers/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts, and will avoid to engage in any corrupt and fraudulent practices.

G. GRIEVANCE REDRESSAL & COMPLAINT REVIEW MECHANISM

45. Grievance Redressal

45.1. Grievance Redressal shall be carried out in accordance with the PP Rules 2025, rule no. 65 i.e. Redressal of grievances by the procuring agency and "Redressal of Grievances Regulations 2021".

H. MECHANISM OF BLACKLISTING

46. Mechanism of Blacklisting

46.1. The Procuring agency/Employer shall proceed Blacklisting of Bidders/Contractors in accordance with PP Rules 2025, rule no.25 i.e. Blacklisting and "Blacklisting and Debarment of Bidders or Contractors Regulations 2024.



Bid Data Sheet

Bid Data Sheet (BDS)

The following specific data for the procurement of works shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITBs). Whenever there is a conflict, the provisions herein shall prevail over those in ITBs.

A. Introduction

ITB Number

Amendments of, and Supplements to, Clauses in the Instruction to Bidders

ITB Number1.1

Name of Procuring agency/Employer: **GM/PD Dasu HPP, (Dasu Hydropower Project) (Water and Power Development Authority (WAPDA) / Member (Water))**

The subject of procurement is: **Construction of Dubair Road - Package-I**

Period for completion of the works **15 Months**

Commencement date execution of the works: **14 Days**

Type of Procurement:**Local**

ITB Number2.1

Financial year for the operations of the Procuring agency/Employer: **2026-27**

Name of Project [insert: name and summary description of the Project if any]

Name of financing institution: [insert: name if any]

Name and identification number of the Contract: **P67895**

ITB Number3.1

JV/Consortium or Association Allowed: **Yes**

Maximum number of members in the joint venture shall be: **2.**

B. Bidding Documents

ITB Number6.4

The Bidders may seek clarifications through **EPADS v2.0: Last Clarification**

Date: Monday, August 17, 2026

Pre-Bid Meeting: Wednesday, August 12, 2026 11:00 AM

Meeting

Link:

<https://us06web.zoom.us/j/81854439948?pwd=KP2gMJCKXlg8TPfDpzRQz51Qjxt6ZC>

C. Preparation of Bids

ITB Number 8.1

The Language of all correspondences and documents related to the Bid is:
English

ITB Number 5.1 & 9.1

The following documents must be included to constitute the Bid

1. Signed and Stamped Integrity Pact
2. Duly filled-in, signed and stamped Letter of Technical Bid
3. A written power of attorney authorizing the signatory of the Bid to act for and on behalf of the Bidder. The name and position held by each person signing the authorization must be typed or printed
4. Duly filled, signed and stamped-in all Appendices and Schedules to Bid except Schedule-A (Adjustment Data), Schedule-B to Bid (Bill of Quantities) and Schedule-H (Estimated Progress Payments), along with all requisite attachments/supporting satisfactorily authentic documentary evidences
5. Other documents required to be submitted as stated in Eligibility and Qualification Criteria and Bidder's Qualification Forms
6. Specific documents required to be submitted with Technical Bid. The Bidder shall submit sufficient details to demonstrate the adequacy of the Bid in meeting requirements for timely completion of the Works.
7. Duly filled-in, signed and stamped Letter of Price Bid
8. Duly filled-in. signed and stamped Schedule-A to Bid (Adjustment Data)
9. Duly filled-in. signed and stamped Schedule-B to Bid (Bill of Quantities)

10. Duly filled-in, signed and stamped Schedule-H to Bid (Estimated Progress Payments)

11. Specific documents required to be submitted with Technical Bid in accordance with Bidding Documents

ITB Number9.4 (b)

Other procurement specific documentation requirements are:

Supporting documents

The original Bid Security should reach **Room No. 325, Dasu HPP WAPDA Camp office, WAPDA House, Lahore (Phone: 042-99202676)** before the deadline for submission of bids, i.e., before the closing date and time specified in the Bidding Document (September 02, 2026 at 11:00 AM).

Letter of Award/ work order with detail BOQ, performance certificate/ completion certificate etc. along with completely filled Form EXP-4.1 are required for past experience and failure of the instant compliance may lead to Non-Responsiveness of Bid.

Important Note: The provisions contained in the Supplementary Special Provisions document (attached as Annexure) shall be read as part of the Particular Conditions of Contract (Part-B). In the event of any inconsistency between the system-generated Part-B and the Supplementary Special Provisions, the provisions of the Supplementary Special Provisions shall prevail to the extent of the amendment.

ITB Number12.4

The Bid price will be/will not be subject to the price adjustment **Yes**
Price Adjustment Annexure is attached in the Annexure Section with the name of Adjustment Data.

ITB Number12.6

The Bid price shall be adjusted in accordance with Schedule-A to Bid - "Schedule of Adjustment Data" if available.

ITB Number13.1

Bidders to quote entirely in**Pak rupees (PKR)**

Schedule of Adjustment Data for Local Currency (LC)

Index Code	Index Description	Source of Index	Weighting
1	Non-adjustable	---	0.3
2	Local Unskilled Labour	Pakistan Bureau of Statistics Monthly Statistical Bulletin for Abbottabad City	0.15
3	Cement (OPC)	Pakistan Bureau of Statistics Monthly Statistical Bulletin for Abbottabad City	0.15
4	Reinforcement steel (Representing all types and dimension of steel reinforcement)	iii) Reinforcement steel (Representing all types and dimension of steel reinforcement)	0.25
5	High Speed Diesel (HSD)	Pakistan State Oil (PSO)	0.15
	Total	PKR	1.00

ITB Number15.1

The Bid Validity period shall be **182 Days** days.

ITB Number16.1

The amount of Bid Security shall be (insert amount)

The currency of the Bid Security shall be: **PKR**.

ITB Number16.2

The Bid Security shall be in the form of: **Pay Order, Call at Deposit, Bank Guarantee**

D. Submission of Bids

ITB Number19.1

The deadline for Bid submission is: **Wednesday, September 2, 2026 11:00 AM**

Address for submission of Original Bid Security: **Wapda Project Office, Chuchang Colony,, Dassu, Upper Kohistan (District), Hazara Division**

(Division), Khyber Pakhtunkhwa (KP) (Province).

ITB Number21.1

The Bid opening shall take place at:**EPADS v2.0**

Day : **Wednesday**

Date: **September 02, 2026**

Time : **11:30 AM**

ITB Number27.1

The currency that shall be used for Bid evaluation and comparison purposes to convert all Bid prices expressed in various currencies is: **PKR Only**

The source of exchange rate shall be: **Nil**

The date of exchange rate shall be: **Nil**

ITB Number28.2 &28.5

Least Cost Based Selection (LCBS)

see Evaluation Criteria

ITB Number29.1

Domestic preference to apply.

Domestic preference:**No**

Preference to domestic or national suppliers or contractors shall be provided in accordance with policies of the Federal Government and/or in accordance with the regulations issued by the Authority.

If Yes, The percentage for the domestic preference alongwith calculation formula is provided in the evaluation and qualification criteria.

ITB Number32.2

Sub-contracting is allowed? : **Yes**

20% of the total value of the contract.

39.1 The Performance Security (or guarantee) shall be **10.00%**

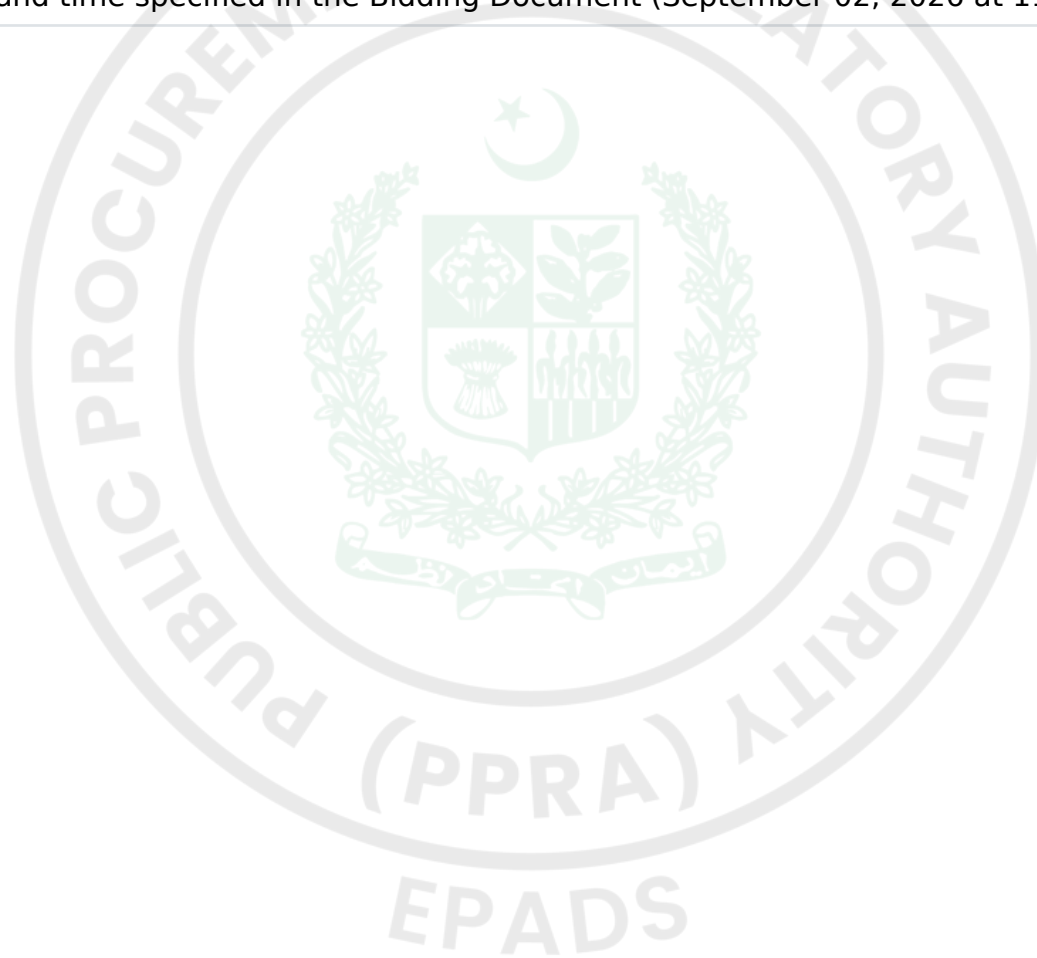
39.2 The Performance Security (or guarantee) shall be in the form of:**Bank Guarantee**

Eligibility Criteria

Bidder's Type	Required Registration
Sole Proprietorship Partnership Firm Company (Private Limited) Company (Public Limited) Company (Holding Company) Company (Limited by Guarantee) State Owned Enterprise (Private Limited) State Owned Enterprise (Public Limited)	NADRA CITIZENSHIP (CNIC/NICOP) FBR (NTN) PEC

Eligibility Criteria	Document
The firms who are well reputed / duly Licensed by Pakistan Engineering Council in category C-2 with specialization of field of CE01, CE02 (In case of JV, each Member must meet requirement)	Yes
No conflicts of interest (Undertaking in the Letter of Technical Bid must be submitted) (In case of JV, each Member must meet requirement)	Yes
All partners constituting the Bidder including proposed subcontractors do not appear in the list of debarred/blacklisted firms and individuals on the websites of PEC and Federal & Provincial Procurement Regulatory Authorities and have not been declared debarred/blacklisted by foreign country, international organizations or other foreign institutions (Undertaking in the Letter of Technical Bid must be submitted) (In case of JV, each Member must meet requirement)	Yes
Bid Security Declaration Form is not acceptable	No

Requirement of Pakistani Constructor on Active Taxpayer List (ATL) of FBR (In case of JV, each Member must meet requirement)	Yes
Bid Security amount (Rs. 18,000,000) as described in Bid Security Section in Bidding Document in the form of Call at Deposit / Pay Order / Bank Guarantee is acceptable. The original Bid Security shall reach Room No. 325, Dasu HPP WAPDA Camp office, WAPDA House, Lahore (Phone: 042-99202676) before the deadline for submission of bids, i.e., before the closing date and time specified in the Bidding Document (September 02, 2026 at 11:00 AM).	Yes



Evaluation Criteria

Least Cost Based Selection (LCBS)

Weightage

Technical Evaluation Weightage	
100	
Technical Marks	100
Passing Marks	90
Experience Record	
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 ten (10) years, starting from 1st July 2016. (In case of JV, each member must meet requirement) (Obtaining full marks under this criterion is mandatory. Bidders who do not secure the full prescribed marks in this section shall be considered non-responsive/non-compliant and shall not qualify for further evaluation) (Quantitative)(Doc Required)	10

Specific Construction & Contract Management Experience: A minimum number of similar contracts specified below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or sub-contractor between 1st July 2021 and application submission deadline: i. One (01) contract of road and bridge, each of minimum value 600 million; Or ii. Two (02) contracts of road and bridge, each of minimum value 300 million, but with total value of all contracts equal or more than 685 million (In case of JV, both partners combined must meet requirement) (Obtaining full marks under this criterion is mandatory. Bidders who do not secure the full prescribed marks in this section shall be considered non-responsive/non-compliant and shall not qualify for further evaluation) (Quantitative)(Doc Required)	15
Construction Experience in Key Activities: For contracts completed and under implementation as prime contractor, joint venture member, management contractor or sub-contractor between 1st July 2021 and Application submission deadline, a minimum construction experience in the following key activities successfully completed: i. Experience in Piling Works and Prestressed/Pre cast concrete in the bridge ii. Rock Excavation: Production Rate = 8,000 Cu.m / month. iii. Concrete Work in Structure Works : Production Rate = 500 Cu.m / month. iv. Flexible Pavement : Production Rate = 350 Cu.m / month. (In case of JV, both partners combined must meet requirement wherein the Lead Partner must meet the above requirements for key activities) (Obtaining full marks under this criterion is mandatory. Bidders who do not secure the full prescribed marks in this section shall be considered non-responsive/non-compliant and shall not qualify for further evaluation) (Quantitative)(Doc Required)	15
Specific Experience in managing ES aspects: For the contracts in 4.2 (a) and/or any contracts [substantially completed and under implementation] as prime contractor, joint venture member, or Subcontractor between 1st July 2021 and Application submission deadline, experience in managing ES risks and impacts in the following aspects: a) Physical b) Ecological and c) Aerial impact specifically in hilly terrain during construction. Proven Experience of E & S Risk impact managing requirement during specified period. Availability of a valid ISO Certification as below: *Quality Management Certificate ISO 9001:2015 * Environmental Management Certificate ISO 14001.2015. * Occupational Health and Safety Management Certificate ISO 45001:2018 (In case of JV, both partners combined must meet requirement) (Obtaining full marks under this criterion is mandatory. Bidders who do not secure the full prescribed marks in this section shall be considered non-responsive/non-compliant and shall not qualify for further evaluation) (Quantitative)(Doc Required)	10

Financial Capabilities	
(i) The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as PKR 210 million for the subject contract(s) net of the Bidders other commitments (ii) The Bidders shall also demonstrate, to the satisfaction of the Procuring agency/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 Bidder's country, other financial statements acceptable to the Procuring agency/Employer for the last three (03) years shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability. As per the provisions of Institute of Chartered Accountants of Pakistan (ICAP), Auditor's Report on Financial Statements of the bidder must contain UDIN. (In case of JV, all partners combined must meet requirement for Point i and ii, whereas Each Member must meet requirement for Point iii) (Obtaining full marks under this criterion is mandatory. Bidders who do not secure the full prescribed marks in this section shall be considered non-responsive/non-compliant and shall not qualify for further evaluation) (Quantitative)(Doc Required)	12
Average Annual Construction Turnover	
Minimum average annual construction turnover of PKR 840 million, calculated as total certified payments received for contracts in progress and/or completed within the last three (03) years, divided by three (03) years (In case of JV, both partners combined Must meet Hundred (100%) of the requirement, Each Member must meet 25% of the requirement whereas the Lead Partner must meet 60% of the requirement) (Obtaining full marks under this criterion is mandatory. Bidders who do not secure the full prescribed marks in this section shall be considered non-responsive/non-compliant and shall not qualify for further evaluation) (Quantitative)(Doc Required)	8
Personnel Capabilities (Obtaining 70% marks under this criterion is mandatory)	
01 x Project Manager (BSc Civil Engineering) with minimum 15 years experience and having experience of atleast one similar project (Quantitative)(Doc Required)	5

01 x Contract / Planning Engineer (BSc Civil Engineering) with minimum 05 years experience (Quantitative)(Doc Required)	1
01 x Site Engineer (BSc Civil Engineering) with minimum 05 years experience (Quantitative)(Doc Required)	1
01 x QA/QC Staff (DAE Civil) with minimum 05 years experience (Quantitative)(Doc Required)	1
02 x Surveyor/Inspector (DAE Civil) with minimum 05 years experience (Quantitative)(Doc Required)	1
01 x Environmental and Social (ES) Officer (Bachelor degree in Environmental Sciences/Engineering (This officer shall also have a certificate issued by IOSH (Institution of Occupational Safety and Health) most preferably NEBOSH (National Examination Board in Occupational Safety and Health)) with minimum 03 years experience in monitoring and managing environment and social risks in construction (Quantitative)(Doc Required)	1
Equipment (Obtaining 70% marks under this criterion is mandatory - Schedule E to Bid Must be Submitted)	
Bull Dozer (160 H.P) (02 Nos.) (Quantitative)(Doc Required)	1
Dump Truck (10-15 Ton) (03 Nos.) (Quantitative)(Doc Required)	1
Grader (140-165 H.P) (01 No.) (Quantitative)(Doc Required)	1
Roller/Compactor (02 Nos.) (Quantitative)(Doc Required)	1
Heavy Duty Tractor with Blade (01 No.) (Quantitative)(Doc Required)	1
Hydraulic Excavator (1.0-1.2 m ³ Bucket) (02 Nos.) (Quantitative)(Doc Required)	1
Rock Breaker Attachment for Excavator (02 Nos.) (Quantitative)(Doc Required)	1
Bitumen Pressure Distributor (01 No.) (Quantitative)(Doc Required)	1
Jack Hammers / Pneumatic Breakers (01 No.) (Quantitative)(Doc Required)	1
Piling Rig (01 No.) (Quantitative)(Doc Required)	1

Methodology of Performing the Work	
Methodology of Performing the Work (Schedule D to Bid) (Obtaining 70% marks under this criterion is mandatory) (Quantitative)(Doc Required)	10

Jobs/Lots

Lot Title : CONSTRUCTION OF DUBAIR ROAD (PACKAGE-1)

Bid Security : 18000000 PKR

Job	Delivery Schedule	Quantity
Construction of Dubair Road Package-I (Bill B1 to B4)	Address: Wapda Project Office, Chuchang Colony,, Dasso, Upper Kohistan (District), Hazara Division (Division), Khyber Pakhtunkhwa (KP) (Province). Schedule: 662 Days Quantity: 526181.59/Qty	526181.59/Qty
Construction of Dubair Road Package-I (Bill B5 to B7)	Address: Wapda Project Office, Chuchang Colony,, Dasso, Upper Kohistan (District), Hazara Division (Division), Khyber Pakhtunkhwa (KP) (Province). Schedule: 662 Days Quantity: 7824/Qty	7824/Qty

Work Specifications and Market Rates

Lot Title: CONSTRUCTION OF DUBAIR ROAD (PACKAGE-1)

Specifications / Requirements:

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
1		BILL NO. A : GENERAL ITEMS				
2		Environmental Testing During Construction Phase from EPA certified laboratory				
3		Air Quality (As per NEQs)	No's	10		
4		Noise Level and Dust Emission (PM2.5, PM10, SPM)	No's	10		
5		Water Quality (Surface Water, Drinking Water & Wastewater)	No's	15		
6		Environment Social Health & Safety (ESHS) Officer & Occupational Health and Safety OHS Supervisor	P.S		4500000	

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
7		(ESHS Management Personal Protective Equipment (PPE) for 50 employees for the provision of dust masks, safety shoes, helmet, jackets, safety goggles, gloves, first aid box, ear plugs, Waste Management, House Keeping, Camp Management, Fire Extinguisher and Safety Sign Boards)	PS		3750000	
8		Medical screening for workers	No's	60		
9		Insurance for loss or damage to the Works, Equipment, property and personal injury or death under Sub-Clause 19.2	P.S		15000000	
10		Price Adjustment	P.S		35000000	
11		DAAB Payment	P.S		10000000	
12		Geotechnical Investigations	P.S		5000000	
13		BILL NO. B-1 : EARTH WORK AND ALLIED ACTIVITIES				
14		Clearing and Grubbing by mechanical means	S.M	1220		
15		Removal of Tree : Girth 150mm - 300mm including removal of stump & backfilling with sand	No.	200		
16		Removal of Tree : Girth 300mm - 600mm including removal of stump & backfilling with sand	No.	200		

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
17		Removal of Tree : Girth over 600mm including removal of stump & backfilling with sand	No.	100		
18		Compaction of Natural Ground	SM	1220		
19		Roadway Excavation in Surplus / Unsuitable Common Material	CM	13781		
20		Roadway Excavation in Surplus / Unsuitable Rock (Hard) Material requiring blasting.	CM	1838		
21		Roadway Excavation in Surplus / Unsuitable Rock (Medium) Material requiring blasting	CM	2757		
22		Roadway Excavation in Surplus / Unsuitable Rock (Soft) Material	CM	73498		
23		Formation of Embankment from Roadway excavation in common Material	CM	1556		
24		Formation Of Embankment From Roadway Excavation In Hard Rock Material	CM	208		
25		Formation Of Embankment From Roadway Excavation In Medium Rock Material	CM	312		
26		Formation Of Embankment From Roadway Excavation In Soft Rock Material	CM	8299		

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
27		Subgrade Preparation in Existing Road Without Any Fill ; Mod. AASHTO 95%	SM	10965		
28		BILL NO. B-2 : SURFACE COURSE & PAVEMENT				
29		Granular Sub Base Using Crushed Stone Aggregate	CM	787		
30		Water Bound Macadam Base Course	CM	1574		
31		Triple bitumenous Surface Treatment	S.M	7870		
32		Bill No. B-3 : Structures (Retaining/Breast Walls)				
33		Structural Excavation in Common Material by mechanical means	CM	6198		
34		Lean concrete for use as thin layer under neath footings with cylinder compressive strength of 1423 psi on 28 days.	CM	2690		
35		Class B concrete for concrete in pile specified works only with minimum cylinder compressive strenght 2418 psi on 28 days and consistency range in slump 25-75 mm with water cement ratio 0.65 (Coping)	CM	260		
36		Stone Masonry Random With Mortar Class-A	CM	10770		

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
37		Stone Masonry Dressed Uncoursed With Mortar (for Parapet Walls)	CM	280		
38		Dismantling of Structures and Obstructions	CM	100		
39		Rock Fill in Gabions	CM	4580		
40		Steel Wire Mesh (9 SWG) for Gabions	Kg	82420		
41		PVC Pipe 4" Dia.	RM	390		
42		Bill No. B-4 : Structures (Bridges)				
43		Structural Excavation In Medium Rock Material	CM	498		
44		Structural backfill using Common Material available at site.	CM	104		
45		Class A1 concrete in reinforcement/non reinforcement concrete structure with minimum cylinder compressive strength 3000 psi on 28 days other than concrete in water and piles with consistency range in slump 25-75 mm with water cement ratio 0.58 Approach Slab	CM	27		

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
46		Class A3 cement concrete for concrete with minimum cylinder compressive strength 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58 Transom, Deck Slab, Diaphragm , Wing Walls ,Curtain wall , Abutment Seat & Rcc Railing, Closed Abutment Wall	CM	423		
47		Class A3 cement concrete for Piles concrete with minimum cylinder compressive strength 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58Concrete Class 'A3' Piles , Pile Cap	CM	444		
48		Class A3 cement concrete for Piles concrete with minimum cylinder compressive strength 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58Concrete Class 'A3' Piers	CM	135.53		

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
49		Class D1 concrete for concrete in pre-stressed & post tensioned with minimum cylinder compressive strength 4978.12 psi on 28 days and consistency range in slump 50- 100 mm with water cement ratio 0.40 Precast Girder	CM	110		
50		Class A3 cement concrete for concrete with minimum cylinder compressive strength 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58 RCC PLANKS	CM	80		
51		Lean concrete for use as thin layer under neath footings with cylinder compressive strength of 1423 psi on 28 days.	CM	27		
52		Erection and removal of Form work with Steel Surface Finshing for RCC or Plain Concrete in any shape - Position / Horizontal	SM	596.33		
53		Erection and removal of Form work with Steel Surface Finshing for RCC or Plain cement Concrete in any shape - Position / Vertical	SM	2805		
54		Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tons	210		

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
55		Supplying & fixing high tensile steel (Grade 250K) wire in prestressing cables in precast girders	Tons	11		
56		Jack Anchorage For 10 to 12 Wires 0.5" Strand (Comprising Trumpet, Stressing Block & Wedges Complete)	Each	90		
57		Supply and Fixing stressing anchorages for high tensile steel wire cables in precast girders	Set	90		
58		Supply and Fixing spirally wound sheath of 50mm dia. For pre-stressing of cables in precast conc.Girders	m	1200		
59		Providing and fixing GI Steel (Hamp core) Ropes 1/2" dia	m	1200		
60		Stressing Cable of High Tensile Steel Wire Strands	Each	90		
61		Launching girders in place, including lifting & handling any number of time including temporary works comp	M	307		
62		Supply and Fixing Neoprene Bearing Pad as per specs & design	Cu.cm	276656		

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
63		Providing and Fixing Expansion joint with two Extruded Aluminum Alloy Sections for 50 mm Movement of imported approved quality.	LM	44		
64		Boring with temporary casing in gravely subsoil for 760-1220 mm diameter pile.	LM	484		
65		Pile load test: (Pre high Strain Dynamic load test as per ASTM D 4945-08 including field data analysis results with report etc complete Max Load 1100 tons	Each	3		
66		Supply and place in position galvanised steel 3" dia drain scuppers in deck slab as per specs/drwg	LM	34		
67		Random rubble masonry in foundn. & plinth in cement, sand mortar : Ratio 1:6	CM	789		
68		Permanent Pile casing (liner 10 mm Thick) for Piers Only	Tons	6		
69		Steel wire mesh (9 SWG) for Gabions	Kg	5030		
70		Rockfill in Gabions	CM	503		
71		Sonic Integrity Tests (SIT) on all Piles	Each	16		
72		BILL NO. B-5 : DRAINAGE AND EROSION WORKS				

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
73		Grouted Rip Rap, Class A	CM	260		
74		Shotcrete (100 mm) thickness, grade B-25 as per specifications	CM	470		
75		Rock SN-Bolts (Grouted Bolts) 25mm dia - 5 m in length including fixing and strengthening etc.	Each	320		
76		Supply and installation of Wire mesh 3"x3" spot welded , 8 SWG as per specs for shotcrete reinforcement	SM	210		
77		Bill B-6.1 Causeways 5m				
78		Lean concrete for use as thin layer under neath footings with cylinder compressive strength of 1423 psi on 28 days.	Cu.m	8.25		
79		RCC in raft foundation slab, base slab of column & ret. wall etc, (1:1:2) (4000 psi)	Cu.m	11.55		
80		RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2) (4000 psi)	Cu.m	8.25		
81		Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	0.93		
82		Providing and Laying stone pithcing/filling, dry hand packed in pitching & aprons.	Cu.m	15.13		

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
83		Structural excavation in medium rock material	Cu.m	11.55		
84		Compaction of natural ground	Sq.m	27.5		
85		Erection and removal of Form work with Steel Surface Finshing for RCC or Plain Concrete in any shape - Position / Horizontal	Sq.m	25		
86		Erection and removal of Form work with Steel Surface Finshing for RCC or Plain cement Concrete in any shape - Position / Vertical	Sq.m	77		
87		BILL NO. B-7 : STONE MASONRY CULVERTS				
88		Structural Excavation In Medium Rock Material	CM	220		
89		Structural backfill using Common Material available at site.	CM	66		
90		Class A1 concrete in reinforcement/non reinforcement concrete structure with minimum cylinder compressive strength 3000 psi on 28 days other than concrete in water and piles with consistency range in slump 25-75 mm with water cement ratio 0.58 Concrete Pads	CM	30		

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
91		Class A3 cement concrete for concrete with minimum cylinder compressive strenght 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58 Top Slab	CM	120		
92		Class A3 cement concrete for Piles concrete with minimum cylinder compressive strenght 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58 Concrete Class 'A3' NJB	CM	16		
93		Lean concrete for use as thin layer under neath footings with cylinder compressive strength of 1423 psi on 28 days.	CM	234		
94		Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Ton	24		
95		Random rubble masonry in foundn. & plinth in cement, sand mortar : Ratio 1:6	CM	572		
96		Providing and Laying grouted stone pitching, in 1:6 c/s mortar Stone pitching/filling on slope or on level	CM	36.57		
97		Bill-C: Daywork				

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
98		Schedule of Daywork Rates: 1. Labour				
99		Foreman	195 /Hour	100		
100		Skilled Labour	180 /Hour	125		
101		Unskilled Labour	143 /Hour	150		
102		Mason	195 /Hour	50		
103		Carpenter (1st class)	195 /Hour	50		
104		Steel Fixer/ Fitter	180 /Hour	50		
105		Driver for Vehicle (upto 10 ton)	195 /Hour	75		
106		Welder (Grade-1)	195 /Hour	75		
107		Plumber	195 /Hour	125		

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
108		Schedule of Daywork Rates: 2. Materials				
109		Cement, Ordinary Portland or Equivalent in Bags	19 /Kg	2500		
110		Mild Steel Reinforcing Bar upto 16mm diameter Grade 60	225 /Kg	1000		
111		Fine Aggregate	1060 /Cu.m	75		
112		Coarse Aggregates	2119 /Cu.m	125		
113		Schedule of Daywork Rates: 3. Contractor's Equipment				
114		Tractor 50HP capacity	702 /Hour	30		
115		Compressor 10 m3/ min	1141 /Hour	30		
116		Tractor and Trolley with Jack Capacity 7m3	776 /Hour	50		
117		Dumper (10 Ton Capacity)	2703 /Hour	50		

Sr. No	Ref. No.	Description	Unit	Qty	Rate	Amount
118		Water Tanker trolley 500 gallon with farm tractor	846 /Hour	50		
119		Drum Type Concrete Mixer 0.25 m3	685 /Hour	125		
120		Hand Held Jack Hammer	500 /Hour	100		
121		Excavator (EX 200)	3716 /Hour	125		
122						689041311
					GRAND TOTAL:	Rs689,041,311.00

Scope of Work

The scope of work includes Construction of Dubair Road With allied Works includes following major works:

- Earth work and Allied activities
 - Rck Excavation/Embankment Formation
- Surface courses and Pavement (Flexible Pavement)
- Structures (Retaining / Breast walls)
- Structures (Bridges)
 - Prestressed/Pst Tensioned Concrete Structures
 - Piling Wrks
- Drainage and Erosion Works
- Causeways (1 no.)
- Slab Culvert (02 no.)

Price Schedule

For Individual Jobs

#	Job Title	Quantity	Unit Price (PKR)	Total Price (PKR)	Delivery Location	Delivery Period / Year	Country of Origin
1							
2							

For Lots

#	Lot Title	Total Lot Price (PKR)	Country of Origin
1	[Lot 1 Title]		





General Conditions of Contract

Red Book:

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The Conditions of Contract are the “General Conditions” which form part of the “Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer (“Red book”) Second edition 2017” published by the Federation Internationale Des Ingenieurs – Conseils (FIDIC) and the following “Particular Conditions” which shall complement the General Conditions of the Contract.

The successful Bidder, upon contract award, shall be required to furnish two (02) copies of aforementioned “General Conditions” for incorporation in the Works Contract.

International Federation of Consulting Engineers (FIDIC) FIDIC

Bookshop – Box- 311 – CH – 1215 Geneva 15, Switzerland

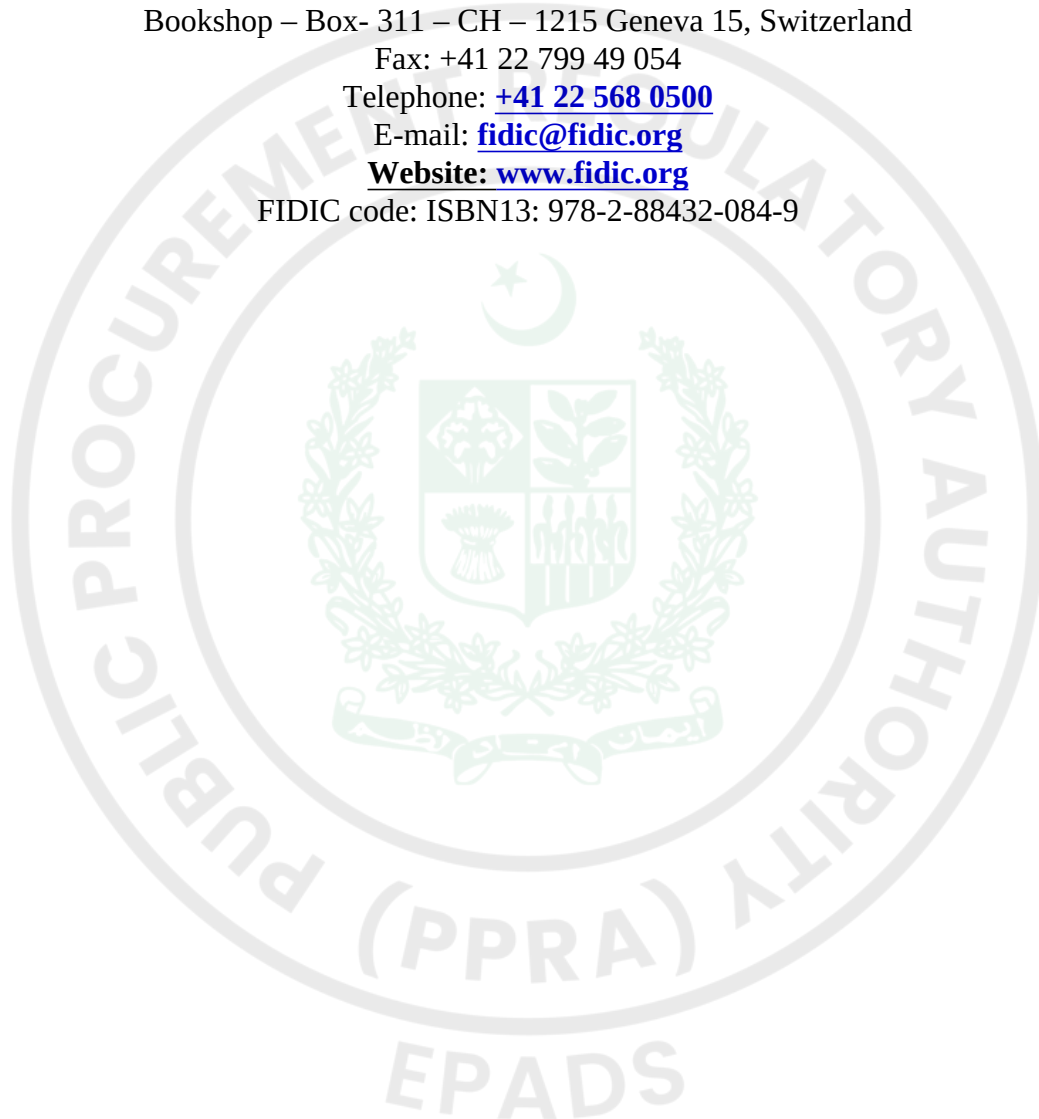
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Website: www.fidic.org

FIDIC code: ISBN13: 978-2-88432-084-9





Special Conditions of Contract

PARTICULAR CONDITIONS OF CONTRACT (PCC)

Particular Conditions

(Mandatory Provisions not to be amended/substituted)

The Particular Conditions (PCC) complement the General Conditions (GCC) to specify dates, contractual requirements, and special circumstances related to the Works. The PCC consists of two parts, Part A - Contract Data and Part B - Special Provisions. The provisions to be found in the Special Provisions (Particular Conditions - Part B) take precedence over the equivalent provisions found under the same Sub-Clause number(s) in the General Conditions, and the provisions of the Contract Data (Particular Conditions - Part A) take precedence over the Special Provisions (Particular Conditions - Part B).

PART A - Contract Data

Sub-Clause 1.1.27

Defects Notification Period (DNP): **365** Days

Sub-Clause 1.1.31

Employer's name & address: **GM/PD Dasu HPP, (Dasu Hydropower Project) (Water and Power Development Authority (WAPDA) / Member (Water)), Executive Engineer Wapda Project Office, Chuchang Colony,, Dasso, Upper Kohistan (District), Hazara Division (Division), Khyber Pakhtunkhwa (KP) (Province).**

Sub-Clause 1.1.35

Engineer's name & address: Project Manager

E&PHE Division, NESPAK House, 1-C, Block-N, Model Town Extension, Lahore

Sub-Clause 1.1.84

Time for Completion: **450** days for whole of the works

Sub-Clause 1.3 (a)(ii)

Agreed method of electronic transmission: Not Agreed

Sub-Clause 1.3 (d)

Address of Employer for Communications: **Wapda Project Office, Chuchang Colony,, Dasso, Upper Kohistan (District), Hazara Division (Division), Khyber Pakhtunkhwa (KP) (Province).**

Address of Engineer for Communications:

E&PHE Division, NESPAK House, 1-C, Block-N, Model Town Extension, Lahore

Address of Contractor for Communications: -----

Sub-Clause 1.4

Contract shall be governed by the law of: **Islamic Republic of Pakistan**

Ruling language: **English**

Language for communications: **English**

Sub-Clause 2.1

After receiving the Letter of Acceptance, the Contractor shall be given right of access to all or part of the Site within: **5** days after Commencement Date

Sub-Clause 2.4

Employer's financial arrangements:

Government of Pakistan

Sub-Clause 3.2 (e)(ii)

Engineer's Duties and Authority: **Variation resulting in an increase of the Accepted Contract Amount in excess of one percent (1%) subject to accumulative Variations not exceeding five percent (5%) of the Accepted Contract Amount**

Sub-Clause 4.2

Performance Security (as percentage of the Accepted Contract Amount in Currencies): 10.00%

Form of Performance Guarantee: **Bank Guarantee**

Sub-Clause 4.2.1

List of Insurance Companies:

Not Applicable

Sub-Clause 4.7.2

period for notification of errors in the items of reference: **Twenty Eight (28) days**

Sub-Clause 4.19

Period of payment for temporary utilities: **Each Month**

Sub-Clause 5.1 (a)

Maximum allowable accumulated value of work subcontracted (as a percentage of the Accepted Contract Amount): **20 %**

Sub-Clause 5.1 (b)

Parts of the Works for which subcontracting is not permitted: **80**

General Concrete Work, Asphalt, Embankment Formation

Sub-Clause 6.5

Normal working hours on the Site: **8**

Sub-Clause 8.3

Number of additional paper copies of programmes: **3**

Sub-Clause 8.8 & 14.15(b)

Delay Damages payable for each day of delay **0.09%** of the Accepted Contract Amount for delay in completion of whole of the Works

Sub-Clause 8.8

Maximum amount of Delay Damages **10.00 %** of the Accepted Contract Amount

Sub-Clause 8.14

Applicability of Incentives for Early Completion **No**

Sub-Clause 12.3

Percentage profit (Not more than 10%): **Nil**

Sub-Clause 13.4.(b)(ii)

Percentage rate to be applied to Provisional Sums for overhead charges and profit: **Twenty Five percent**

(25%)

Sub-Clause 14.2

Total Advance Payment: **Fifteen percent (15%) of the Accepted Contract Amount excluding Provisional Sums payable in the currencies and proportions in which the Accepted Contract Amount is payable**

Sub-Clause 14.2.1

Advance Payment Insurance **Not Allowed**

Sub-Clause 14.2.3

Percentage deductions for the repayment of the Advance Payment: Deduction shall be made at the amortization rate of 17.5 % of the value of the Works executed of each IPC as provided in paragraph (i) of Sub-Clause GCC 14.3, starting from 2nd IPC provided that the advance payment shall be completely repaid prior to the time when 90% of the Accepted Contract Amount less Provisional Sums has been certified for payment. It may be more than 17.5% in the last instalment to ensure full repayment.

Sub-Clause 14.3

Period of payment **One Month**

Sub-Clause 14.3(b)

Number of additional paper copies of Statements: **6**

Sub-Clause 14.3 (iii)

Percentage of retention: **Seven percent (7%)**

Sub-Clause 14.3 (iii)

Limit of Retention Money (as a percentage of the Accepted Contract Amount): **Five percent (5%)**

Sub-Clause 14.5(b)(i)

Plant and Materials for payment when shipped: **Plant and Materials under Bill of “Imported Plant and Materials”**

Imported Plants and Materials

Not Applicable

Sub-Clause 14.5(c)(i)

Plant and Materials for payment when delivered to the Site: Plant and Non Perishable Materials

Plants and Materials Onsite

Steel, Aggregate, Cement

Sub-Clause 14.6.2

Minimum amount of Interim Payment Certificate (IPC): **Yes**

The Minimum Amount IPC is 5%

[Employer to give value not exceeding one fifth of the average expected value of Interim Payment Certificate]

Sub-Clause 14.7(a)

Period of payment of Advance Payment to the Contractor: **14 days**

Sub-Clause 14.7b(i)

Period for the Employer to make interim payments to the Contractor under Sub-Clause 14.6: **56 days**

Sub-Clause 14.7b(ii)

Period for the Employer to make interim payments to the Contractor under Sub-Clause 14.13 (Final Payment): **56 days**

Sub-Clause 14.7(c)

Period for the Employer to make final payment to the Contractor: **84 days**

Sub-Clause 14.8

Financing charges for delayed payment Local Currency (PKR):

6-Month KIBOR (Offer) +3% per annum.

Foreign Currency:

USD

6-Month SOFR (Secured Overnight Financing Rate for USD) +1% per annum.

EURO

6-Month EURIBOR (EURO Interbank Offered Rate for EURO) +1% per annum.

Others

Appropriate rates +1% (for other foreign currencies, Ref. Schedule-A, A-4 to Bid).

Sub-Clause 14.11.1(b)

Number of additional paper copies of draft Final Statements: **6**

[insert number of copies say six (06)]

Sub-Clause 14.15

Currencies of payment of Contract Price: **as stated in the Table Schedule of Adjustment Data of Schedule A (if Given)**

Sub-Clause 14.15(a)(i)

Proportions or amounts of Local and Foreign currencies: **as stated in the Table Schedule of Adjustment Data of Schedule A (if Given)**

Sub-Clause 14.15(c)

Currencies and proportions for payment of Delay Damages: **as stated in the Table Schedule of Adjustment Data of Schedule A (if Given)**

Sub-Clause 14.15(f)

rates of exchange: **as stated in the Table IV of Schedule A (If Given)**

Sub-Clause 17.2(d)

Forces of nature, the risks of which are allocated to the Contractor: **Nil**

Sub-Clause 19.1

Permitted deductible limits:

- i) insurance required for the Works: **Ten percent (10%) of loss amount on each & every loss**
- ii) insurance required for Goods: **Nil**
- iii) insurance required for liability for breach of professional duty: **Nil**
- iv) insurance required against liability for fitness for purpose (if any is required): **Nil**
- v) insurance required for injury to persons and damage to property: **Nil**
- vi) insurance required for injury to employees: **Nil**
- vii) other insurances required by Laws and by local practice : **Nil**

Periods for submission of insurance:

- a) evidence of insurance: Not later than the Commencement Date
- b) relevant policies: Within twenty eight (28) day from the Commencement Date

Sub-Clause 19.2.1(b)

Additional amount to be insured (as a percentage of the replacement value): 15% of the replacement value (Accepted Contract Amount)

Sub-Clause 19.2.2

Extent of insurance required for Goods: From Ex-Works (i.e., works, factory, warehouse, etc) to delivery at the Site

Amount of insurance required for Goods: Full replacement value

Sub-Clause 19.2.3(a)

Amount of insurance required for liability for breach of professional duty: Full replacement value of the Works to be designed by the Contractor

Sub-Clause 19.2.3(b)

Insurance required against liability for fitness for purpose: **Yes**

Sub-Clause 19.2.3

Period of insurance required for liability for breach of professional duty: Until the date of issuance of Performance Certificate

Sub-Clause 19.2.4

Amount of insurance required for injury to persons and damage to property: Injury to person and Fatal case: in accordance with Workmen Compensation Act

Damage to Property: The Amount of Insurance Required for Person Injury is 1000000

The Amount of Insurance Required for Damage to Property is 5000000 as per his assessment of the adjoining property(ies) other than the Works] without limit to the number of incidents

Sub-Clause 19.2.6

Other insurances required by Laws and by local practice: All insurances as applicable, to the extent of execution of the project, under Federal and Provincial laws of Islamic Republic of Pakistan

Sub-Clause 21.1

Time for appointment of the DAAB: Within 28 days from the Commencement Date.

In case the Accepted Contract Amount is lesser than PKR one (01) billion, appointment of the DAAB shall be made when Dispute arises between the Parties.

Sub-Clause 21.1

The DAAB shall comprise 1

[insert either "a sole Member" or "Three Members"]

[For a Contract estimated to cost above PKR 2.5billion, the DAAB shall comprise of three members. For a Contract estimated to cost between PKR1billion and PKR2.5billion, the DAAB may comprise of three members or a sole member. For a Contract estimated to cost less than PKR1billion, a sole member is recommended.]

Sub-Clause 21.1

List of proposed members of DAAB

- proposed by Employer

Not Applicable Currently

- proposed by Contractor

[to be inserted at the time of signing of the Contract]

1. _____
2. _____
3. _____

Sub-Clause 21.2

Appointing entity (official) for DAAB members Managing Director Public Procurement Regulatory Authority (PPRA) or Chairman Pakistan Engineering Council (PEC) from the list of PEC approved arbitrators published at its website

Sub-Clause 21.6

Rules of Arbitration: PEC Rules of Conciliation and Arbitration or Pakistan Arbitration Act of 1940, if the former is inactive.

The place of Arbitration shall be in the Employer's country: **Lahore, Pakistan**

[Insert name of city]

Particular Conditions

PartB - Special Provisions

1.1 Definitions

1.1.76 "Specification"

Following is added at the end:

"and consists of two parts i.e.,

- i) "Part A - Specific Provisions"; and
- ii) "Part B - Technical Provisions".

1.2 Interpretation

"and" is deleted from the end of sub-paragraph (i) and added at the end of sub-paragraph (j).

Sub-paragraph (k) is added:

"(k) The word "tender" is synonymous with "bid" the word tenderer with "bidder", the words "tender documents" with "bidding documents" and "Schedule of Prices" with "Bill of Quantities", as applicable."

1.5 Priority of Documents The documents listed at (a) through (k) of this Sub-Clause are deleted and substituted with the following:

- (a) the Contract Agreement;
- (b) the Letter of Acceptance;
- (c) the Letter of Bid;
- (d) the Particular Conditions Part A - Contract Data;
- (e) the Particular Conditions Part B - SpecialProvisions;
- (f) the General Conditions;
- (g) the Specification Part A - SpecificProvisions;
- (h) the Specification Part B- Technical Provisions;
- (i) the Drawings;
- (j) the completed Schedules to Bid includingBillof Quantities;
- (k) the JV Undertaking (if the Contractor is a JV); and
- (l) any other documents forming part of the Contract.

The addenda/corrigenda, if any, shall be deemed to have been incorporated at the appropriate places in the documents forming the Contract.

1.6 Contract Agreement

In the last line of the 1st paragraph the text “shall be borne by the Employer” is substituted by “shall be reimbursed by the Employer to the Contractor”.

3.1 The Engineer

In sub-paragraph (a) the text “as defined in the Pakistan Engineering Council Act, 1975 (Act No.V of 1976)” are added after the words “professional engineer”.

3.2 Engineer’s Duties and Authority

The Engineer shall obtain the consent in writing of the Employer before taking action under the following Sub-Clauses of these Conditions:

- (a) Consenting to the subcontracting of any part of the Works under Sub-Clause 5.1 [Subcontractors]
- (b) Any action under Sub-Clauses 8.9 [Employer’s Suspension] and 8.12 [Prolonged Suspension]
- (c) Issuance of “Taking Over Certificate” under Sub-Clause 10.1 [Taking Over the Works and Sections].
- (d) Issuing the “Performance Certificate” under Sub-Clause 11.9 [Performance Certificate].
- (e) Sub-Clause 13.1 [Right to Vary]: instructing a Variation, except;
- (i) in an emergency situation as determined by the Engineer, or
- (ii) if such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the Contract Data.
- (f) Sub-Clause 13.3 [Variation Procedure]: approving a proposal for Variation submitted by the Contractor in accordance with Sub-Clause 13.3.2 [Variation by Request for Proposal] or 13.2 [Value Engineering].
- (g) Certifying release of second half of the Retention Money under Sub-Clause 14.9 [Release of Retention Money].
- (h) Issuing Final Payment Certificate under Sub-Clause 14.13 [Issue of FPC].
- (i)

*[insert Sub-Clause number (not Sub-Clause 3.7 [Agreement or Determination])

Any such requirement shall not be applied to any action by the Engineer under Sub-Clause 3.7 [Agreement or Determination], as stated in Sub-Clause 3.2 [Engineer’s Duties and Authority] of the General Conditions.

Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer.

Following is added after the words “the Employer’s consent is required” in 4th paragraph:
“stating that the Employer’s consent has been obtained for that specified authority”

4.2 Performance Security

4.2.1 Contractor’s Obligations

The entity issuing the Performance Security and its form shall be as under:

The Performance Security shall be, at the option of the Contractor, issued in the prescribed form included in the Bidding Documents, by (a) a Scheduled Bank in Pakistan or (b) a foreign bank duly counter-guaranteed by a Scheduled Bank in Pakistan or (c) an Insurance Company listed in the Contract Data and rated by PACRA/VIS of ratings provided in Table below:

Accepted Contract Amount (In Eq. PKR million) Minimum Rating of Insurance Companies

Up to 1000 A (+)

1001 to no limit AA

In case of Joint Venture, the Performance Security shall be in the name of the Joint Venture or in the name of Lead/either firm of the JV or in ratio of shares of the individual JV partners.

Following paragraph is added at the end of this Sub-Clause:

“The amount of Performance Security shall be reduced to 50% following issue of the Taking-Over Certificate for the whole of the Works under Clause 10 of Conditions of Contract.”

4.3 Contractor’s Representative

In second paragraph the text “professional engineer as defined in the Pakistan Engineering Council Act, 1975 (Act No. V of 1976) (having temporary licence in case of foreign engineer under Section 12 of the Pakistan Engineering Council Act, 1975 (Act No. V of 1976)” are added after the words “qualified, experienced”.

In the 3rd paragraph the words “28 days” are substituted by “14 days”. In 2nd line of 4th paragraph the text “or appoint a replacement” is substituted by “except appointment of a suitable temporary replacement is deployed at the Site”

4.4 Contractor’s Documents

4.4.2 As-Built Records

First paragraph is deleted and the text in the last paragraph is substituted with the following:

“The Contractor shall furnish to the Engineer 6 copies, one reproducible and one electronic copy (provided the Engineer has made available to the Contractor editable form of the Drawings) of all Drawings amended to conform to the Works as built. In case the Engineer does not make available to the Contractor editable form of the Drawings, the Contractor shall furnish to the Engineer as-built data for incorporation in the Drawings. Upon receipt of PDF versions of the as-built drawings prepared by the Engineer, the Contractor shall furnish to the Engineer 6 copies and one reproducible of these Drawings.

The price of such Drawings shall be deemed to be included in the Contract Price.”

Following Sub-Clause is added:

4.4.4 Shop Drawings

The Contractor shall submit to the Engineer for review 3 copies of all shop and erection drawings applicable to this Contract as per provision of relevant Sub-Clause of the Contract.

Review and approval by the Engineer shall not exceed 21 days and be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory and the Engineer’s review or approval shall not relieve the Contractor of any of his responsibilities under the Contract.

4.8 Health and Safety Obligations

The following text is added at the end of this Sub-Clause:

In the event of work being carried out outside the normal working hours and in the event of work being carried out at night, the Contractor shall at his own cost, provide and maintain such good and sufficient light as will enable the work to proceed satisfactorily and without danger. The approaches to the Site and the Works where the night work is being carried out shall be sufficiently lighted. All arrangement adopted for such lighting shall be to the satisfaction of the Engineer.

4.20 Progress Reports

At the end of sub-paragraph (g) the word “and” is deleted and at the end of sub-paragraph (h) the full stop (.) is replaced with “;”, and the following new sub-paragraphs are added as:

- (i) planned programme for the execution of the Works for next 56 days to enable the Engineer to determine its programme of inspection and testing;
- (j) monthly summary of daily job record indicating weather conditions, deployment of Contractor’s Equipment, labour employment, local material procurement and material import, if any; and
- (k) salient contractual and project information.

5.1 Subcontractors

Add the following text at the end of paragraph (ii):

“underSchedule to Bid”

The following is added at the end of the last paragraph of Sub-Clause 5.1:

“All subcontracts relating to the Works shall include provisions which entitle the Employer to require the subcontract to be assigned to the Employer under sub-paragraph (a) of Sub-Clause 15.2.3 [After Termination].

The Contractor shall give reasonable opportunity to contractors from Islamic Republic of Pakistan for subcontracts for the Works, and endeavour to employ such contractors as Subcontractors.”

5.2 Nominated Subcontractors

5.2.2 Objection to Nomination

In sub-paragraph (c), “and” is deleted from the end of (i);

“.” at the end of (ii) is replaced with: “, and”.

The following is then added as (iii):

“(iii) be paid only if and when the Contractor has received from the Employer payments for sums due under the Subcontract referred to under Sub-Clause 5.2.3 [Payment to nominated Subcontractors].”

6.1 Engagement of Staff and Labour

The following paragraph is added at the end of the Sub-Clause:

“The Contractor shall, to the extent practicable and reasonable, employ staff (not less than 50%) and labour (not less than 85%) with appropriate qualifications and experience from sources within the Islamic Republic of Pakistan.”

6.7 Health and Safety of Personnel

The existing text is substituted with the following:

“In order to provide for the safety, health and welfare of persons, and for prevention of damage of any kind, all operations for the purposes of or in connection with the Contract shall be carried out in compliance with the Safety Requirements of the Government of Pakistan with such modifications thereto as the Engineer may authorize or direct and the Contractor shall take or cause to be taken such further measures and comply with such further requirements as the Engineer may determine to be reasonably necessary for such purpose. The Contractor shall also provide all other medical services and appoint a health and safety officer at Site if stated in the Specifications. In case of any fatality or serious accident, the Contractor shall, in addition, notify the Engineer immediately by the quickest available means.”

6.8 Contractor’s Superintendence

Insert at the end of sub-paragraph (a) of this Sub-Clause:

“or, if not, the Contractor shall make competent interpreters available during all working hours, in a number sufficient for those persons to properly perform their superintendence duties”

The following text is added at the end of this Sub-Clause:

“The Contractor’s authorized representative and his other engineers working at site shall possess valid registration with the Pakistan Engineering Council.

The Contractor’s authorized representative at Site shall be authorized to exercise adequate administrative and financial powers on behalf of the Contractor so as to achieve completion of the Works as per the Contract.”

6.12 Key Personnel

The following is inserted at the end of the last paragraph:

“If any of the Key Personnel are not fluent in this language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.”

The following Sub-Clauses 6.13 to 6.26 are added at the end of Sub-Clause 6.12:

6.13 Foreign Personnel

The Contractor may bring in to the Country any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, if requested by the Contractor, use all reasonable endeavours in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government permission required for bringing in the Contractor's personnel.

The Contractor shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in the Country of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

6.14 Supply of Foodstuffs

The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.

6.15 Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.

6.16 Measures against Insect and Pest Nuisance

The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

6.17 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereto by Contractor's Personnel.

6.18 Arms and Ammunition

The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.

6.19 Festivals and Religious Customs

The Contractor shall respect the Country's recognized festivals, days of rest and religious or other customs.

6.20 Funeral Arrangements

The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of its local employees who may die while engaged upon the Works.

6.21 Forced Labour

The Contractor, including its Subcontractors, shall not employ or engage forced labour which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labour, such as indentured labour, bonded labour or

similar labour-contracting arrangements.

6.22 Child Labour

The Contractor, including its Subcontractors, shall not employ or engage child labour in accordance with relevant law(s) in force in Islamic Republic of Pakistan.

6.23 Employment Records of Workers

The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Engineer. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Contractor's Records].

6.24 Workers' Organizations

The Contractor shall comply with the relevant labour laws of Pakistan which recognize workers' rights to form and to join workers' organizations/Trade Union of their choosing and to bargain collectively without interference.

6.25 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 nondiscrimination and equal opportunity, including for specific groups such as women, persons with disabilities, migrant workers and children (of working age in accordance with Sub-Clause 6.22).

6.26 Epidemics

In the event of any out-break of illness of epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government or the local medical or sanitary authorities for the purpose of overcoming the same.

7.7 Ownership of Plant and Materials

The following is added before the first paragraph:

"Except as otherwise provided in the Contract,"

The following is added at the end of the Sub-Clause:

"No Plant and/or Materials that is the property of the Employer shall be removed from the Site. If it becomes necessary to:

- (i) remove any item of such Plant from the Site for the purpose of repair, the Contractor shall give a Notice, with reasons, to the Engineer requesting consent to remove the defective or damaged item off the Site. This Notice shall clearly identify the item of defective or damaged Plant, and shall give details of: the defect or damage to be repaired; the place to which defective or damaged item of Plant is to be taken for repair; the transportation to be used (and insurance cover for such transportation); the proposed inspections and testing off the Site; and the planned duration required before the repaired item of Plant shall be returned to the Site. The Contractor shall also provide any further details that the Employer may reasonably require; or

(ii) replace any item(s) of such Plant and/or Materials, the Contractor shall give a Notice, with reasons, to the Engineer clearly identifying the item(s) of Plant and/or Materials to be replaced, and giving details of the due date of delivery to the Site of the replacement item(s).

Where any item of Plant and/or Materials has become the property of the Employer under this Sub-Clause before it has been delivered to the Site, the Contractor shall ensure that such an item is not moved except for its delivery to the Site.

The Contractor shall indemnify and hold the Employer harmless against and from the consequences of any defect in title or encumbrance or charge (except any reasonable restriction arising from the intellectual property rights of the manufacturer or producer) on any item of Plant and/or Materials that has become the property of the Employer under this Sub-Clause."

The following Sub-Clause 7.9 is added after Sub Clause 7.8:

7.9 Use of Pakistani Materials and Services

The Contractor shall, so far as may be consistent with the Contract, make the maximum use of materials, supplies, plant and equipment indigenous to or produced or fabricated in Pakistan and services available in Pakistan provided such materials, supplies, plant, equipment and services shall be of required standard.

8.1 Commencement of Works

The following is added before the first paragraph:

"After signing of the Contract Agreement by both Parties," and thereafter the word "The" is replaced with the word "the".

8.5 Extension of Time for Completion

The following is added after paragraph (c):

"for last five years".

The following Sub-Clause 8.14 is added after Sub-Clause 8.13:

8.14 Incentives For Early Completion

If Contract Data does not state applicability of incentives for early completion, this Sub-Clause shall not apply.

The Contractor shall be entitled subject to Sub-Clause 20.2 [Claims for Payment and/or EOT] to bonus payment if the Works and/or each Section is completed earlier than the Time for Completion for the Works or Section (as the case may be). The amount of bonus for early completion of the Works and/or each Section shall be up to a limit and at a rate to 50% of the relevant limit and rate of delay damages prescribed in Contract Data and shall be paid for every day which shall elapse between the relevant Date of Completion of the Works or Section and the relevant Time for Completion.

For the purposes of calculating any bonus payment, the applicable Time for Completion stated in the Contract Data is fixed and no adjustments of this time by reason of granting an EOT will be allowed.

The following Sub-Clause 11.12 is added after Sub-Clause 11.11:

11.12 Supervisory Assistance During DNP

If provided under the Schedule of Prices, the Contractor shall provide supervisory assistance to the Employer during the DNP for the Works. Such supervisory assistance shall be as described in the Specification for the purpose of supporting the Employer's operation and maintenance of the Plant for the period specified in the Schedule of Prices after the Date of Completion.

12.2 Method of Measurement

The following paragraph is added at the end of the Sub-Clause:

“Summary of measured quantity for payment shall be delineated item-wise under four headsnamely; “Schedule of Prices Quantity”, “Quantity Executed To-date”, “Quantity Certified Previously” and “Net Quantity Executed under this Certificate”.

12.3 Valuation of the Works

The following text is added at the end of fifth paragraph of the Sub-Clause:

“Sum of overhead charges and profit for sub-paragraph (a) shall be Twenty Five percent (25%)”.

13.4 Provisional Sums

The following paragraph is inserted as the penultimate paragraph:

“The Provisional Sum shall be used to cover the Employer’s share of the DAAB members’ fees and expenses, in accordance with Clause 21. No prior instruction of the Engineer shall be required with respect to the work of the DAAB. The Contractor shall submit the DAAB members’ invoices and the satisfactory evidence of having paid 100% of such invoices as part of the substantiation of those Statements submitted under Sub-Clause 14.3.

13.6 Adjustments for Changes in Laws

The following paragraphs are added at the end of the Sub-Clause:

“Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the Table of Adjustment Data in accordance with the provisions of Sub-Clause 13.7 [Adjustments for Changes in Cost].”

14.1 The Contract Price

The following is added at the end of the Sub-Clause:

“Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts, imported by the Contractor for the sole purpose of executing the Contract shall be temporarily exempt from the payment of import duties and taxes upon initial importation, provided the Contractor shall post with the customs authorities at the port of entry an approved re-export bond or bank guarantee, valid until the Time for Completion plus six months, in an amount equal to the full import duties and taxes which would be payable on the assessed imported value of such Contractor's Equipment and spare parts, and callable in the event the Contractor's Equipment is not re-exported from the Country on completion of the Contract. A copy of the bond or bank guarantee endorsed by the customs authorities shall be provided by the Contractor to the Employer upon the importation of individual items of Contractor's Equipment and spare parts. Upon re-export of individual items of Contractor's Equipment or spare parts, or upon the completion of the Contract, the Contractor shall prepare, for approval by the customs authorities, an assessment of the residual value of the Contractor's Equipment and spare part to be re-exported, based on the depreciation scale(s) and other criteria used by the customs authorities for such purposes under the provisions of the applicable Laws. Import duties and taxes shall be due and payable to the customs authorities by the Contractor on (a) the difference between the initial imported value and the residual value of the Contractor's Equipment and spare parts to re-exported; and (b) on the initial imported value of the Contractor's Equipment and spare parts remaining in the Country after completion of the Contract. Upon payment of such dues within 28 days of being invoiced, the bond or bank guarantee shall be reduced or released accordingly; otherwise the security shall be called in the full amount remaining.”

[The Employer may change or delete this Sub-Clause as per Project requirements]

14.2 Advance Payment

14.2.1 Advance Payment Guarantee

The entity issuing the Advance Payment Guarantee and its form shall be as under:

The Advance Payment Guarantee shall be in the form of Guarantee issued by (a) a Scheduled Bank in Pakistan or (b) a foreign bank duly counter-guaranteed by a Scheduled Bank in Pakistan or (c) an Insurance Company listed in the Contract Data and rated by PACRA/VIS of rating as provided in Table below:

Accepted Contract Amount (In Eq. million PKR) Minimum Rating of Insurance Companies

Up to 1000 A (+)

1001 to no limit AA

In case of Joint Venture, the Advance Payment Guarantee(s) shall be in the name of the Joint Venture or in the name of Lead/either firm of the JV or in ratio of shares of the individual JV partners.

14.6 Issue of IPC

14.6.1 The IPC

In the first line of the 1st paragraph the words “28 days” are substituted by “14 days”.

14.7 Payment

The words “or through crossed cheque in favour of the Contractor or JV partners. The Payment to JV partners shall be made at the request of the Joint Ventures in the ratio of their shares specified by them” are added at the end of the Sub-Clause.

14.8 Delayed Payment

In the first paragraph, third line, the words “compounded monthly” are deleted.

The text of 2nd paragraph is deleted and substituted with the following:

“The Employer shall pay to the Contractor compensation at the rate stated in the Contract Data.”

14.9 Release of Retention Money

The following is added at the end of Sub-Clause 14.9:

“Unless otherwise stated in the Contract, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a guarantee, in the form annexed to the Particular Conditions or in another form approved by the Employer and issued by a schedule bank selected by the Contractor, for the second half of the Retention Money. The Contractor shall ensure that the guarantee is in the amounts and currencies of the second half of the Retention Money and is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Security. On receipt by the Employer of the required guarantee, the Engineer shall certify, and the Employer shall pay the second half of the Retention Money. The release of the second half of the Retention Money against a guarantee shall then be in lieu of the release after the latest of the expiry dates of the Defects Notification Periods. The Employer shall return the guarantee to the Contractor within 21 days after receiving a copy of the Performance Certificate.

If the Performance Security required under Sub-Clause 4.2 is in the form of a demand guarantee, and the amount guaranteed under them when the Taking-Over Certificate is issued is more than half of the Retention Money, then the Retention Money guarantee will not be required. If the amount guaranteed under the Performance Security when the Taking-Over Certificate is issued is less than half of the Retention Money, the Retention Money guarantee will only be required for the difference between half of the Retention Money and the amount guaranteed under the Performance Security.

15.2 Termination for Contractor's Default

15.2.1 Notice

Following text is added at the end of sub-paragraph (h) of this Sub-Clause:

“For the purposes of this Contract, corrupt and fraudulent practices have been defined in Public Procurement Rules 2004.”

15.2.3 After Termination

The word “and” at the end of sub-paragraph (ii) of paragraph (b) is deleted the following paragraph is added after sub-paragraph (iii):

“(iv) all Employer-Supplied Materials and/or Employer's Equipment made available to the Contractor in accordance with Sub-Clause 2.6 [Employer-Supplied Materials and Employer's Equipment], and”

15.4 Payment after Termination

The following text is added at the end of this Sub-Clause:

“The Employer shall be entitled to sell any of the Contractor’s Equipment, Temporary Works and unused materials and apply the proceeds of sale towards payment of any debt due from the Contractor to the Employer under this Clause including any outstanding payments to the Subcontractors.

16.2 Termination by Contractor

16.2.1 Notice

The sub-paragraph (j) is deleted in its entirety.

At the end of sub-paragraph (i) “; or” is replaced with “.” and at the end of sub-paragraph (h) “;” is replaced with “; or”.

In sub-paragraph (f) “84 days” are replaced with “180 days” and text “for reasons not attributable to the Contractor” is added at the end.

16.3 Contractor’s Obligations After Termination

Sub-paragraph (c) is deleted and replaced with:

“(c) deliver to the Engineer all Employer-Supplied Materials and/or Employer's Equipment made available to the Contractor in accordance with Sub-Clause 2.6 [Employer-Supplied Materials and Employer’s Equipment]; and

(d) remove all other Goods from the Site, except as necessary for safety, and leave the Site.”

17.1 Responsibility for Care of the Works

After the two instances of “Goods” in the last paragraph, the words “Employer-Supplied Materials and/or Employer's Equipment” are added.

The following Sub-Clause 17.7 is added after Sub-Clause 17.6:

17.7 Use of Employer’s Accommodation/Facilities

The Contractor shall take full responsibility for the care of the items of the Employer’s facilities and/or accommodation, if any, as detailed in the Specification, from the date of use and/or occupation by the Contractor until the date on which such use and/or occupation is re-vested in the Employer.

If any loss or damage happens to any of the above items during a time while the Contractor is responsible for its care, arising from any cause other than a cause for which the Employer is responsible or liable, the Contractor shall promptly rectify the loss or damage at the Contractor’s risk and cost.

18.1 Exceptional Events

The words “or disorder” are replaced with “disorder or sabotage” in sub-paragraph (c) of the Clause.

18.4 Consequences of an Exceptional Event

The following is added at the end of sub-paragraph (b) after deleting the “.”:

“, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Exceptional Events, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 19.2 [Insurance to be provided by the Contractor].”

18.5 Optional Termination

In sub-paragraph (c), the words “and necessarily” are added after the words “was reasonably”.

19.1 General Requirements

Following text is added at the end of first paragraph:

“The Contractor shall immediately after the date of the Letter of Acceptance submit the draft of insurance policies for the Employer’s consent.”

Following text is added at the end of third paragraph:

“The Contractor shall, within the respective periods stated in the Contract Data submit to the Engineer and the Employer a) evidence that the insurances described in this Clause have been effected, and b) copies of policies of the insurances described in Sub-Clauses 19.2.1, 19.2.4 and 19.2.5.”

19.2 Insurance to be provided by the Contractor

19.2.5 Injury to employees

The words “sickness, disease” are deleted in the third line of first paragraph.

The following Sub-Clause is added after Sub-Clause 19.2.6:

19.2.7 Insurance Company

“The Contractor shall be obliged to place all insurances described in this Clause with insurers listed in the Contract Data and rated by PACRA/VISOfrating as provided in Table below:

Accepted Contract Amount (In Eq. million PKR)	Minimum Rating of Insurance Companies
Up to 1000	A (+)
1001 to no limit	AA

21.6 Arbitration

The word “international” is deleted in the sixth line of first paragraph. The text of sub-paragraph (a) is substituted with the following:

“the Dispute shall be finally settled under the Rules of Arbitration, specified in the Contract Data;”

The following Clauses are added after Clause 21

22 Custom Duty

[Employer may incorporate provisions where applicable. However, in order to make the bid more balanced, the payment of Customs Duties should be the responsibility of the Employer.]

23 Taxes

The Contractor, Subcontractors and their employees shall be liable to pay income tax, withholding tax, super tax and other taxes on income arising out of the Contract. The rates and prices as stated in the contract shall be deemed to cover all such taxes.

24 Integrity Part

If it is found and established at any stage that the Contractor or any of his Subcontractors, agents or servants have violated or involved in violation of the Integrity Pact signed by the Contractor then the Employer shall

be entitled to :

(a) recover from the Contractor an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by the Contractor or any of his Subcontractors, agent or servants;

(b) terminate the Contract; and

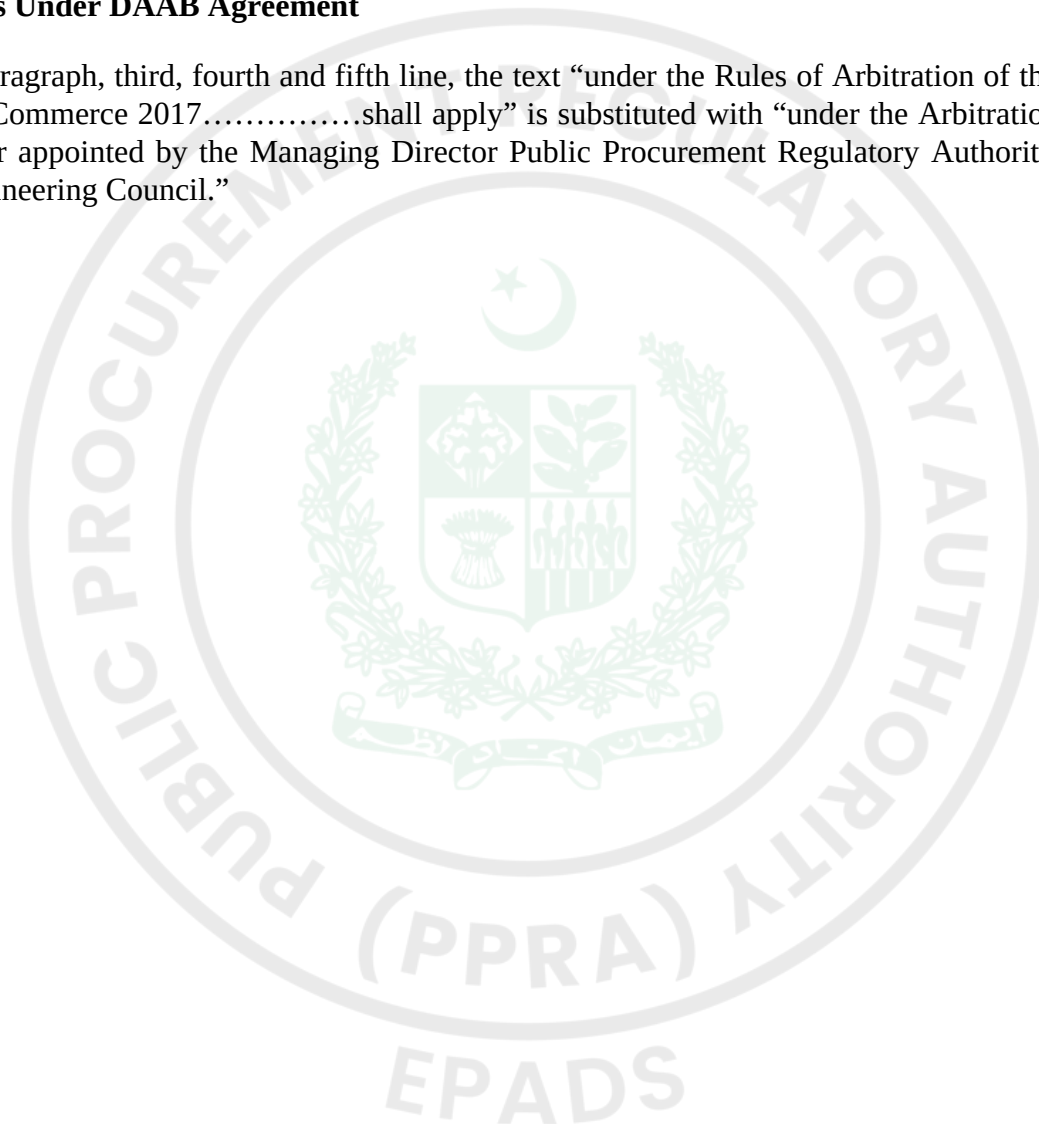
(c) recover from the Contractor any loss or damage to the Employer as a result of such termination or of any other corrupt business practices of the Contractor or any of his Subcontractors, agent or servants.

The termination under sub-paragraph(b) of this Sub-Clause shall proceed in the manner prescribed under Sub-Clause 15.1 to 15.4 and the payment under Sub-Clause 15.4 shall be made after having deducted the amounts due to the Employer under sub-paragraph(a) and (c) of this Sub-Clause.

Appendix General Conditions of Dispute Avoidance/Adjudication Agreement

12 Disputes Under DAAB Agreement

In the first paragraph, third, fourth and fifth line, the text “under the Rules of Arbitration of the International Chamber of Commerce 2017.....shall apply” is substituted with “under the Arbitration Act 1940 by sole arbitrator appointed by the Managing Director Public Procurement Regulatory Authority or Chairman Pakistan Engineering Council.”





Bid Securing Declaration

FORM OF BID SECURING DECLARATION

Date:

No.:

Alternative No.: **P67895**

To: **GM/PD Dasu HPP, (Dasu Hydropower Project) (Water and Power Development Authority (WAPDA) / Member (Water)), Executive Engineer Wapda Project Office, Chuchang Colony,, Dasso, Upper Kohistan (District), Hazara Division (Division), Khyber Pakhtunkhwa (KP) (Province).**

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 be blacklisted and henceforth cross debarred for participating in respective category of public procurement proceedings for a period of (not more than) six months, if fail to abide with a bid securing declaration, however without indulging in corrupt and fraudulent practices, if we are in breach of our obligation(s) under the Bid conditions, because we:

- (a) have withdrawn our Bid during the period of Bid validity specified in the Letter of Bid; or
- (b) having been notified of the acceptance of our Bid by the Procuring agency/Employer during the period of Bid validity, (i) fail or refuse to sign the Contract; or (ii) fail or refuse to furnish the Performance Security (or guarantee), if required, 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 expiration of our Bid.

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.]



Contract Form

FORM OF CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT (hereinafter called the “Agreement”) made on the _____ day of _____ (month) 20____ between **GM/PD Dasu HPP, (Dasu Hydropower Project) (Water and Power Development Authority (WAPDA) / Member (Water)), Executive Engineer Wapda Project Office, Chuchang Colony,, Dasso, Upper Kohistan (District), Hazara Division (Division), Khyber Pakhtunkhwa (KP) (Province).** (hereinafter called the “Employer”) of the one part and _____ (hereinafter called the “Contractor”) of the other part.

WHEREAS the Employer is desirous that certain Works, viz., **Construction of Dubair Road - Package-I (P67895)** should be executed by the Contractor and has accepted a Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW this Agreement witnessed as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents, in the order of priority, after incorporating addenda, if any, except those parts relating to Instructions to Bidders shall be deemed to form and be read and construed as part of this Agreement:
 - a) This Contract Agreement;
 - b) The Letter of Acceptance;
 - c) The Letter of Bid;
 - d) The Particular Conditions Part A - Contract Data;
 - e) The Particular Conditions Part B - SpecialProvisions;
 - f) The General Conditions;
 - g) The Specifications Part A - SpecificProvisions;
 - h) The Specifications Part B- Technical Provisions;
 - i) The Drawings;
 - j) The Completed Schedules to Bid including Schedule of Prices;
 - k) the JV Undertaking (if the Contractor is a JV); and
 - l) [Employer to insert any other documents forming part of the Contract]

The addenda/corrigenda,if any, (Excluding part relating to Instructions to Bidders alongwith Bidding Data) shall be deemed to have been incorporated at the appropriate places in the “Documents forming the Contract”.

3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy defects therein in conformity and 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 as per provisions of the Contract, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed on the day, month and year first before written in accordance with their respective laws.

Signature of the Contactor Signature of Employer

(Seal) (Seal)

Signed, Sealed and Delivered in the presence of:

Witness Witness

(Name, Title and Address) (Name, Title and Address)



DAAB Agreement

[All italicised text and any text within square brackets (except sub-clause headings) in this form of agreement is for use in preparing the form and should be deleted from the final product].

Name and details of the Contract Construction of Dubair Road - Package-I

This Agreement made the _____ day of _____ [month], _____ [year], between

Name and contact details of the Employer **GM/PD Dasu HPP, (Dasu Hydropower Project) (Water and Power Development Authority (WAPDA) / Member (Water)), Executive Engineer**

Wapda Project Office, Chuchang Colony,, Dassu, Upper Kohistan (District), Hazara Division (Division), Khyber Pakhtunkhwa (KP) (Province).

+92-334-180-3005

xen.cst@dasuhpp.com

Name and contact details of the Contractor _____ (name)

_____ (address)

_____ (telephone)

_____ (email / other contact details);

Name and contact details of the DAAB Member _____ (name)

_____ (address)

_____ (telephone)

_____ (email / other contact details);

("DAAB Agreement")

Whereas:

A. the Employer and the Contractor have entered (or intend to enter) into the Contract;

B. under the Contract, the "DAAB" or "Dispute Avoidance/Adjudication Board" means the sole member or three members (as stated in the Contract Data of the Contract) so named in the Contract, or appointed under Sub-Clause 21.1 [Constitution of the DAAB] or Sub-Clause 21.2 [Failure to Appoint DAAB Members] of the Conditions of Contract;

C. the Employer and the Contractor desire jointly to appoint the above-named DAAB Member to act on the DAAB as:

a. the sole member of the DAAB, and where this is the case, all references to the "Other Members" do not apply; or

b. one of three members / chairman [delete the one which is not applicable] of the DAAB and, where this is the case, the other two persons are:

_____ (name) _____ (name)

_____ (address) _____ (address)

_____ (telephone) _____ (telephone)

_____ (email/ other contact details) _____ (email/other contact details)

the “**Other Members**”; and

D. the DAAB Member accepts this appointment.

The Employer, Contractor and DAAB Member jointly agree as follows:

1. The conditions of this DAAB Agreement comprise:

(a) Clause 21 [Disputes and Arbitration] of the Conditions of Contract, and any other provisions of the Contract that are applicable to the DAAB’s Activities; and

(b) the “General Conditions of Dispute Avoidance/Adjudication Agreement”, which is appended to the General Conditions of the “Conditions of Contract for Construction” Second Edition 2017 published by FIDIC (“GCs”), as amended and/or added to by the following provisions.

2. [Details of amendments to the GCs, if any. For example:

In the procedural rules annexed to the GCs, Rule _ is deleted and replaced by: “ ... “]

3. The DAAB Member shall be paid in accordance with Clause 9 of the GCs. The currency of payment shall be _____.

In respect of Sub-Clauses 9.1 and 9.2 of the GCs, the amounts of the DAAB Member’s monthly fee and daily fee shall be:

monthly fee _____ per month, and

daily fee of _____ per day

(or as otherwise set under Sub-Clause 9.3 of the GCs).

4. In consideration of the above fees, and other payments to be made to the DAAB Member in accordance with the GCs, the DAAB Member undertakes to act as DAAB Member in accordance with the terms of this DAAB Agreement.

5. The Employer and the Contractor shall be jointly and severally liable for the DAAB Member’s fees and other payments to be made to the DAAB Member in accordance with the GCs.

6. This DAAB Agreement shall be governed by the law of _____ (if not stated, the law that governs the Contract under Sub-Clause 1.4 of the Conditions of Contract).

SIGNED by: _____ SIGNED by: _____ SIGNED by: _____

Print name: _____ Print name: _____ DAAB Member

Title: _____ Title: _____ Title: _____

for and on behalf of the

Employer for and on behalf of the

Contractor

in the presence of in the presence of in the presence of

Witness: _____ Witness: _____ Witness: _____

Name: _____ Name: _____ Name: _____

Address: _____ Address: _____ Address: _____

Date: _____ Date: _____ Date: _____

EPADS

FORM OF MOBILIZATION ADVANCE GUARANTEE/ BOND

Guarantee No. _____ Date _____

WHEREAS _____ (hereinafter called the 'Employer')

has entered into a Contract for _____

(Particulars of Contract)

with _____ (hereinafter called the "Contractor").

AND WHEREAS, the Employer has agreed to advance to the Contractor, at the Contractor's request, an amount of Pak Rupees _____ (PKR _____) which amount shall be advanced to the Contractor as per provisions of the Contract.

AND WHEREAS, the Employer has asked the Contractor to furnish Guarantee to secure the mobilization advance for the performance of his obligations under the said Contract.

AND WHEREAS, _____

(hereinafter called the "Guarantor") at the request of the Contractor and in consideration of the Employer agreeing to make the above advance to the Contractor, has agreed to furnish the said Guarantee.

NOW, THEREFORE, the Guarantor hereby guarantees that the Contractor shall use the advance for the purpose of above mentioned Contract and if he fails and commits default in fulfilment of any of his obligations for which the advance payment is made, the Guarantor shall be liable to the Employer for payment not exceeding the aforementioned amount.

Notice in writing of any default, on the part of the Contractor, of which the Employer at his discretion of making decision, shall be given by the Employer to the Guarantor, and on such first written demand, payment shall be made by the Guarantor of all sums then due under this Guarantee without any reference to the Contractor and without any objection.

This Guarantee shall remain in force until the advance is fully adjusted against payments from the Interim Payment Certificates of the Contractor or until _____ whichever is earlier.

(Date)

The Guarantor's liability under this Guarantee shall not in any case exceed the sum of PKR _____ (Pak Rupees _____).

This Guarantee shall remain valid up to the aforesaid date and shall be null and void after the aforesaid date or earlier if the advance made to the Contractor is fully adjusted against payments from Interim Payment Certificates of the Contractor provided that the Guarantor

agrees that the aforesaid period of validity shall be deemed to be extended if on the above mentioned date the advance payment is not fully adjusted.

Guarantor
(Scheduled Bank/ Insurance Company)

Signature _____

Name _____

Title _____

WITNESS:

1. _____

Corporate Secretary (Seal) Corporate Guarantor (Seal)
2. _____

Name, Title & Address



Retention Money Security Demand Guarantee

_____ [Guarantor letterhead or SWIFT identifier code]

Beneficiary: _____ [Insert name and Address of Employer]

Date: _____ [Insert date of issue]

RETENTION MONEY GUARANTEE No.: [Insert guarantee reference number]

Guarantor: [Insert name and address of place of issue, unless indicated in the letterhead]

We have been informed that _____ [insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture] (hereinafter called "the Contractor") has entered into Contract No. _____ [insert reference number of the contract] dated _____ with the Employer, 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, the Employer retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, payment of [insert the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security and, if required, the ES Performance Security] is to be made against a Retention Money guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ [insert amount in figures] () [amount in words] upon receipt by us of the Employer's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified therein.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Employer's bank stating that the second half of the Retention Money as referred to above has been credited to the contractor on its account number _____ at _____ [insert name and address of Contractor's bank].

This guarantee shall expire no later than the day of, 2..., and any demand for payment under it must be received by us at the office indicated above on or before that date.

[signature(s)]

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



Integrity Pact

Integrity Pact

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS.10.00 MILLION OR MORE

Contract

Number: Contract

Value: Contract Title:

Dated:

[Name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing [Name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [Name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

Name of Employer:

Signature:

[Seal]

Name of Bidder/Contractor:

Signature:

[Seal]



Performance Guarantee Form

FORM OF PERFORMANCE SECURITY

Guarantee No. _____

Executed on _____

Expiry date _____

Name _____ of _____ Guarantor _____ with _____ address: _____

Name _____ of _____ Principal _____ (Contractor) _____ with
address: _____

Penal Sum of Security (express in words and figures) _____

Letter of Acceptance No. _____ Dated _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bidding Documents and above said Letter of Acceptance (hereinafter called the Documents) and at the request of the said Principal we, the Guarantor above named, are held and firmly bound unto the **GM/PD Dasu HPP, (Dasu Hydropower Project) (Water and Power Development Authority (WAPDA) / Member (Water)), Executive Engineer Wapda Project Office, Chuchang Colony,, Dassu, Upper Kohistan (District), Hazara Division (Division), Khyber Pakhtunkhwa (KP) (Province)**. (hereinafter called the Employer) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Employer, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has accepted the Employer's above said Letter of Acceptance for _____

(Name of Contract) for the **Construction of Dubair Road - Package-I (P67895)**
_____ (Name of Project).

NOW THEREFORE, if the Principal (Contractor) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents during the original terms of the said Documents and any extensions thereof that may be granted by the Employer, with or without notice to the Guarantor, which notice is, hereby, waived and shall also well and truly perform and fulfill all the undertakings, covenants terms and conditions of the Contract and of any and all modifications of said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till all requirements of Clause11, Defects After Taking Over, of Conditions of Contract are fulfilled.

Our total liability under this Guarantee is limited to the sum stated above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee, failing which we shall be discharged of our liability, if any, under this Guarantee.

We, _____ (the Guarantor), waiving all objections and defense under the Contract, do hereby irrevocably and independently guarantee to pay to the Employer without delay upon the Employer's first written demand without cavil or arguments and without requiring the

Employer to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Employer's written declaration that the Principal has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to Employer's designated Bank & Account Number.

PROVIDED ALSO THAT the Employer shall decide, whether the Principal (Contractor) has duly performed his obligations under the Contract or has defaulted in fulfilling said obligations and the Guarantor shall pay without objection any sum or sums up to the amount stated above upon first written demand from the Employer forthwith and without any reference to the Principal or any other person.

IN WITNESS WHEREOF, the above-bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Guarantor

(Schedule Bank/ Insurance Company)

Signature: _____

Name: _____

Title: _____

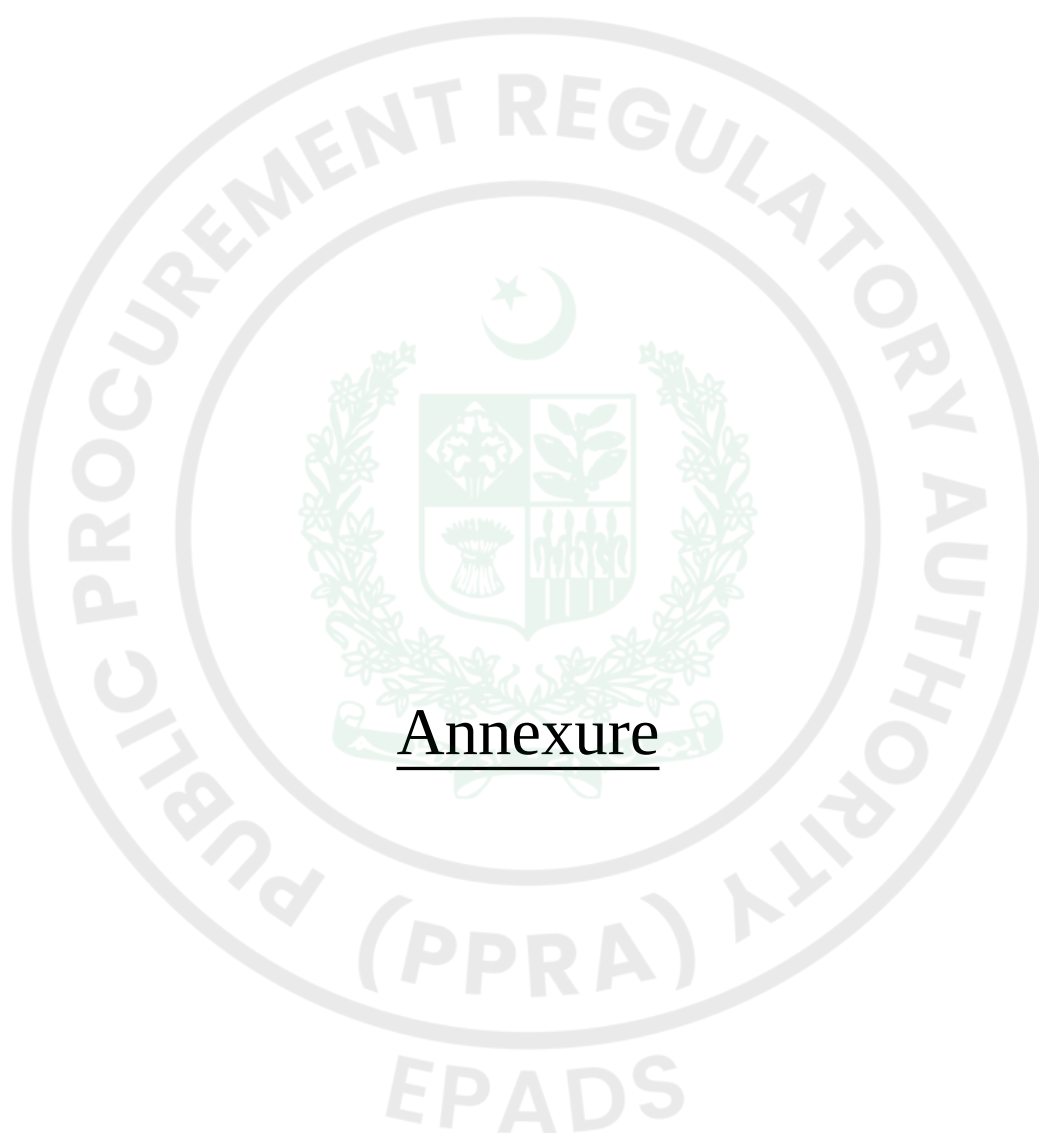
Corporate Guarantor (Seal)

WITNESS:

1.

2.

Name, Title & Address



Annexure

Form FIN 3.5 Self Assessment Tool for Bidders Compliance to Financial Resources

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Form FIN 3.5 Self Assessment Tool for Bidders Compliance to Financial Resources** (page number: 109)

Form EXP 4.1a Detail of General Nature Any Civil Work Project Completed In-Hand

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Form EXP 4.1a Detail of General Nature Any Civil Work Project Completed In-Hand** (page number: 110)

Form ELI 1.1 Bidder Information Form

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Form ELI 1.1 Bidder Information Form** (page number: 111)

Form ELI 1.2 Bidder JV Information Form

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Form ELI 1.2 Bidder JV Information Form** (page number: 112)

Letter of Technical Bid

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Letter of Technical Bid** (page number: 113)

Letter of Price Bid

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Letter of Price Bid** (page number: 115)

Adjustment Data

SBD Document (Read-Only)

See Form Under Additional Forms and Documents: **Adjustment Data** (page number: 117)

Schedules to Bid

Information (Read-Only)

See Form Under Additional Forms and Documents: **Schedules to Bid** (page number: 119)

Supplementary Special Provisions (Particular Conditions) Part 1

Information (Read-Only)

See Form Under Additional Forms and Documents: **Supplementary Special Provisions (Particular Conditions) Part 1** (page number: 155)

Supplementary Special Provisions (Particular Conditions) Part 2

Information (Read-Only)

See Form Under Additional Forms and Documents: **Supplementary Special Provisions (Particular Conditions) Part 2** (page number: 162)

Vol 2(a) Specific and Technical Provisions

Information (Read-Only)

See Form Under Additional Forms and Documents: **Vol 2(a) Specific and Technical Provisions** (page number: 169)

Vol 2 (b) Construction Drawings of Dubair Road Part 1

Information (Read-Only)

See Form Under Additional Forms and Documents: **Vol 2 (b) Construction Drawings of Dubair Road Part 1** (page number: 294)

Vol 2 (b) Construction Drawings of Dubair Road Part 2

Information (Read-Only)

See Form Under Additional Forms and Documents: **Vol 2 (b) Construction Drawings of Dubair Road Part 2** (page number: 304)

Vol 2 (b) Construction Drawings of Dubair Road Part 3

Information (Read-Only)

See Form Under Additional Forms and Documents: **Vol 2 (b) Construction Drawings of Dubair Road Part 3** (page number: 314)

Vol 2 (b) Construction Drawings of Dubair Road Part 4

Information (Read-Only)

See Form Under Additional Forms and Documents: **Vol 2 (b) Construction Drawings of Dubair Road Part 4** (page number: 324)

Vol 2 (b) Construction Drawings of Dubair Road Part 5

Information (Read-Only)

See Form Under Additional Forms and Documents: **Vol 2 (b) Construction Drawings of Dubair Road Part 5** (page number: 334)

Vol 2 (b) Construction Drawings of Dubair Road Part 6

Information (Read-Only)

See Form Under Additional Forms and Documents: **Vol 2 (b) Construction Drawings of Dubair Road Part 6** (page number: 344)

Vol 2 (b) Construction Drawings of Dubair Road Part 7

Information (Read-Only)

See Form Under Additional Forms and Documents: **Vol 2 (b) Construction Drawings of Dubair Road Part 7** (page number: 354)

Bid Security Form

Information (Read-Only)

See Form Under Additional Forms and Documents: **Bid Security Form** (page number: 355)

Bid Security Submission Address

Information (Read-Only)

See Form Under Additional Forms and Documents: **Bid Security Submission Address** (page number: 357)

DETAILS OF CHANGES INCORPORATED IN THE BIDDING DOCUMENTS THROUGH CORRIGENDUM

Information (Read-Only)

See Form Under Additional Forms and Documents: **DETAILS OF CHANGES INCORPORATED IN THE BIDDING DOCUMENTS THROUGH CORRIGENDUM** (page number: 358)

TYPICAL DRAWINGS & DETAILS OF ANCHOR BARS SHOTCRETE & WIRE MESH

Information (Read-Only)

See Form Under Additional Forms and Documents: **TYPICAL DRAWINGS & DETAILS OF ANCHOR BARS SHOTCRETE & WIRE MESH** (page number: 359)





Procurement Forms

Past Construction Experiences

See Form Under Additional Forms and Documents: **Past Construction Experiences** (page number: 360)

Contractor's Key Personnel Representative and Their Schedules

The Bidder must demonstrate that it has the suitably qualified personnel for the key positions that meet the following requirements and will be made available for this contract as per requirements:

No.	Position/specialization	Quantity	Relevant academic qualifications	Minimum years of relevant work experience
1	Project Manager	01	BSc Engineering) (Civil	Minimum 15 years and with one similar project
2	Contract/Planning Engineer	01	BSc Engineering) (Civil	Minimum 5 years
3	Site Engineer	01	BSc Engineering) (Civil	Minimum 5 year
4	QA/QC Staff	01	DAE (Civil)	Minimum 5 years
5	Surveyor/Inspector	02	DAE (Civil)	Minimum 5 years

6	Environmental and Social (ES) Officer	01	Bachelor degree in Environmental Sciences/Engineering (This officer shall also have a certificate issued by IOSH (Institution of Occupational Safety and Health) most preferably NEBOSH (National Examination Board in Occupational Safety and Health))	Minimum 3 years' experience in monitoring and managing environment and social risks in construction
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See Form Under Additional Forms and Documents: **Contractor's Key Personnel Representative and Their Schedules** (page number: 366)

Financial Resources

See Form Under Additional Forms and Documents: **Financial Resources** (page number: 370)

Past Experience and Completed Contracts

1. The similarity shall be based on the physical size, complexity, methods/technology and/or other characteristics described in Scope of Works. Summation of number of small value contracts (less than the value specified under requirement) to meet the overall requirement will not be accepted.
2. Substantial completions shall be based on 80% or more works completed under the contract.
3. For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement. 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 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.
4. Volume of production of any key activity can be demonstrated in one or more contracts combined if executed during same time period.
5. **Note** The values for construction turnover, financial data and value of single contract shall further be escalated @10% per annum up to the deadline for submission of the Bids to meet the qualification criteria.

See Form Under Additional Forms and Documents: **Past Experience and Completed Contracts** (page number: 371)

Historical Contract Non-Performance, and Pending Litigation and Litigation History

History of Non-Performing Contracts: (In case of JV, each Member must meet requirement) Non-performance of a contract did not occur as a result of Contractor's default since 1st July 2016. Non-performance, as decided by the Employer, shall include all contracts where (a) non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employer's decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

Pending Litigation: Assuming that all pending litigation will be resolved against the Bidder

Litigation History: No consistent history of court/arbitral award decisions against the Bidders since 1st July 2016. The Bidder shall provide accurate information on the related Form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last ten years. A consistent history of awards against the Bidder or any member of a joint venture may result in rejection of the Bid.

See Form Under Additional Forms and Documents: **Historical Contract Non-Performance, and Pending Litigation and Litigation History** (page number: 372)

Current Contracts and Their Progress

See Form Under Additional Forms and Documents: **Current Contracts and Their Progress** (page number: 374)

Financial Capacity and Net Worth Evaluation Form

See Form Under Additional Forms and Documents: **Financial Capacity and Net Worth Evaluation Form** (page number: 375)

Average Annual Turnover

See Form Under Additional Forms and Documents: **Average Annual Turnover** (page number: 377)





Additional Forms and Documents

Form FIN – 3.5: Self-Assessment Tool for Bidder's Compliance to Financial Resources (Criterion 3.1)

This form requires the same information submitted in Forms FIN – 3.3 and FIN -3.4. All conditions of “Available Financial Resources Net of CCC $\geq$ Requirement for the Subject Contract” must be satisfied to qualify.

Form FIN -3.5A: For Single Entities

For Single Entities: (A)	Total Available Financial Resources from FIN – 3.3 (B)	Total Monthly Financial Requirement for Current Contract Commitments (CCC) from FIN – 3.4 (C)	Available Financial Resources Net of CCC $D = (B - C)$	Requirement for the Subject Contract (E)	Results: Yes or No [<i>D must be greater than or equal to E</i>] (F)
(Name of Bidder)					

Form FIN - 5B: For Joint Ventures

For Joint Ventures: (A)	Total Available Financial Resources from FIN – 3.3 (B)	Total Monthly Financial Requirement for Current Contract Commitments (CCC) from FIN – 3.4 (C)	Available Financial Resources Net of CCC $D = (B - C)$	Requirement for the Subject Contract (E)	Results: Yes or No [<i>D must be greater than or equal to E</i>] (F)
One Partner:					
(Name of Partner)					
Each Partner:					
(Name of Partner 1)					
All partners combined	$\sum D =$ Sum of available financial resources net of current contract commitments for all partners		$\sum D =$		

- Note -

Form FIN – 3.5 is made available for use by the bidder as a self-assessment tool, and by the employer as an evaluation work sheet, to determine compliance with the financial resources requirement as stated in FIN 3.3. Failure to submit Form FIN – 3.5 by the Bidder shall not lead to bid rejection.

Form EXP- 4.1 (a)
Detail of General Nature (Any Civil Work) Project Completed/In-Hand

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

Bidder's Name: _____

Date: _____

JV Member's Name _____

Bid Reference No. (if any) and title: _____

Page _____ of _____ pages

Similar Contract No. <i>[insert number] of [insert number of similar contracts required]</i>	Information			
Contract Identification	<i>[insert contract name and number, if applicable]</i>			
Award date	<i>[insert day, month, year, e.g., 15 June, 2017]</i>			
Completion date	<i>[insert day, month, year, e.g., 03 October, 2019]</i>			
Role in Contract <i>[check the appropriate box]</i>	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount	<i>[insert total contract amount in local currency]</i>		PKR <i>[insert Exchange rate and total contract amount in PKR equivalent]*</i>	
If member in a JV or sub-contractor, specify share in value in total Contract amount and roles and responsibilities	<i>[insert a percentage amount]</i>	<i>[insert total contract amount in local currency]</i>	<i>[insert exchange rate and total contract amount in PKR equivalent]*</i>	
	<i>[insert roles and responsibilities]</i>			
Employer's Name:	<i>[insert full name]</i>			
Address:	<i>[indicate street / number / town or city / country]</i>			
Telephone/fax number	<i>[insert telephone/fax numbers, including country and city area codes]</i>			
E-mail:	<i>[insert e-mail address, if available]</i>			

*Refer to IB 14.2 for the exchange rate

*must attach experience certificates/proof of cost & scope of respective projects

Form ELI -1.1

Bidder Information Form

Date: _____

Bid Reference No. (if any) and title: _____

Page _____ of _____ pages

Bidder's name
In case of Joint Venture (JV), name of each member:
Bidder's country of registration: <i>[indicate country of Constitution]</i>
Bidder's year of incorporation:
Bidder's legal address [in country of registration]:
Bidder's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
<i>Attached are copies of the following documents.</i> 1. <i>Articles of incorporation or constitution of the legal entity named above along with list of controlling shareholders, directors and legal representative.</i> 2. <i>Authorization to represent the firm named above.</i> 3. <i>Pakistan Engineering Council license.</i> 4. <i>Joint Venture Agreement; a statement to the effect shall be included in the Letter of Intent/JV Agreement that all partners of the Joint Ventures shall at all times and under all circumstances be liable jointly and severally for the execution of the Contract in accordance with the Contract terms.</i>

Form ELI -1.2
Bidder's JV Information Form
(to be completed for each member of Bidder's JV)

Date: _____

Bid Reference No. (if any) 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: _____
<i>Attached are copies of the following documents.</i> ☐ <i>Articles of incorporation or constitution of the legal entity named above along with list of controlling shareholders, directors and legal representative.</i> ☐ <i>Authorization to represent the firm named above.</i> ☐ <i>Pakistan Engineering Council license</i>

Letter of Technical Bid

Date of this Bid submission: _____

Bid Reference No.: DASU-MKJ-CDR: [Construction of Dubair Road (Package-1)]

To: General Manager/Project Director Dasu Hydropower project WAPDA Chuchang Colony District Kohistan (Upper) Khyber Pakhtunkhwa.

Gentleman:

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

- (a) The Technical Bid, and
- (b) The Financial Bid.

Having examined the Bidding Documents, including Instructions to Bidders, Bidding Data, Conditions of Contract, Specifications, Schedules to Bid including Bill of Quantities, Drawings and Addenda Nos. _____ for the execution of the above –named Works, we, the undersigned, offer to execute and complete such Works and remedy any defects therein in conformity with the said Bidding Documents, and Addenda.

2. We meet the eligibility requirements in accordance with IB.3.
3. We, including any Subcontractors for any part of the Contract, are not debarred/ blacklisted by the Employer, any Government/Semi Government/Public Department in Pakistan or foreign country, international organizations or other foreign institutions.
4. Our subcontractors or suppliers for any part of the Contract, if any, shall have nationalities from eligible countries, in accordance with IB.4.4.
5. We understand that all the Schedules attached hereto form part of this Bid.
6. As security for due performance of the undertakings and obligations of this Bid, we submit herewith a Bid Security in the amount of PKR _____ (Pak. Rupees _____) drawn in your favour or made payable to you and valid for a period of _____ days beginning from the date Bids are opened, inclusive of (14) days beyond Bid validity period (as mentioned at Sr. No. 8 below).
7. We undertake, if our Bid is accepted, to commence the Works and to complete the whole of the Works comprised in the Contract within the time stated in Contract Data.
8. We agree to abide by this Bid for the period of _____ days and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
9. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
10. We do hereby declare that the Bid is made without any collusion, comparison of figures on arrangement with any other Bidder for the Works.
11. We understand that you are not bound to accept the lowest or any Bid you may receive.
12. We undertake that all the information and documents submitted with the Bid are genuine, and in case of incorrect information of fake documents we shall be liable for punitive action under the Applicable Law.

13. We hereby undertake that we have no conflicts of interest in accordance with Sub-Clause IB. 3.1 (e).

Dated this _____ day of _____ 2026

Signature: _____

in the capacity of _____ duly authorized to sign Bids for and on behalf of

(Name of Bidder in Block Capitals)

(Seal)

Address: _____

Witness:

Signature: _____

Name: _____

Address. _____

Occupation _____

**: 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*

Letter of Price Bid

Date of this Bid submission: _____

Bid Reference No.: DASU-MKJ-CDR: [Construction of Dubair Road (Package-1)]

To: General Manager/Project Director Dasu Hydropower project WAPDA Chuchang Colony District Kohistan (Upper) Khyber Pakhtunkhwa.

Gentleman

1. We, the undersigned Bidder, hereby submit the second part of our Bid, namely the Price Bid.

Having examined the Bidding Documents including Instructions to Bidders, Bidding Data, Conditions of Contract, Specifications, Schedules to Bid including Bill of Quantities, Drawings and Addenda Nos. _____ for the execution of the above-named

Works, we, the undersigned, offer to execute and complete such Works and remedy any defects therein in conformity with the said Bidding Documents and Addenda for the sum of PKR _____ (Pak _____ Rupees _____) or

such other sum as may be ascertained in accordance with the said conditions, excluding any discounts offered below.

2. If our Bid is accepted, we undertake to provide a Performance Security in the form, in the amounts, and within the time specified in the Bidding Documents.
3. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
4. We understand that you are not bound to accept the lowest or any Bid you may receive.

Dated this _____ day of _____ 2026

Signature: _____

in the capacity of _____ duly authorized to sign Bids for and on behalf of

(Name of Bidder in Block Capitals)

(Seal)

Address: _____

Witness:

Signature: _____

Name: _____

Address. _____

CONSTRUCTION OF DUBAIR ROAD

Occupation _____

**: 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*



A-1
Schedule-A to Bid

SCHEDULE OF ADJUSTMENT DATA

Schedule of Cost Indexation

[The Employer is to engage a professional with experience in construction costs and the inflationary effect on construction costs when preparing the contents of the Schedule of Cost Indexation. In the case of very large and/or complex works contracts, it may be necessary to specify several families of price adjustment formulae corresponding to the different works involved.]

[The formulae for price adjustment shall be of the following general type:]

$$P_n = a + b \frac{L_n}{L_o} + c \frac{E_n}{E_o} + d \frac{M_n}{M_o} + \dots$$

where:

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

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

“b”, “c”, “d”, ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

“L_n”, “E_n”, “M_n”, are the current cost indices or reference prices for period “n”, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates); and

“L_o”, “E_o”, “M_o”, are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

The weightings (coefficients) for each of the factors of cost stated in the following table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variation(s).

If the currency in which the Contract price is expressed is different from the currency of the country of origin of the indices, a correction factor will be applied to avoid incorrect adjustments of the Contract price. The correction factor shall be: Z_0 / Z_1 , where,

Z_0 = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Base date, and

Z_1 = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Date of Adjustment.

A-2
Schedule-A to Bid

SCHEDULE OF ADJUSTMENT DATA

Table I. Local Currency (LC) For Bill Nos. _____

[In the Table below, the Bidder shall (a) indicate amount of local currency payment, and the Employer shall (b) enter the Index description and source of indices for the different elements of cost, and (c) derive weightings for local currency payment including nonadjustable fixed portion. PEC Standard Procedure and Formula for Price Adjustment (Second Edition), May, 2022 as amended time to time shall be applied for preparation of the following Table.]

Index Code	Index Description	Source of Index	Base Value and Date	Bidder's Local Currency Amount	Bidder's Proposed Weighting
(i)	Non adjustable (Fixed Portion)				0.3
	Adjustable (Non Fixed Portion)				
(ii)	Local unskilled Labor	Pakistan Bureau of Statistics Monthly Statistical Bulletin for Abbottabad City			(0.15)
(iii)	Cement (OPC)	Pakistan Bureau of Statistics Monthly Statistical Bulletin for Abbottabad City			(0.15)
(iv)	Reinforcement steel (Representing all types and dimension of steel reinforcement)	iii)Reinforcement steel (Representing all types and dimension of steel reinforcement)			(0.25)
(v)	High Speed Diesel (HSD)	Pakistan State Oil (PSO)			(0.15)
Total					1.00

A-2
Schedule-A to Bid

SCHEDULE OF ADJUSTMENT DATA

Table I. Local Currency (LC) For Bill Nos. _____

[In the Table below, the Bidder shall (a) indicate amount of local currency payment, and the Employer shall (b) enter the Index description and source of indices for the different elements of cost, and (c) derive weightings for local currency payment including nonadjustable fixed portion. PEC Standard Procedure and Formula for Price Adjustment (Second Edition), May, 2022 as amended time to time shall be applied for preparation of the following Table.]

Index Code	Index Description	Source of Index	Base Value and Date	Bidder's Local Currency Amount	Bidder's Proposed Weighting
(i)	Non adjustable (Fixed Portion)				0.3
	Adjustable (Non Fixed Portion)				
(ii)	Local unskilled Labor	Pakistan Bureau of Statistics Monthly Statistical Bulletin for Abbottabad City			(0.15)
(iii)	Cement (OPC)	Pakistan Bureau of Statistics Monthly Statistical Bulletin for Abbottabad City			(0.15)
(iv)	Reinforcement steel (Representing all types and dimension of steel reinforcement)	iii)Reinforcement steel (Representing all types and dimension of steel reinforcement)			(0.25)
(v)	High Speed Diesel (HSD)	Pakistan State Oil (PSO)			(0.15)
Total					1.00

A-1
Schedule-A to Bid

SCHEDULE OF ADJUSTMENT DATA

Schedule of Cost Indexation

[The Employer is to engage a professional with experience in construction costs and the inflationary effect on construction costs when preparing the contents of the Schedule of Cost Indexation. In the case of very large and/or complex works contracts, it may be necessary to specify several families of price adjustment formulae corresponding to the different works involved.]

[The formulae for price adjustment shall be of the following general type:]

$$P_n = a + b \frac{L_n}{L_o} + c \frac{E_n}{E_o} + d \frac{M_n}{M_o} + \dots$$

where:

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

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

“b”, “c”, “d”, ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

“L_n”, “E_n”, “M_n”, are the current cost indices or reference prices for period “n”, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates); and

“L_o”, “E_o”, “M_o”, are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

The weightings (coefficients) for each of the factors of cost stated in the following table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or inapplicable, as a result of Variation(s).

If the currency in which the Contract price is expressed is different from the currency of the country of origin of the indices, a correction factor will be applied to avoid incorrect adjustments of the Contract price. The correction factor shall be: Z_0 / Z_1 , where,

Z_0 = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Base date, and

Z_1 = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Date of Adjustment.

**B-1
Schedule-B to Bid****BILL OF QUANTITIES****A. Preamble:**

1. The Bill of Quantities shall be read in conjunction with the Conditions of Contract, Specifications and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work executed and measured by the Contractor and verified by the Engineer and valued at the rates and prices as given in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix as per the Contract.
3. The rates and prices as given in the priced Bill of Quantities shall, except insofar as it is otherwise provided under the Contract include all costs of Contractor's plant, labour, supervision, materials, execution, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract. Furthermore, all duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as on the date 28 days prior to deadline for submission of Bids, shall be included in the rates and prices and the total Bid Price submitted by the Bidder.
4. A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of items against which the Contractor will have failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
5. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of the Works, or the same shall be determined by the Engineer in accordance with Clause 13, General Conditions.
6. General directions and description of work and materials are not necessarily repeated nor summarised in the Bill of Quantities. References to the relevant sections of the Bidding Documents shall be made before entering prices against each item in the Bill of Quantities.
7. Provisional sums included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with Sub-Clause 13.4 of General Conditions of Contract.
8. The method of measurement of completed work for payment shall be in accordance with the Specifications, except where provided otherwise. The Contractor has to clear the site to the satisfaction of the Engineer and he will include the cost of such compliance in his rates.
9. The contractor shall include in his rates for all costs of samples, sampling and testing as satisfied.

10. The following abbreviations for units have been used in Bill of Quantities:

Units		Abbreviations
Cubic Meter	=	CM
Square Meter	=	S.M
Kilogram	=	kg
Provisional Sum	=	P.S
Linear Meter	=	LM
Meter	=	M
Running Meter	=	RM



B-2
Schedule-B to Bid**BILL OF QUANTITIES****B. Work Items:**

The Bill of Quantities contains the following Bills and Schedule

- Bill No. A - General Items
- Bill No. B-1 - Earthworks and Allied Activities
- Bill No. B-2 - Surface Courses and Pavement (Flexible Pavement)
- Bill No. B-3 - Structures (Retaining / Breast Walls)
- Bill No. B-4 - Structures (Bridges)
- Bill No. B-5 - Drainage and Erosion Works
- Bill No. B-6 - Causeways (3 No.)
- Bill No. B-7 - Culvert (02 No.)
- Bill No. C - Dayworks Schedule
- Summary of Bill of Quantities

1. Bidders shall price the Bill of Quantities in Pak. Rupees (PKR) only.

BILL OF QUANTITIES**Bill No. A General Items**

Item No.	Description	Unit	Qty	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Pay Item No.
1	Environmental Testing During Construction Phase from EPA certified laboratory						
1-a	Air Quality (As per NEQs)	Nos.	10				General Specs 5.12
1-b	Noise Level and Dust Emission (PM2.5, PM10, SPM)	No's	10				General Specs 5.12
1-c	Water Quality (Surface Water, Drinking Water & Wastewater)	No's	15				General Specs 5.13
2	Environment Social Health & Safety (ESHS) Officer & Occupational Health and Safety OHS Supervisor	P.S		4,500,000			General Specs 5.14
3	(ESHS Management Personal Protective Equipment (PPE) for 50 employees for the provision of dust masks, safety shoes, helmet, jackets, safety goggles, gloves, first aid box, ear plugs, Waste Management, House Keeping, Camp Management, Fire Extinguisher and Safety Sign Boards)	P.S		3,750,000			General Specs 5.15
4	Medical screening for workers	Nos.	60				General Specs 5.15
5	Insurance for loss or damage to the Works, Equipment, property and personal injury or death under Sub-Clause 19.2	P.S		15,000,000			General Specs 5.16
6	Price Adjustment	P.S		35,000,000			
7	DAAB PAYment	P.S		10,000,000			
8	Geotechnical Investigations	P.S		5,000,000			
Total For Specified Provisional Sum (2,3,5,6,7,8)				73,250,000			
Total for Bill No.A							

BILL OF QUANTITIES**Bill No. B-1 Earthwork and Allied Activities**

SR. NO.	Description	Unit	Qty	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Spec No.
1	Clearing and Grubbing by mechanical means	S.M	1,220.00				KPK MRS 3.7
2	Removal of Tree : Girth 150mm - 300mm including removal of stump & backfilling with sand	No.	200.00				KPK MRS 3.8
3	Removal of Tree : Girth 300mm - 600mm including removal of stump & backfilling with sand	No.	200.00				KPK MRS 3.8
4	Removal of Tree : Girth over 600mm including removal of stump & backfilling with sand	No.	100.00				KPK MRS 3.8
5	Compaction of Natural Ground	SM	1,220.00				KPK MRS 3.10, 3.3.3
6	Roadway Excavation in Surplus / Unsuitable Common Material	CM	13,781.00				KPK MRS 3.9.5
7	Roadway Excavation in Surplus / Unsuitable Rock (Hard) Material requiring blasting.	CM	1,838.00				KPK MRS 3.9.5
8	Roadway Excavation in Surplus / Unsuitable Rock (Medium) Material requiring blasting.	CM	2,757.00				KPK MRS 3.9.5
9	Roadway Excavation in Surplus / Unsuitable Rock (Soft) Material	CM	73,498.00				KPK MRS 3.9.5
10	Formation of Embankment from Roadway excavation in common Material	CM	1,556.00				KPK MRS 3.9.4
11	Formation Of Embankment From Roadway Excavation In Hard Rock Material	CM	208.00				KPK MRS 3.9.4
12	Formation Of Embankment From Roadway Excavation In Medium Rock Material	CM	312.00				KPK MRS 3.9.4

SR. NO.	Description	Unit	Qty	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Spec No.
13	Formation Of Embankment From Roadway Excavation In Soft Rock Material	CM	8,299.00				KPK MRS 3.9.4
14	Subgrade Preparation in Existing Road Without Any Fill ; Mod. AASHTO 95%	CM	10,965.00				KPK MRS 16.2.1
TOTAL COST FOR BILL NO. B-1							



BILL OF QUANTITIES**Bill No. B-2 Surface Course & Pavement**

SR. NO.	Description	Unit	Qty	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Spec No.
1	Granular Sub Base Using Crushed Stone Aggregate	CM	787.00				KPK MRS 16.3.1
2	Water Bound Macadam Base Course	CM	1574.00				KPK MRS 16.3.2
3	Triple bitumenous Surface Treatment	S.M	7,870.00				KPK MRS 16.4.5
TOTAL COST FOR BILL NO. B-2							

BILL OF QUANTITIES**Bill No. B-3 Structures (Retaining/Breast Walls)**

SR. NO.	Description	Unit	Qty	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Spec No.
1	Structural Excavation in Common Material by mechanical means	CM	6,198.00				KPK MRS 3.9.6
2	Lean concrete for use as thin layer under neath footings with cylinder compressive strength of 1423 psi on 28 days.	CM	2,690.00				KPK MRS 6.1.3
3	Class B concrete for concrete in pile specified works only with minimum cylinder compressive strength 2418 psi on 28 days and consistency range in slump 25-75 mm with water cement ratio 0.65 (Coping)	CM	260.00				KPK MRS 6.1.3, 6.3
4	Stone Masonry Random with Mortar Class-A	CM	10,770.00				KPK MRS 5.2.3, 8.12
5	Stone Masonry Dressed Uncoursed with Mortar (for Parapet Walls)	CM	280.00				KPK MRS 5.2.3, 8.12
6	Dismantling of Structures and Obstructions	CM	100.00				KPK MRS 4.1
7	Rock Fill in Gabions	CM	4,580.00				NHA CSR Item No. 507
8	Steel Wire Mesh (9 SWG) for Gabions	Kg	82,420.00				NHA CSR Item No. 507
9	PVC Pipe 4" Dia.	RM	390.00				Volume-2 Techn Specs Heading 1.1
TOTAL COST FOR BILL NO. B-3							

BILL OF QUANTITIES**Bill No. B-4 Structures (Bridges)**

SR. NO.	Description	Unit	Qty	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Spec No.
1	Structural Excavation In Medium Rock Material	CM	498.00				KPK MRS 3.9.6, 3.13
2	Structural backfill using Common Material available at site.	CM	104.00				KPK MRS 3.9.6
3	Class A1 concrete in reinforcement/non reinforcement concrete structure with minimum cylinder compressive strength 3000 psi on 28 days other than concrete in water and piles with consistency range in slump 25-75 mm with water cement ratio 0.58 Approach Slab	CM	27.00				KPK MRS 6.1.3, 6.3
4	Class A3 cement concrete for concrete with minimum cylinder compressive strength 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58 Transom, Deck Slab, Diaphragm , Wing Walls ,Curtain wall , Abutment Seat & Rcc Railing, Closed Abutment Wall	CM	423.00				KPK MRS 6.1.3, 6.3
5	Class A3 cement concrete for Piles concrete with minimum cylinder compressive strength 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58Concrete Class 'A3' Piles , Pile Cap	CM	444.00				KPK MRS 6.1.3, 6.3
6	Class A3 cement concrete for Piles concrete with minimum cylinder compressive strength 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58Concrete Class 'A3' Piers	CM	135.53				KPK MRS 6.1.3, 6.3

SR. NO.	Description	Unit	Qty	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Spec No.
7	Class D1 concrete for concrete in pre-stressed & post tensioned with minimum cylinder compressive strength 4978.12 psi on 28 days and consistency range in slump 50-100 mm with water cement ratio 0.40 Precast Girder	CM	110.00				KPK MRS 6.1.3, 6.3
8	Class A3 cement concrete for concrete with minimum cylinder compressive strength 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58 RCC PLANKS	CM	80.00				KPK MRS 6.1.3, 6.3
9	Lean concrete for use as thin layer under neath footings with cylinder compressive strength of 1423 psi on 28 days.	CM	27.00				KPK MRS 6.1.3
10	Erection and removal of Form work with Steel Surface Finishing for RCC or Plain Concrete in any shape - Position / Horizontal	SM	596.33				KPK MRS 6.5
11	Erection and removal of Form work with Steel Surface Finishing for RCC or Plain cement Concrete in any shape - Position / Vertical	SM	2,805.00				KPK MRS 6.5
12	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tons	210.00				KPK MRS 6.19
13	Supplying & fixing high tensile steel (Grade 250K) wire in prestressing cables in precast girders	Tons	11.00				KPK MRS 6.17.1
14	Jack Anchorage For 10 to 12 Wires 0.5" Strand (Comprising Trumpet, Stressing Block & Wedges Complete)	Each	90.00				KPK MRS 16.6.7
15	Supply and Fixing stressing anchorages for high tensile steel wire cables in precast girders	Set	90.00				KPK MRS 16.6.7
16	Supply and Fixing spirally wound sheath of 50mm dia. For pre-stressing of cables in precast conc.Girders	m	1,200.00				KPK MRS 16.6.7

SR. NO.	Description	Unit	Qty	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Spec No.
17	Providing and fixing GI Steel (Hamp core) Ropes 1/2" dia	m	1,200.00				KPK MRS 16.10
18	Stressing Cable of High Tensile Steel Wire Strands	Each	90.00				KPK MRS 16.6.7
19	Launching girders in place, including lifting & handling any number of time including temporary works comp	M	307.00				KPK MRS 16.6.7
20	Supply and Fixing Neoprene Bearing Pad as per specs & design	Cu.cm	276,656.00				KPK MRS 16.6.8
21	Providing and Fixing Expansion joint with two Extruded Aluminum Alloy Sections for 50 mm Movement of imported approved quality.	LM	44.00				KPK MRS 6.9
22	Boring with temporary casing in gravelly subsoil for 760-1220 mm diameter pile.	LM	484.00				KPK MRS 18.1.4.2.3
23	Pile load test: (Pre high Strain Dynamic load test as per ASTM D 4945-08 including field data analysis results with report etc complete Max Load 1100 tons	Each	3.00				KPK MRS 18.1.4.7
24	Supply and place in position galvanised steel 3" dia drain scuppers in deck slab as per specs/dwg	LM	34.00				KPK MRS 16.7.12
25	Random rubble masonry in foundn. & plinth in cement, sand mortar : Ratio 1:6	CM	789.00				KPK MRS 5.2.2, 8.12
26	Permanent Pile casing (liner 12 mm Thick) for piles	Tons	6.00				NHA CSR Item No. 507
27	Steel wire mesh (9 SWG) for Gabions	Kg	5,030.00				NHA CSR Item No. 507
28	Rockfill in Gabions	CM	503.00				NHA CSR Item No. 407

SR. NO.	Description	Unit	Qty	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Spec No.
29	Sonic Integrity Tests (SIT) on all Piles	Each	16.00				Volume - 2 Tech Specs heading 1.3
TOTAL COST FOR BILL NO. B-4							



BILL OF QUANTITIES
Bill No. B-5 Drainage and Erosion Works

SR. NO.	Description	Unit	Quantity	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Spec No.
1	Grouted Rip Rap, Class A	CM	260.00				KPK MRS 16.7.9
2	Shotcrete (100 mm) thickness, grade B-25 as per specifications	CM	470.00				KPK MRS 6.24
3	Rock SN-Bolts (Grouted Bolts) 25mm dia - 5 m in length including fixing and strengthening etc.	Each	320.00				KPK MRS 16.6.9
4	Supply and installation of Wire mesh 3"x3" spot welded, 8 SWG as per specs for shotcrete reinforcement	SM	210.00				Volume-2 Tech Specs Heading 1.2
TOTAL COST FOR BILL NO. B-5							

BILL OF QUANTITIES**Bill No. B-6.1 Causeways 5M**

Sr. No.	Description	Unit	Qty	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Spec No.
1	Lean concrete for use as thin layer under neath footings with cylinder compressive strength of 1423 psi on 28 days.	CM	8.25				KPK MRS 6.1.3
2	RCC in raft foundation slab, base slab of column & ret. wall etc, (1:1:2) (4000 psi)	CM	11.55				KPK MRS 6.1.3, 6.2, 6.3, 6.19
3	RCC in roof slab, beam, column & other structural members, insitu or precast. (1:1:2) (4000 psi)	CM	8.25				KPK MRS 6.1.3, 6.2, 6.3, 6.19
4	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Tonne	0.93				KPK MRS 6.19
5	Providing and Laying stone pithcing/filling, dry hand packed in pitching & aprons.	CM	15.13				KPK MRS 19.2.2, 19.3.2
6	Structural excavation in medium rock material	CM	11.55				KPK MRS 3.9.6, 3.13
7	Compaction of natural ground	SM	27.50				KPK MRS 3.10 , 3.3.3
8	Erection and removal of Form work with Steel Surface Finshing for RCC or Plain Concrete in any shape - Position / Horizontal	SM	25.00				KPK MRS 6.5
9	Erection and removal of Form work with Steel Surface Finshing for RCC or Plain cement Concrete in any shape - Position / Vertical	SM	77.00				KPK MRS 6.5
Total Cost For Bill No. B-6.1							

Bill No. B-7 Stone Masonry Culverts

SR. NO.	Description	Unit	Qty	Unit Rate (Rs)	Amount In Words (PKR)	Amount In Figures (PKR)	Spec No.
1	Structural Excavation In Medium Rock Material	CM	220.00				KPK MRS 3.9.6, 3.13
2	Structural backfill using Common Material available at site.	CM	66.00				KPK MRS 3.9.6
3	Class A1 concrete in reinforcement/non reinforcement concrete structure with minimum cylinder compressive strength 3000 psi on 28 days other than concrete in water and piles with consistency range in slump 25-75 mm with water cement ratio 0.58 Concrete Pads	CM	30.00				KPK MRS 6.1.3, 6.3
4	Class A3 cement concrete for concrete with minimum cylinder compressive strength 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58 Top Slab	CM	120.00				KPK MRS 6.1.3, 6.3
5	Class A3 cement concrete for Piles concrete with minimum cylinder compressive strength 4000 psi on 28 days other than concrete in water and piles with consistency range in slump 100-150 mm with water cement ratio 0.58 Concrete Class 'A3' NJB	CM	16.00				KPK MRS 6.1.3, 6.3
6	Lean concrete for use as thin layer under neath footings with cylinder compressive strength of 1423 psi on 28 days.	CM	234.00				KPK MRS 6.1.3
7	Supply & fabricate M.S. reinforcement for cement concrete (Hot rolled deformed bars Grade 60)	Ton	24.00				KPK MRS 6.19
8	Random rubble masonry in foundn. & plinth in cement, sand mortar : Ratio 1:6 "	CM	572.00				KPK MRS 5.2.2, 8.12
9	Providing and Laying grouted stone pitching, in 1:6 c/s mortar Stone pitching/filling on slope or on level	CM	36.57				KPK MRS 19.2.2, 19.3.2
TOTAL COST FOR BILL NO. B-7							

BILL OF QUANTITIES

Daywork Schedule

C. Daywork

General

1. Reference is made to Sub-Clause 13.5 of the General Conditions of Contract. Work shall not be executed on a Daywork basis except by written order of the Engineer. Bidders shall enter basic rates for Daywork items in the Schedules, which rates shall apply to any quantity of Daywork ordered by the Engineer. Nominal quantities have been indicated against each item of Daywork, and the extended total for Daywork shall be carried forward to the Bid Price.

Daywork Labour

2. In calculating payments due to the Contractor for the execution of Daywork, the actual time of classes of labour directly doing the Daywork ordered by the Engineer and for which they are competent to perform will be measured excluding meal breaks and rest periods. The time of gangers (charge hands) actually doing work with the gang will also be measured but not the time of foreman or other supervisory personnel.
3. The Contractor shall be entitled to payment in respect of the total time that labour is employed on Daywork, calculated at the basic rates entered by him in the Schedule of Daywork Rates for labour together with an additional percentage, payment on basic rates representing the Contractor's profit, overheads, etc., as described below:
 - a. The basic rates for labour shall cover all direct costs to the Contractor, including (but not limited to) the amount of wages paid to such labour, transportation time, overtime, subsistence allowances and any sums paid to or on behalf of such labour for social benefits in accordance with Pakistan law. The basic rates will be payable in local currency only; and
 - b. The additional percentage payment to be quoted by the Bidder and applied to costs incurred under (a) above shall be deemed to cover the Contractor's profit, overheads, superintendence, liabilities and insurances and allowances to labour time keeping and clerical and office work; the use of consumable stores, water, lighting and power; the use and repair of staging, scaffolding, workshops and stores, portable power tools, manual plant and tools; supervision by the Contractor's staff, foremen and other supervisory personnel; and charges incidental to the foregoing.

BILL OF QUANTITIES**Daywork Schedule****I. Labour**

Sr. No.	DESCRIPTION	Unit	QTY	Unit Rate	Amount In Words (PKR)	Amount In Figures (PKR)
Schedule of Daywork Rates: 1. Labour						
1	Foreman	Hour	100			
2	Skilled Labour	Hour	125			
3	Unskilled Labour	Hour	150			
5	Mason	Hour	50			
6	Carpenter (1st class)	Hour	50			
7	Steel Fixer/ Fitter	Hour	50			
8	Driver for Vehicle (upto 10 ton)	Hour	75			
9	Welder (Grade-1)	Hour	75			
10	Plumber	Hour	125			
Total-Schedule of Daywork Rates: I. Labour						
Allow_percent of subtotal for Contractor's overhead, profit, etc, in accordance with Paragraph 3(b) of Daywork Schedule _____						
Total for Daywork: Labour: _____ (Carried forward to Daywork Summary)						

[Note:

1. The above description of items and their quantities are indicative only; the Employer shall fill the type of Labour and quantities thereof, estimated to be utilized under Daywork.
2. The Bidders are required to fill the rest of the columns, Sub Total and percentage of overhead, profit, etc.]

BILL OF QUANTITIES

Daywork Schedule

Daywork Material

4. The Contractor shall be entitled to payment in respect of materials used for Daywork (except for materials for which the cost is included in the percentage addition to labour costs as detailed heretofore), at the basic rates entered by him in the Schedule of Daywork Rates for materials together with an additional percentage payment on the basic rates to cover overhead charges and profit, as follows:
- a) The basic rates for materials shall be calculated on the basis of the invoiced price, freight, insurance, handling expenses, damage, losses, etc., and shall provide for delivery to store for stockpiling at the site. The basic rates shall be stated in local currency but payment will be made in the currency or currencies expended upon presentation of supporting documentation;
 - b) The additional percentage payment shall be quoted by the Bidder and applied to the equivalent local currency payments made under Sub-Para(a) above; and
 - c) The cost of hauling materials used on work ordered to be carried out as Daywork from the store or stockpile on the site to the place where it is to be used will be paid in accordance with the terms for Labour and Constructional Plant in this Schedule.

BILL OF QUANTITIES

Daywork Schedule

II. Material

Sr. No.	DESCRIPTION	Unit	QTY	Unit Rate	Amount In Words (PKR)	Amount In Figures (PKR)
Schedule of Daywork Rates: 2. Materials						
1	Cement, Ordinary Portland or Equivalent in Bags	KG	2500			
2	Mild Steel Reinforcing Bar upto 16mm diameter Grade 60	KG	1000			
3	Fine Aggregate	Cu.m	75			
4	Coarse Aggregates	Cu.m	125			
Total - Schedule of Daywork Rates: II. Materials						
Allow __percent of subtotal for Contractor's overhead, profit, etc, in accordance with Paragraph 4(b) of Daywork Schedule _____						
Total for Daywork: Material: __ (Carried forward to Daywork Summary)						

[Note:

1. The above description of items and their quantities are indicative only; the Employer shall fill the type of Material and quantities thereof, estimated to be utilized under Daywork.
2. The Bidders are required to fill the rest of the columns, Sub Total and percentage of overhead, profit, etc.]

BILL OF QUANTITIES

Daywork Schedule

Daywork for Constructional Plant

5. The Contractor shall be entitled to payments in respect of constructional plant already on Site and employed on Daywork at the basic rental rates entered by him in the Schedule of Daywork Rates for constructional plant. The said rates shall be deemed to include complete allowance for depreciation, interest, indemnity and insurance, repairs, maintenance, supplies, fuel, lubricants, and other consumables, and all overhead, profit and administrative costs related to the use of such equipment. The cost of drivers, operators and assistants will be paid for separately as described under the section on Daywork Labour.
6. In calculating the payment due to the Contractor for constructional plant employed on Daywork, only the actual number of working hours will be eligible for payment, except that where applicable and agreed with the Engineer, the travelling time from the part of the Site where the constructional plant was located when ordered by the Engineer to be employed on Daywork and the time for return journey thereto shall be included for payment.
7. The basic rental rates for constructional plant employed on Daywork shall be stated in Pak Rupees (PKR).

BILL OF QUANTITIES**Daywork Schedule****III. Contractor's Equipment**

Sr. No.	DESCRIPTION	Unit	QTY	Unit Rate	Amount In Words (PKR)	Amount In Figures (PKR)
Schedule of Daywork Rates: 3. Contractor's Equipment						
1	Tractor 50HP capacity	Hour	30			
2	Compressor 10 m ³ / min	Hour	30			
3	Tractor and Trolley with Jack Capacity 7m ³	Hour	50			
4	Dumper (10 Ton Capacity)	Hour	50			
5	Water Tanker trolley 500 gallon with farm tractor	Hour	50			
6	Drum Type Concrete Mixer 0.25 m ³	Hour	125			
7	Hand Held Jack Hammer	Hour	100			
8	Excavator (EX 200)	Hour	125			
Total - Schedule of Daywork Rates: III. Contractor's Equipment						
Total Day work						
Total for Daywork: Constructional Plant: (Carried forward to Daywork Summary)						

[Note:

1. The above description of items and their quantities are indicative only; the Employer shall fill the type of Plant and quantities thereof, estimated to be utilized under daywork.
2. The Bidders are required to fill the rest of the columns and Sub Total.]

BILL OF QUANTITIES**Daywork Schedule****Summary**

Sr. No	Daywork	Amount (PKR)
I.	Labour	
II.	Materials	
III.	Contractor's Equipment	
Total for Daywork (Bill-C) (Carried forward to Summary Page of Bill of Quantities)		

BILL OF QUANTITIES

Summary

Item No.	Description	Amount in Words	Amount in Figures
		(PKR)	(PKR)
1	Bill A) General Items		
2	Bill B) Road Works		
3	Bill C): Daywork Summary		
Total of Bills (1+2+3)			
Bid Price (Carried forward to Letter of Bid)			
Bid Price without Specified Provisional Sum			

Note: All Provisional Sums are to be expended in whole or, in part at the direction and discretion of the Engineer in accordance with Sub-Clauses 13.4 of the General Conditions except with respect to DAAB fees and the expenses in accordance with GC Clause 21.

C-1
Schedule-C to Bid

CONSTRUCTION SCHEDULE

Pursuant to Sub-Clause 8.3 of the General Conditions, the whole of the Works, and each Section (if any), shall be completed within the Time for Completion for the Works or Section (as the case may be) stated as hereunder and mentioned in Contract Data:

Description	Time for Completion (days)
a) Whole Works	450 Days

[The Bidder shall provide, the Construction Schedule in the bar chart (CPM, PERT or any other to be specified herein) showing the sequence of work items and the period of time during which he proposes to complete each work item in such a manner that his proposed programme for completion of the whole of the Works and Sections of the Works may meet Employer's completion targets in days noted above and counted from the Commencement Date (Attach sheets as required for the specified form of Construction Schedule)]

**D-1
Schedule-D to Bid****METHOD OF PERFORMING THE WORK**

[The Bidder is required to submit a narrative outlining the method of performing the Work. The narrative should indicate in detail and include but not be limited to:

1. **Organization Chart:**

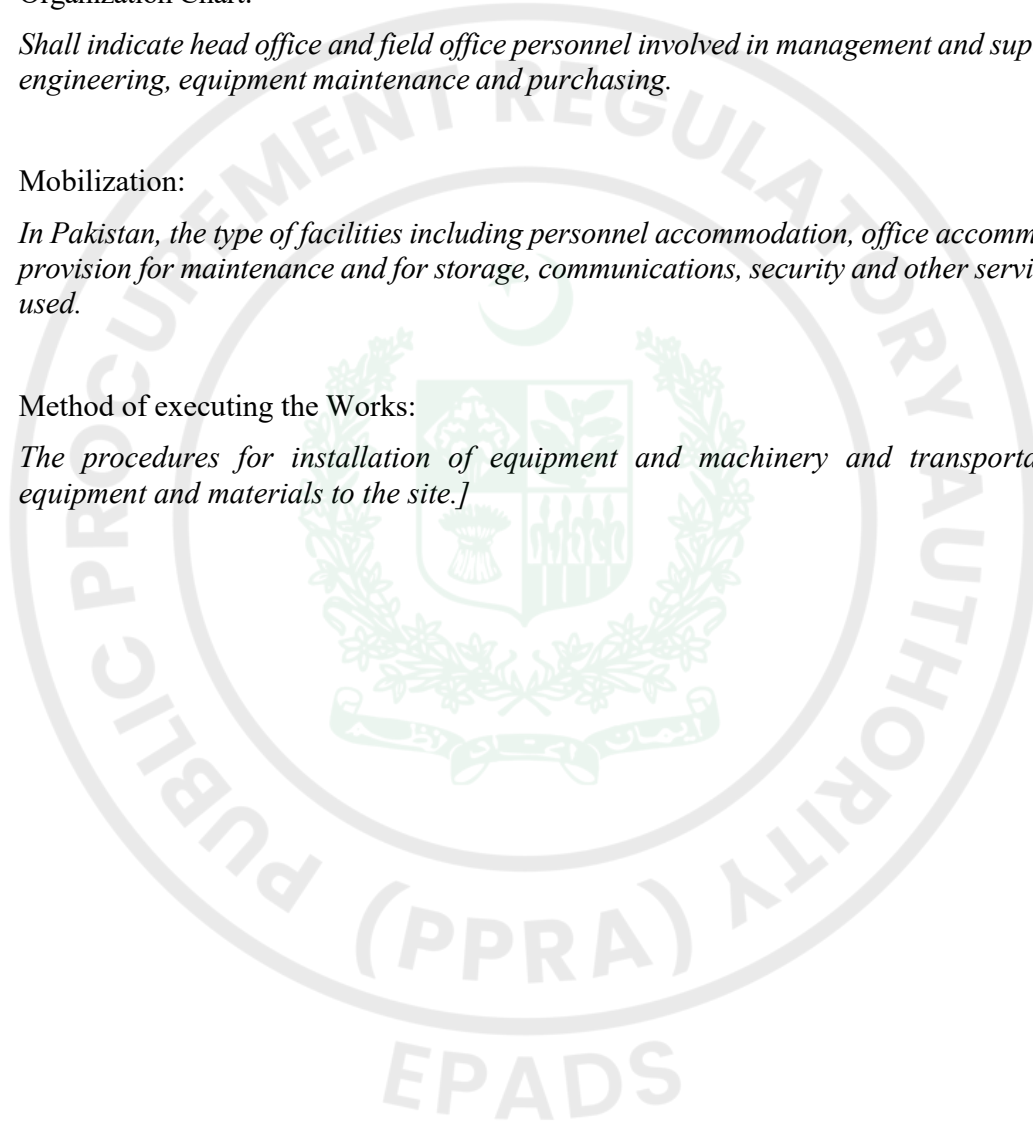
Shall indicate head office and field office personnel involved in management and supervision, engineering, equipment maintenance and purchasing.

2. **Mobilization:**

In Pakistan, the type of facilities including personnel accommodation, office accommodation, provision for maintenance and for storage, communications, security and other services to be used.

3. **Method of executing the Works:**

The procedures for installation of equipment and machinery and transportation of equipment and materials to the site.]



E-1
Schedule-E to Bid

LIST OF MAJOR EQUIPMENT

Owned, Purchased or Leased

Owned Purchased or Leased	Description of Unit (Make, Model, Year)	Capacity HP Rating	Condition	Present Location or Source	Date of Delivery at Site	Period of Work on Project
1	2	3	4	5	6	7
a. Owned						
b. To be Purchased						
c. To be arranged on Lease						

E-2
Schedule-E to Bid

LIST OF MAJOR EQUIPMENT

Equipment details

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 ☐ Owned ☐ Rented ☐ Leased ☐ Specially manufactured	
The following information shall not be applicable 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	

[This Table shall be used for each item of Equipment separately]

**ORGANIZATION CHART
FOR THE
SUPERVISORY STAFF AND LABOUR**



G-1

Schedule-G to Bid

LIST OF SUBCONTRACTORS

I/ We intend to subcontract the following parts of the Work to subcontractors. In my/ our opinion, the subcontractors named hereunder are reliable and competent to perform that part of the work for which each is listed.

Enclosed are documentation outlining experience of subcontractors, the curriculum vitae and experience of their key personnel who will be assigned to the Contract, equipment to be supplied by them, size, location and type of contracts carried out in the past.

Contractor's proposed subcontracting: Maximum percentage of subcontracting permitted is: 20 % of the total contract amount.

Part of Works (Give Details)	Subcontractor (With Complete Address)
1	2

H-1
Schedule-H to Bid

ESTIMATED PROGRESS PAYMENTS

Bidder's estimate of the value of work which would be executed by him during each of the periods stated below, based on his Programme of the Works and the Rates in the Bill of Quantities, expressed in thousands of PKR:

Quarter	Amounts (1,000 PKR)
1	2
1 st	
2 nd	
3 rd	
4 th	
5 th	
Bid Price	

**I-1
Schedule-I to Bid****CONSTRUCTION CAMP AND HOUSING FACILITIES**

[The Bidder in accordance with Clause 6 of the Conditions of Contract shall provide description of his construction camp's facilities and staff housing requirements.

The Bidder shall list or explain his plans for providing these facilities for the service of the Contract as follows:

- 1. Site Preparation (clearing, land preparation, etc.).*
- 2. Provision of Services.*
 - a) Electrical power (expected power load, etc.).*
 - b) Water (required amount and system proposed).*
 - c) Sanitation (sewage disposal system, etc.)*
- 3. Construction of Facilities*
 - a) Contractor's Office. Workshop and Work Areas (areas required and proposed layout, type of construction of buildings, etc.).*
 - b) Warehouses and Storage Areas (area required, type of construction and layout).*
 - c) Housing and Staff Facilities (Plans for housing for proposed staff, layout, type of construction, etc.).*
- 4. Construction Equipment Assembly and Preparation (detailed plans for carrying out this activity).*
- 5. Other Items Proposed (Security services, etc.)]*

Note:

The Contractor shall be responsible for pumps, electrical power, water and electrical distribution systems, and sewerage system including all fittings, pipes and other items necessary for servicing the Contractor's construction camp.

J-1
Schedule-J to Bid

INTEGRITY PACT
DECLARATION OF FEES, COMMISSION AND BROKERAGE, ETC.
PAYABLE BY THE BIDDERS/CONTRACTORS OF GOODS, SERVICES & WORKS IN
CONTRACTS WORTH PAK. RS. 10.00 MILLION OR MORE

Contract No. _____ Dated _____
Contract Value: _____
Contract Title: _____

..... [Name of Bidder/Contractor] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan (GoP) or any administrative subdivision or agency thereof or any other entity owned or controlled by GoP through any corrupt business practice.

Without limiting the generality of the foregoing, [Name of Bidder/ Contractor] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[Name of Bidder/Contractor] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[Name of Bidder/Contractor] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [name of Bidder/Contractor] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Bidder/Contractor] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

Name of Employer:
Signature:
[Seal]

Name of Bidder/Contractor:
Signature:
[Seal]

CONSTRUCTION OF DUBAIR ROAD

Declaration of Ultimate Beneficial Owners Information for Public Procurement Contracts

1. Name:
2. Father's Name/Spouse's Name:
3. CNIC/NICOP/Passport no.:
4. Nationality:
5. Residential address:
6. Email address:
7. Date on which shareholding, control or interest acquired in the business:
8. In case of indirect shareholding, control or interest being exercised through intermediary companies, entities or other legal persons or legal arrangements in the chain of ownership or control, following additional particulars to be provided:

1	2	3	4	5	6	7	8	9	10
Name	Legal form (Company/Limited Liability Partnership/Association of Persons/Single Member Company/Company/Partnership Firm/Trust/Any other individual, body corporate (to be specified))	Date of incorporation / Registration	Name of Registering Authority	Business Address	Country	Email Address	Percentage of shareholding, control or interest of BO in the legal person or legal arrangement	Percentage of shareholding, control or interest of legal person or legal arrangement in the Company	Identity of Natural Person who ultimately owns or controls the legal person or arrangement

K-2
Schedule-K to Bid

9. Information about Board of Directors (details shall be provided regarding number of shares in the capital of the company as set opposite respective names)

1	2	3	4	5	6	7	8
Name and surname (In Block Letters)	CNIC No. (in case of foreigner, Passport No)	Father' s / Husband' s Name in Full	Current Nationality	Any other Nationality(ies)	Occupation	Residential address in full or the registered / principal office address for a subscriber other than natural person	Number of shares taken by each subscriber (in figures and words)
			Total Number of Shares taken (in figure and words)				

10. Any other information incidental to or relevant to Beneficial Owner(s).

Name & Signature
(Person authorized to issue notice on behalf of the company)

Particular Conditions

Part B - Special Provisions

- 1.1 Definitions** 1.1.76 “Specification”
Following is added at the end:
“and consists of two parts i.e.,
i) “Part A - Specific Provisions”; and
ii) “Part B - Technical Provisions”.”
- 1.2 Interpretation** “and” is deleted from the end of sub-paragraph (i) and added at the end of sub-paragraph (j).
Sub-paragraph (k) is added:
“(k) The word “tender” is synonymous with “bid” the word tenderer with “bidder”, the words “tender documents” with “bidding documents” and “Schedule of Prices” with “Bill of Quantities”, as applicable.”
- 1.5 Priority of Documents** The documents listed at (a) through (k) of this Sub-Clause are deleted and substituted with the following:
(a) the Contract Agreement;
(b) the Letter of Acceptance;
(c) the Letter of Bid;
(d) the Particular Conditions Part A - Contract Data;
(e) the Particular Conditions Part B - Special Provisions;
(f) the General Conditions;
(g) the Specification Part A - Specific Provisions;
(h) the Specification Part B - Technical Provisions;
(i) the Drawings;
(j) the completed Schedules to Bid including Bill of Quantities;
(k) the JV Undertaking (if the Contractor is a JV); and
(l) any other documents forming part of the Contract.
The addenda/corrigenda, if any, shall be deemed to have been incorporated at the appropriate places in the documents forming the Contract.
- 1.6 Contract Agreement** In the last line of the 1st paragraph the text “shall be borne by the Employer” is substituted by “shall be reimbursed by the Employer to the Contractor”.
- 3.1 The Engineer** In sub-paragraph (a) the text “as defined in the Pakistan Engineering Council Act, 1975 (Act No. V of 1976)” are added after the words “professional engineer”.
- 3.2 Engineer’s Duties and Authority** The Engineer shall obtain the consent in writing of the Employer before taking action under the following Sub-Clauses of these Conditions:
(a) Consenting to the subcontracting of any part of the Works

- under Sub-Clause 5.1 [Subcontractors]
- (b) Any action under Sub-Clauses 8.9 [Employer's Suspension] and 8.12 [Prolonged Suspension]
 - (c) Issuance of "Taking Over Certificate" under Sub-Clause 10.1 [Taking Over the Works and Sections].
 - (d) Issuing the "Performance Certificate" under Sub-Clause 11.9 [Performance Certificate].
 - (e) Sub-Clause 13.1 [Right to Vary]: instructing a Variation, except;
 - (i) in an emergency situation as determined by the Engineer, or
 - (ii) if such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the Contract Data.
 - (f) Sub-Clause 13.3 [Variation Procedure]: approving a proposal for Variation submitted by the Contractor in accordance with Sub-Clause 13.3.2 [Variation by Request for Proposal] or 13.2 [Value Engineering].
 - (g) Certifying release of second half of the Retention Money under Sub-Clause 14.9 [Release of Retention Money].
 - (h) Issuing Final Payment Certificate under Sub-Clause 14.13 [Issue of FPC].

Any such requirement shall not be applied to any action by the Engineer under Sub-Clause 3.7 [Agreement or Determination], as stated in Sub-Clause 3.2 [Engineer's Duties and Authority] of the General Conditions.

Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer.

Following is added after the words "the Employer's consent is required" in 4th paragraph:

"stating that the Employer's consent has been obtained for that specified authority"

4.2 Performance Security**4.2.1 Contractor's Obligations**

The entity issuing the Performance Security and its form shall be as under:

The Performance Security shall be, at the option of the Contractor, issued in the prescribed form included in the Bidding Documents, by (a) a Scheduled Bank in Pakistan or (b) a foreign bank duly counter-guaranteed by a Scheduled Bank in Pakistan.

In case of Joint Venture, the Performance Security shall be in the name of the Joint Venture or in the name of Lead/either firm of the JV or in ratio of shares of the individual JV partners.

4.3 Contractor's Representative

In second paragraph the text "professional engineer as defined in the Pakistan Engineering Council Act, 1975 (Act No. V of 1976) (having temporary licence in case of foreign engineer under Section 12 of the Pakistan Engineering Council Act, 1975 (Act No. V of 1976))" are added after the words "qualified, experienced".

In the 3rd paragraph the words "28 days" are substituted by "14 days". In 2nd line of 4th paragraph the text "or appoint a replacement" is substituted by "except appointment of a suitable temporary replacement is deployed at the Site"

4.4 Contractor's Documents**4.4.2 As-Built Records**

First paragraph is deleted and the text in the last paragraph is substituted with the following:

"The Contractor shall furnish to the Engineer 6 copies, one reproducible and one electronic copy (provided the Engineer has made available to the Contractor editable form of the Drawings) of all Drawings amended to conform to the Works as built. In case the Engineer does not make available to the Contractor editable form of the Drawings, the Contractor shall furnish to the Engineer as-built data for incorporation in the Drawings. Upon receipt of PDF versions of the as-built drawings prepared by the Engineer, the Contractor shall furnish to the Engineer 6 copies and one reproducible of these Drawings.

The price of such Drawings shall be deemed to be included in the Contract Price."

Following Sub-Clause is added:

4.4.4 Shop Drawings

The Contractor shall submit to the Engineer for review 3 copies of all shop and erection drawings applicable to this Contract as per provision of relevant Sub-Clause of the Contract.

Review and approval by the Engineer shall not exceed 21 days and be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory and the Engineer's review or approval shall not relieve the Contractor of any of his responsibilities under the Contract.

4.8 Health and Safety Obligations

The following text is added at the end of this Sub-Clause:

In the event of work being carried out outside the normal working hours and in the event of work being carried out at night, the Contractor shall at his own cost, provide and maintain such good and sufficient light as will enable the work to proceed satisfactorily and without danger. The approaches to the Site and the Works where the night work is being carried out shall be sufficiently lighted. All arrangement adopted for such lighting shall be to the satisfaction of the Engineer.

4.20 Progress Reports

At the end of sub-paragraph (g) the word "and" is deleted and at the end of sub-paragraph (h) the full stop (.) is replaced with ";;", and the following new sub-paragraphs are added as:

- (i) planned programme for the execution of the Works for next 56 days to enable the Engineer to determine its programme of inspection and testing;
- (j) monthly summery of daily job record indicating weather conditions, deployment of Contractor's Equipment, labour employment, local material procurement and material import, if any; and
- (k) salient contractual and project information.

5.1 Subcontractors

Add the following text at the end of paragraph (ii):

"under Schedule to Bid"

The following is added at the end of the last paragraph of Sub-Clause 5.1:

"All subcontracts relating to the Works shall include provisions which entitle the Employer to require the subcontract to be assigned to the Employer under sub-paragraph (a) of Sub- Clause 15.2.3 [*After Termination*].

The Contractor shall give reasonable opportunity to contractors from Islamic Republic of Pakistan for subcontracts for the Works, and endeavour to employ such contractors as Subcontractors."

5.2 Nominated Subcontractors

5.2.2 Objection to Nomination

In sub-paragraph (c), "and" is deleted from the end of (i);

"," at the end of (ii) is replaced with: ", and".

The following is then added as (iii):

“(iii) be paid only if and when the Contractor has received from the Employer payments for sums due under the Subcontract referred to under Sub-Clause 5.2.3 [*Payment to nominated Subcontractors*].”

6.1 Engagement of Staff and Labour

The following paragraph is added at the end of the Sub-Clause:

“The Contractor shall, to the extent practicable and reasonable, employ staff (not less than 50%) and labour (not less than 85%) with appropriate qualifications and experience from sources within the Islamic Republic of Pakistan.”

6.7 Health and Safety of Personnel

The existing text is substituted with the following:

“In order to provide for the safety, health and welfare of persons, and for prevention of damage of any kind, all operations for the purposes of or in connection with the Contract shall be carried out in compliance with the Safety Requirements of the Government of Pakistan with such modifications thereto as the Engineer may authorize or direct and the Contractor shall take or cause to be taken such further measures and comply with such further requirements as the Engineer may determine to be reasonably necessary for such purpose. The Contractor shall also provide all other medical services and appoint a health and safety officer at Site if stated in the Specifications. In case of any fatality or serious accident, the Contractor shall, in addition, notify the Engineer immediately by the quickest available means.”

6.8 Contractor's Superintendence

Insert at the end of sub-paragraph (a) of this Sub-Clause:

"or, if not, the Contractor shall make competent interpreters available during all working hours, in a number sufficient for those persons to properly perform their superintendence duties"

The following text is added at the end of this Sub-Clause:

“The Contractor's authorized representative and his other engineers working at site shall possess valid registration with the Pakistan Engineering Council.

The Contractor's authorized representative at Site shall be authorized to exercise adequate administrative and financial powers on behalf of the Contractor so as to achieve completion of the Works as per the Contract.”

6.12 Key Personnel

The following is inserted at the end of the last paragraph:

“If any of the Key Personnel are not fluent in this language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.”

The following Sub-Clauses 6.13 to 6.26 are added at the end of Sub-Clause 6.12:

6.13 Foreign Personnel

The Contractor may bring in to the Country any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required

residence visas and work permits. The Employer will, if requested by the Contractor, use all reasonable endeavours in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government permission required for bringing in the Contractor's personnel.

The Contractor shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in the Country of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

- 6.14 Supply of Foodstuffs** The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.
- 6.15 Supply of Water** The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.
- 6.16 Measures against Insect and Pest Nuisance** The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.
- 6.17 Alcoholic Liquor or Drugs** The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereto by Contractor's Personnel.
- 6.18 Arms and Ammunition** The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.
- 6.19 Festivals and Religious Customs** The Contractor shall respect the Country's recognized festivals, days of rest and religious or other customs.
- 6.20 Funeral Arrangements** The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of its local employees who may die while engaged upon the Works.
- 6.21 Forced Labour** The Contractor, including its Subcontractors, shall not employ or engage forced labour which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labour, such as indentured labour, bonded labour or similar labour-contracting arrangements.
- 6.22 Child Labour** The Contractor, including its Subcontractors, shall not employ or engage child labour in accordance with relevant law(s) in force in Islamic Republic of Pakistan.

- 6.23 Employment Records of Workers** The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Engineer. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [*Contractor's Records*].
- 6.24 Workers' Organizations** The Contractor shall comply with the relevant labour laws of Pakistan which recognize workers' rights to form and to join workers' organizations/Trade Union of their choosing and to bargain collectively without interference.
- 6.25 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, persons with disabilities, migrant workers and children (of working age in accordance with Sub-Clause 6.22).
- 6.26 Epidemics** In the event of any out-break of illness of epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government or the local medical or sanitary authorities for the purpose of overcoming the same.
- 7.7 Ownership of Plant and Materials** The following is added before the first paragraph:
 "Except as otherwise provided in the Contract,"
 The following is added at the end of the Sub-Clause:
 "No Plant and/or Materials that is the property of the Employer shall be removed from the Site. If it becomes necessary to:
 (i) remove any item of such Plant from the Site for the purposes of repair, the Contractor shall give a Notice, with reasons, to the Engineer requesting consent to remove the defective or damaged item off the Site. This Notice shall clearly identify the item of defective or damaged Plant, and shall give details of: the defect or damage to be repaired; the place to which defective or damaged item of Plant is to be taken for repair; the transportation to be used (and insurance cover for such transportation); the proposed

inspections and testing off the Site; and the planned duration required before the repaired item of Plant shall be returned to the Site. The Contractor shall also provide any further details that the Employer may reasonably require; or

- (ii) replace any item(s) of such Plant and/or Materials, the Contractor shall give a Notice, with reasons, to the Engineer clearly identifying the item(s) of Plant and/or Materials to be replaced, and giving details of the due date of delivery to the Site of the replacement item(s).

Where any item of Plant and/or Materials has become the property of the Employer under this Sub-Clause before it has been delivered to the Site, the Contractor shall ensure that such an item is not moved except for its delivery to the Site.

The Contractor shall indemnify and hold the Employer harmless against and from the consequences of any defect in title or encumbrance or charge (except any reasonable restriction arising from the intellectual property rights of the manufacturer or producer) on any item of Plant and/or Materials that has become the property of the Employer under this Sub-Clause."

The following Sub-Clause 7.9 is added after Sub Clause 7.8:

- | | |
|--|--|
| 7.9 Use of Pakistani Materials and Services | The Contractor shall, so far as may be consistent with the Contract, make the maximum use of materials, supplies, plant and equipment indigenous to or produced or fabricated in Pakistan and services available in Pakistan provided such materials, supplies, plant, equipment and services shall be of required standard. |
| 8.1 Commencement of Works | The following is added before the first paragraph:
"After signing of the Contract Agreement by both Parties," and thereafter the word "The" is replaced with the word "the". |
| 8.5 Extension of Time for Completion | The following is added after paragraph (c):
"for last five years". |

The following Sub-Clause 8.14 is added after Sub-Clause 8.13:

8.14 Incentives For Early Completion

If Contract Data does not state applicability of incentives for early completion, this Sub-Clause shall not apply.

11.12 Supervisory Assistance During DNP

If provided under the Schedule of Prices, the Contractor shall provide supervisory assistance to the Employer during the DNP for the Works. Such supervisory assistance shall be as described in the Specification for the purpose of supporting the Employer's operation and maintenance of the Plant for the period specified in the Schedule of Prices after the Date of Completion.

12.2 Method of Measurement

The following paragraph is added at the end of the Sub-Clause:

“Summary of measured quantity for payment shall be delineated item-wise under four heads namely; “Schedule of Prices Quantity”, “Quantity Executed To-date”, “Quantity Certified Previously” and “Net Quantity Executed under this Certificate”.

12.3 Valuation of the Works

The following text is added at the end of fifth paragraph of the Sub-Clause:

“Sum of overhead charges and profit for sub-paragraph (a) shall be Twenty Five percent (25%)”.

13.4 Provisional Sums

The following paragraph is inserted as the penultimate paragraph:

“The Provisional Sum shall be used to cover the Employer's share of the DAAB members' fees and expenses, in accordance with Clause 21. No prior instruction of the Engineer shall be required with respect to the work of the DAAB. The Contractor shall submit the DAAB members' invoices and the satisfactory evidence of having paid 100% of such invoices as part of the substantiation of those Statements submitted under Sub-Clause 14.3.

13.6 Adjustments for Changes in Laws

The following paragraphs are added at the end of the Sub- Clause:

“Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the Table of Adjustment Data in accordance with the provisions of Sub-Clause 13.7 [*Adjustments for Changes in Cost*].”

14.1 Advance Payment

The following is added at the end of the Sub-Clause:

The entity issuing the Advance Payment Guarantee and its form shall be as under:

The Advance Payment Guarantee shall be in the form of Guarantee issued by (a) a Scheduled Bank in Pakistan or (b) a foreign bank duly counter-guaranteed by a Scheduled Bank in Pakistan

In case of Joint Venture, the Advance Payment Guarantee(s) shall be in the name of the Joint Venture or in the name of Lead/either firm of the JV or in ratio of shares of the individual JV partners.

14.6 Issue of IPC**14.6.1 The IPC**

In the first line of the 1st paragraph the words “28 days” are substituted by “56 days”.

14.7 Payment

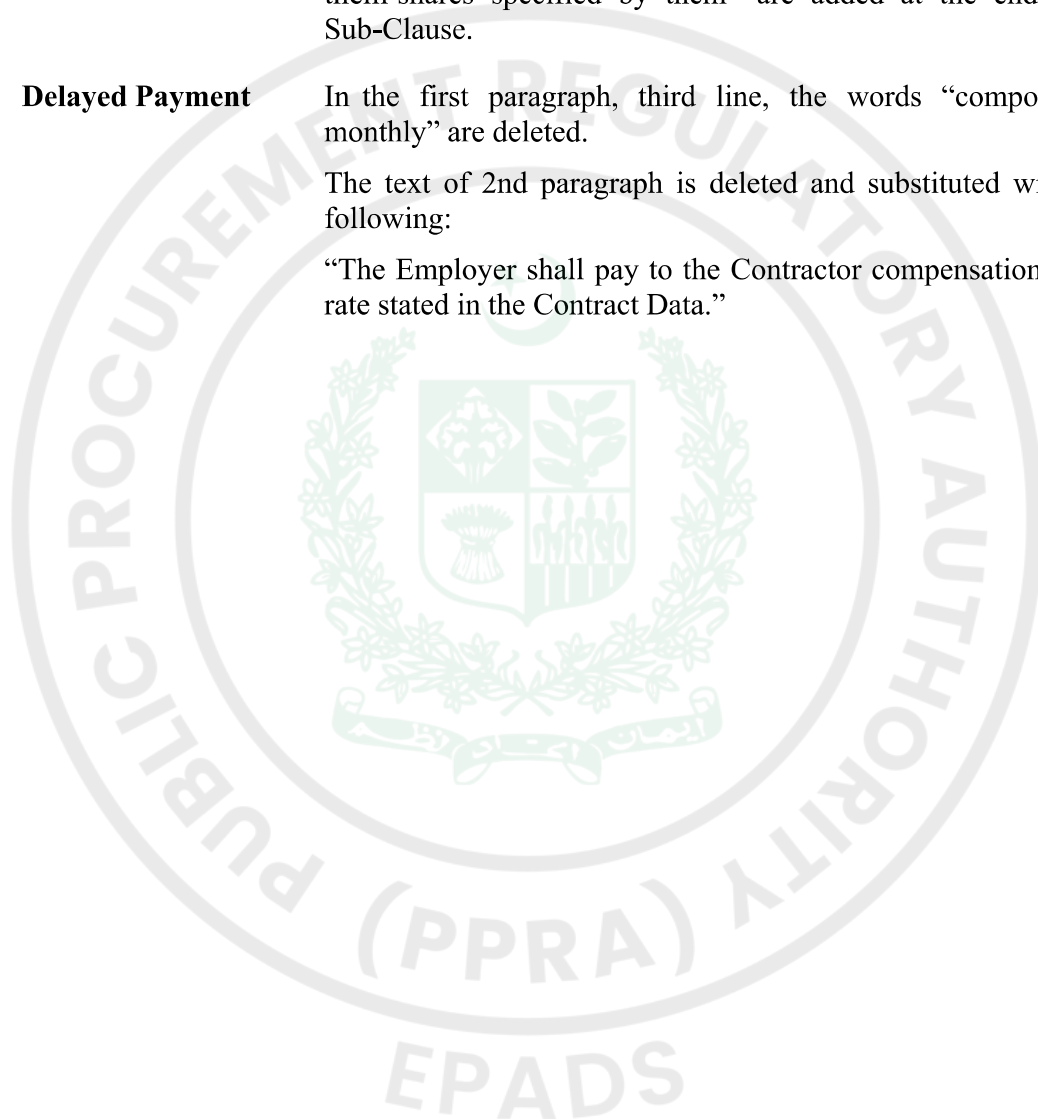
The words “or through crossed cheque in favour of the Contractor or JV partners. The Payment to JV partners shall be made at the request of the Joint Ventures in the ratio of them shares specified by them” are added at the end of the Sub-Clause.

14.8 Delayed Payment

In the first paragraph, third line, the words “compounded monthly” are deleted.

The text of 2nd paragraph is deleted and substituted with the following:

“The Employer shall pay to the Contractor compensation at the rate stated in the Contract Data.”



15.2 Termination for Contractor's Default**15.2.1 Notice**

Following text is added at the end of sub-paragraph (h) of this Sub-Clause:

“For the purposes of this Contract, corrupt and fraudulent practices have been defined in Public Procurement Rules 2004.”

15.2.3 After Termination

The word “and” at the end of sub-paragraph (ii) of paragraph (b) is deleted the following paragraph is added after sub-paragraph (iii):

“(iv) all Employer-Supplied Materials and/or Employer's Equipment made available to the Contractor in accordance with Sub-Clause 2.6 [*Employer-Supplied Materials and Employer's Equipment*], and”

15.4 Payment after Termination

The following text is added at the end of this Sub-Clause:

“The Employer shall be entitled to sell any of the Contractor's Equipment, Temporary Works and unused materials and apply the proceeds of sale towards payment of any debt due from the Contractor to the Employer under this Clause including any outstanding payments to the Subcontractors.

16.2 Termination by Contractor**16.2.1 Notice**

The sub-paragraph (j) is deleted in its entirety.

At the end of sub-paragraph (i) “; or” is replaced with “.” and at the end of sub-paragraph (h) “;” is replaced with “; or”.

In sub-paragraph (f) “84 days” are replaced with “180 days” and text “for reasons not attributable to the Contractor” is added at the end.

16.3 Contractor's Obligations After Termination

Sub-paragraph (c) is deleted and replaced with:

“(c) deliver to the Engineer all Employer-Supplied Materials and/or Employer's Equipment made available to the Contractor in accordance with Sub-Clause 2.6 [*Employer-Supplied Materials and Employer's Equipment*]; and

(d) remove all other Goods from the Site, except as necessary for safety, and leave the Site.”

17.1 Responsibility for Care of the Works

After the two instances of “Goods” in the last paragraph, the words “Employer-Supplied Materials and/or Employer's Equipment” are added.

The following Sub-Clause 17.7 is added after Sub-Clause 17.6:

17.7 Use of Employer's Accommodation/Facilities

The Contractor shall take full responsibility for the care of the items of the Employer's facilities and/or accommodation, if any, as detailed in the Specification, from the date of use and/or occupation by the Contractor until the date on which such use and/or occupation is re-vested in the Employer.

If any loss or damage happens to any of the above items during a time while the Contractor is responsible for its care, arising from any cause other than a cause for which the Employer is responsible or liable, the Contractor shall promptly rectify the loss or damage at the Contractor's risk and cost.

18.1 Exceptional Events

The words "or disorder" are replaced with "disorder or sabotage" in sub-paragraph (c) of the Clause.

18.4 Consequences of an Exceptional Event

The following is added at the end of sub-paragraph (b) after deleting the "":

“, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Exceptional Events, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 19.2 [*Insurance to be provided by the Contractor*].”

In sub-paragraph (c), the words “and necessarily” are added after the words “was reasonably”.

18.5 Optional Termination

Following text is added at the end of first paragraph:

19.1 General Requirements

“The Contractor shall immediately after the date of the Letter of Acceptance submit the draft of insurance policies for the Employer's consent.”

Following text is added at the end of third paragraph:

“The Contractor shall, within the respective periods stated in the Contract Data submit to the Engineer and the Employer a) evidence that the insurances described in this Clause have been effected, and b) copies of policies of the insurances described in Sub-Clauses 19.2.1, 19.2.4 and 19.2.5.”

19.2.5 Injury to employees

19.2 Insurance to be provided by the Contractor

The words “sickness, disease” are deleted in the third line of first paragraph.

The following Sub-Clause is added after Sub-Clause 19.2.6:

19.2.7 Insurance Company

“The Contractor shall be obliged to place all insurances described in this Clause with insurers listed in the Contract Data and rated by PACRA/VIS of rating as provided in Table below:

Accepted Contract Amount (In Eq. million PKR)	Minimum Rating of Insurance Companies
Up to 1000	A (+)
1001 to no limit	AA

21.6 Arbitration

The word “international” is deleted in the sixth line of first paragraph. The text of sub-paragraph (a) is substituted with the following:

“The Dispute shall be finally settled under the Rules of Arbitration, specified in the Contract Data;”

The following Clauses are added after Clause 21

22 Custom Duty

Not Applicable

23 Taxes

The contractor, subcontractors and their employees shall be liable to pay income tax, withholding tax, super tax and other taxes on income arising out of the contract. However, for the purpose of Direct and Indirect Taxes, it may be as under:

Local Direct Taxes:

It is implied that the Bidder/Contractor has taken all the risks into account while submitting the proposed price. The Employer (WAPDA) shall not be responsible for any present or future direct taxes (Income Tax/Corporate Tax, WHT, Turnover Tax, Super Tax etc) payable by the bidder, his/her experts and other employees.

Any increase or decrease in the rates of all local direct taxes, or introduction of new tax on the income of the Contractor, experts and other employees in connection with the performance of the contract, will be the liability of the Contractor as these taxes are levied on the income earned by the Contractor from the Contract and the Employer (WAPDA) will not compensate to the Contractor.

Local Indirect Taxes:

All local indirect taxes i.e. sales taxes, custom duty, VAT, levies, other charges or similar taxes levied on the Contractor's invoice, shall be borne and reimbursed by the Employer (WAPDA), subject to withholding law, on the basis of actual amount of indirect taxes paid by the Contractor at the prevailing tax rates supported by the documentary evidence of such payment of indirect taxes by the Contractor. These indirect taxes shall be mentioned as a separate line item on the Contractor's invoice.

Information of the contractor's tax obligations in the Employer's (WAPDA) country can be found from Federal Board of Revenue Pakistan (www.fbr.gov.pk) & relevant Provincial Tax Authority's website or from their relevant offices.

Advance Income Tax:

All payments (gross) as payable to the contractor/subcontractors will be subject to Withholding Tax/Advance Tax at prescribed rate at the time of payment. The deduction of advance income tax from the gross payable bills shall be made in accordance with prevalent income tax laws of the Government of Pakistan. These

deductions shall be deposited in the Government Treasury by the employer to the account of the contractor within prescribed period.

The Employer shall within 28 days of making any such deduction, provide to the contractor a certificate of tax deducted and deposit in the Government Treasury.

Provincial Sales Tax on Services:

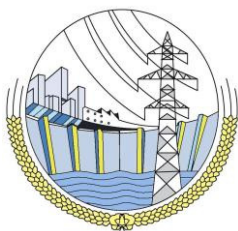
Subject to the relevant provisions of the Provincial Sales Tax Act on Services, all payments (gross) as payable to the contractor, subcontractors, in relation to Works/Services will be subject to withholding sales tax at the prevalent rates, at the time of payments.

24 Integrity Part

If it is found and established at any stage that the Contractor or any of his Subcontractors, agents or servants have violated or involved in violation of the Integrity Pact signed by the Contractor then the Employer shall be entitled to:

- (a) recover from the Contractor an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by the Contractor or any of his Subcontractors, agent or servants;
- (b) terminate the Contract; and
- (c) recover from the Contractor any loss or damage to the Employer as a result of such termination or of any other corrupt business practices of the Contractor or any of his Subcontractors, agent or servants.

The termination under sub-paragraph (b) of this Sub-Clause shall proceed in the manner prescribed under Sub-Clause 15.1 to 15.4 and the payment under Sub-Clause 15.4 shall be made after having deducted the amounts due to the Employer under sub-paragraph (a) and (c) of this Sub-Clause.



PAKISTAN
WATER AND POWER DEVELOPMENT AUTHORITY

DASU HYDROPOWER PROJECT

MUTAHIDA KOHISTAN GRAND

JIRGA SCHEMES

BIDDING DOCUMENT

NCB NO: DASU-MKJ-CDR

CONSTRUCTION WORKS

“CONSTRUCTION OF DUBAIR ROAD (PACKAGE-1

Volume 2

Section VII

WORKS REQUIREMENTS

Volume 2(a) Specifications

- Part-A Specific Provisions
- Part-B Technical Provisions

Volume 2(b)

- Drawings

**GENERAL MANAGER/ PROJECT DIRECTOR
DASU HYDROPOWER PROJECT
DASU, PAKISTAN
JULY 2026**

BIDDING DOCUMENTS

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| Volume 2(a) | – Part-A Specific Provisions |
| | – Part-B Technical Provisions |
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VOLUME 2

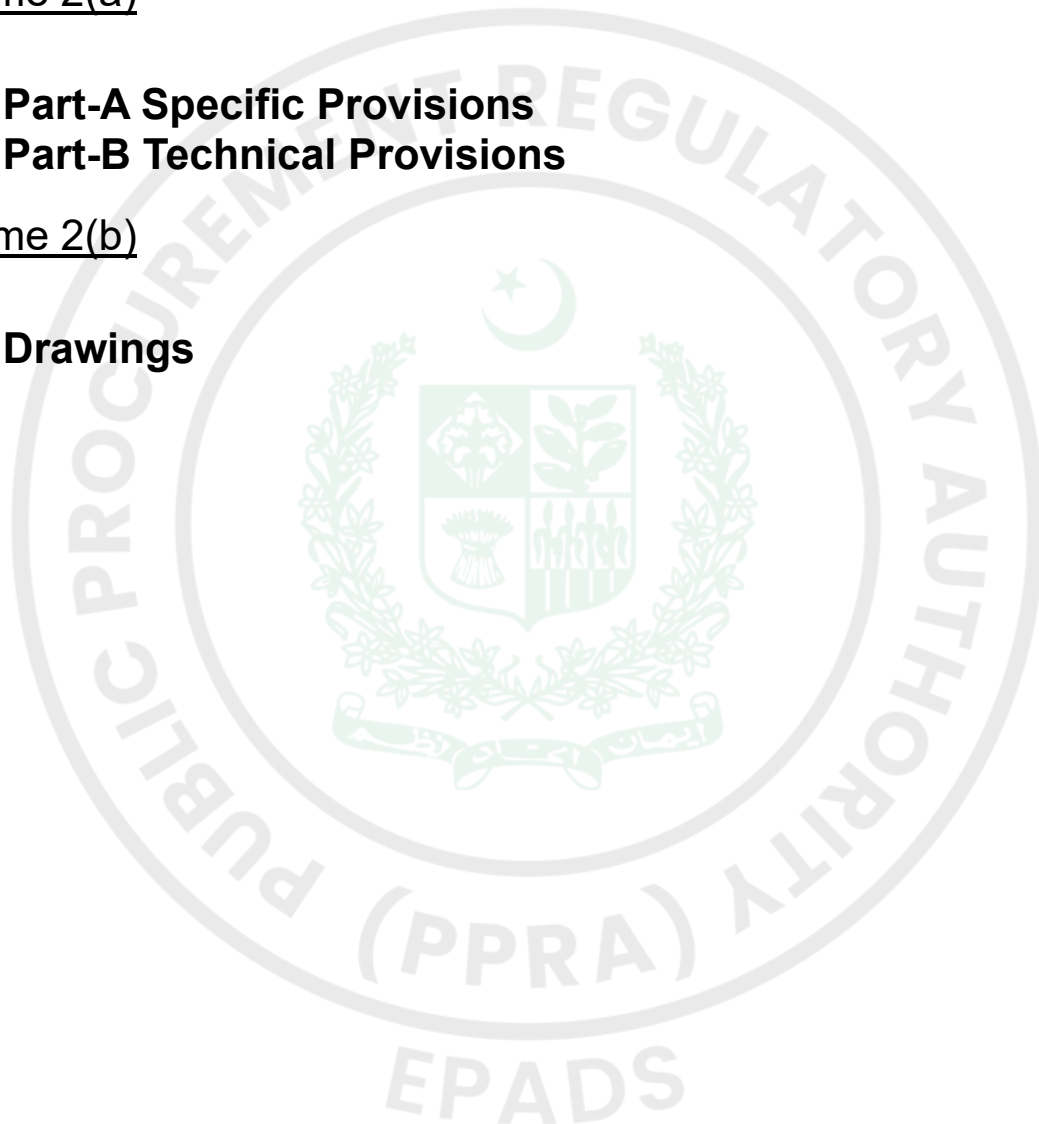
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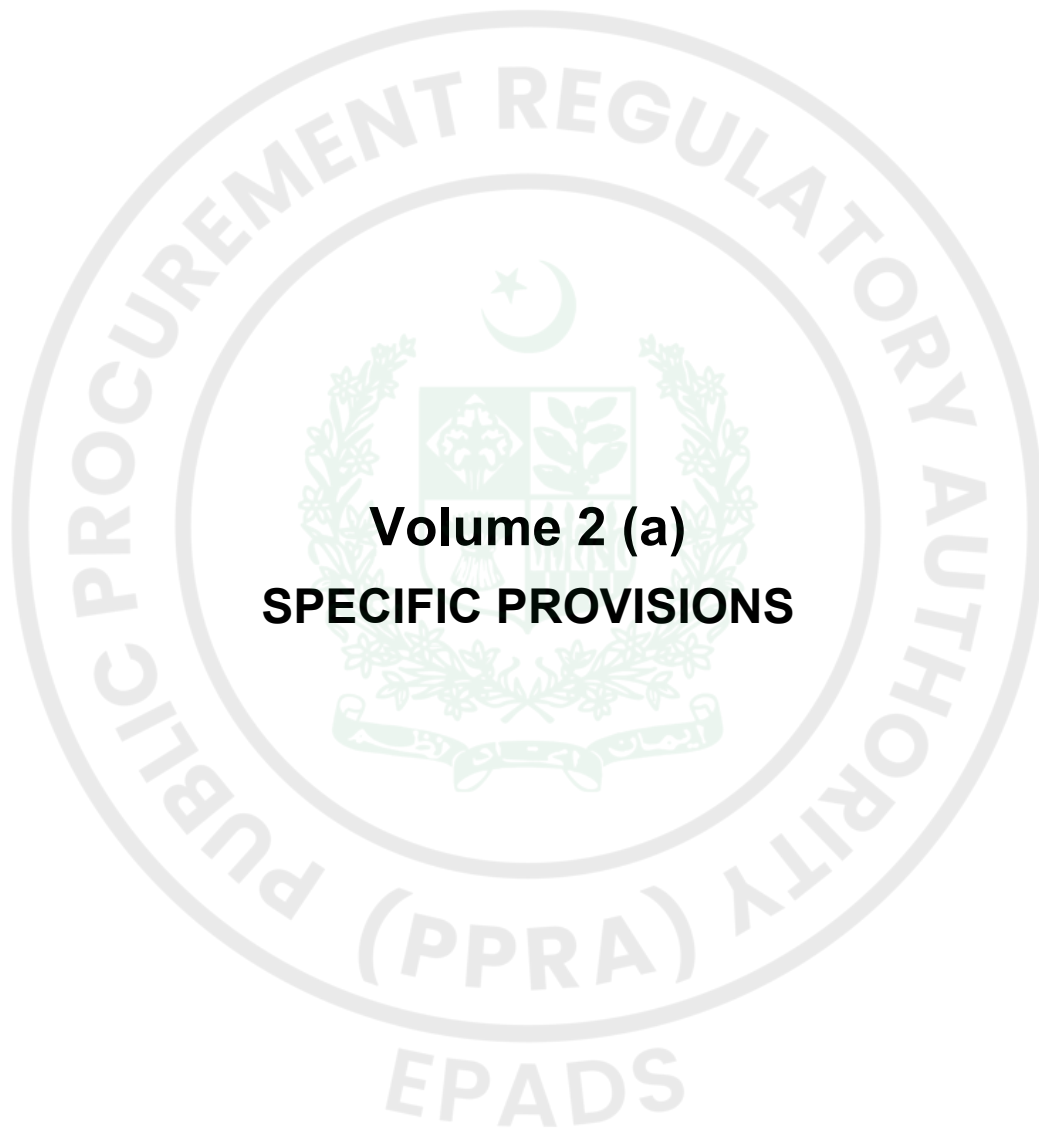
Volume 2(a)

- **Part-A Specific Provisions**
- **Part-B Technical Provisions**

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- **Drawings**





DASU HYDROPOWER PROJECT
CONSTRUCTION OF DUBAIR ROAD (PACKAGE-1: RD 0+00 to 2+021)
GENERAL SPECIFICATIONS

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Abbreviations

Wherever in these specifications or in other contract documents the following abbreviations and terms or pronouns in place of them are used, the intent and meaning shall be interpreted as follows:

AASHTO	American Association of State Highway and Transportation officials
ASTM	American Society for Testing of Materials
AWG	American Wire Gauge
AWPA	American Wood Preservers Association
CESMM	Civil Engineering Standard Method of Measurement
BS	British Standard Code of Practice
ACI	American Concrete Institute
FHWA	Federal Highway Administration
PCA	Portland Cement Association
Wt.	Weight
lb.	Pound
AWS	American Welding Society
Gallon	U.S. Gallon
In.	Inch
JMF	Job Mix Formula
ft.	Foot
Yd.	Yard
L	Litre
mm	Millimetre
cm	Centimetre
m	Meter
km	Kilometre
m ²	Square Meter
cm ²	Square Centimetre
m ³	Cubic Meter
ha	Hectare
kg	Kilogram
Ton	Metric Ton (1000 kg)
°C	Degree Centigrade
°F	Degree Fahrenheit

GENERAL SPECIFICATIONS

1. GENERAL

1.1 REFERENCE TO OTHER SPECIFICATIONS

Throughout the Specifications and Schedules references are occasionally made to other Sections. All such references are intended solely for the convenience of those using the documents, and the absence of a reference in no manner excludes the application of every other part in the Specifications which may, in the opinion of the Engineer, have any bearing upon the point in question. The Contract Documents shall be read and applied as a whole.

2. SCOPE OF WORKS UNDER THE CONTRACT

The project is the Construction of Dubair Road (Package-1: RD 0+00 To 2+021 Km).

The scope includes carrying out a detailed topographic survey to ensure proper alignment with site conditions, followed by the construction of a flexible pavement carriageway. The works also cover the construction of road including earthwork, surface course pavement, one bridge, two causeways, two slab culverts and associated retaining and breast walls and drainage works, all to be executed in accordance with the approved tender drawings and applicable standard specifications.

3. LOCATION AND ACCESS TO THE SITE

Dubair Road is located in Lower Kohistan, approximately 20 km from Besham and 22 km from Pattan. The location plan is provided in Volume-2(b): Drawings. The road originates from the KKH Bridge and extends towards Dubair Kalay, serving as an important access route for the local communities in the area. The overall road length is 19.3 km; however, this package covers the initial 2.0 km section, commencing from the KKH Bridge. The proposed works under this package are aimed at improving connectivity, facilitating safer transportation, and enhancing access to social and economic services for the residents of the project area.

Without limiting any of Contractor's obligations or responsibilities under the Contract, the Contractor will be deemed to have obtained all necessary information pertaining to and to have complied with all regulations and procedures governing the use of national and international facilities such as public transport, handling and storage facilities, including roads, and the like for the due fulfilment of the Contract. Where access is not available, all construction materials will be carried out to the sites by workforce

4. FACILITIES PROVIDED BY THE EMPLOYER

The Contractor shall be fully responsible for extending, expanding or upgrading any facility provided by the Employer as the Contractor considers to be necessary, and subject to the Engineer's consent, including any additional maintenance which this may require. This responsibility shall include liaison with the relevant authorities and bearing all respective charges without additional payment.

In all cases the Contractor shall take all necessary precautions to ensure that the facilities are used in a proper, controlled and orderly manner and that resources supplied are not wasted.

5. FACILITIES AND SERVICES PROVIDED BY THE CONTRACTOR

5.1 GENERAL

The Contractor shall provide in timely and maintain the facilities and services specified in this clause for the execution of the Contract.

If a facility is maintained and operated by the Contractor, all of the Contractor's charges for such maintenance and operation shall be deemed to be included in the rates and prices in the Bill of Quantities, unless otherwise provided for in the Contract. The Contractor shall at the end of the Contract, dismantle and remove from the Site all buildings and related facilities.

The Contractor shall then submit to the Engineer for drawings to be established by the Contractor under this Clause, at least twenty-eight (28) days before each such facility is to be established.

The Contractor shall be responsible for keeping all areas of the Site for which he is responsible, including temporary facilities, buildings, services, etc., in a neat, clean, sanitary and orderly condition and to the satisfaction of the Engineer at all times.

After dismantling and removing from the Site all buildings and related facilities provided, which are no longer required as agreed by the Engineer, the Contractor shall reinstate the ground to the satisfaction of the Engineer.

The Contractor shall provide at his own expense all professional, administrative, supervisory and technical staff and all labour, communications, chemicals, test equipment, transport, plant, equipment, materials, furniture, tools, instruments, fuel spare parts and the like required for the proper and efficient operation of the services.

5.2 SITE AND ROADS

The Contractor is fully responsible for his own access and when he uses public roads, he shall observe regulations stipulated by relevant authorities concerned.

Any activities, such as obtaining permission for entering for surveying and investigation, land acquisition and compensation, and construction of the roads which access to borrows, spoils, stockpiles, etc. located outside the Project boundary shall be made at full responsibility and cost of the Contractor.

The Contractor shall be responsible for the construction and maintenance of access to all areas of the Site, to all Site offices, and for all haulage and other construction accesses required for carrying out the Works. These accesses shall be treated to avoid any dust nuisance, graded monthly and maintained whenever necessary or as directed by the Engineer.

When temporary construction roads constructed by the Contractor are no longer required the Contractor shall, unless otherwise approved or directed by the Engineer, plough to break up hardened surfaces, remove all imported material and reinstate the surface to the satisfaction of the Engineer. Unless otherwise specified, no separate payment will be made for Access on Site.

The Contractor shall also independently liaise with local traffic authorities, including Traffic Police for specific permits or approvals for transport of particular items of goods, materials, oversized or heavy loads which may require special escort or speed restrictions.

5.3 UTILITIES SUPPLY

The Contractor shall be fully responsible for the provision of electricity, water, gas and

other services he may require for the performance of the Contract.

5.4 CONTRACTOR'S RESIDENTIAL AREA

The Contractor shall provide and maintain associated facilities like Power Supply, Water Supply System, Sewerage System, Road Network, telecommunication, camps for his residential area.

Construction details shall be to the approval of the Engineer with materials and workmanship in conformance with the appropriate specifications and code of practice.

The Contractor shall be entirely responsible for the design, provision, construction, maintenance and removal of all accommodation and related facilities within the accommodation area proposed for such use by the Contractor.

Any generator plant for power supply shall be adequately silenced and located so as to keep the noise level at the nearest housing or office area below 65 dB.

The Contractor shall provide, operate and maintain a potable water supply for the duration of the Contract and shall provide connections and reticulation for potable water to his own facilities. The quality of the potable water shall comply with the World Health Organization (WHO) quality criteria.

The Contractor shall also make all arrangements necessary for the distribution of potable water for the due fulfilment of the Contract to his various offices, buildings and other Site facilities. For each such facility, this supply shall be maintained for the duration of the work or use of the area.

5.5 LIGHTING

Night working shall only be undertaken upon the specific approval of the Engineer. The Contractor shall provide and maintain in good condition, adequate high powered flood lighting for all portions of the work on which he is occupied, as approved by the Engineer.

If, in the opinion of the Engineer, the resulting illumination is not adequate for the safe and efficient execution of the work, additional lighting shall be provided by the Contractor without additional payment. Failing this further such work will be prohibited until the lighting is satisfactory. All lights will have shades on them directing light to ground and not allowing light escape to sky to protect migratory birds from mis-navigation.

5.6 MEDICAL FACILITIES & FIRST AID

The Contractor shall provide, maintain and operate a First Aid station at or close to the areas of the Site where most of the work is being carried out. The First Aid post shall be suitably equipped with medical supplies and at minimum one of the Contractor's employees at each working area Sites shall retain a first aid qualification.

The Contractor shall designate one or more qualified staff experienced in construction projects to supervise the first aid facilities, to control the implementation of the Health and Safety policy defined by the Contractor and consented to by the Engineer.

The Contractor shall make arrangements to transfer cases to suitable hospitals or clinics whenever necessary.

The cost of providing medical facility and First Aid is deemed to be included in other work items.

5.7 FIRE CONTROL

The Contractor shall take all reasonable precautions against outbreaks of fire and ensure that a nucleus of persons trained in the use of fire-fighting equipment is available in each section of work on each shift.

The Contractor shall provide and maintain at the Site fire extinguishers at each working area.

No open fires will be permitted in working areas or elsewhere within the Contractor's control. Grass and other vegetation in the vicinity of all buildings shall be cut at regular intervals to reduce fire hazards.

In the event of a fire, the Contractor shall mobilise all nearby personnel, and shall do everything possible to extinguish the outbreak.

The Contractor will be deemed to have included for providing such fire control in his rates and prices.

5.8 SECURITY

The Contractor shall institute and operate an effective security system on a 24h/day basis at all the areas comprising the Site. He shall co-operate with the local Police and comply with the Engineer's requirements on all matters relating to Security of the Works and persons entering the Site. Such a system shall include appropriate identification procedures for all persons, vehicles, etc., entering and leaving.

The Contractor shall be responsible for providing and maintaining in proper operation the security system for the duration of the Contract, including personnel, equipment, access control buildings, guard shelters, turnstiles, barriers, identification systems, administration, management, etc.

The Contractor shall also institute emergency evacuation procedures at each working area. The Contractor shall also prevent firearms being brought on to Site.

The cost of providing security is deemed to be included in other work items.

5.9 PROGRESS PHOTOGRAPHS

Colour photographs showing the progress of the Works shall be taken by the Contractor at monthly intervals including ones taken from some constant views determined by the Engineer or selected by the Contractor and agreed by the Engineer. Digital camera with facility of time and date imprinted in picture to be used.

Photographs shall not be less than 120 mm x 80 mm and shall be inscribed with the location, taking date, identification number and title with a brief description. Four (4) prints of each photograph will be required to be submitted to the Engineer each month as a part of the Monthly Progress Report. All negatives or a disk of CD in the case of digital photograph shall be numbered and kept on Site by the Contractor. On completion of the Works, the negatives or CDs shall be handed over to the Employer.

All such photographs, negatives, CDs shall be the property of the Employer.

5.10 ASSISTANCE FOR THE ENGINEER

The Contractor shall provide the Engineer with such assistance as he may require during working hours at all times including weekends.

When so requested by the Engineer the Contractor shall supply for the use of the Engineer such equipment and facilities as the Contractor may have available, at Daywork rates or other rates to be negotiated as necessary. The Contractor shall also

supply skilled labour, semi-skilled labour and unskilled labour for which there are payment items in the Bill of Quantities. Semi-skilled labour shall be deemed to include light vehicle drivers, survey assistants, checkers, messengers, cleaners, and the like.

5.11 TRANSPORT OF PERSONNEL

The Contractor shall be responsible for, and make provision for the safe vehicular transport of all personnel between their residences and their work areas, and vice versa. Personnel may only be transported on flatbed trucks or similar vehicles if acceptable side restraints and adequate seating is provided. Weather proof covers shall be used at all times. The prevention of overloading of vehicles shall be rigidly enforced by the Contractor and suitable crush barriers shall be provided at loading points.

Pedestrian access on road surfaces shall not be permitted and suitable sidewalks shall be constructed and clearly demarcated.

5.12 ENVIRONMENTAL MONITORING AND TESTING DURING CONSTRUCTION

Environmental monitoring and testing will be undertaken during the construction phase of the proposed sub-project. The results of analyses are compared with the National Environmental Quality Standards (NEQS). Unit of payment shall be in quantity of each sample according to unit rate tendered by the Contractor in the Bill of Quantities.

For Provisional Sum items, three quotations will be required vetted by Supervision Consultant and approved by Employer. The Contractor shall be paid on the basis of amount specified against the respective item in the General Bill which amount shall be deemed to include all of the Contractor's costs incidental to providing and maintaining the specified obligation including, but not limited to, submission of the monthly monitoring report and proper implementation of the measures. Provided that if, in the opinion of the Engineer, the monthly monitoring report is not submitted and/or proper implementation of the measures is not being provided then the Engineer may withhold payment until a satisfactory level of implementation is provided by the Contractor.

5.13 MEDICAL SCREENING FOR WORKERS

Medical screening of all the worker will be ensured to control the communicable disease of most concern during construction phase, like STDs such as HIV/ Acquired Immunodeficiency Syndrome (AIDS), COVID-19, will be prevented by successful initiative typically involving health awareness; education initiatives; training health workers in disease treatment; immunization program and providing health service. Unit of payment shall be in quantity of each worker according to unit rate of medical test tendered by the Contractor in the Bill of Quantities.

5.14 PROVISION OF SAFETY SIGNBOARDS, SAFETY CONES, WARNING TAPES ETC.

Provision of safety signboards, safety cones, warning tapes etc. will be ensured by the contractor at active construction site to reduce the OHS related issues to workers, visitors and local community. The costs shall be included in the Provisional sum prices of the various safety items used for the construction project in the Bill of Quantities.

For Provisional Sum items, three quotations will be required vetted by Supervision Consultant and approved by Employer. The Contractor shall be paid on the basis of amount specified in the General Bill which amount shall be deemed to include all of the Contractor's costs incidental to providing and maintaining the specified obligation. Provided that if, in the opinion of the Engineer, proper implementation of the measures is not being provided then the Engineer may withhold payment until a satisfactory level of implementation is provided by the Contractor.

5.15 MATERIAL STORAGE, HANDLING AND USE MANAGEMENT

The provision of tarpaulins, safe handling of chemicals and hazardous material, chemical encasement (if required) will be ensured by the contractors. Moreover, the inspected fire extinguishers will also be installed at these material handling areas to control any fire emergency. The costs shall be included in the Provisional sum prices of the various safe material handling items in the Bill of Quantities. Moreover, Unit of payment shall be in quantity of each fire extinguisher according to unit rate tendered by the Contractor in the Bill of Quantities.

For Provisional Sum items, three quotations will be required vetted by Supervision Consultant and approved by Employer. The Contractor shall be paid on the basis of amount specified against the respective item in the Bill of Quantities which amount shall be deemed to include all of the Contractor's costs incidental to providing and maintaining the specified obligation. Provided that if, in the opinion of the Engineer, proper implementation of the measures is not being provided then the Engineer may withhold payment until a satisfactory level of implementation is provided by the Contractor.

5.16 PERSONAL PROTECTIVE EQUIPMENT (PPE)

The provision of dust masks, safety shoes, helmet, jackets, safety goggles, gloves, first aid box, ear plugs will be ensured to each worker and visitor at site by the contractor to reduce the OHS related issues to workers and visitors. Unit of payment shall be in quantity of each PPE provided at site according to unit rate tendered by the Contractor in the Bill of Quantities.

For Provisional Sum items, three quotations will be required vetted by Supervision Consultant and approved by Employer. The Contractor shall be paid on the basis of amount specified in the General Bill which amount shall be deemed to include all of the Contractor's costs incidental to providing and maintaining the specified obligation. Provided that if, in the opinion of the Engineer, proper implementation of the measures is not being provided then the Engineer may withhold payment until a satisfactory level of implementation is provided by the Contractor.

5.17 ENVIRONMENTAL TECHNICAL ASSISTANCE AND TRAINING PLAN

An Environmental and Technical Assistance Program (TAP) is to be carried out before the implementation of the project. Environmental awareness and appropriate knowledge of environmental protection is critical to the successful implementation of the ESMMP. A suitable training program will be implemented by the contractor to train the staff who will be involved in the construction phase of the subproject. The costs shall be included in the Provisional sum prices of the various training program not limited to the training on environmental laws and regulations, daily monitoring and supervision, social awareness, lecture relating to OHS which are mandatory for the construction project and included in the Bill of Quantities

5.18 TREE PLANTATION

To enhance the environmental sustainability and as an enhancement measure, trees will be planted by the contractor. The trees will be planted in nearby areas which will be suitable for the local species. The contractor shall ensure the participation of local forest department for this activity. Unit of payment shall be in quantity of each plant along with its maintenance cost according to unit rate of plant tendered by the Contractor in the Bill of Quantities.

6. CONSTRUCTION MATTERS

6.1 CONTRACTOR'S METHODS AND MATERIALS

Unless otherwise confirmed in writing, acceptance of the Bid will not signify acceptance of the Contractor's Equipment, proposed methods of construction, Temporary Works or materials, nor will it in any way relieve the Contractor of any of his responsibilities under the Contract. Further it will not be accepted as a basis for claiming additional compensation where the proposed methods of construction or the proposed materials do not comply with the Specifications and/or for reasons of inadequacy or of non-viability are not capable of fulfilling the Contract in accordance with the specifications or the Contract Programme.

The Specifications deals with the quality of materials, workmanship, etc. but the actual methods of construction are not generally specified. The construction of the Works will involve dealing with a number of special engineering problems. The accuracy of the Works, the high standard of workmanship demanded under the Specifications, the safety of the workmen employed and the speed of construction will depend on the correct handling of these problems by the Contractor. Although responsibility for these matters rests with the Contractor, it is essential that there shall be full liaison between him and the Engineer with regard to construction methods and materials to be employed.

Unless otherwise directed, the Contractor shall submit to the Engineer for consent full details concerning the methods, equipment and materials proposed for each section of the work or installation. These shall be referred to as Method Statements and the details as necessary and confirmed to the Engineer not later than twenty-eight (28) day before the programmed commencement of work in the area concerned. Initial activities shall be based on as agreed in writing by the Engineer.

The Engineer will consent to or comment on the proposals within twenty-one (21) days of receipt.

The Engineer's consent will not be unreasonably withheld provided the methods, equipment and materials proposed may be expected to produce an acceptable end result, but any approval, consent, acceptance, agreement, etc. by the Engineer shall not relieve the Contractor of his responsibilities for safety, adherence to the programme, compliance with the Specifications and Drawing or any other requirements in fulfilment of the Contract.

After operations have been commenced, it is possible that modifications to the construction methods originally agreed upon will be found desirable and such modifications will be made from time to time by agreement in writing between the Engineer and the Contractor, and subject to the Engineer's approval. The Engineer's approval on the Contractor's method statement and/or the revised method statement during construction stage shall not release the Contractor from his obligation and responsibilities under the terms and conditions of the Contract.

If, however any equipment, appliances, types or quality of Temporary Works such as scaffolding, forms, safety provisions, etc., are in the opinion of the Engineer, either unsafe or unsuitable for accurate and efficient construction, the Engineer will instruct the Contractor to replace or modify the item or items concerned, whether or not the Contractor is in agreement with such opinion, and the Contractor shall forthwith make the required alterations without any additional payment and claim.

The Contractor shall remedy at his own costs any damages to or defects in any parts of the Works which are attributed to the Contractor's construction method, equipment, materials and workmanship, in accordance with the Contract and the Engineer's instructions.

The Contractor is totally responsible for all costs associated with locating, establishing and operating his own Quarry Site as a source of all site requirements for stone and aggregates etc.

Where an alternative design is initiated by the Contractor, he shall be responsible for timely obtaining any required design criteria from the Engineer as necessary.

6.2 PROGRAMMING REQUIREMENTS

6.2.1 General

The preparation of up-to-date programmes which are realistic and adequately detailed and upon which the requirements for the issue of drawings for the Engineer's approval will be based and progress monitored is a primary requirement of this Contract. To achieve this, the Contractor shall employ adequate support staff and systems who will be responsible for the preparation and updating of programmes and progress reports.

6.2.2 Bid Construction Schedule

The Bidder shall submit a programme (Form TP-4) to define the duration of construction of the various sections of the Works and shall take into account any non-working days. Such programme shall be designated the «Bid Construction Schedule».

The Bid Construction Schedule shall be based on the Contractor's own comprehensive plan, programme and resource usage with appropriate development of method statements for construction of the Works. The Contractor shall ensure that the Bid Construction Schedule meets the requirements of the Contract notwithstanding anything that may be indicated in or inferred from the Engineer's Programme. The Bid Construction Schedule shall be based on network logic relationships between activities. The programme shall be computerised, using Microsoft Project, Primavera or equivalent conventional construction planning computer software suitable for use on a PC.

The entire programme shall be suitable for future expansion by addition of more detailed programme activities for construction of the Works, for monitoring progress and changes therein, planning of critical activities and generation of progress and planning reports during execution of the Works.

6.2.3 Contract Programme

The detailed programme to be submitted pursuant to Clause 30 of the Conditions of Contract shall be based on updating and expanding the Bid Construction Schedule and shall be designated with the title of «Contract Work Execution Programme» and revision number with date.

The submission shall include as a minimum of:

1. The network drawing,
2. Tabular listings of early starts and finishes, late starts and finishes, free and total floats,
3. Computer generated bar charts,
4. Periods required for work carried out by sub-contractors,
5. Information on shutdown periods, vacation day and other non-working time periods, and
6. Schedule of equipment and plant and manpower mobilisation schedule.

Until such time as the Contract Programme has been accepted by the Engineer, all

work shall be executed and monitored against the Bid Construction Schedule.

The Contract Programme shall clearly show the interrelationship of all activities in the programme. In addition, resource statements including labour and equipment types and numbers and planned outputs shall be submitted to substantiate each activity duration. The Contractor shall also submit excavation and construction summation graphs for each section of the Works against which progress will be monitored.

The format of all outputs and reports from the Contract Programme shall be as agreed with the Engineer.

During execution of the Contract, the Contractor shall monitor the construction activities relative to the Contract Programme (or the Bid Construction Schedule, as applicable) and shall submit a report detailing the results of the monitor on a monthly basis as a part of the Monthly Progress Report. All variances from said programmes (as applicable) shall be promptly reported and the future impact of such variances shall be determined and analysed by the Contractor, using network logic, and necessary corrective measures established, subject to the consent of the Engineer, but it shall not release the Contractor from his obligation and responsibility of the Contract under the terms and conditions of the Contract.

6.2.4 Progress Meetings

The Contractor will be required to attend regular site meetings with the Engineer where the progress of construction will be reviewed. Such meetings will normally be held monthly and may be attended by representatives of the Employer.

The Contractor shall also attend weekly meetings with the Engineer and provide prior to each meeting as required by the Engineer detailed programmes showing separately the various activities of the Contractor anticipated over the forthcoming two-week period as well as the progress achieved over the preceding week relative to the programme applicable to that period.

The minutes of the meetings shall be prepared by the Engineer and shall be deemed, after approval by the other participants, to be written confirmation of the declarations, instructions and decisions taken during the meeting.

6.3 QUALITY MANAGEMENT

6.3.1 System and Procedures

The Contractor shall be solely responsible for the quality and testing of materials, workmanship and production processes in the Contract.

To this end the Contractor shall institute and operate a Quality Management plan, in order to satisfy the specifications relevant to each operation pursuant to the Works in terms of the Contract which details:

1. Quality control procedures
2. Personnel responsibilities
3. Procurement procedures
4. Testing procedures
5. Equipment and calibration
6. Frequency testing, calibration, etc.
7. Hold points in production for inspection
8. Rejection and rectification procedures

9. Documentation and communication

6.3.2 Approval of System

Within twenty-eight (28) days after the Start Date of Work and based on the general outline and any amendments thereto requested prior to acceptance of the Bid, the Contractor shall submit comprehensive details of the systems as proposed, making use wherever possible of diagrams, charts, organograms, etc. in preference to lengthy description, all for the approval of the Engineer. Such details shall be updated from time to time as appropriate or as directed by the Engineer.

The Contractor shall commence the operation of the Quality Management plan without delay and in accordance with the Engineer's approval of the general outline and documentation examples as accepted with the Bid and shall thereafter modify the system, from time to time in accordance with the further details as approved by the Engineer.

6.3.3 Provision of Materials and Equipment

1. All materials and equipment intended to be incorporated in the Works shall be subject to approval by the Engineer prior to order by the Contractor.

2. No Plant or part thereof shall be shipped to the work site before it has been approved by the Engineer.

3. Proprietary Brands:

Where the Specification refers to materials of a particular brand name the Contractor may offer an equivalent for the Engineer's approval but the Engineer is under no obligation to accept the alternative and no claims will be entertained if the alternative is not accepted.

4. Testing of Materials

Unless otherwise stated in the Specifications or accepted by the Engineer, all testing shall be carried out and interpreted in strict accordance with the methods specified in the relevant AASHTO / ASTM Standards or other international or national standards specified in the Technical Specifications or approved by the Engineer.

6.3.4 Competence of Workmen

The competence of personnel required to undertake operations involving particular skills, affecting the quality of the Works, shall be demonstrated to the Engineer. Suitable means of identification of different skills and training levels of workmen by way of badges or such like shall be instituted.

Workman shall only receive their practical training on those parts of the Works as agreed by the Engineer.

6.3.5 Inspection

Whenever the regular period for carrying on work is to be changed, the Engineer's consent shall be requested and the Engineer shall be given notice in sufficient time, to rearrange staffing for proper inspection. The Engineer shall be given notice of any other proposed changes to normal working times at the weekly progress meetings or as necessary to cope with emergencies.

6.4 APPROVAL OF MATERIALS AND EQUIPMENT

6.4.1 Submission of Samples and Data

The Contractor shall furnish all information as to quality, weight, constituent substances, dimensions, levels, strength and description of the materials, equipment and work, as may be designated by the Engineer and which the Contractor proposes to incorporate in the Works, and shall give the Engineer such other particulars as may be required.

Before placing any order for materials for incorporation in the Works, the Contractor shall submit to the Engineer for information and consent the names of the firms supplying materials giving the origin, manufacturer's specification, quality, weight, strength and description. When requested, the Contractor shall provide such samples of the materials together with the manufacturer's test certificates as the Engineer requires. The samples ordered or specified shall be delivered to the Engineer on the Site, allowing sufficient time for the Engineer to inspect and/or test the samples before the material is required in the Works. The Engineer may request the Contractor to execute such tests on the submitted samples without separate cost.

Unless otherwise specified, all proprietary materials shall be used and placed in strict accordance with the relevant manufacturer's instructions.

Items submitted shall be properly labelled to indicate the Project Contract number, Contractor's source of supply, manufacturer Contract Item number, and other data required by the Specifications.

The results of the tests shall generally indicate:

1. Sample identification numbers.
2. Sample origin.
3. Part of the Works represented by the sample.
4. Sampling date.
5. Description of tests with reference to the relevant standards.
6. Test results.
7. Date of tests.
8. Reference of laboratory undertaking the tests.
9. Conclusion (Satisfactory or Unsatisfactory).

6.4.2 Certificates of compliance

In the case of standard labelled stock products of standard manufacture material which have a record of satisfactory performance in similar work over a period of not less than two (2) years, the Engineer may accept a statement from such manufacturer attested by the certified laboratory certifying that the product conforms to the applicable Specifications.

Unless otherwise specified, all proprietary materials shall be used and placed in strict accordance with the relevant manufacturer's instructions.

In the case of materials for which such practice is usual, the Engineer may accept the manufacturer's certified mill and laboratory certificate.

If a demonstrable satisfactory service record is available for a material, certain specified tests may be waived by the Engineer.

The Engineer may accept a certificate from a commercial testing laboratory, satisfactory

to him, certifying that the product has been tested within a period acceptable to the Engineer and that it conforms to the requirements of the Specifications.

The Contractor shall provide to the Engineer a list of Sub-Contractors and vendors with whom orders are to be placed for materials or equipment which will be incorporated directly into the work of the Contract.

Copies of material or equipment orders and list of stock material or equipment shall be provided to the Engineer. All orders and stock lists shall state the Standard Specification under which the material is to be furnished, pertinent drawing and part numbers if any, and the required delivery date, and shall state that the material is subject to inspection and testing by the Engineer.

6.4.3 Acceptance of materials

The approval by the Engineer of any material or equipment shall in no way relieve the Contractor of any of his responsibilities for meeting all of the requirements of the Specifications and shall not prevent subsequent rejection if such material or equipment is later found to be defective or not conforming to the Specifications.

6.5 CONTRACTOR'S RETURNS

Records and returns shall be reported to the Engineer in a format acceptable to the Engineer.

6.5.1 Weekly Report

The Contractor shall keep accurate records detailing work carried out for the Works and shall submit them as Weekly Report to the Engineer prior to the weekly progress meeting as required by the Engineer or at such other times as the Engineer may require. The records shall include the following for each section of the Works separately in sufficient detail to establish the man-hours and equipment-hours expended:

1. Extent of work done,
2. The number of each category of workmen and supervising staff,
3. The numbers and types of Contractor's Equipment used,
4. The duration and cause of any significant delays due to breakdown of any Contractor's Equipment,
5. Any other events relevant to progress of the Works.

Notwithstanding the foregoing, the Engineer may employ members of his own staff to record some or all of the above data in addition to the Contractor's records. The Contractor shall also provide such further information as may be requested by the Engineer. All such information shall be shared with the employer's representative for his record.

6.5.2 Monthly Progress Report

The Contractor shall submit Monthly Progress Report at the beginning of each following month presenting the records and issues with respect to each month in question. The monthly report shall be comprehensive for the progress reported period and should only consist of a consolidated summary of the previous work carried out, avoiding repetition of the details already provided during the previous monthly progress reports. The contents of the Report shall include, but not limited to the following items and details:

1. Record of major events in the execution of the Works including Temporary Works

together with monthly construction progress photographs.

2. The Contractor's latest organization and change from previous month, if any.
3. Schedule of current number of all staff on Site for each category showing increase and decrease from the previous month.
4. List of equipment currently owned on Site showing increase and decrease from the previous month.
5. Principal materials consumed, ordered and being stocked on Site.
6. Plant operation records.
7. Delivery or removal plan of equipment during the following month.
8. Record of accident(s) with number and descriptions.

The reporting forms of each item shall be subject to the prior agreement of the Engineer.

6.5.3 Daywork and Similar Records

In accordance with Clause 55 of the Conditions of Contract records shall be kept daily of labour, materials and equipment where there is an agreement to pay by Dayworks. Such records shall be valid only when signed by the Contractor and the Engineer.

In cases where there is any dispute or uncertainty on payment procedure, sheets of work records shall be prepared by the Contractor and signed daily by both the Contractor and the Engineer as an agreed record of work done provided that such records shall not imply any commitment concerning payment. These sheets shall be annotated «For record purposes only».

7. STANDARDS, TECHNICAL DOCUMENTS SUBMISSION AND APPROVAL

7.1 STANDARDS

Abbreviations and definitions, standard codes for sampling and testing and frequency of testing has been described in detail in Technical Specifications.

Except if otherwise specified, where such standards are mentioned, the latest revision or edition on the 28 day before Bid Submission shall apply.

When the Contract Documents contain particular specification or more restrictive specification than required in Standards and Codes listed above, the Contract Documents will always prevail.

In case of lack of precise requirements in the Specifications and even if no reference to any standard listed in Technical Specifications, these standards shall be used as a reference.

Where requirements are specified by reference to a standard, it is not the intention to restrict the requirements solely to that standard. The Contractor may propose to the Engineer an equivalent standard other than that specified, in which case he shall submit the proposed standard and all other information required and shall submit written proof that his proposed standard is equivalent in all significant respects to the standard specified. All submissions shall be made in English language.

If required, the Contractor shall supply a copy of these standards and regulations in English language.

Where a manufacturer is named in the Specifications, other manufacturers' products will also be acceptable, provided that the designated material or workmanship is of

equivalent or better.

7.2 TECHNICAL DOCUMENTS

7.2.1 Bid Drawings

The Bid Drawings referred to in the Specifications are those listed in Volume 2(b) "Drawings".

7.2.2 Shop Drawings

"Drawings" referred to in the Specifications shall mean all drawings, calculations, samples, patterns, models, operation and maintenance manuals and other technical information of a like nature submitted by the Contractor and approved by the Engineer.

The Shop Drawings shall be prepared by the Contractor with signature of the Contractor's authorized person(s) together with an electronic soft copy from time to time.

The Permanent works shall be executed in accordance with the Construction Drawings. Where the Contractor's Equipment and Temporary Works may have an effect or impose forces on any part of the Permanent Works, the Contractor shall submit in advance details for approval of such items, including the magnitude and direction of such forces, together with any other special construction requirements.

7.3 TECHNICAL DOCUMENTS SUBMISSION

7.3.1 General

All Drawings and Documents to be submitted by the Contractor (if any) for the Engineer's approval shall be in English language, and all dimensions shall be in Metric system. Symbols shall be in accordance with approved Standards. All Drawings submitted for approval shall conform to ISO paper sizes A0 to A4. Title block and numbering shall be of approved by the Engineer. Design reports, calculations, specifications, lists, manuals and other documents shall be prepared in A4 size.

7.3.1 Drawings and Documents to be submitted

The Contractor shall prepare and submit to the Engineer the following Drawings and Documents for approval:

1. Master list of drawings and documents to be provided by the Contractor.
2. Drawings of construction facilities as required for the fulfilment of the Contract in accordance with the Specifications.
3. Drawings of Temporary Works for the construction of Permanent Works.
4. Drawings of the performances in the construction of Permanent Works as necessary for showing the construction methods.
5. Detailed bar bending and cutting list based on drawings of concrete reinforcement.
6. Shop drawings of miscellaneous metal works.
7. Other drawings necessary for the performance of each part of the Works in accordance with the Contract.

7.4 APPROVAL OF DRAWINGS AND DOCUMENTS

Detailed procedure for submission of the drawings and documents prepared by the

Contractor for the Engineer's approval and the approval of the Engineer to those drawings and documents shall be in accordance with the Conditions of Contract.

All materials ordered, or works performed, prior to the approval of the relevant designs shall be at the Contractor's risk.

The Contractor shall bring to the attention of the Engineer any variation in the Contract in the document submitted for approval.

All the drawings, details, bill of materials and any other information or documents furnished by the Contractor shall become the property of the Employer and shall be non-returnable. The Employer will have the right to use this property.

All correspondence shall be dated, numbered and distributed in accordance with a procedure agreed with the Engineer.

8. HEALTH AND SAFETY

8.1 GENERAL

The Contractor shall take full responsibility for the prevention of unhealthy or unsafe conditions and practices and for the promotion of healthy and safe working practices at the Site, as such conditions and practices may affect his employees and any other persons while present at the Site, and nothing specified herein will relieve the Contractor of any obligation or responsibility whatsoever in this regard.

The Contractor shall provide suitable personal protective goods, such as but not limited to, helmet, footwear, gloves, ear protector, goggles, dust mask, hi-vis jacket to all workers. The Contractor shall conduct safety induction training before starting the work.

The Contractor shall maintain and submit to the Engineer such records and make such reports concerning safety, health and welfare of persons and damage to property as the Engineer may from time to time prescribe.

8.2 HEALTH AND SAFETY POLICY

Pursuant to Clause 18 of the Conditions of Contract the Contractor shall implement a Health and Safety Policy, which shall be in force throughout the duration of the Contract.

The arrangements for implementing the Health and Safety Policy shall be not less than those required by the Laws and Regulations of World Bank and Pakistan.

The Health and Safety Policy shall define

1. The duties of the Safety Officer and his deputy including the proportion of their working time to be spent on health and safety duties.
2. The arrangements in place to support and implement it. Such items as safety meetings, safe working procedures, occupational hygiene, and education and training shall be outlined.
3. The policy shall discuss active and on-going participation of employees in helping to achieve the objectives.
4. Notification, investigation and recording of accidents.
5. Code of practice to be used to ensure healthy and safe working conditions and the management of hazardous conditions.
6. The arrangements for the frequency and occasions of routine and special meetings of the Health and Safety Committee, the keeping of records, rights and access to information and the right to amend the committee constitution by the committee in

agreement with the Engineer.

7. The arrangements for disseminating information, training and supervision to ensure the codes of practices.

For the purpose of implementing the Health and Safety Policy, the Contractor shall constitute a duly empowered committee which shall convene monthly under the chairmanship of the Engineer and which shall include, but not be limited to:

1. The Environment and Social (ES) Officer and his deputy
2. Representatives of supervisory staff
3. Representatives of the various categories of workmen

The composition of the committee shall be to the approval of the Engineer. The Engineer may order that a new committee be reconstituted if in his opinion the committee is not carrying out its duties with due diligence.

The Engineer may at any time order that the Health and Safety Policy be altered completely or in part or may be added to. The Engineer may also serve on the Contractor a Notice of Contravention of the Health and Safety Policy. Such a notice will specify the nature of the contravention, and the time limit for rectification. In the event of failure to comply with a Notice of Contravention the Engineer may arrange for work to be done to rectify the cause or order removal or suspension of the offending persons from Site, as appropriate, at the Contractor's expense.

The Contractor may appeal to the Engineer for modification of the terms of any Notice of Contravention before the expiry of the notice. Upon such appeal the Engineer in his sole discretion may modify, withdraw or confirm the notice.

The Code of Practice shall be in accordance with the Contract and shall be based on a recognised standard and shall be of no less a standard than that of Safety and Health in Building and Civil Engineering Work of the International Labour Office (Geneva).

8.3 ENVIRONMENT AND SOCIAL (ES) OFFICER

The Contractor shall appoint ES Officer who shall be responsible for ensuring that the health and safety policy is adhered to. The ES shall graduate at least a bachelor course of environmental sciences/engineering and have experiences of minimum 03 years in health and safety works in construction. He or she shall obtain a vocational qualification issued by NEBOSH (National Examination Board in Occupational Safety and Health), IOSH (Institution of Occupational Safety and Health) or an equivalent institution.

The ES Officer or his deputy shall be available on a 24h/day basis and shall carry out regular and random checks of all parts of the Site where work is taking place.

Particular attention shall be given by the ES Officer to aspects such as, but not limited to, blasting procedures, removal of construction material, orderly storing and stacking of construction equipment and materials, personal protective goods and general cleanliness. In addition, the ES Officer shall accompany the Engineer on weekly safety inspections of the Works and shall take due account of his requirements concerning matters of safety. Payment for the Environmental, Social, Health and Safety (ESHS) Officer and Occupational Health and Safety (OHS) Supervisor shall be made on a monthly basis upon submission of certified timesheets detailing the actual hours worked during the month, along with documentary evidence of salary disbursement and other supporting records as required by the Engineer.

8.4 EPIDEMICS AND HAZARDOUS SUBSTANCES

In the event of any outbreak of illness of a highly contagious or epidemic nature the

Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government of Pakistan, or the local medical or sanitation authorities for the purpose of dealing with and overcoming the same. The Contractor shall carry out medical screening related to HIV/AIDS of all workers before start of works.

The Contractor shall identify and keep records of all hazardous equipment, materials, or other substances and any other health hazards in his undertaking of the Contract. Newly created hazards or new hazardous equipment, materials or other substances brought on to Site shall be added to the record. The Contractor shall draft new or adapt and modify existing codes of practice appropriate to the said hazards.

The Engineer shall be granted access to such records at all times.

The Contractor shall conduct and document at least weekly inspections of the storage areas for equipment, transport vehicles and hazardous materials and substances, especially for spillages and leaks. The Contractor shall take adequate precautions and make adequate provisions, to the satisfaction of the Engineer, to prevent such spillages of toxic materials and substances from entering natural stream or areas outside the Site.

8.5 SAFETY OF PUBLIC

Where the Public could be exposed to danger by any of the Site activities, the Contractor shall provide suitable measures such as, but not limited to, blasting procedures, barricade of construction area, implementation of Environmental Code of Practices (ECPs) related to safety, flagmen, barriers and/or warning signs in English, Pashto, Shina and Urdu, all to the approval of the Engineer.

8.6 STORAGE AND USE OF EXPLOSIVES

Blasting shall be avoided at the extent possible, but where it is unavoidable, proper precautions such as but not limited to, controlled blasting and sand bags/blasting mats shall be used to minimize dust emissions (and also to control fly rock) shall be taken by the Contractor for the protection of persons, the work, and property.

Explosives shall be stored, transported, handled and used in accordance with the best practice as approved by the Engineer and in accordance with the provision of the law. The Contractor shall comply with all special rules and regulation that may be made by the authorities having jurisdiction, and the requirements of the Engineer regarding construction and storage in magazines, precautions on blasting and the like. The Contractor will indemnify the Employer against all claims for damage caused by blasting.

Explosives and detonators shall not be transported in the same vehicle.

Explosives shall be stored in suitable magazines in approved location. Detonators shall be kept in a separate magazine. The magazine shall be plainly marked with large letters EXPLOSIVES-DANGEROUS in English, Urdu and any other relevant languages, and shall be locked and guarded at all times. Keys to unlock the magazines shall be kept only by magazine keepers. Each magazine shall have around it a cleared area suitably barricaded with a security fence.

Each magazine keeper shall be competent, trustworthy, and familiar with the handling, transportation, care, and storage of explosive and detonators, and shall be responsible for maintaining the cleared area around the magazine. No magazine keeper shall be allowed to work more than ten hours in any twenty-four-hour period and shall not be required or allowed to perform any other duty that will interfere with his duties as a magazine keeper.

8.7 WARNING OF BLASTING

The Contractor shall install and operate a siren of sufficient volume to be easily heard above the general site noise from all points within a radius of 1 km of surface blasts.

The Contractor shall present to Employer, the surrounding villages, police station and military office nearest to the site, a weekly schedule of his blasting operations in a written form. When the schedule will be changed, he shall inform the modified schedule to the same not later than twenty-four (24) hours before the first ignition of the day.

The Contractor shall submit details of his blasting procedures to the Engineer for consent and shall ensure that such procedures are adhered to at all times.

8.8 PROVISION AND MAINTAINING OF PERSONAL PROTECTIVE GOODS FOR WORKERS

The payment will be made when those major personnel protective goods are provided and serviceable:

- ☐ Helmet, footwear, gloves, ear protector, goggles, dust mask, etc.

Payment for maintenance and replacement of protective goods shall be paid on the basis of Provisional Sum amount entered against the respective item in the Bill of Quantities which amount shall be deemed to include all of the Contractor's costs incidental to providing and maintaining the specified insurance. Provided that if, in the opinion of the Engineer, proper safety policy and provision of adequate protective wears are not being provided then the Engineer may withhold payment until a satisfactory level of implementation is provided by the Contractor.

9. ENVIRONMENTAL CONSIDERATIONS

9.1 GENERAL

This section of the General Specifications specifies the Contractor's particular environmental obligations.

Needless disfigurement of the amenities of the area as well as needless adverse effect on the environment during construction must be avoided and special care shall be taken by the Contractor to prevent permanent damage.

The Contractor shall conduct all operation in accordance with the measures mentioned in the checklist and Environmental Codes of Practice (ECPs).

Nullah/ streams shall be protected from direct or indirect spills of pollutants. In the event of a spill prompt action shall be taken to clear polluted or affected areas.

The Contractor shall be responsible for any compensation due or reinstatement in respect of any damage caused by the Contractor to areas outside the Site and no separate payment will be made in this regard.

The Engineer will notify the Contractor in writing of any observed noncompliance with relevant laws, regulations and other elements of Contract. The Contractor shall, after receipt of such notice, inform the Engineer of proposed corrective actions and take such actions, at his own cost, immediately when approved. If the Contractor fails to comply promptly, the Engineer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extension shall be granted to the Contractor for any such suspensions.

The Contractor shall provide and maintain at his own cost the personnel and facilities necessary for a fulfilment of the requirements of the Environment Protection.

9.2 ENVIRONMENTAL CODES OF PRACTICE (ECP)

The Contractor should be aware and inform his Site Employees that the contractor for the “**Construction of Dubair Road Package-1**” shall be implementing and monitoring Environmental Codes of Practice on Site in compliance with the requirements of the World Bank Agreement. The same contractor shall also be responsible for preparing the Environmental Health & Safety Policy.

The Environmental Codes of Practice and Monitoring for the works as provided in Appendix A to General Specifications, for reference purpose only, shall be undertaken by the contractor. It includes:

- Waste Management
- Fuels and Hazardous Goods Management
- Water Resources Management
- Erosion and Sediment Control
- Air Quality Management
- Noise and Vibration Management
- Road Transport and Road Traffic Management
- Construction Camp Management
- Workers Health and Safety

The Contractor shall make his employees aware of the above-mentioned codes of practice. The ECPs will form the part of the contract documents and will be used as monitoring tool for compliance. It is mandatory for the contractor to include these ECPs in their subcontracts. Violation of the compliance requirements will be treated as non-compliance leading to the corrections or otherwise imposing penalty on the contractor. Contractor and subcontractors are requested to refer the checklist for likely environmental and social impacts of the subproject for further information on corrective actions.

9.3 SUBMITTALS

The Contractor shall submit the Environmental Health & Safety (EHS) Policy within twenty (20) calendar days after the Commencement Date. Any construction operation shall not begin until this policy has been approved by the Engineer.

The approval by the Engineer shall not relieve the Contractor of any of his responsibility for the Environment Protection pursuant to his construction operations. Furthermore, the Engineer shall have the right to require the Contractor to improve the approved Environmental Policy whenever it is deemed necessary in the opinion of the Engineer.

9.4 STAFF

The Contractor shall designate an Environmental and Social (ES) Officer to be responsible for implementation of ECPs and provision of checklist and communicate with the Employer and the Engineer. The specialist should have relevant experience and fluent in the English language.

10. ARCHAEOLOGICAL / HISTORICAL SITE ACTIVITIES

The Contractor shall ensure that his work activities comply with Antiquities Act, 1975 of Pakistan and Clause 19 of the Conditions of Contract in case of accidental discovery of

any historical or archaeological site/remains within or in the vicinity of the subproject area.

11. DEALING WITH WATER

11.1 GENERAL

Except as otherwise specified, Diversion, Dewatering and Care of Water, the Contractor shall bear all risks from water, whether from the main river, a local water course, an underground spring or any other source or cause.

The Contractor shall properly deal with and dispose of all water to ensure the Works are kept sufficiently dry at all times for their proper execution. For this purpose, he shall construct such Temporary Works as may be necessary to divert streams, rivers, sub-surface water and flood waters to minimise damage, inconvenience or interference. He shall also provide, operate and maintain in sufficient quantity such pumping equipment, pipes and other equipment as may be necessary. He shall also provide any sumps, furrows, and other temporary works as may be necessary to minimise damage, erosion, inconvenience or interference. Such operations shall continue for the duration of the Contract and shall at all times be subject to the agreement of the Engineer with regard to sufficiency of measures taken and environmental protection. All discharges of water to streams and river shall follow National Environmental Quality Standards (NEQS) of KPK.

11.2 SURFACE WORKS

11.2.1 Surface Excavations

The Contractor shall take all necessary steps to ensure that water entering any surface excavation does not endanger the stability of the surface excavation at any time. Fill and cut slopes shall be promptly repaired whenever damaged by surface water.

The Contractor shall ensure, at his expense, that no concentrations or accumulations of water occur either within or around or above the area of any open excavation which may affect the safety of the excavation.

If permanent slopes on which permanent or temporary protections are designated in the Drawings or instructed by the Engineer and the Contractor fails to provide such protections after excavation of the slopes, any damages to the slopes by surface water shall be rectified and repaired by the Contractor at his own expenses.

The Contractor shall maintain excavations such that pounding of rain water is prevented by suitably sloping surfaces where possible and the construction of channel and sumps. Where excavations are not self-draining, sufficient pumps shall be installed to keep the water level in such sump 0.5 m below the lowest excavated surfaces for as long as required for construction of the Works. Standby pumps and generators shall be readily available in case of breakdowns.

11.3 WATER CONTROL DURING CONCRETING

All water which would flow into an area to be concreted shall be diverted clear of the area. Water arising within the area to be concreted shall be dealt with and piped clear of the area as directed by the Engineer.

12. DEALING WITH AIR, NOISE AND VIBRATION

The Contractor shall perform his equipment operation and activities or processes with

appropriate methods to control, prevent or otherwise minimize a discharge of air contamination.

Dust particles pursuant to production and preparation of materials shall be controlled at all times. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, spoil areas, and other work areas within or outside the Site free from particulate which would cause a hazard or a nuisance to persons and/or damage crops, orchards, cultivated field and dwellings. A discharge of dust into the atmosphere shall be controlled during excavation processing, handling and storing cement and concrete aggregates by sprinkling of water on land.

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise, vibration and/or other disturbances. The Contractor shall indemnify the Employer from any liability for damages due to noise, vibration and/or other disturbances caused by his construction operations and also from all claims relating to such liability. The construction works producing a high level of noise and/or vibration shall be performed only at time and places approved by the Engineer.

Equipment and vehicles shall be maintained and operated at all times in such a condition as not discharge excessive exhaust gases due to poor engine adjustments or other inefficient operating conditions. The Contractor shall likewise ensure that all equipment and machinery are in proper working condition so as to minimize the amount of noise and vibration generated. The Engineer may require, at his discretion, the Contractor to replace any equipment, machinery or vehicles emitting excessive exhaust gases, noise and/or vibration.

Odours shall be controlled by the Contractor at all times for any construction activity, processing and preparation of materials.

13. INSURANCE AGAINST INJURY TO PERSONS AND DAMAGE TO PROPERTY

The contractor shall insure against injury to persons and damage to property (Third Party Liability) including that of Employer arising out of execution of works or in carrying out the contract in accordance with Clause 13 of Conditions of Contract.

Payment for Insurance against injury to persons and damage to property shall be paid on the basis of Provisional Sum amount entered in the Bill of Quantities which amount shall be deemed to include all of the Contractor's costs incidental to providing and maintaining the specified Worker. Provided that if, in the opinion of the Engineer, proper implementation of the measures is not being provided then the Engineer may withhold payment until a satisfactory level of implementation is provided by the Contractor.

14. INSURANCE FOR WORKS & CONTRACTOR'S EQUIPMENT

The Contractor shall insure in the joint names of the Employer and the Contractor against all loss or damage from whatever cause arising, in accordance with Clause 13 of Conditions of Contract and in such manner that the Employer and the Contractor are covered for the period stipulated in particular conditions and also covered during Defect Liability Period for loss or damage arising from a cause, occurring prior to commencement of Defect Liability Period. Payment for Insurance for works and contractor's equipment shall be paid on the basis of Provisional Sum amount entered in the Bill of Quantities which amount shall be deemed to include all of the Contractor's costs incidental to providing and maintaining the specified Worker. Provided that if, in the opinion of the Engineer, proper implementation of the measures is not being provided then the Engineer may withhold payment until a satisfactory level of implementation is provided by the Contractor.

15. INSURANCE FOR CONTRACTOR'S PERSONNEL

The Contractor shall insure his personnel under relevant Clause, insurance for Contractors' personnel, against Liability for claims, damages, losses and expenses arising from injury, sickness, disease or death of Contractor's Personnel and also cover the Employer and the Engineer against such Liability of the Contractor.

Payment for Insurance for contractor's personnel shall be paid on the basis of Provisional Sum amount entered in the Bill of Quantities which amount shall be deemed to include all of the Contractor's costs incidental to providing and maintaining the specified Worker. Provided that if, in the opinion of the Engineer, proper implementation of the measures is not being provided then the Engineer may withhold payment until a satisfactory level of implementation is provided by the Contractor.

16. PRICE ADJUSTMENT

Payment for the Provisional Sum items listed in the Bill of Quantities and Price Schedules will be made in accordance with the requirements of relevant Clause of the General Conditions of Contract.

The Contractor shall be paid on the basis of amount specified against the respective item in the Bill of Quantities.

17. LOCAL INDIRECT TAXES

Payment for the Provisional Sum items listed in the Bill of Quantities and Price Schedules will be made in accordance with the requirements of relevant Clause of the General Conditions of Contract. The Contractor shall be paid on the basis of amount specified against the respective item in the Bill of Quantities.

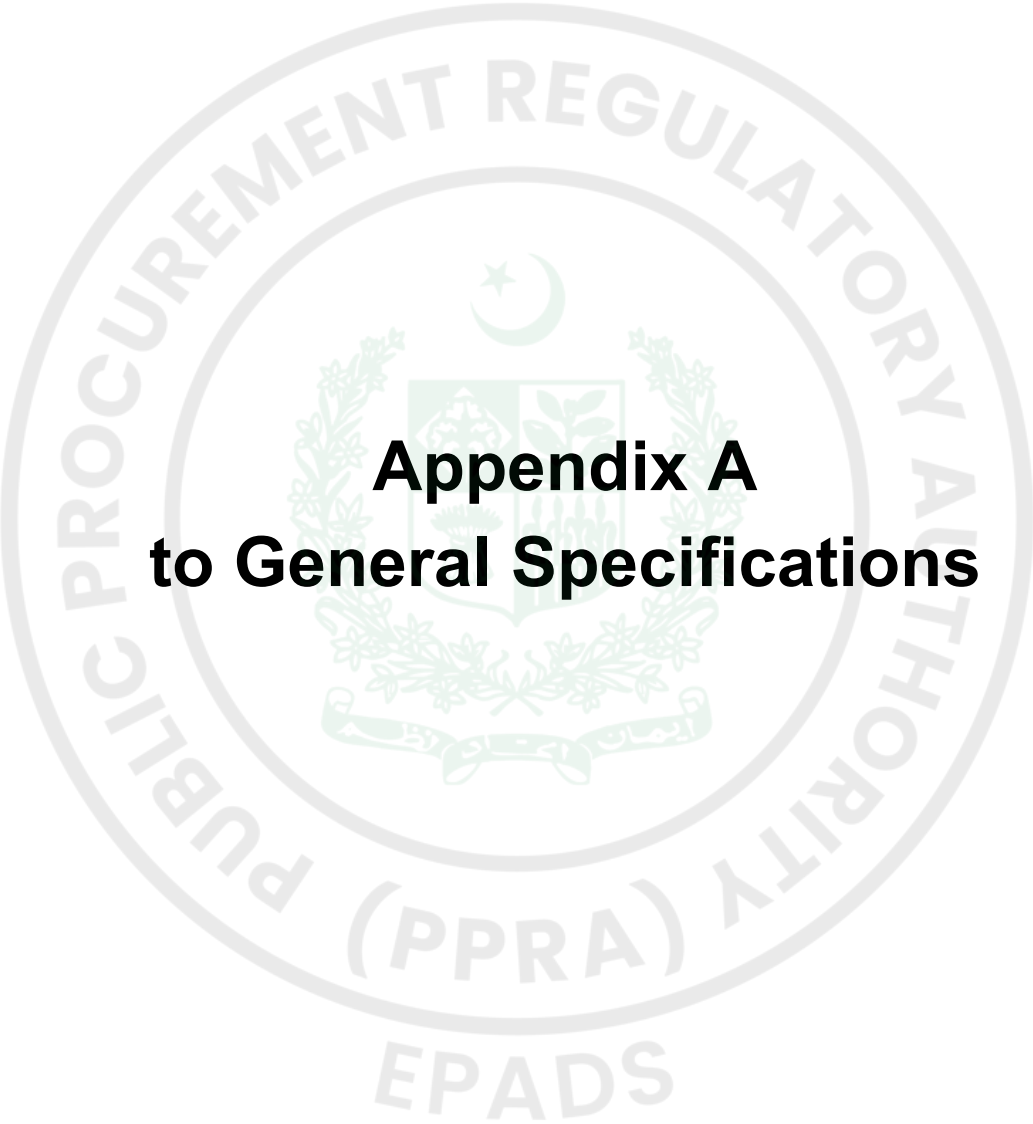
18. GEOTECHNICAL INVESTIGATIONS

The entire work shall be carried out in accordance with the requirements of the General Bidding Documents for Geotechnical Investigations available at NESPAK website (www.nespak.com.pk). The field testing and sampling must be carried out under the supervision of the Consultant's representative and must conform to the guidelines outlined in the relevant ASTM standards. Laboratory testing shall be conducted at NESPAK's approved testing laboratories. Furthermore, the Contractor shall provide the coordinates and ground level at the location of test pits using total station with reference to a permanent local bench mark. Three Quotations will be required vetted by Supervision Consultant and approved by Employer.

The Contractor shall be paid on the basis of amount specified against the respective item in the Bill of Quantities which amount shall be deemed to include all of the Contractor's costs incidental to providing and maintaining the specified obligation. Provided that if, in the opinion of the Engineer, proper implementation of the measures is not being provided then the Engineer may withhold payment until a satisfactory level of implementation is provided by the Contractor.

19. DAAB PAYMENT

Payment for the Provisional Sum items listed in the Bill of Quantities and Price Schedules will be made in accordance with the requirements of relevant Clause of the General Conditions of Contract.



Appendix A to General Specifications



PAKISTAN WATER AND POWER DEVELOPMENT AUTHORITY
DASU HYDROPOWER PROJECT / MUTTAHIDA KOHISTAN JIRGA
SCHEMES

CONSTRUCTION OF DUBAIR ROAD – LOWER KOHISTAN

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)
BIDDING INPUT

JULY 2026



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1 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

1.1 GENERAL

An Environmental and Social Management Plan (ESMP) has been prepared for all the packages of Dubair Road and Ranolia Road, Lower Kohistan. Detailed environmental and social screening, legislative requirements, description of baselines conditions, detailed environmental and social impacts and environmental and social mitigation and monitoring plan have been provided in the main ESMP document. This bidding document input has been prepared for the Package 1 of Dubair Road (0+000 to 2+021 RD).

1.2 SUBPROJECT SCREENING

Considering the activities under the subprojects would mainly consist of road construction adjacent to the existing road with modified conditions/human settlements nearby and need of the project based on community requirements, the level of environmental and social impacts is likely to be moderate. The proposed subprojects are classified as “Category B” as per the World Bank Operational Policy (OP) 4.01 since no irreversible, long-term and significant adverse impacts are foreseen to take place as a result of its implementation. The detailed screening of the subproject has been provided in the ESMP. The location of the subproject has been shown in **Figure 1.1** while the specific section of Package 1 is shown in **Figure 1.2 & 1.3**.

1.3 NEED FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

The findings of Category B projects result in preparation of ESMP¹. ESMP is an instrument that details (a) the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental impacts, or to reduce them to acceptable levels; and (b) the actions needed to implement these measures².

1.4 ENVIRONMENTAL AND SOCIAL SAFEGUARDS PROCESSING STEPS

Implementation of environmental and social requirements will follow the following steps.

- Step 1: Subproject Screening and Preparation of ESMP
- Step 2: Inclusion of E&S Specifications and Environmental Management Plan in Contractor(s) bidding documents
- Step 3: Compliance and Monitoring

This ESMP will be the part of Request for Proposals packages/ Bid Documents and its compliance will be mandatory. The ESMP cost will be included in the overall subprojects implementation cost. The Contractors will be required to prepare the site-specific Construction Environmental and Social Management Plans (CESMPs) for the subprojects. The CESMPs will then be embedded into the civil works contracts and therefore will be legal binding on the Contractors. The CESMPs must be submitted to the Project Management Unit (PMU)/Construction Supervision Consultant (CSC) for review and clearance before signing of the Contracts or before mobilization on site, whichever is earlier.

¹ (Source: OP 4.01, Annex C – Environmental and Social Management Plan)

² (Source: OP 4.01, Annex A – Definitions).

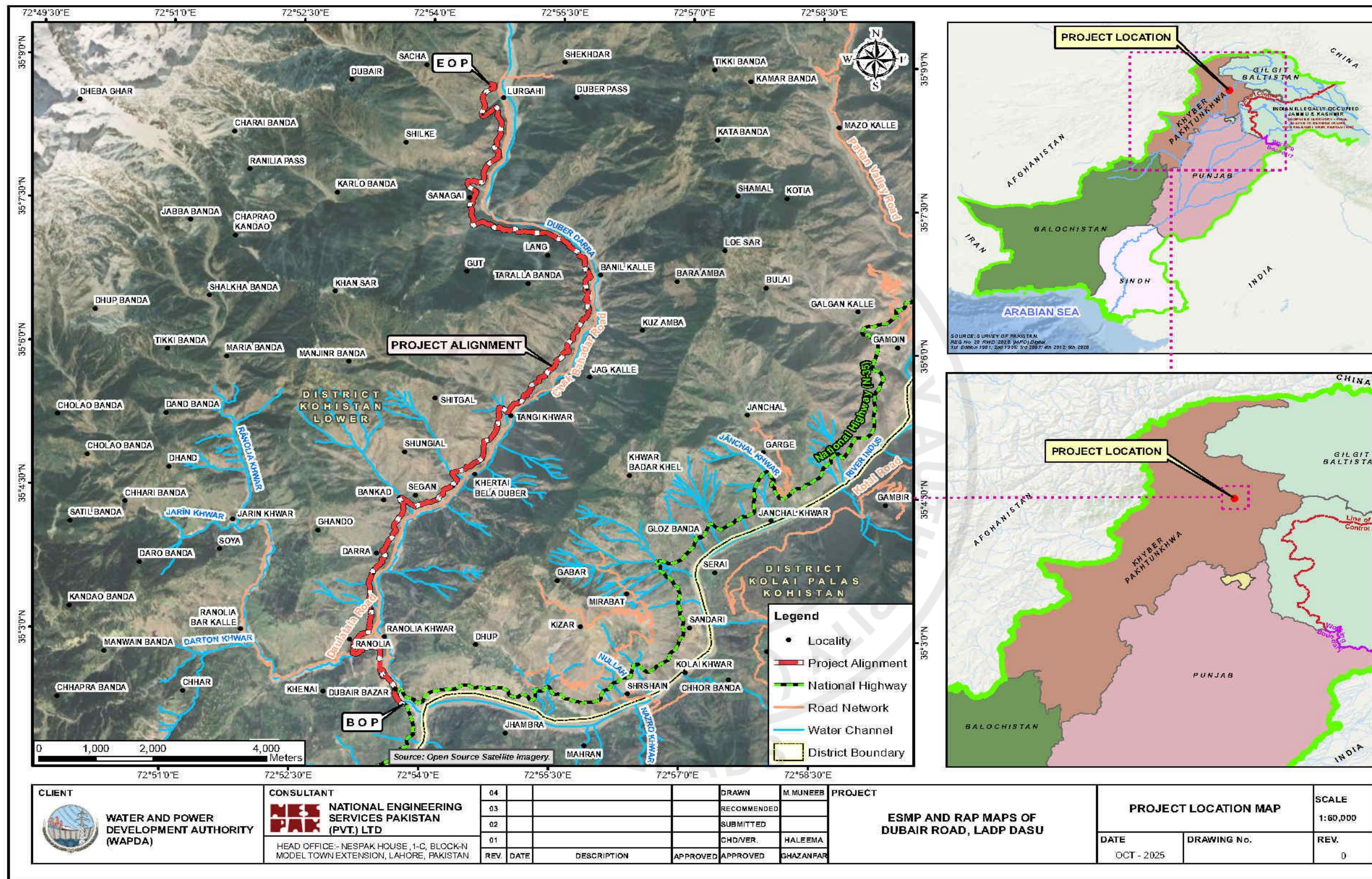


Figure 1-1: Location Map of the proposed Dubair Road subproject

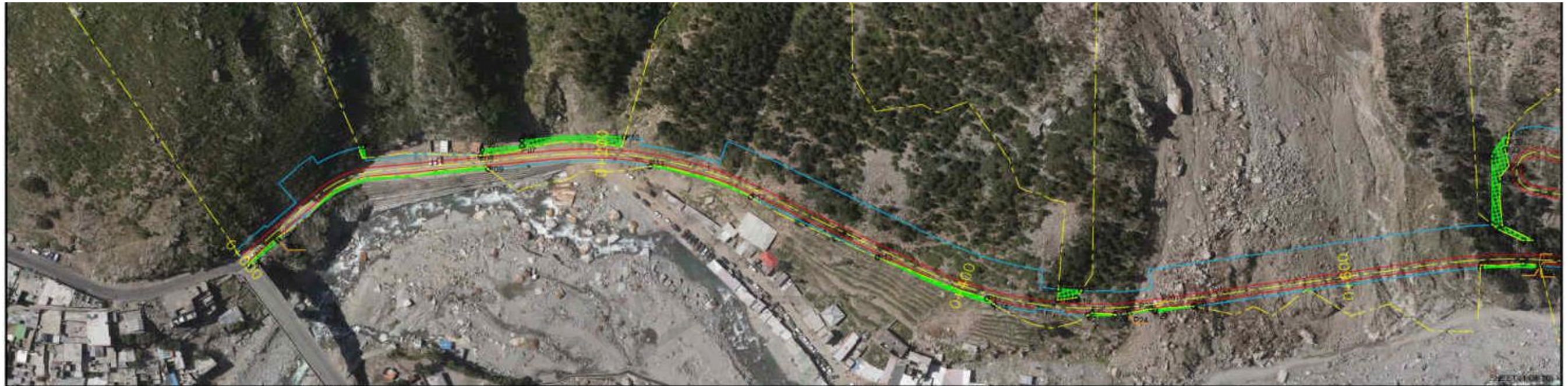


Figure 1-2: Location Map of the proposed Package 1 (A Part)



Figure 1-3: Location Map of the proposed Package 1 (B Part)



1.5 KEY NATIONAL AND PROVINCIAL LAWS, REGULATIONS AND POLICIES

Government of Pakistan and Government of Khyber Pakhtunkhwa have promulgated laws and regulations to safeguard the environment. At national level Ministry of Climate Change is the responsible authority & at provincial level Khyber Pakhtunkhwa Environmental Protection Agency (KP-EPA) is responsible for promulgation & implementation of environment related laws. Besides environmental statutes, a number of laws governing the social performance of the project also exist, e.g., Land Acquisition Act.

Post the adoption of the 18th Constitutional Amendment in 2011, the subject of environment was devolved, and the provinces have been empowered for environmental protection and conservation. Subsequently, the provincial Government amended PEPA 1997 as Khyber Pakhtunkhwa Environmental Protection Act 2014, and KP-EPA is responsible for ensuring the implementation of provisions of the Act in Khyber Pakhtunkhwa's territorial jurisdiction. KP-EPA is also required to ensure compliance with the National Environmental Quality Standards (NEQS) and establish monitoring and evaluation systems. This law will enforce the implementation of environmental legislations at provincial level and will be responsible for issuing No Objection Certificates (NOCs), if required. Other national and provincial laws, regulations and policies applicable to the subproject are as under (but not limited to):

- National Conservation Strategy, 1992;
- The Khyber Pakhtunkhwa Environmental Assessment Rules, 2021;
- National Environmental Quality Standards (NEQS), 2010;
- National Environmental Policy (NEP), 2005;
- National Water Policy, 2018;
- Land Acquisition Act, 1894 Including Later Amendments:
- Antiquities Act 1975;
- Guideline for Solid Waste Management, 2005;
- Building Code of Pakistan, Seismic provisions, 2007;
- National Disaster Risk Reduction Policy, 2013;
- National Forest Policy 2015;
- Employment of Child Act, 1991;
- The Protection against Harassment of Women at the Workplace Act, 2010;
- National Action Plan for COVID-19 Pakistan;
- The Khyber Pakhtunkhwa occupational Safety and Health Act, 2022;
- Khyber Pakhtunkhwa Wildlife & Biodiversity Act, 2015;
- Khyber Pakhtunkhwa Forest Ordinance 2002;
- Khyber Pakhtunkhwa Antiquities Act, 2016;
- Khyber Pakhtunkhwa Climate Change Policy 2016;
- Culture Policy, Khyber Pakhtunkhwa, 2018; and
- Khyber Pakhtunkhwa Commission on Status of Women.

1.6 APPLICABLE INTERNATIONAL CONVENTIONS

Pakistan is signatory to a number of international conventions and agreements on biodiversity conservation, environmental protection, and sustainable development. The major conventions and agreements that are relevant to the subproject are the following (but not limited to):



- Convention on Biological Diversity, 1997;
- The Convention on Conservation of Migratory Species of Wild Animals, (1981);
- United Nations Framework Convention on Climate Change, (1994); and
- Sustainable Development Goals (SDGs).

1.7 APPLICABILITY OF WORLD BANK SAFEGUARD POLICIES

The development objectives of the World Bank safeguard policies are based on sustainability, transparency, fairness, accountability, governance, informed decision making, rights, participation and meaningful consultation for investment projects financed by the World Bank. Among total twelve safeguard policies, there are six environmental, two social, and two legal policies with their detailed Bank procedures can be found on the World Bank website. The disclosure and access to information policy is applicable to all investment projects and programs funded by the World Bank. Based on available information the applicability of World Bank policies is summarized below:

WB Safeguard Policies Triggered by the Project	Triggered		Explanation
	Yes	No	
<u>Environmental Assessment</u> (OP/BP 4.01)	[√]	[]	The ESMP in hand is fully committed to the requirements determined in the WB Safeguard Policy. The environmental works carried out by the consultants on behalf of project proponents have been essentially guided by these rules as enunciated in the OP 4.01.
Physical Cultural Resources (OP/BP 4.11)	[√]	[]	The possible discovery of archaeological sites or random findings during the excavation and earthworks may occur. In such case, this OP will trigger.
Involuntary Resettlement (OP/BP 4.12)	[√]	[]	This OP is triggered as project interventions will require land from public or private land holders.
Forests (OP/BP 4.36)	[√]	[]	This OP is triggered as the subproject will result into cutting down of trees.

Other relevant World Bank guidelines and policies include the following:

- Guidance Note on Labour Influx
- Environmental, Health & Safety Guidelines
- World Bank Group Gender Strategy (2024-2030)

1.8 Subproject Overview

1.8.1 Land Acquisition

Permanent land acquisition will be required for Dubair Road package 1. The land acquisition will be carried out in accordance with the Resettlement Action Plan (RAP) for Dasu Hydropower Project (DHP) and Land Acquisition Act, 1894. WAPDA shall be responsible for land acquisition of the proposed facilities' sites while consultants have to prepare a detailed plan namely Resettlement Action Plan (RAP) or Abbreviated RAP.



1.8.2 Water Requirement

Contractor will be responsible to arrange water for construction works. The water consumption is estimated to be 4,800³ gallons/day for 60 construction workers during construction phase of the proposed Project. However, the quantity of water required for construction shall be recorded by the Contractor.

1.8.3 Wastewater Generation

The wastewater generation is estimated to be 2,840⁴ gallons/day for 60 construction workers during construction phase of the proposed Project. However, the quantity of construction wastewater generated (if any), shall be recorded by the Contractor.

1.8.4 Solid Waste Estimation

The solid waste generation is estimated to be 24⁵ kg/day for 60 construction workers during construction phase of the proposed Project. However, the quantity of construction waste generated, shall be recorded by the Contractor.

1.9 INSTITUTIONAL ARRANGEMENTS for the Implementation of ESMMP

The overall responsibility for the implementation of the subprojects rests with the Project Management Unit (PMU), headed by the Project Director (PD). Within the PMU there will be an Environment and Social Unit (ESU) - responsible for implementing the ESMMP. The ESU, headed by the Chief Engineer (CE)/Director General (DG) Social Safeguards will include representatives of all actors responsible for ESMMP implementation (see **Figure 1.4**).

The ESU will consist of three sub-units (Environment and Social, and Occupational Health and Safety - OHS) with the following staff:

- Deputy Director – Environment and Social
- Assistant Director – Environment and Social
- Assistant Director – OHS

The Director E&S with the assistance of Deputy Director-E&S will endorse and support the implementation of the ESMMP and associated policies and documentation. The Director E&S will be responsible to ensure appropriate resources are made available to implement the ESMMP and to support established systems, procedures and E&S objectives.

1.10 INSTITUTIONAL RESPONSIBILITIES

Institutions responsible for executing and monitoring the E&S aspects of the subprojects during construction phase are:

³ WASA Average Daily Per Capita Water Consumption (80 gallons/day)

⁴ *Design Criteria of Public Health Engineering for Water Supply, Sewerage and Storm Water Drain (Domestic sewage generation = 80% of water consumed/day)*

⁵ *Pakistan – Waste Management Report, 2018 (Mansehra District: 0.4 kg/capita/day)*



Project Management Unit (PMU) would be responsible for:

- Liaising with the Construction Supervision Consultant (CSC), and ensuring that they perform their responsibilities effectively and adequately;
- Liaising with relevant stakeholders regarding E&S matters; overseeing the implementation of ESMMP requirements;
- Ensuring the Implementation of ESMMP;
- Monitoring and evaluation of environmental and social impacts and risks associated with the subprojects;
- Preparing progress reports on the status of implementation of the ESMMP;
- Conduct monthly meetings with the E&S staff of CSC and Contractors on the progress of ESMMP implementation, issues associated with implementation, non-compliance issues, and recommended course of action. Document the minutes of the meetings and present them in the progress reports;
- Imposing penalty and/ or require corrective action in case of non-compliance;
- The Assistant Director – E&S will be mainly responsible for liaising with CSC on the field level for the implementation of ESMMP and preparing weekly compliance reports;
- The Assistant Director – Ecology will be responsible for coordinating with District Forest and Fisheries departments (and other relevant agencies), and participating in landscaping plans for the quarry and spoil disposal areas; and
- The Assistant Director – OHS will be responsible for liaising with CSC for the implementation and supervision of occupational health and safety issues at the work areas.

Construction Supervision Consultant (CSC) would be responsible for:

- Liaising with relevant stakeholders regarding E&S matters; overseeing the implementation of ESMMP requirements;
- Ensuring the Implementation of ESMMP;
- Issuing non-compliance notices to the Contractors;
- Reviewing ESMMP every three months and updating, if required;
- Reviewing environmental monitoring/testing reports by the third-party Contractor (Labs);
- Preparing corrective action plan in case of non-compliance;
- Conducting E&S and OHS trainings;
- Assisting ESU in addressing and resolving environment-related complaints and grievances;
- Responding to E&S and OHS incidents reported; and
- Reviewing and assisting in preparation of progress reports.

Contractor will be responsible for:

- Appointing dedicated Environment Social Health and Safety (ESHS) Officer at the site for the implementation of ESMMP in the field, particularly the mitigation measures;
- Preparing Construction Environmental and Social Management Plan (CESMP) describing the mechanism to comply with the ESMMP and get it approved from CSC and PMU prior to mobilization;



-
- Training of its staff in the environmental/social aspects; and
 - Implementing of E&S mitigation measures during construction stage.



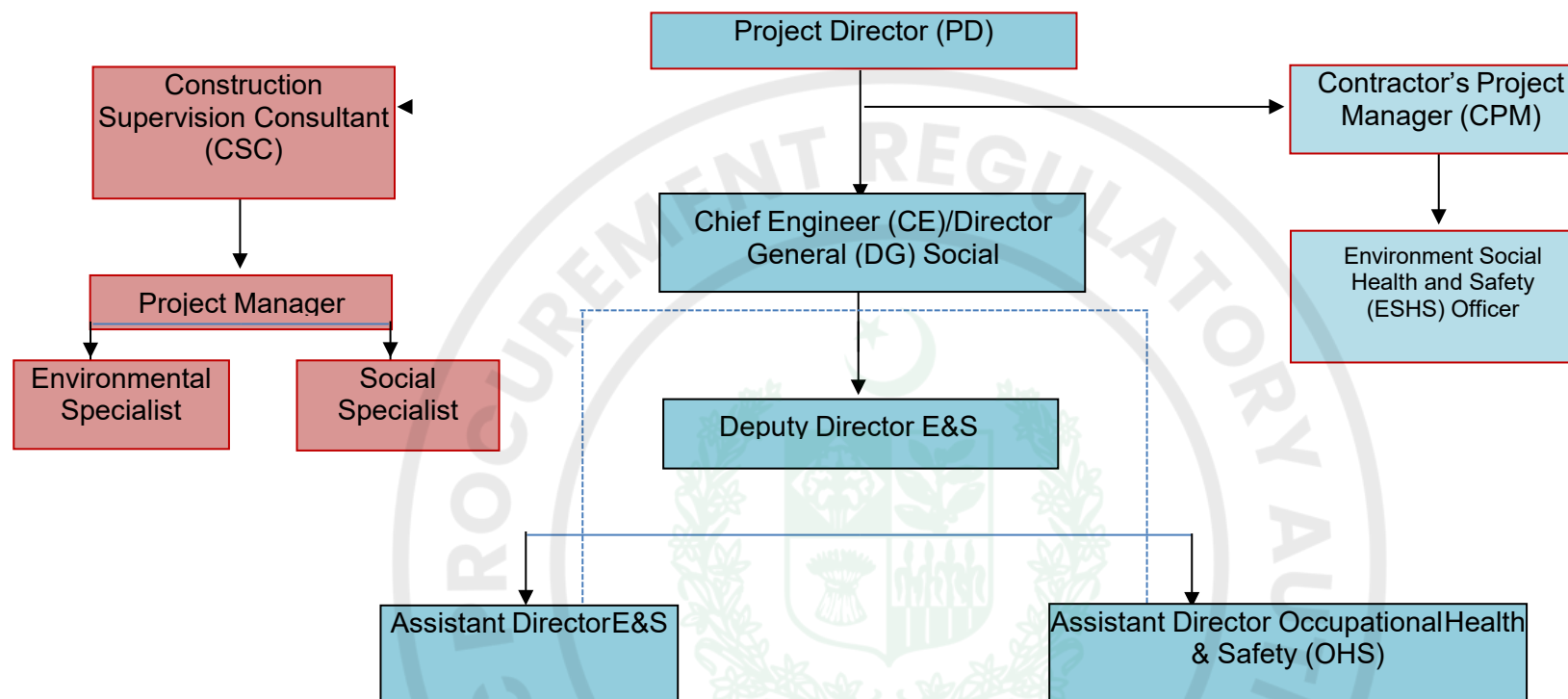


Figure 1-4: LADP Organization Chart for Safeguards Implementation



1.11 REPORTING AND FEEDBACK MECHANISM

The Contractor's ESHS Officer will manage the daily activities to be conducted in compliance with the ESMMP and will be responsible for weekly reporting. CSC would be responsible for preparing monthly inspecting and monitoring report and submit to the PMU. Project Director - PMU will prepare quarterly compliance report and submit to WB (see **Table 1.1**).

Table 1-1: Reporting Requirements

Reporting Responsibility	Reporting Requirement	Report Submitted To
Contractor	Weekly Compliance Report	CSC
Contractor	Monthly Progress Report	CSC
CSC	Monthly Monitoring Report	PMU
PMU	Quarterly Compliance Report	WB

1.12 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN

The Environmental and Social Management and Monitoring Plan provide the framework for the implementation of the mitigating measures and E&S management and monitoring. **Table 1.2** shows impacts, mitigations, means of monitoring, estimated cost and the responsible organizations for the implementation of the mitigation measures during the design and construction phases.

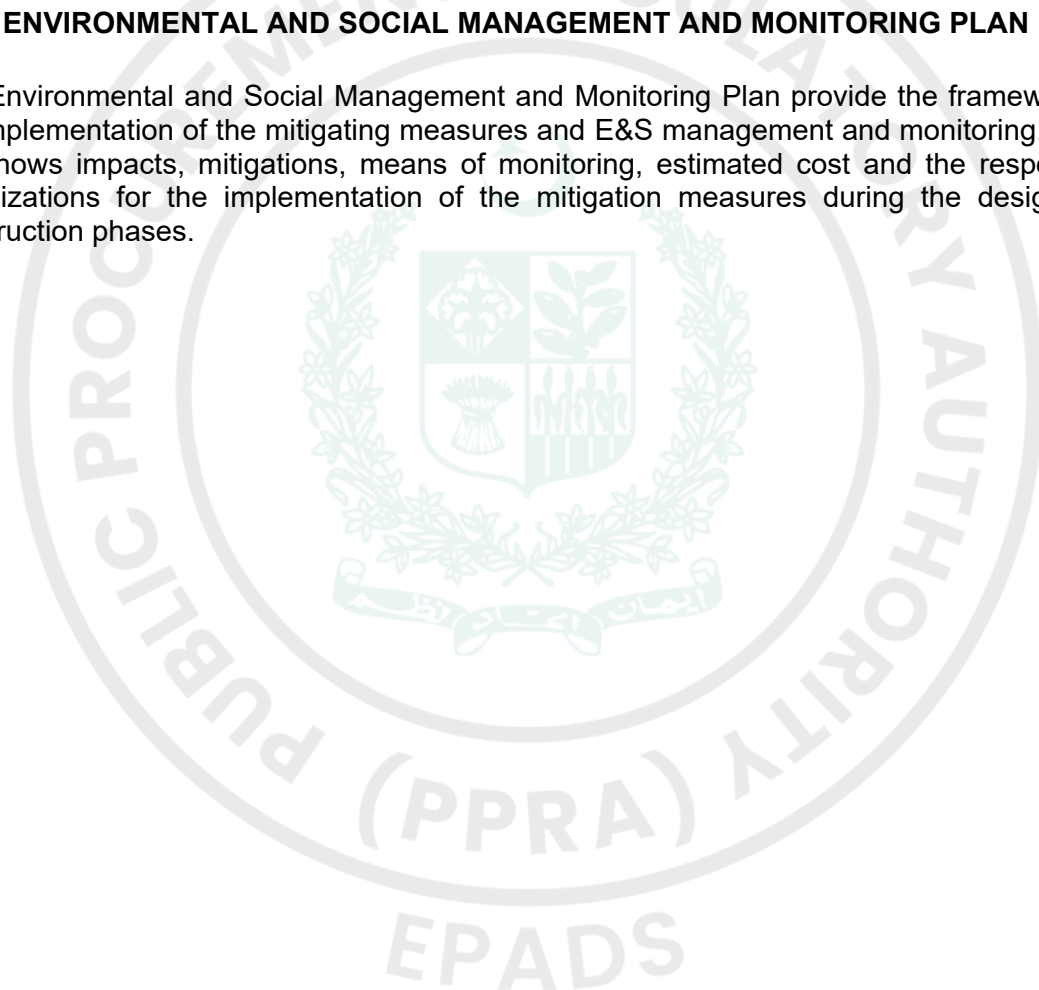




Table 1-2: Environmental Mitigation and Monitoring Plan

Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
PRE-CONSTRUCTION/DESIGN STAGE							
1.	Land Acquisition and resettlement	The land acquisition will be carried out in accordance with the Resettlement Action Plan (RAP) for Dasu Hydropower Project (DHP) and Land Acquisition Act, 1894. A separate Abbreviated RAP (ARAP)/ Resettlement Action Plan (RAP) is also prepared for the project. All applicable provisions of LAA 1894 will be strictly complied with during the determination and payment of compensation. Proper measures need to be taken to safeguard the livelihoods of the affectees apart from the compensation.	Subproject Area	Verification of compensation and GRM	Before start of Work	Client/Contractor	District Government
2.	Temporary Land Acquisition	- It is the foremost option to establish the construction camps (if required) at the acquired land to eliminate the issues of land leased etc. however, if this option is not feasible than the land for above mentioned facilities will be selected and leased prior to the start of construction phase. - Land for above mentioned facilities will be directly rented from the private landowners by	Subproject Area	Rental Agreements	Before start of Work	Client/Contractor	District Government



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		the Contractors. Rental terms will be negotiated to the satisfaction of the concerned landowners and the agreement will be in local language to make the process clear.					
3.	Construction Material Extraction/ Use related E&S Impacts	- An efficient worksite management plan can help the contractor to reduce the water demand, wastewater and solid waste volumes to the lowest levels. - The efficient and well maintained equipment and machinery will be used; - Reuse of construction waste materials may be adopted wherever possible	Subproject Area	Visual Observations	Throughout the pre-construction/ design stage	Design Consultant/ Contractor	Client
4.	Seismic Hazard	The proposed structure should be designed to withstand moderate to high earthquakes. For seismic hazard analysis, updated structural and seismic evaluations should be consulted. Moreover, geo-technical investigations must be conducted prior to construction phase	Subproject Component Locations	Design Documents / Engineering Survey Results	Before start of Work	Design Consultant/ Contractor	Client
5.	Social conflicts due to influx of external workforce	Prior information to the local public which will likely address such concerns.	Survey sites/in the Subproject area	Public Consultation	Before start of work	Design Consultant/ Contractor	Client
6.	Landslide	Minimum clearance of vegetation will	Subproject Area	Design	Before start	Design	Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
	Hazards	be considered in design. Engineering measures will be incorporated in design to increase slope stability.		Documents / Topographic Survey Results	of work	Consultant/ Contractor	
7.	Impact on Existing Utilities	It will be preferred that all required works related to the protection of and avoidance of interference with existing utilities will be considered in the design of proposed subproject. In case any utility will be disturbed, it will be restored as soon as possible in consultation with the concerned department. In case of any private utility disturbance, fair compensation will be paid to the affectee.	Subproject Area	CESMP/Detailed Design Documents	Before start of work	Design Consultant/ Contractor	Client
8.	Site Selection of Construction Camp/Site Office	• Preference will be given to avoid the requirement of construction camp by hiring the labors locally. • If the installation of construction camp is unavoidable, then the Contractor will finalize the location with the consent of the Supervision Consultant before mobilization to the site. • The Contractor will identify the location of construction camp away from sensitive areas like densely populated area, schools, healthcare facilities and mosques to minimize the disturbance for locals.	Subproject Area	CESMP/Detailed Design Documents	Before start of work	Design Consultant/ Contractor	Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
9.	Site Selection of Stockpile Areas, Storage Areas and Disposal Areas	- The disposal site will be sited in locations which will have suitable capacity to accept the disposal volumes, proximity to the spoil sources, unlikely to flood, preferably owned by the government and not located close to major inhabitation. - The location of dumping site will be finalized by the Contractor with the consent of the Engineer. If private land will be acquired for storage of machinery, materials and disposal area on temporary basis. The Contractor will be liable to compensate the land owner and will restore the land in its prior condition before demobilization.	Subproject Area	CESMP/Detailed Design Documents	Before start of work	Design Consultant/ Contractor	Client
10.	Site Selection of Sources of Materials/ Borrow Areas	- Priority will be given to purchase construction materials from market. If it is deemed necessary to bring materials from quarry site, these would to be located away from population centers, drinking water intakes and streams, cultivable lands and in structurally stable areas. - The Contractor will include in the design specifications and on plan drawings the locations of	Subproject Area	CESMP/Detailed Design Documents	Before start of work	Design Consultant/ Contractor	Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		camp site, storage area, disposal area and quarry site.					
CONSTRUCTION STAGE							
11.	Soil Erosion and Degradation	Good engineering practices will help to control or minimize the soil erosion both at the construction sites and in peripheral areas. All the disturbed areas need to be protected against soil erosion by stripping and stockpiling of all the available topsoil for later re-vegetation. Special slope protection measures will be adopted in the sensitive areas and along the shoulders of roads. Site restoration plan for the Subproject will be strictly followed.	Construction Sites	Good engineering practices	Throughout Construction Phase	Contractor	CSC/Client
12.	Soil Contamination	•The Contractor will be required to instruct and train its workforce in the storage handling and management of materials and chemicals that can potentially cause soil contamination; •Material Safety Data Sheets (MSDS) will be strictly followed during handling and storage of chemicals; •Soil contamination due to concrete transportation and solid waste will be minimized by placing all containers in casings.	Construction Sites, Borrow Pits, Spoil Disposal Sites, Contractor Camp	Good engineering practices, MSDS	Throughout Construction Phase	Contractor	CSC/Client
13.	Climate Change	WHO, NEQS, IFC	Construction	Good engineering	Throughout	Contractor	CSC/Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
	and GHG Abatement	guidelines/standards whichever stringent one applicable to gaseous emissions generated by construction vehicles, equipment and machinery shall be enforced during construction works. Alternative energy resources shall be considered where possible. Plantation development as per the tree plantation/reforestation plan is highly recommended for the sequestration of CO ₂ and vehicle maintenance protocol will be adopted.	Sites	practices	Construction Phase		
14.	Ambient Air Quality	•The existing quarries will be used to borrow the aggregate materials; •Concrete batching plants will be equipped with dust control equipment such as fabric filters or wet scrubbers to reduce the level of dust emissions; •Ensure the proper and periodic tuning of the vehicles; •Dust emissions from trucks will be reduced by a regular sprinkling of water for keeping the dust settled at least twice a day; •Regular water sprinkling of the site or use of chemical dust suppressants will be carried out to suppress excessive dust emission(s) which will mitigate	Construction Sites, Access Roads, Contractor Camp, Nearby Communities	Instrumental Monitoring, Visual Observations	Throughout Construction Phase	Contractor	CSC/Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		health effects on locals including children, the elderly, and individuals with pre-existing health conditions. Improved air quality, leading to improve visibility conditions will reduce the probability of accidents •Haul-trucks carrying sand aggregate and other materials will be kept covered with tarpaulin to reduce the dust pollution; •Turn off the engines for all vehicles, while parked on the site; •Regular monitoring of air quality in accordance with monitoring protocols of WHO, NEQS, IFC guidelines/standards whichever stringent one.					
15.	Noise and Vibration	Following will be ensured by the Contractor in addition to the Environmental and Social Codes of Practices: •Reduce noise by adding damping materials, mufflers, or other retrofits to existing machinery. •Blasting activities shall be restricted to day time only and with prior approval from CSC and the Client. The community will also be notified prior to each such activity. Proper protocol for blasting shall be followed at site.	Construction Sites, Access Roads, Contractor Camp, Nearby Communities	Instrumental Monitoring	Throughout Construction Phase	Contractor	CSC/Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		•Place noisy equipment behind purpose-built barriers (plywood, concrete blocks, commercial sound-absorbing panels) that are longer than they are tall and positioned close to the source or receiver. •Plan noisy activities to limit exposure, rotate workers, and shut off equipment when not in use; use administrative controls like scheduling pavement-breaking during off-peak times. •Keep equipment well-served to prevent loose parts, and delineate NPZs where noise exceeds 90 dB(A), restricting access and requiring hearing protection for those who must enter.					
16.	Wastewater Generation at Construction Camps	•To dispose the liquid waste generated from the construction activities, the following steps will be taken by the Contractor; •Domestic and chemical effluents from the construction camp will be disposed by the development of on-site sanitation systems i.e. septic tanks. •Proper monitoring to check the compliance of WHO, NEQS, IFC guidelines/standards whichever	Construction Sites, Access Roads, Contractor Camp	Instrumental Monitoring, Visual Observations	Throughout Construction Phase	Contractor	CSC/Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		stringent one will be carried out; and • Sewage from construction camps will be disposed of after proper pre-treatment and processes such as soakage pit.					
17.	Solid Waste Generation at Construction Camps	• All the solid waste from the camps will be properly collected at source and disposed of through proper solid waste management system. The Contractor will coordinate with local representatives and administration concerned department for the disposal of solid waste; • The concerned department must develop a plan of action for transporting the waste to the disposal site for final disposal. It is the responsibility of the concerned department to ensure that the disposal site is properly lined to prevent the leachate from contaminating the groundwater; • Secondly, the disposal site must be located away as far as practical from populated areas and regions that have a high density of Wildlife; • Toxic waste will be handled, stored, transported and disposed separately;	Construction Sites, Contractor Camp	Implementation of CESMP	Throughout Construction Phase	Contractor	CSC/Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		• The waste will be properly sealed in containers with proper labels indicating the nature of the waste; and • Solid waste will be segregated at source so that it can be re-used or recycled.					
18.	Waste Generation at Construction Site	• Waste Management Plan will be developed to implement an efficient and responsive solid waste management system during construction phase.	Construction Sites	Good engineering practices	Throughout Construction Phase	Contractor	CSC/Client
19.	Borrow Pits	• Necessary permits will be obtained for any borrow pits from the competent authorities. • In borrow pits, the depth of the pits will be regulated so that the sides of the excavation will have a slope not steeper than 1:4; • Soil erosion along the borrow pit will be regularly checked to prevent/mitigate impacts on adjacent lands; • In case borrow pits are filled with water, measures have to be taken to prevent the creation of mosquito-breeding sites; and • Borrow pits will be used for construction waste, but during the excavation, top 20 cm soil cover will be preserved for vegetation after					



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		the filling of the pits. This is the best way to restore the flora of that area.					
20.	Impact on Surface Water	As a mandatory step, all the effluents will be disposed as per the requirements of WHO, NEQS, IFC guidelines/standards whichever stringent one. Moreover, to reduce the risk of surface and groundwater contamination, good management practices will be adopted to ensure that fuels, chemicals, raw sewage and wastewater effluent are disposed of in a controlled manner.	Construction Sites	Good engineering practices and compliance with NEQS	Throughout Construction Phase	Contractor	CSC/Client
21.	Community Health and Safety	• Proper control on construction activities, restrict entry of labor with different transmittable diseases, adopt mitigations for dust, noise & vibration impacts and create awareness about road safety will be ensured. • Traffic Management Plan and appropriate road safety measures will be implemented to avoid traffic accidents, jams/public inconvenience	Construction Sites, Contractor Camp, Access Roads	Implementation of applicable OHS provisions	Throughout Construction Phase	Contractor	CSC/Client
22.	Occupational Health and Safety	Safety precautions for the construction workers, Training of workers in construction safety procedures and use of Personnel Protective Equipment (PPE) will mitigate this impact.	Construction Sites, Contractor Camp, Access Roads	Implementation of applicable OHS provisions	Throughout Construction Phase	Contractor	CSC/Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
23.	Social Impacts	•Local labor especially from nearby communities will be given preference for the construction works; •Careful planning and training of work force to minimize disturbance to the local people; •Familiarize outside labourers on local etiquettes; •Community unrest can be avoided by properly implementing a grievance redress mechanism. •Public notification through print or electronic media during the entire construction phase to avoid any inconvenience in accessibility to the locals; and •Adequate training of especially for the transitive workforce of the station (involved both in the construction process and in the commissioning) to regard the customs of the area so that the locals do not feel insecure. •Proper check-up of skilled and unskilled workers before their hiring; •Labour camp will be away from the residential area and workers' management plan will be formulated by Contractor to	Construction Sites, Contractor Camp	Implementation of CESMP	Throughout Construction Phase	Contractor	CSC/Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		minimize the adverse impacts on local communities and workers; •Trainings, awareness and campaigns will be conducted for workers and surrounding communities on awareness and prevention of HIV/AIDs and COVID-19; •Workers will be educated for personal hygiene and the sanitation concerns, leading to communicable and non-communicable diseases; •Water will not be allowed to stagnate even if clean, and measures will be taken to cover the area; and •Insecticides will be periodically sprayed.					
24.	Traffic related Impacts	•Movement of vehicles carrying construction materials and equipment/machinery will be restricted during the daytime. •Traffic Management Plan will be implemented to avoid traffic accidents, jams/public inconvenience. •Measures of soil erosion and dust emission (as mentioned earlier) will be followed	Construction Sites, Contractor Camp, Access Roads	Implementation of TMP as a part of CESMP	Throughout Construction Phase	Contractor	CSC/Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
25.	Natural and Man-Made Disasters	•An Emergency Response Plan (ERP) for earthquakes and manmade disasters will be developed by the Contractor in coordination with WAPDA/CSC and will implement. •The workers shall be trained and facilitated to cope with such disasters. Minor incidents and near misses will be reported, and preventive measures will be formulated accordingly.	Construction Sites, Contractor Camp, Access Roads	Implementation of ERP as a part of CESMP	Throughout Construction Phase	Contractor	CSC/Client
26.	Gender Based Violence (GBV)	•Awareness will be created among the females at individual and community levels about the construction sites; •The Contractor will make sure that no discrimination is made on the basis of gender while hiring of workers; •Raise awareness among the communities of the potential risks of GBV, and establish response services in the communities that can respond to instances of GBV (particularly those related to issues of labour influx); •Contractor will take proper measures to address and resolve issues relating to harassment,	Construction Sites, Contractor Camp	Implementation of CESMP and Gender Consultations	Throughout Construction Phase	Contractor	CSC/Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		intimidation, and exploitation, especially in relation to women.					
27.	Influx of Labor	• Labor camp(s) will be established away from residential population; • Preference will be given to the local people to work with contractor, and contractor will hire maximum labour force from the Subproject Area because this will reduce the labour influx; • An effective GRM will be established for the Subproject to resolve all issues related to the community. Thus, progress regarding resolving the issues will be monitored closely.	Construction Sites, Contractor Camp	Implementation of CESMP	Throughout Construction Phase	Contractor	CSC/Client
28.	Impact of Migrant Workers	To mitigate such issues and risks, contractor will comply with national and international labor standards, including fair wages, reasonable working hours, and occupational safety. Provision of confidential, accessible mechanisms for reporting and resolving complaints & grievance, ensuring protection against retaliation will be ensured. Employer will provide safe, hygienic, and dignified accommodations with adequate facilities and educate migrant workers on their rights, safety protocols through specified	Construction Sites, Contractor Camp	Implementation of CESMP	Throughout Construction Phase	Contractor	CSC/Client



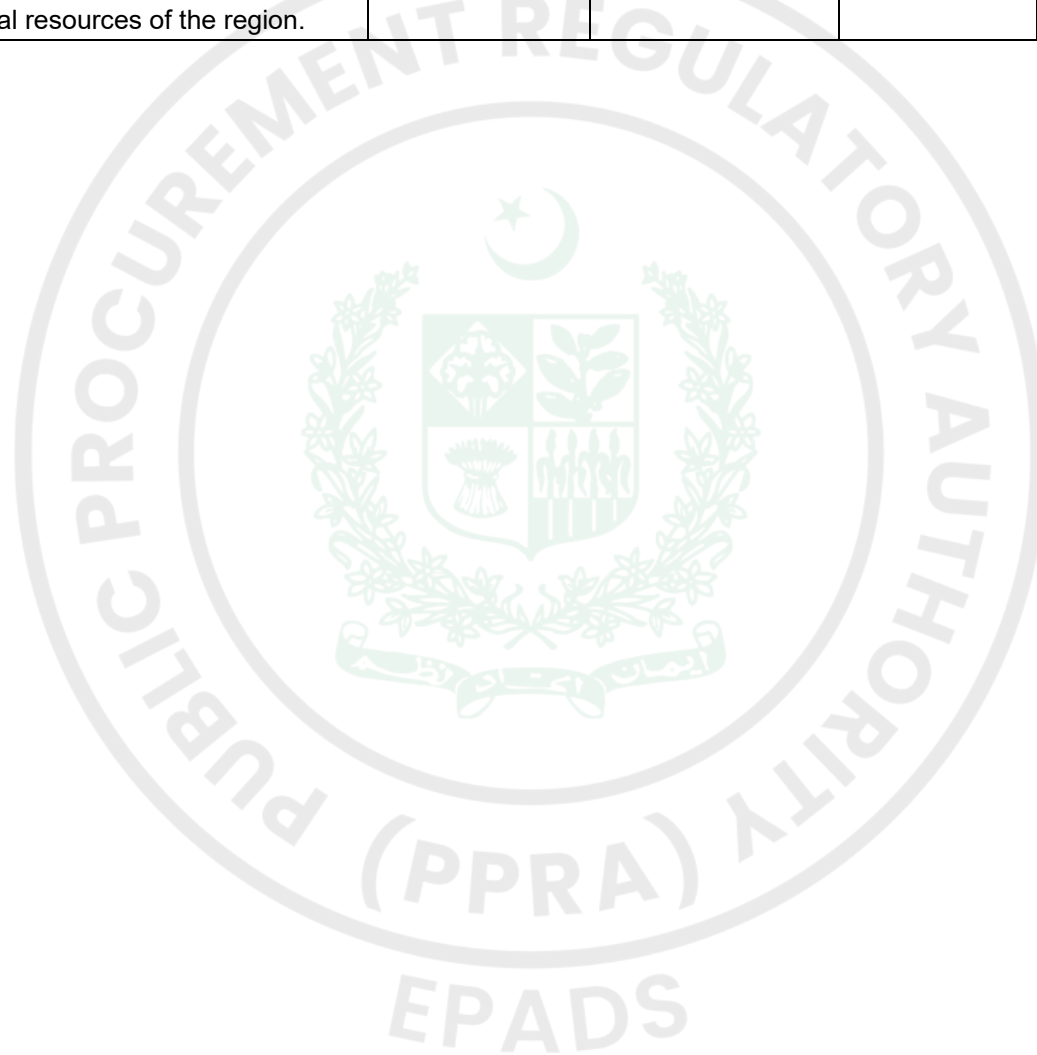
Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		trainings, and access to support services in their language. Independent monitors will be carried out to assess working and living conditions of migrant workers and enforce compliance. Promote community engagement programs to reduce isolation and foster inclusion whoever the issues of labor influx will be also considered in parallel while promoting community engagement					
29.	Flora	•Cutting of trees and disturbance shall be avoided, as far as possible so, that negative effects on the process of natural regeneration of species are minimized and possible alternate route must be considered for proposed road, in which minimum ecological and environmental losses are expected; •A tree plantation program shall be formulated with the recommendations and technical support of concerned Forest Department. •Loss of trees shall be compensated by a ratio of 1:10.	Construction Sites, Contractor Camp, Access Roads, Borrow Pits, Spoil Disposal Areas	Implementation of Tree Plantation Plan	Throughout Construction Phase	Contractor	CSC/Client
30.	Fauna	•Care shall be taken during construction activities for avoiding purposely or chance killing of animals;	Subproject Area	Visual Observations	Throughout Construction Phase	Contractor	CSC/Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		• If found any wild species and habitat during construction, that must have dealt carefully and local wildlife department officials will be called; • Special measures will be adopted to minimize impacts on birds such as avoiding noise generating activities during the critical period of breeding. • Hunting, poaching and harassing of wild animals shall be strictly prohibited, and Contractor shall be required to instruct and supervise its labor force accordingly and clear orders will be given in this regard; • Noise produced by the construction activities may be kept to acceptable level as per WHO, NEQS, IFC guidelines/standards whichever stringent one.					
31.	Fisheries	• The contractor will be instructed to avoid the wastewater and the chemical spills into the fresh water; • The awareness campaign among the labor is mandatory to avoid damages to the fisheries; and • Labor will be aware of relevant fisheries and wildlife acts. Disturbance to the fisheries (if reported) during breeding season	Subproject Area	Visual Observations and Compliance with NEQS	Throughout Construction Phase	Contractor	CSC/Client



Sr. No.	Impacts	Proposed Mitigation Measures	Monitoring Site/ Location	Means of Monitoring	Monitoring Frequency	Responsibility	
						Implementation	Supervision
		will be avoided to conserve the natural resources of the region.					





1.13 NON-COMPLIANCE OF THE ESMMP

The implementation of the proposed ESMP involves inputs from various functionaries as discussed earlier. The contractor will be primarily responsible for ensuring implementation of the mitigation measures proposed in the ESMP, which will be part of the contract documents. The provision of the environmental mitigation cost will be made in the total cost of project, for which contractor will be paid on the basis of monthly compliance reports. However, if the contractor fails to comply with the implementation of ESMP and submission of the monthly compliance reports, deductions will be made from the payments to the contractor claimed under the heads of environmental components.

The Consultant will verify any violations of the ESMP, as well as any corrective actions required. If there will be any serious non-compliance of ESMP, following steps will be considered:

Step 1. PMU, CSC and Contractor to work out mitigations together and record the facts and the decision implemented.

Step 2. A more serious infringement is observed and PMU/CSC notifies the Contractor of the issues in writing, with a deadline by which the problem must be rectified. All costs will bear by the Contractor.

Step 3. PMU shall order the Contractor to suspend part, or all, of the works. The suspension will be enforced until the offending parties, procedure, or equipment is corrected and/or remedial measures put in place if required. No extension of time will be granted for such delays and all costs will be borne by the Contractor.

Step 4. Breach of contract - One of the possible consequences of this is the removal of a Contractor and/or equipment and/or the termination of the contract. Such measures will not replace any legal proceedings that PMU/CSC may institute against the Contractor.

1.14 CONTRACTOR'S OBLIGATION AND MANAGEMENT

The contractor will be primarily responsible for ensuring the implementation of the mitigation measures proposed in the ESMP. The requisite content of this ESMP or complete ESMP will be incorporated in bidding document and will become a part of the contractor's contract documents. The provision of the environmental and social mitigation cost will be made in the total cost of Subproject, for which the contractor will be paid on the basis of monthly compliance reports and actual work done at site along with resource loading. In addition to this the contractor will be responsible for the preparation and implementation of site specific ESMP also called as CESMP, along with all the sub-plans with prior approval from SC and WAPDA. The contractor will ensure the availability of the E&S staff as mentioned above at site from the start of the Subproject (at mobilization stage) and organogram will be dually approved from SC and WAPDA. The contractor shall prepare following sub-plans as a part of its CESMP (but not limited to):

- Occupational and Community Health and Safety Plan;
- Emergency Response Plan;
- Traffic Management Plan;
- Site Restoration Plan; and
- Waste Management Plan.

The guideline plans for the Emergency Response Plan and Site Restoration Plan have been provided as **Annex-B** and **Annex-C** respectively.



1.15 E&S Codes of Practice

The Contractor will seek to develop and implement the E&S Codes of Practice (Refer **Annex-D**) for its staff and employees in order to ensure that the intrusion of workers in the Subproject area does not result in any social and environmental and social issues between the workers and locals which can harm the Subproject by causing unnecessary delays. These codes will be reviewed and approved by SC prior to start of the construction activities.

1.16 ENVIRONMENTAL TESTING

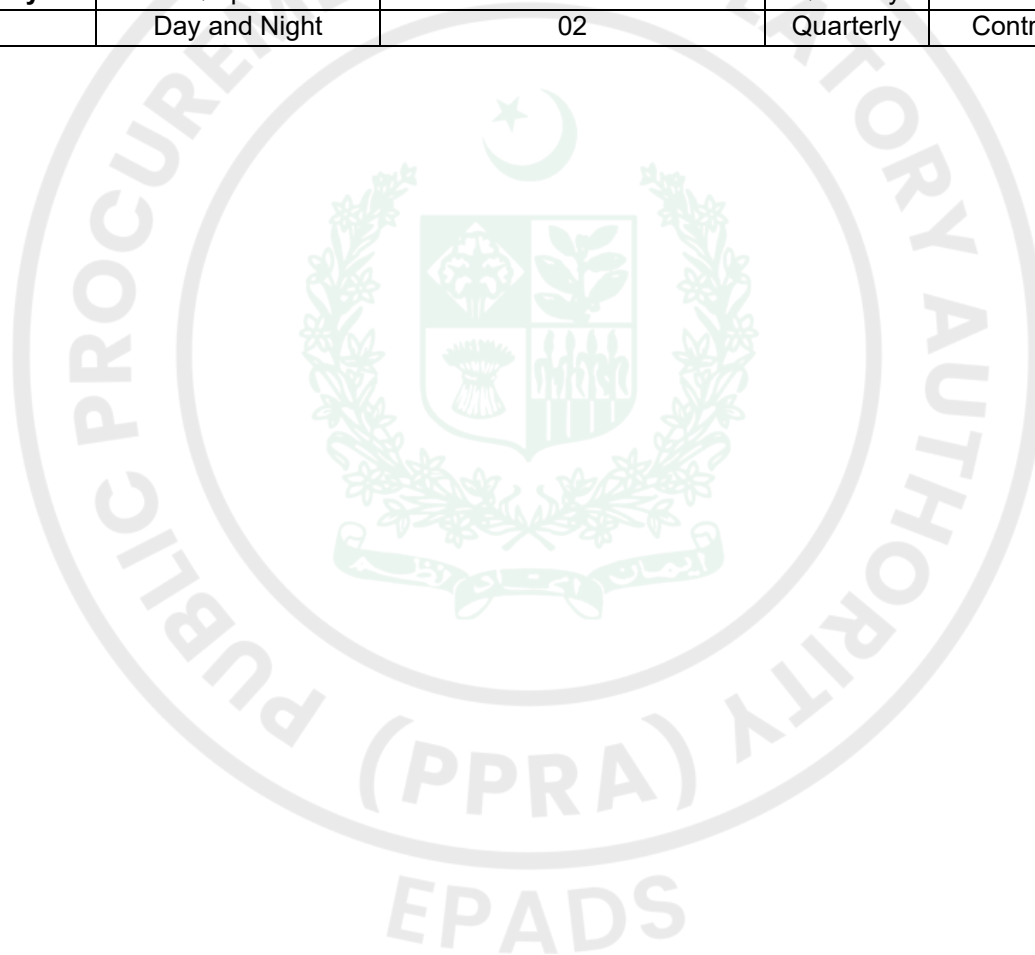
Environmental testing will be undertaken before and during the construction phase. The results of analyses are compared with the National Environmental Quality Standards (NEQS). A plan of monitoring for the subproject is given in **Table 1.3**.





Table 1-3: Plan for Environmental Testing during Construction Phase

Components	Parameters	No. of Samples per package	Frequency	Responsibility	Duration
Air Quality	All NEQS parameters	02	Quarterly	Contractor	24 hours
Drinking Water Quality	All NEQS parameters	02	Quarterly	Contractor	-
Wastewater Quality	All NEQS parameters	02	Quarterly	Contractor	-
Noise Level	Day and Night	02	Quarterly	Contractor	24 hours





1.17 Environmental Technical Assistance and Training Plan

In order to raise the level of professional and managerial staff, there is a need to upgrade their knowledge in the related areas. WAPDA shall play a key role in this respect and arrange the trainings.

An Environmental and Technical Assistance Program (TAP) is to be carried out before the implementation of the Subproject. Environmental awareness and appropriate knowledge of environmental protection is critical to the successful implementation of the ESMMP. A suitable training program is proposed to train the staff who will be involved in the construction phase of the subproject.

The objective of the TAP will help in establishment of appropriate systems, and to train WAPDA staff for managing environment. The TAP representative will organize training courses/lectures for requirements of WAPDA and contractor staff to train them. The detail of this training program along with cost is presented in **Table 1.4**.

Table 1.4: Personnel Training Program/ TA Services

Sr. No.	Scope	Responsibility	Staff/ Participants	Schedule	Duration
1	• General awareness about the Subproject and Subproject area; • Environmental and social aspects of the Subproject; • Mitigation measures; • Environmental Management Plan	Contractor	WAPDA staff (Project Supervisors and management staff), contractor staff	At the end of the detailed design stage (Prior to start The Subproject activities)	1 day
2	• General awareness about the Subproject and Subproject area; • Environmental and social aspects of the Subproject; • Community issues	Contractor	Subproject Team	Prior to start of the Subproject activities	1 day
3	• Environmental Management Plan • Implementation mechanism • Liquid and solid waste disposal • Cultural values • PPEs • Health and safety Issues	Contractor	Construction Workers	Prior to start of the Subproject activities	1 day
4	• Road safety principles • Speed limits • Waste disposal practices	Contractor	Drivers, Construction Workers	Prior to start of the Subproject activities	1 day



1.18 ESMMP BILL OF QUANTITIES

The Summary of E&S compliance bill of quantities for subproject is presented in **Table 1.5**.

Table 1-5: Summary of Environmental and Social Compliance Budget

Sr. No.	Items	Description	Cost (PKR)
1	Medical screening for workers	Per employee	-
2	ESHS Management including Personal Protective Equipment (dust masks, safety shoes, helmet, jackets, safety goggles, gloves, ear plugs etc.), First Aid Arrangements (First Aid Box, Ambulance, Trained First Aider), Handling and Disposal of Solid/ Hazardous Waste, Camp Management, Fire Extinguishers, Safety Sign Boards, Safety Cones, Safety Tapes and ESHS trainings.	Monthly Provisional Sum	-
3	Cost of Tree Plantation	Plantation of Trees Provisional Sum	-
4	Environmental Testing Cost	As per Table 1.3	-
5	Cost for hiring of staff for ESMMP implementation	01 ESHS Officer and 01 OHS Supervisor per package	-
Grand Total PKR			-

1.19 GRIEVANCE REDRESS PLAN

The key objective of the GRP is to establish procedures for filing any grievances and disputes on social and environment safeguards and other entitlement issues arising out of the implementation of SRMP.

The scope and mandate of Grievances Redress Committees (GRCs) to be established under the Plan shall include any grievances or disputes related to policy and/or measures in Dasu Hydropower Project (DHP) social and environmental plans.

A four-tier “bottom up” system of GRC has been established in the DHP, starting with Village Level GRC, (ii) Union Council Level GRC, (iii) District-Level GRC and (iv) Subproject Level Independent GRC to be led by a retired civil judge.

The mechanism described under GRP will be used for the subproject and will be accessible to the affected persons and communities for redressing their grievances and issues related to social and environmental impacts. For the proposed subproject, representatives of the affected persons, representatives of the communities, Project Manager, Social Safeguard Specialist from the contract, Resident Engineer (RE), Social Safeguard Specialist of consultant and Director (S&R) will be included to address day to day grievances related to the subproject. In case if there will be women hired for the subproject by the Contractor/CSC/PMU, a separate GRM for females shall be developed and implemented.



ANNEX – A

**CHECKLIST OF LIKELY ENVIRONMENTAL
AND SOCIAL IMPACTS OF SUBPROJECT**

CHECKLIST OF LIKELY ENVIRONMENTAL AND SOCIAL IMPACTS OF SUBPROJECT

Name of Subproject: Construction of Dubair Road Package 1
Number of Subproject:
Proposing Agency: Water and Power Development Authority (WAPDA)
Subproject Location: Dubair Valley, Lower Kohistan District, Khyber Pakhtunkhwa
Subproject Objective: The objective of the subproject is to provide the facility of a good transport route for the valley.
Infrastructure to be Constructed: The main subproject components will be road construction.
Proposed Date of Commencement of Work: After necessary approvals

TECHNICAL DRAWING/SPECIFICATIONS REVIEWED (CIRCLE ANSWER): **YES** NO

SUBPROJECT RELATED ISSUES

	A. ISSUES	None	Minor/ Small	Moderate/ Medium	Significant/ Large	Mitigation Measures
A.	Zoning and Land Use Planning					
1.	Will the subproject affect land use zoning and planning or conflict with prevalent land use patterns?			✓		The subproject components will be installed after acquiring the land through proper mechanism following the fair compensation. Furthermore, best engineering mechanisms shall be ensured in the design phase to minimize the impact on existing land use.
2.	Will the subproject involve significant land disturbance or site clearance?			✓		The subproject will involve new construction. Site clearance will involve cutting or uprooting trees/shrubs and other vegetation and debris removal. Earthwork will involve the removal of topsoil and/or unconsolidated rock. Excavation will be carried out for new construction and allied structures. The following mitigation measures will be carried out: Excavated material will be reused in the construction, wherever possible. The excess material (spoils) that cannot be reused will be transported to the disposal site. It will be ensured that none of the excess material is dumped into the nearby surface water bodies. A suitable location for spoil disposal will be identified by the Contractor with the consent of the Engineer. The spoils will be placed in layers and will be suitably compacted.

	A. ISSUES	None	Minor/ Small	Moderate/ Medium	Significant/ Large	Mitigation Measures
						Adequate drainage and dust control measures will be carried out at the disposal site. All disposal sites will be sited in locations which are not affected by floods.
3.	Will the subproject land be subject to potential encroachment by urban or industrial use or located in an area intended for urban or industrial development?	✓				
B.	Utilities and Facilities					
4.	Will the subproject require the setting up of ancillary facilities?		✓			The Contractor will identify the need and location of construction yard/material storage area and construction camp. The mitigation measures that will be applied to potential environmental, social, health and safety (ESHS) impacts will also be used at the ancillary facilities.
5.	Will the subproject make significant demands on utilities and services?		✓			The Contractor will be responsible to provide proper infrastructure facilities such as water supply and sanitation facilities within the labor camp to avoid burden on local resources.
6.	Will the subproject require significant levels of accommodation or service amenities to support the workforce during construction (e.g., contractor will need more than 20 workers)?		✓			If necessary, the Contractor will avoid the requirement of construction camp by hiring the labors locally. The contractor will accommodate the outside workers in a rented house. If camp will be needed, proper mitigation measures and appropriate criteria shall be adopted.
C.	Water and Soil Contamination					
7.	Will the subproject require large amounts of raw materials or construction materials?		✓			The Contractor will purchase construction material (cement, sand, aggregates, fuel) from the market.
8.	Will the subproject generate large amounts of residual wastes, construction material waste or cause soil erosion?		✓			The demolition, clearing and excavation processes will generate the considerable amount of spoil material. The construction waste will also be produced in small amounts which will be immediately cleared from the site and will be disposed at the spoil disposal sites (see point 2 for mitigation measures applied at the spoil disposal sites).

	A. ISSUES	None	Minor/ Small	Moderate/ Medium	Significant/ Large	Mitigation Measures
9.	Will the subproject result in potential soil or water contamination (e.g., from oil, grease and fuel from equipment yards)?		✓			During the construction phase, storage and handling of some construction materials (stones, sand, gravels, fuel) may pose a risk of soil and water contamination. The following mitigation measures will be carried out: Fuel will be stored on concrete-floored, bunded, facility, covered to provide shade and prevent the ingress of rain. Spill kits will be readily available at material storage sites to deal with accidental spillage. Maintain construction site in a cleaner, tidy and safe condition and provide and maintain appropriate facilities as temporary storage of all wastes before transportation and final disposal.
10.	Will the subproject lead to contamination of ground and surface waters by herbicides for vegetation control and chemicals (e.g., calcium chloride) for dust control?	✓				
11.	Will the subproject lead to an increase in suspended sediments in streams affected by road cut erosion, decline in water quality and increased sedimentation downstream?		✓			During demolition, site clearance and other construction works, the excavated material (if not appropriately managed) may enter into the nearby surface water bodies. The following mitigation measures will be implemented: Prevention of dumping of excavated material in stream/nullah. Remove material immediately from the construction site. Locate stockpiles at an appropriate distance from the water bodies.
12.	Will the subproject involve the use of chemicals or solvents?		✓			During the construction of road, small quantities of chemicals may be used in concrete production. They will be handled in a way similar to other hazardous materials such as fuels (see measures given in point 9)
13.	Will the subproject lead to the destruction of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards?			✓		Some trees may be cut in construction of subproject components. The mitigation measures will include successful plantation of native species. The lost trees will be replaced at a ratio of 1:10
14.	Will the subproject lead to the creation of stagnant water bodies in borrow pits, quarries, etc.,					The Contractor will purchase construction material (cement, sand, aggregates, fuel) from the market.

	A. ISSUES	None	Minor/ Small	Moderate/ Medium	Significant/ Large	Mitigation Measures
	encouraging for mosquito breeding and other disease vectors?	✓				
D.	Noise and Air Pollution Hazardous Substances					
15.	Will the subproject increase the levels of harmful air emissions?		✓			Construction activities particularly earthworks, movement of construction machinery, and the use of aggregates and cement will produce airborne dust. In addition, gaseous emissions due to the combustion of diesel from vehicles, diesel generator sets, etc. will cause some air pollution. The following mitigation measures will be implemented: The Contractor will water the material stockpiles, access roads and bare soils on an as required basis to minimize the potential for environmental nuisance due to dust. All vehicles used during construction activities will be kept in good working condition and be appropriately tuned. Construction vehicles carrying materials will be covered with tarpaulin sheets to avoid spilling.
16.	Will the subproject increase ambient noise levels?			✓		During the construction, excavations activities will increase the ambient noise and vibration levels. The following mitigation measures will be implemented: Sandbags will be used to minimize the fly rocks and dust. No night time construction activities will be carried out. Blasting activities shall be restricted to day time only and with prior approval from CSC and the Client. The community will also be notified prior to each such activity. Proper protocol for blasting shall be followed at site.
17.	Will the subproject involve the storage, handling or transport of hazardous substances?		✓			Hazardous material that would be used during the construction are fuels, paints, solvents and chemical additives for concrete. The following measures will be implemented for storage and handling of fuels at the site: Fuels and chemicals will be stored on concrete- floored, bunded, facility, covered to provide shade and prevent the ingress of rain. Chemicals will be stored on an impervious base and handled carefully to avoid any spills. Trained workers will be used in the handling of hazardous

	A. ISSUES	None	Minor/ Small	Moderate/ Medium	Significant/ Large	Mitigation Measures
						material, and MSDS sheets will be made available at the site. Spill kits will be readily available at material storage sites to deal with accidental spillage. Used chemicals and their containers will be considered as a hazardous waste and will be sold to the vendors. Provide protective clothing, safety boots, helmets, masks, gloves, goggles, to the construction personnel, appropriate to materials in use.
E.	Fauna and Flora					
18.	Will the subproject involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes)?	✓				
19.	Will the subproject lead to the destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?	✓				
20.	Will the subproject lead to the disruption/destruction of wildlife through interruption of migratory routes, disturbance of wildlife habitats, and noise- related problems?	✓				
F.	Destruction/Disruption of Land and Vegetation					
21.	Will the subproject lead to unplanned use of the infrastructure being developed?	✓				
22.	Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?	✓				
23.	Will the subproject lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?	✓				
24.	Will the subproject lead to landslides, slumps, slips and other mass movements in road cuts?	✓				
25.	Will the subproject lead to erosion of lands					

	A. ISSUES	None	Minor/ Small	Moderate/ Medium	Significant/ Large	Mitigation Measures
	receiving concentrated outflow carried by covered or open drains?	✓				
26.	Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?	✓				
27.	Will the subproject lead to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles?	✓				
G.	Cultural Property					
28.	Will the subproject have an impact on archaeological or historical sites, including historic urban areas?	✓				
29.	Will the subproject have an impact on religious monuments, structures and/or cemeteries?	✓				
30.	Have Chance Finds procedures been prepared for use in the subproject?	✓				The “chance find procedures” will be incorporated in the contract documents.
H.	Expropriation and Social Disturbance					
31.	Will the subproject involve land expropriation or demolition of existing structures?		✓			No existing structure is anticipated to be removed or demolished. However, Permanent land acquisition may be required for construction of road. The land acquisition will be carried out in accordance with the Resettlement Action Plan (RAP) for Dasu Hydropower Project (DHP) and Land Acquisition Act, 1894.
32.	Will the subproject lead to induced settlements by workers and others causing social and economic disruption?	✓				
33.	Will the subproject lead to environmental and social disturbance by construction camps?		✓			If necessary, the Contractor will avoid the requirement of construction camp by hiring the labors locally. The contractor will accommodate the outside workers in a rented house.
34.	Will the subproject pose community health & safety and OHS risks?		✓			Construction works such as excavations may pose risk to nearby communities and workers. The following measures will be implemented to deal with safety of workers and community: The contractor will barricade the construction area.

	A. ISSUES	None	Minor/ Small	Moderate/ Medium	Significant/ Large	Mitigation Measures
						The Contractor will provide Personal Protective Equipment (PPE relevant to work) to all workers. All workers will undergo safety induction training before starting the work. The contractor will carry out job hazard analysis for the construction activity to identify potential hazards that may arise from the proposed works or working conditions to the project workers: and implement necessary control measures. Environmental and Social Code of Practices (ESCPs) will be the part of the Contract Document.

Site Related Issues

	Issues	Yes	No	Don't Know	Mitigation Measures
1.	Does the subproject require land acquisition?	✓			Land acquisition will be required for construction of the subproject. The land acquisition will be carried out in accordance with the Resettlement Action Plan (RAP) for Dasu Hydropower Project (DHP) and Land Acquisition Act, 1894. In addition, the Contractors will require land for establishment of material storage area, which will be acquired by the contractor on a temporary basis. The Contractor will negotiate with the landowners on rental and lease terms, and will make a legal contract. The Contractor will clear all the debris from the site before handing over to the owner after completion of the lease terms.
2.	Will the subproject negatively impact livelihoods?		✓		The land which is proposed for the project facilities is not being used for any kind of livelihood activities.
3.	Is the subproject located in an area with designated natural reserves?		✓		
4.	Is the subproject located in an area with unique natural features?		✓		
5.	Is the subproject located in an area with endangered or conservation-worthy ecosystems, fauna or flora?		✓		
6.	Is the subproject located in an area falling within 500 meters of national forests, protected areas, wilderness areas, wetlands, biodiversity, critical habitats, or sites of historical or cultural importance?		✓		
7.	Is the subproject located in an area which would create a barrier for the movement of conservation-worthy wildlife or livestock?		✓		

	Issues	Yes	No	Don't Know	Mitigation Measures
8.	Is the subproject located close to groundwater sources, surface water bodies, water courses or wetlands?	✓			The water source for project area is main stream; however the project activities will not affect the downstream users. The contractor will implement pollution prevention measures to prevent contamination of the water resources during rehabilitation/construction of road, allied structures and other construction activities.
9.	Is the subproject located in an area with designated cultural properties such as archaeological, historical and/or religious sites?	✓			
10.	Is the subproject in an area with religious monuments, structures and/or cemeteries?		✓		
11.	Is the project located in an area from where people have been displaced?		✓		
12.	Is the project located in an area where IDPs are temporarily settled?		✓		
13.	Is the project in a politically sensitive area?		✓		
14.	Is the subproject in a polluted or contaminated area?		✓		
15.	Is the subproject located in an area of high visual and landscape quality?		✓		
16.	Is the subproject located in an area susceptible to landslides or erosion?	✓			Landslide may take place during floods. In order to avoid landslide risk, the Contractor will maintain natural angle of cut slopes to avoid land slide hazards and construct retaining structures.
17.	Is the subproject located in an area of seismic faults?		✓		
18.	Is the subproject located in a densely populated area?		✓		
19.	Is the subproject located on prime agricultural land?		✓		
20.	Is the subproject located in an area of tourist importance?		✓		
21.	Is the subproject located near a waste dump?		✓		
22.	Does the subproject have access to potable water?	✓			

	Issues	Yes	No	Don't Know	Mitigation Measures
23.	Is the subproject located far (1-2 kms) from accessible roads?		✓		
24.	Is the subproject located in an area with a wastewater network?		✓		
25.	Is the subproject located in the urban plan of the city?		✓		
26.	Is the subproject located outside the land use plan?		✓		

Signed by Safeguard Focal Person: Name:

Title:

Date:

Signed by Project Manager: Name:

Title:

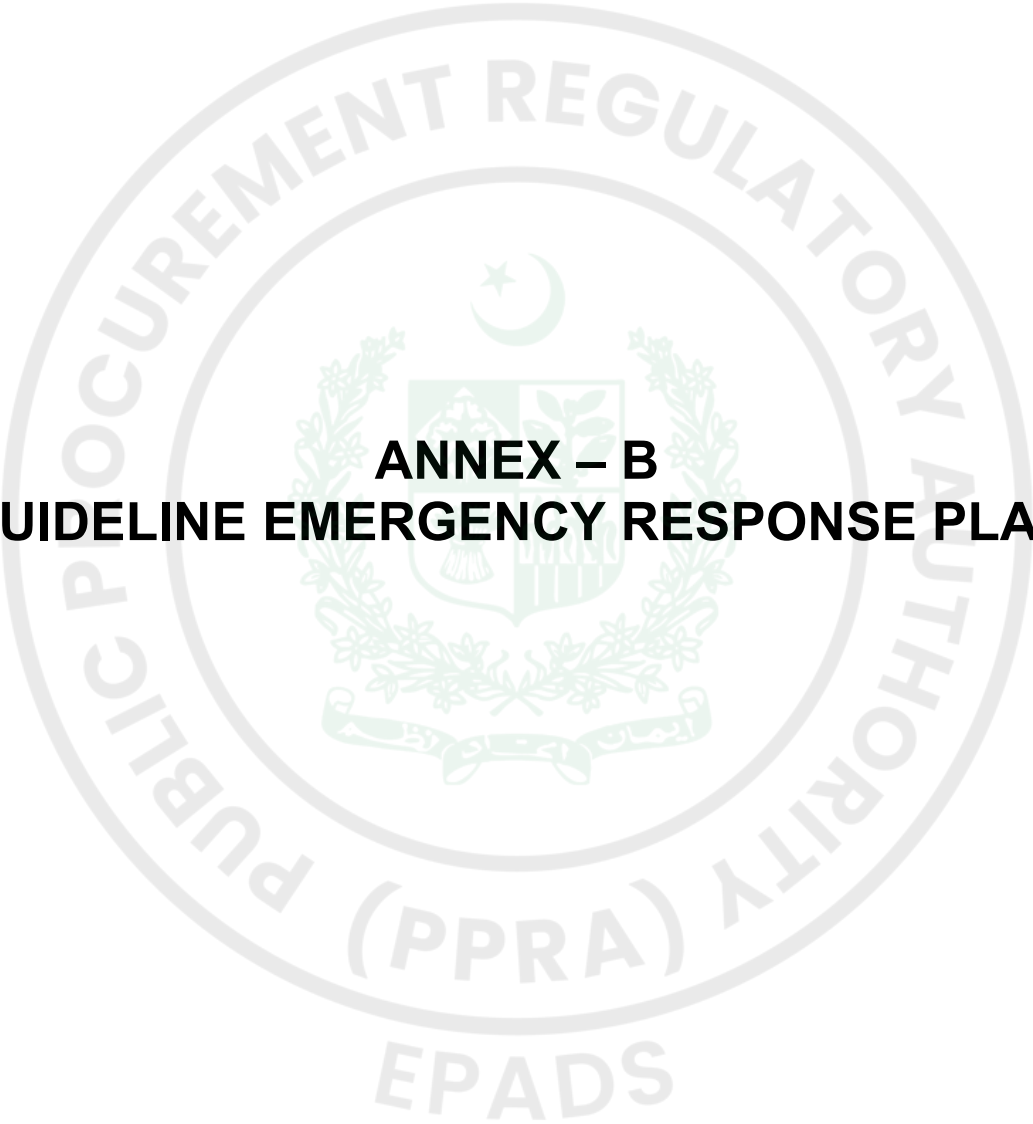
Date:

INVOLUNTARY RESETTLEMENT SCREENING CHECKLIST

Name of Enumerator: _____ Date: _____
Province: Khyber Pakhtunkhwa (KP) District: Lower Kohistan
Project: Construction of Dubair Road Package 1
Sector: Mutahida Kohistan Jirga Schemes
Project Categorization: A **B** C1

Potential Impacts	Yes	No	Expected	Remarks
Does the subproject involve any physical construction work, i.e. rehabilitation, reconstruction or new construction? Specify in "remarks" column.	☒	☐	☐	The scope of subproject is construction of new road along with basic facilities.
Does the sub-project involve impacts on land?	☒	☐	☐	The project will have impact on land and assets within COI.
Potential impacts				
Land				
The land which will be acquired is vacant.	☒	☐	☐	
Government or state owned land free of occupation (agriculture or settlement)	☐	☐	☒	
Private land	☐	☐	☒	
Residential	☐	☒	☐	
Commercial	☐	☒	☐	
Agriculture	☐	☐	☒	
Communal	☐	☐	☒	
Others	☐	☒	☐	
Land-based assets:				
Residential structures	☐	☒	☐	
Commercial structures	☐	☒	☐	
Community structures	☐	☒	☐	
Agriculture structures	☐	☒	☐	
Public utilities	☒	☐	☐	Construction activities may damage the existing utilities and disconnect supply to the users. The Contractor will accurately locate the existing utilities before work commences which can be disrupted by the rehabilitation works. The Contractor will repair all damaged utilities at the earliest to avoid social issues
Others	☐	☒	☐	

Potential Impacts	Yes	No	Expected	Remarks
Agriculture related impacts				
Crops and vegetables		✓		
Trees	✓			Some trees may be cut in construction of subproject. The lost trees will be compensated at a ratio of 1:10
Others		✓		
Affected Persons (APs)				
Number of APs			✓	Will be identified after the revenue survey
Males			✓	
Females			✓	
Titled land owners		✓		
Tenants and sharecroppers		✓		
Leaseholders		✓		
Agriculture wage laborers		✓		
Encroachers and squatters		✓		
Vulnerable APs		✓		
Others		✓		
Section 2				
Others		✓		
Are there any tribal people, indigenous or other minority groups affected by land acquisition or project activities If "Yes" check the following items		✓		
Indigenous groups				
Tribal People				
Minority groups				



ANNEX – B

GUIDELINE EMERGENCY RESPONSE PLAN

GUIDELINE EMERGENCY PREPAREDNESS AND RESPONSE PLAN

PURPOSE

The purpose of this Emergency Response Procedure is to provide measures and guidance for the establishment and implementation of emergency preparedness plans for the subproject. The aim of the Emergency Response Procedure is to:

- i. Ensure all personnel and visitors to the office/job sites are given the maximum protection from unforeseen events.
- ii. Ensure all personnel are aware of the importance of this procedure to protection of life and property.

EMERGENCY PREPARATION AND RESPONSE MEASURE SCOPE

The emergency management program is applied to all subproject elements and intended for use throughout the subproject life cycle. The following are some emergencies that may require coordinated response.

- i. Construction Accident
- ii. Road & Traffic Accident
- iii. Hazardous material spills
- iv. Structure collapse or failure
- v. Trauma or serious illness
- vi. Sabotage
- vii. Fire
- viii. Environmental Pollution
- ix. Loss of person
- x. Community Accident

RESPONSIBILITIES

The detailed roles and responsibilities of certain key members of the Emergency Response team available to assist in emergency are provided in **Table 1** below.

Table 1: Emergency Response Team

Action Group	Responsibility
Emergency Coordinator	▪ Overall control of personnel and resources. ▪ The Emergency Coordinator will support and advise the Site Safety Supervision as necessary. ▪ Serves as public relations spokes persons, or delegates to some staff member the responsibility for working with news media regarding any disaster or emergency. Also assure proper coordination of news release with appropriate corporate staff or other designated people.
Site Safety Supervision (Emergency Commander)	▪ Overall responsibility for activating emergency plan and for terminating emergency actions. ▪ Be alternative of emergency response chairpersons. ▪ Disseminates warnings and information as required to ensure all people in the immediate area have been warned and evacuated

Action Group	Responsibility
	either by alarms or by word of mouth. ▪ Supervise the actions of the Emergency Response Team to ensure all persons are safe from the danger. ▪ Notify outside authorities if assistance is required. ▪ Carries the responsibility for coordinating actions including other organizations in accordance with the needs of the situation. ▪ Ensure maximum co-operation and assistance is provided to any outside groups called to respond to an emergency. ▪ Establish and appoint all emergency organization structure and team. ▪ Assures adequate delegation of responsibilities for all key positions of assistants on the subproject to assist with any foreseeable emergency. ▪ Ensure resources available to purchase needed emergency response equipment and supplies. ▪ Assures that all persons on the Emergency Response Team aware and fully understand their individual responsibilities for implementing and supporting the emergency plan. ▪ Establish the emergency drill schedule of all identified emergency scenarios, track the status and evaluate the emergency. ▪ The Emergency Commander shall ensure that senior management personnel have been reported of the emergency as soon as practical after the event.
Security Team	▪ Ensure that the exit route is regularly tested and maintained in good working order. ▪ Maintain station at the security gate or most suitable location to secure the area during any emergency such that only authorized personnel and equipment may enter, prevent access to the site of unauthorized personnel. ▪ Assist with strong/activation of services during an emergency. ▪ Ensure vehicles and obstructions are moved to give incoming emergency vehicles access to the scene, if ambulance or emergency services are attending the site, ensure clear access and personnel are located to direct any incoming emergency service to the site of emergency.
Rescue & Medical Team	▪ Protect the injured from further danger and weather. ▪ Provide treatment to the victim(s) to the best of their ability by first aid and then transfer to hospital. ▪ Remain familiar with the rescue activities and rescue apparatus. ▪ Assist outside medical services personnel when they arrive
General Administration Team	Response to support any requested general facilities for assisting Emergency Response Team in their work.
Government Relation Team	▪ Coordinate with local government on a matter of concerned in the emergency response plan to liaise with local officers in their affair for support Emergency Response Team. ▪ Coordinate emergency plan with the government authorities, local community.

Action Group	Responsibility
Environment Team	In case of emergency related to the environmental pollution such as the chemical spill, oil spill into the ambient, the environment team will support the technical advice to control and mitigate the pollution until return to the normal situation.
Department Heads	▪ Call up of personnel into the safe location for protective life and property. ▪ Take immediate and appropriate action while Emergency Response Team is being mobilized. ▪ Keep in touch with the Emergency Commander ▪ Control and supervise operators and contractors on the implementation of this procedure, with consultation with Safety Team as necessary. ▪ Provide and maintain emergency equipment of their responsible areas.
Other Staff and Employees	▪ All other staff and employees will remain at their workstations or assembly point unless directed otherwise from Emergency Response Team. ▪ Each supervisor will ensure that all members of his work group are accounted for and keep in touch with each of their Department Head.

PROCEDURE

Emergency situation and injuries to person can occur at any time or place either on subproject site or elsewhere. The most two common types of emergencies on site are fire and serious accident.

Figure 1 Emergency Procedures for Fire

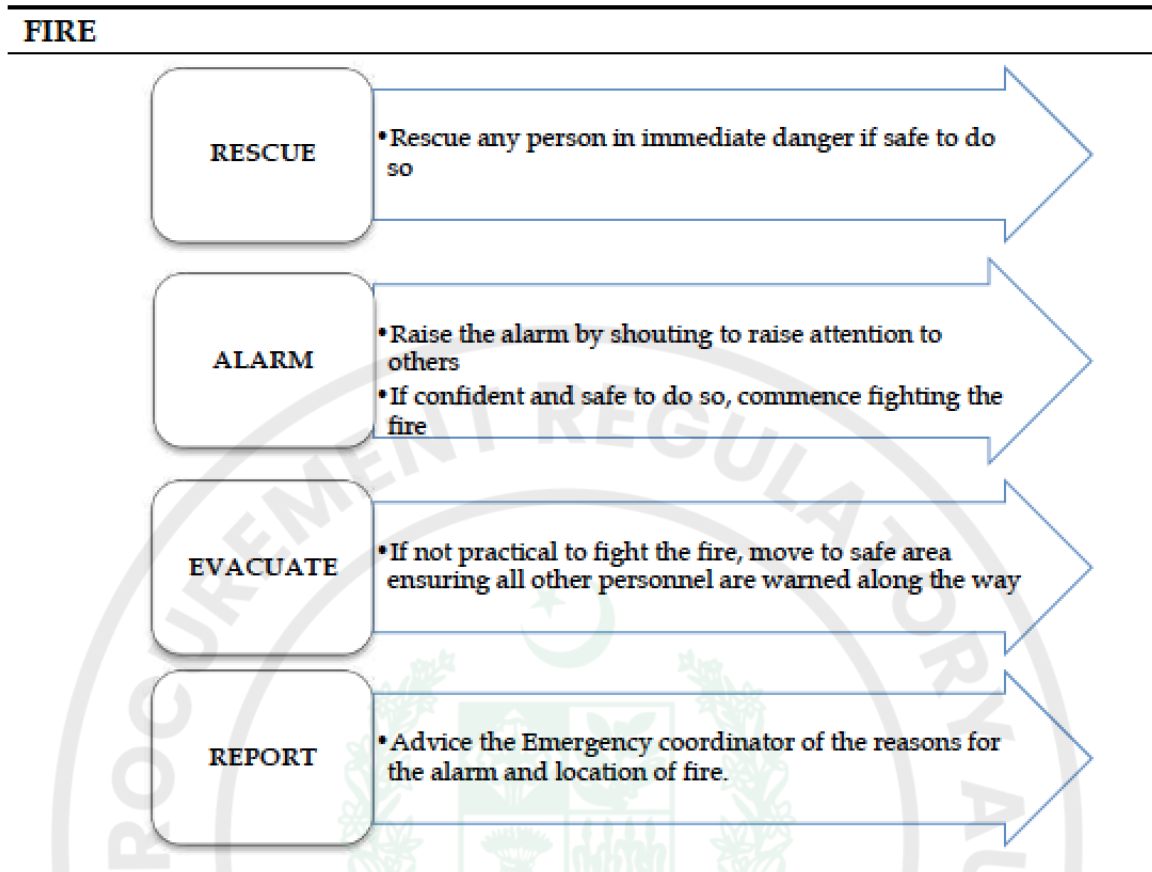


Figure 2 Emergency Procedures for Serious Accident

ACCIDENT

In the event of injuries of persons, the first person on the scene should take the following action:

If a hazard exists consider your own safety then if possible remove the hazard or the injured person.

Assess the patient by checking for Airway, Breathing, Pulse and obvious

Report directly to First Aid or Security Centers, when raising the alarm you must clearly give the following information;

- Your name and the detail of accident
- The location of the injured person(s)
- The number of persons injured
- The extent of the injuries, if known
- What known hazards are in the area

Make the injured person as comfortable as possible

Treat the obvious injuries

Reassure the injured person

COMMUNICATION WITH AUTHORITIES / PRESS AT SITE

In the event of an accident or incident, only senior staff is permitted to give factual information to the authorities for resource of liability exposure. The press must be avoided politely, at all costs, with the terse comment that "the matter is under investigation and relevant information when available will be provided by our Head Office" Do not ever give your opinion or story.

FIRST AID PERSONS

Upon advice of medical emergency, make immediate assessment to response required and if necessary, advise security to summon ambulance or medical assistance, the qualified first aid attendant should also,

- Provide treatment to the victim(s) to the best of his/her ability.
- Ensure the safety of victims by ceasing any work activity in the area.
- Protect the injured from further danger and weather.
- Assist medical services personnel when they arrive.

GENERAL ADMINISTRATION TEAM

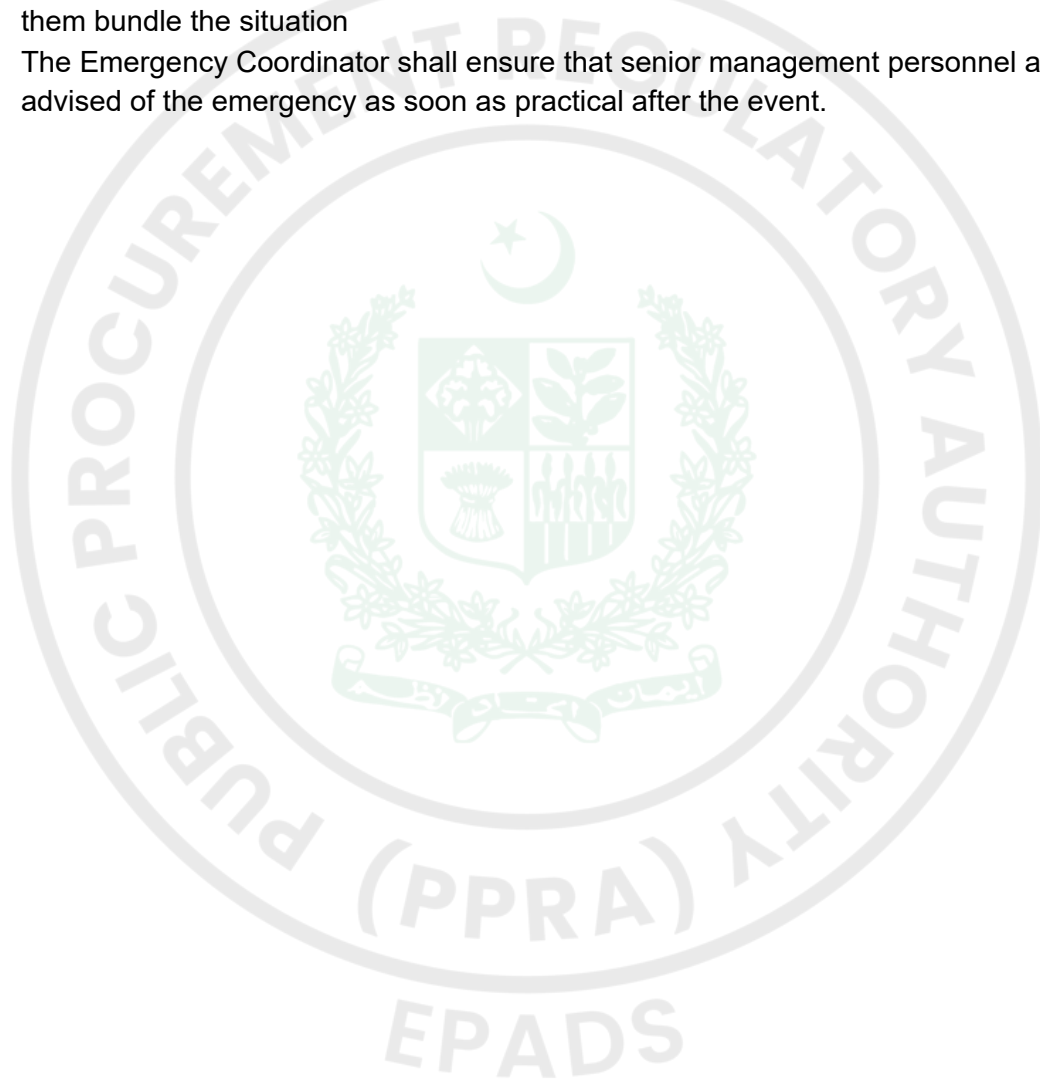
Upon advice of medical emergency, maintain contact with first aid personnel and summon ambulance if required.

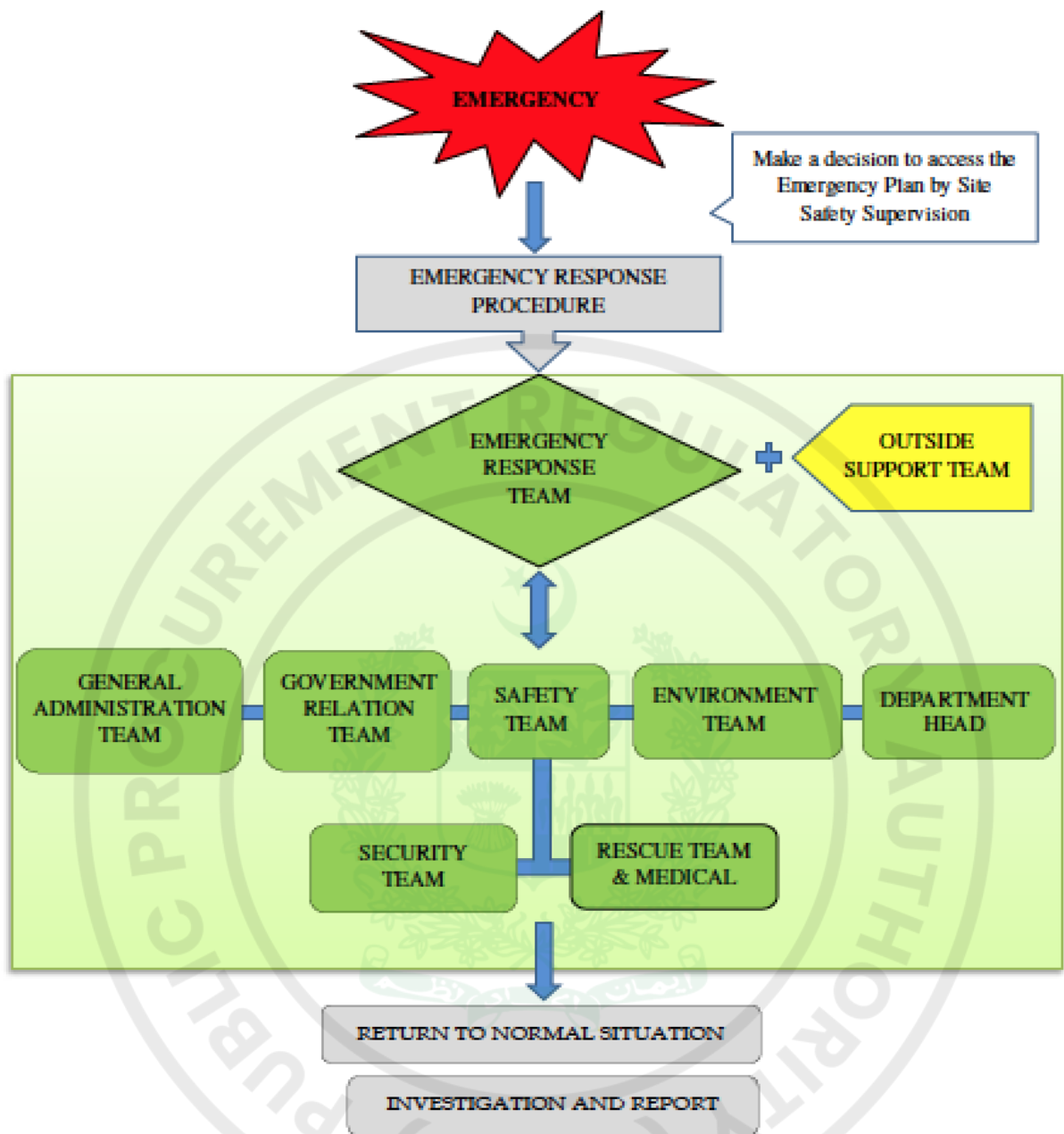
SECURITY TEAM

- If ambulance or emergency services are attending the site, ensure clear access and personnel are located to direct vehicle closest to the scene.
- Prevent access to the site of unauthorized personnel (press, etc.).

EMERGENCY COORDINATOR

- The Emergency Coordinator shall assist emergency personnel at the scene as required through allocation of company resources.
- The Emergency Coordinator shall ensure next-of-kin are properly notified as soon as possible and give whatever company support and assistance is necessary to assist them bundle the situation
- The Emergency Coordinator shall ensure that senior management personnel are advised of the emergency as soon as practical after the event.





Note: Name of contact person and call number from Owner/ Contractor to be determined.

INCIDENT AND ACCIDENT REPORT

Section A: Identification Data										
Report No:		Date of Reported:			Reporter:		Sign:			
Job Title:					Company Name:					
Section B: Violence Rate										
Accident Violence: ☐ 01-Death ☐ 02-Serious Injury ☐ 03-Lost Time Injury ☐ 04-First Aid ☐ 05- Not Injury ☐ 06-Near Miss Property Damage Cost: ☐ 1-2,000 USD ☐ 2,001-10,000 USD ☐ 10,001-50,000 ☐ > 50,001										
Section C: Environmental Impact										
Affected area		☐ Construction area			☐ Public area					
Receptor		☐ None			☐ Workers			☐ Community		
Type of pollution		☐ Physical			☐ Chemical			☐ Biological		
Toxicity		☐ Non-toxic			☐ Low - toxic			☐ High - toxic		
Return to Normal		☐ 1 day			☐ 1 day to 1 week			☐ ≥ 1 week		
Cumulative impact		☐ Non-cumulative			☐ Cumulative					
Section D: Injured/Illness Employee										
1.Name:		Sex:	Date of Birth:			Age:	Regular Job Title:		Experience:	
		☐ Male ☐ Female	Month	Day	Year				In this job title Years Weeks	In this Project Years Weeks
Site:		Company:		Reference:			Phone No:		Social Security Number	
Part of Body Injured or Affected:				Nature of Injury or Illness:						
☐ Head ☐ Hands ☐ Face ☐ Nose				☐ Laceration ☐ Amputation ☐ Puncture ☐ Fracture						
☐ Eyes ☐ Legs ☐ Teeth ☐ Neck				☐ Strain & Sprain ☐ Burns ☐ Contusion ☐ Dry Heat Friction						
☐ Trunk ☐ Toes ☐ Elbow ☐ Shoulder				☐ Hernia ☐ Foreign Body ☐ Chemical ☐ Contamination						
☐ Back ☐ Ankle ☐ Wrist ☐ Foot				☐ Skin (Occupational) ☐ Rash ☐ Irritation						
☐ Arms ☐ Thumb ☐ Fingers ☐ Internal										
Remark:				Remark:						
Section D: Injured/Illness Employee										
2.Name:		Sex:	Date of Birth:			Age:	Regular Job Title:		Experience:	
		☐ Male ☐ Female	Month	Day	Year				In this job title Years Weeks	In this Project Years Weeks
Site:		Company:		Reference:			Phone No:		Social Security Number	
Part of Body Injured or Affected:				Nature of Injury or Illness:						
☐ Head ☐ Hands ☐ Face ☐ Nose				☐ Laceration ☐ Amputation ☐ Puncture ☐ Fracture						
☐ Eyes ☐ Legs ☐ Teeth ☐ Neck				☐ Strain & Sprain ☐ Burns ☐ Contusion ☐ Dry Heat Friction						
☐ Trunk ☐ Toes ☐ Elbow ☐ Shoulder				☐ Hernia ☐ Foreign Body ☐ Contamination ☐ Chemical						
☐ Back ☐ Ankle ☐ Wrist ☐ Foot				☐ Skin (Occupational) ☐ Rash ☐ Irritation						
☐ Arms ☐ Thumb ☐ Fingers ☐ Internal										
Remark:				Remark:						
Section E: Accidents/incident Details										
Date Accident/Incident Occurred:			Time Accident/Incident Occurred:				Exact Location of the Accident / Incident:			

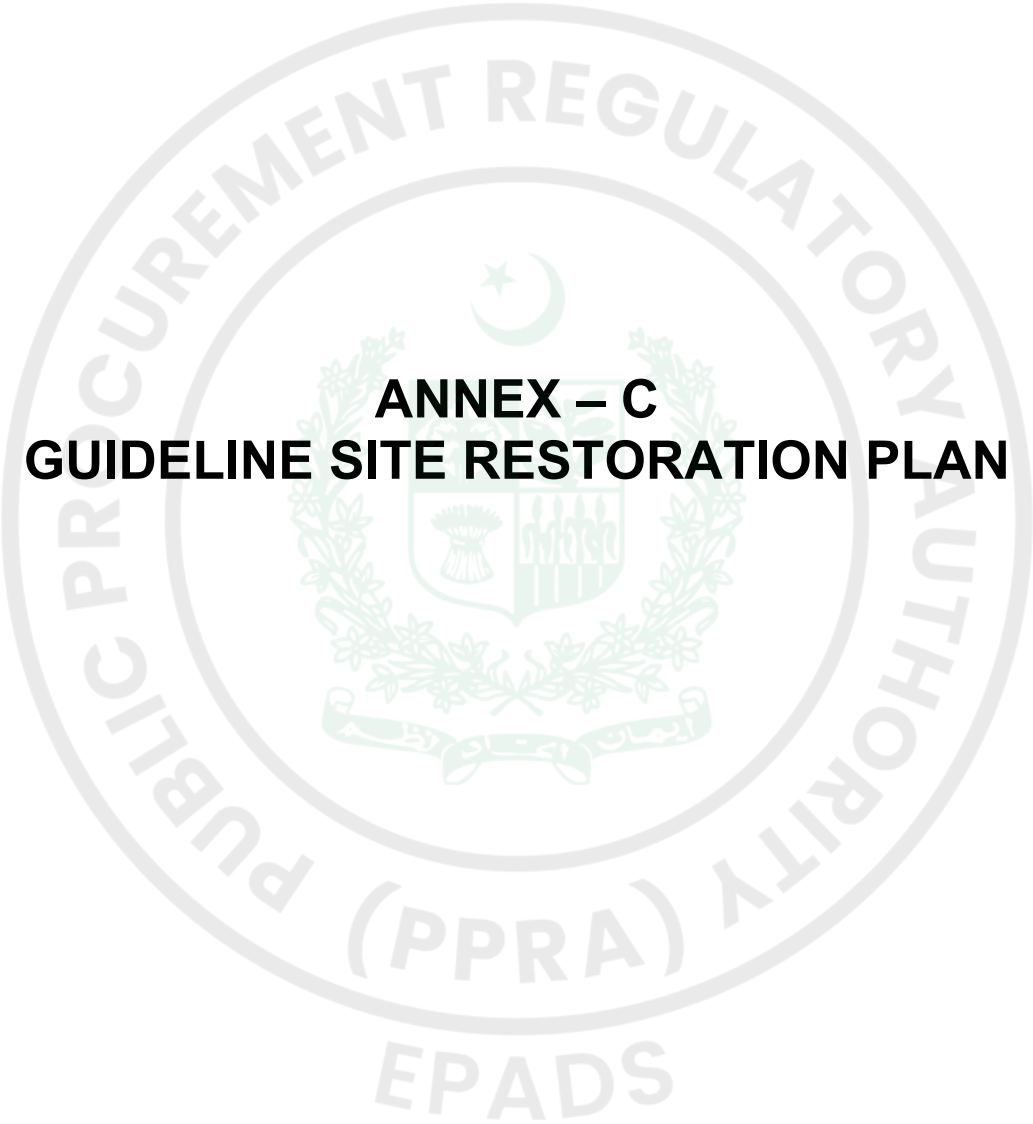
Details of the actual Job Being done at the time:		
Details of Accident / Incident / What actually happened?		
Section F: Accident Cause (Basic cause mark X / Contributing cause, if any mark O)		
UNSAFE CONDITIONS 1 ☐ Inadequately Guarded 2 ☐ Unguarded 3 ☐ Defective Tools, Equipment, or Substance 4 ☐ Unsafe Design or Construction 5 ☐ Hazardous Arrangement 6 ☐ Unsafe Illumination 7 ☐ Unsafe Ventilation 8 ☐ Unsafe Clothing 9 ☐ Insufficient Instruction 10 ☐ Lack of system of work Why was the unsafe act committed? _____	UNSAFE ACTS 1 ☐ Operating Without Authority / Training 2 ☐ Operating at Unsafe Speed 3 ☐ Marking SHE Device Inoperative 4 ☐ Using Unsafe Equipment or Equipment Unsafely 5 ☐ Unsafe Loading, Placing, Mixing 6 ☐ Taking Unsafe Position 7 ☐ Working on Moving or Dangerous Equipment 8 ☐ Distraction, Teasing, Horse Play 9 ☐ Failure to use Personal Protective Devices 10 ☐ Lack of effective instruction or supervision Why did the unsafe condition exist? _____	
Section G: Guide to Corrective Action (Base on the cause checked above, I am taking the following corrective action)		
UNSAFE ACT ☐ Stop the Behaviour ☐ Study the job ☐ Instruct (tell-show-try-check) ☐ Follow Up ☐ Enforce	UNSAFE CONDITION ☐ Remove ☐ Guard ☐ Warn ☐ Supervisory Training	If Supervisor can't handle, then recommend to ☐ Site Engineer, or ☐ Site Manager, or ☐ Project Manager, or ☐ Safety Committee
Detail below any immediate remedial actions that have been taken:		
Detail below any corrective and preventative actions that could be taken to prevent future re-occurrence:	Responsible	Completion Date

Section H: Witness Statement			
Witness Name		Interviewer Name	
Section I: Reviewed & Recommend by Recommendation:			
Reviewed By:	Position:	Signature:	Date:
Remarks : If Accident or Incident happened with lost time injury and affected to the publicity must further report to Safety Department; : First Aid Cases will not applicable to this form; : The accident report shall submit to Safety Department within 3 days : Attached the photograph or sketch the location of accident / incident;			

SUGGESTED CONTENTS OF EPRP

The Contractor should prepare the EPRP based on the guidelines provided in the above sections. The suggested structure of the EPRP is listed below:

1. Purpose
2. Applicable Scope
3. Preparation Basis
4. Emergency Response System
 - 4.1 Generals
 - 4.2 Emergency Response System
 - 4.3 Responsibilities
5. Major Safety Risks
6. Precautionary Measures
 - 6.1 Training and Exercise
 - 6.2 Hazard Source Monitor
 - 6.3 Alert Action
 - 6.4 Management Measures
7. Control Measures
 - 7.1 Response
 - 7.2 Response Procedures
 - 7.3 Emergency Response
 - 7.4 Emergency Completion and Restoration
8. Emergency Response Report and Settlement
9. Supporting Measures
 - 9.1 Communication
 - 9.2 Emergency Team
 - 9.3 Funding for Emergency
 - 9.4 Provisions and Resources
10. Records



ANNEX – C

GUIDELINE SITE RESTORATION PLAN

Restoration and Rehabilitation Plan

1.0 Introduction

After the completion of construction phase of the proposed subproject, it is the responsibility of the Contractor to restore the site that has been disturbed due to construction activities. It is accepted that restoration may take many years to achieve.

2.0 General Quarry Planning and Progressive Rehabilitation

A well-considered quarry development plan prior to starting work, or when opening up new areas will greatly reduce the effort required to achieve appropriate leading practice environmental and safety outcomes for quarry rehabilitation and closure.

The selection of a site, sequencing of quarrying and rehabilitation, and final land-use should all be carefully planned prior to commencement of work at a quarry or borrow pit.

2.1 Progressive Rehabilitation

Progressive rehabilitation refers to the rehabilitation of completed parts of a quarry while extractive operations continue in other parts of the quarry. As new quarry sections are opened, worked out areas should be progressively rehabilitated to avoid increasing the total disturbed area of a quarry. Overburden and topsoil can be stripped from areas being opened up and placed directly onto worked out areas which are being rehabilitated. This will avoid double handling of materials and prevent degradation of the topsoil.

Progressive rehabilitation helps to minimize the visual impact of a quarry, control dust and erosion. It also assists in fostering good landowner and community relations.

Recommended progressive rehabilitation practices are:

- Agree on the final land form and use of a site with the relevant landowner.
- Rehabilitate in accordance with the intended final use of the land.
- Final faces of shallow borrow pits should be battered to a 1:3 (vertical: horizontal) or shallower.
- Plan and develop the quarry in stages towards terminal areas so that progressive rehabilitation works can commence as soon as possible (As shown in **Figure 1**).
- Once the final landform is established, re-vegetate areas to stabilize the landform and to give the vegetation maximum time to establish while the quarry is still in operation.

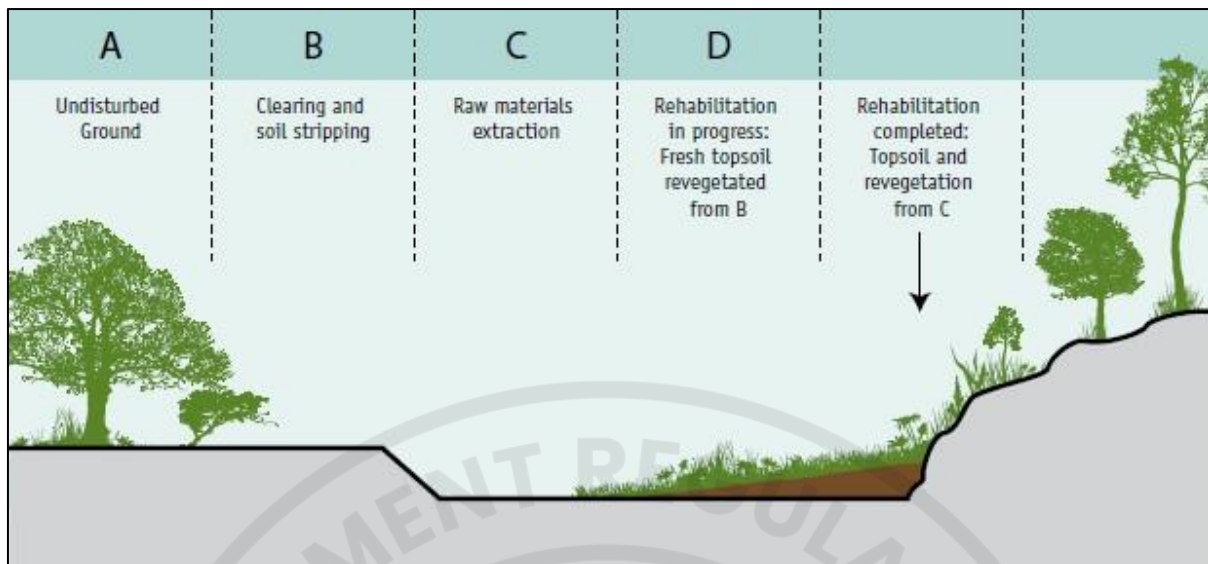


Figure 1: Progressive rehabilitation to manage potential impact on visual amenity

2.2 Re-vegetation

Establishing a self-sustaining cover of vegetation is the best way to stabilize disturbed sites in the long term. Re-vegetation also minimizes the visual impact of quarries. Generally, the vegetation type which existed before the disturbance, or a similar vegetation type will regenerate most successfully.

Prior to the commencement of a quarrying activity the type of re-vegetation should be agreed with the landowner, and should be consistent with the proposed final land-use.

Some indigenous plant species may not thrive in areas where soil conditions are substantially different after quarrying. If this is the case, and the objective is to re-establish vegetation, which fulfils the function of the original native vegetation, then some species from outside the quarry area, may have to be introduced. Care must be taken to avoid introducing a species, which could become an unacceptable fire hazard, invade surrounding areas of native vegetation or become agricultural weeds.

Where agriculture is the planned land-use then the species planted should be those commonly used for pasture or crops known to be successful on soils of similar texture, drainage status, pH and fertility. Suitable legumes should always be considered for their ability to improve soil fertility.

3.0 Rehabilitation of Affected Areas

Rehabilitation will be done in accordance with the ESMMP of the proposed subproject site. There are many areas affected by construction and maintenance activities that require rehabilitation such as borrow pits, stockpile sites, campsites and sidetracks.

3.1 Borrow Pits

Borrow pits are areas either in a road reserve or adjacent land holdings that have been used to extract materials such as gravels and soils. They can vary considerably in size, depending on the quantity of material taken and the borrow pits' reserve body of remaining material. The variable size, shape and nature of borrow pits preclude very specific recommendations; however the following general conditions apply:

- Before extraction commences, licenses and permits should be checked and limits of disturbance and/or clearing must be clearly marked out on the site before any ground disturbing activity takes place; and
- At the completion of extraction, the former borrow pit must be made stable and safe. This usually requires the sides of the pit to be reshaped with gentle safe grades. All disturbed areas associated with borrow pits must be retopsoiled, seeded, fertilized and mulched (if appropriate) as part of the restoration plan. Main Roads has been discouraging the conversion of borrow pits to stock watering points.

3.2 Stockpile Areas and Construction Camp Sites

Stockpile areas and construction campsites should be developed in a similar fashion to borrow pits. Limits of disturbance and/or clearing must be clearly marked out on the site using posts or flagging tape before any ground disturbing activity takes place.

Vehicle wash-down areas should be constructed as a separate area to ensure contaminants are contained and removed at the close of the site.

3.3 Sidetracks

Sidetracks may create a much greater impact than the actual construction site itself. If sidetracks are justified, limits of disturbance must be clearly marked out on the site before any ground disturbing activity takes place.

Rehabilitation of sidetracks requires removal and disposal of fill materials used for temporary approaches, abutments, crossings or embankments. All remaining areas must be reshaped to blend back in with preexisting landforms.

4.0 Monitoring

To achieve continuous improvement and ensure the activities specified in contracts are being adhered to, regular monitoring will be undertaken with emphasis placed on the continuity between site characteristics and the adjacent landscapes.

Restoration of sites disturbed by construction activities is unlikely to ever mimic the original landscape. Performance of the contractor can usually be gauged by comparing adjacent

landscapes. Low continuity between these landscapes usually indicates that no attention has been given to site stability.



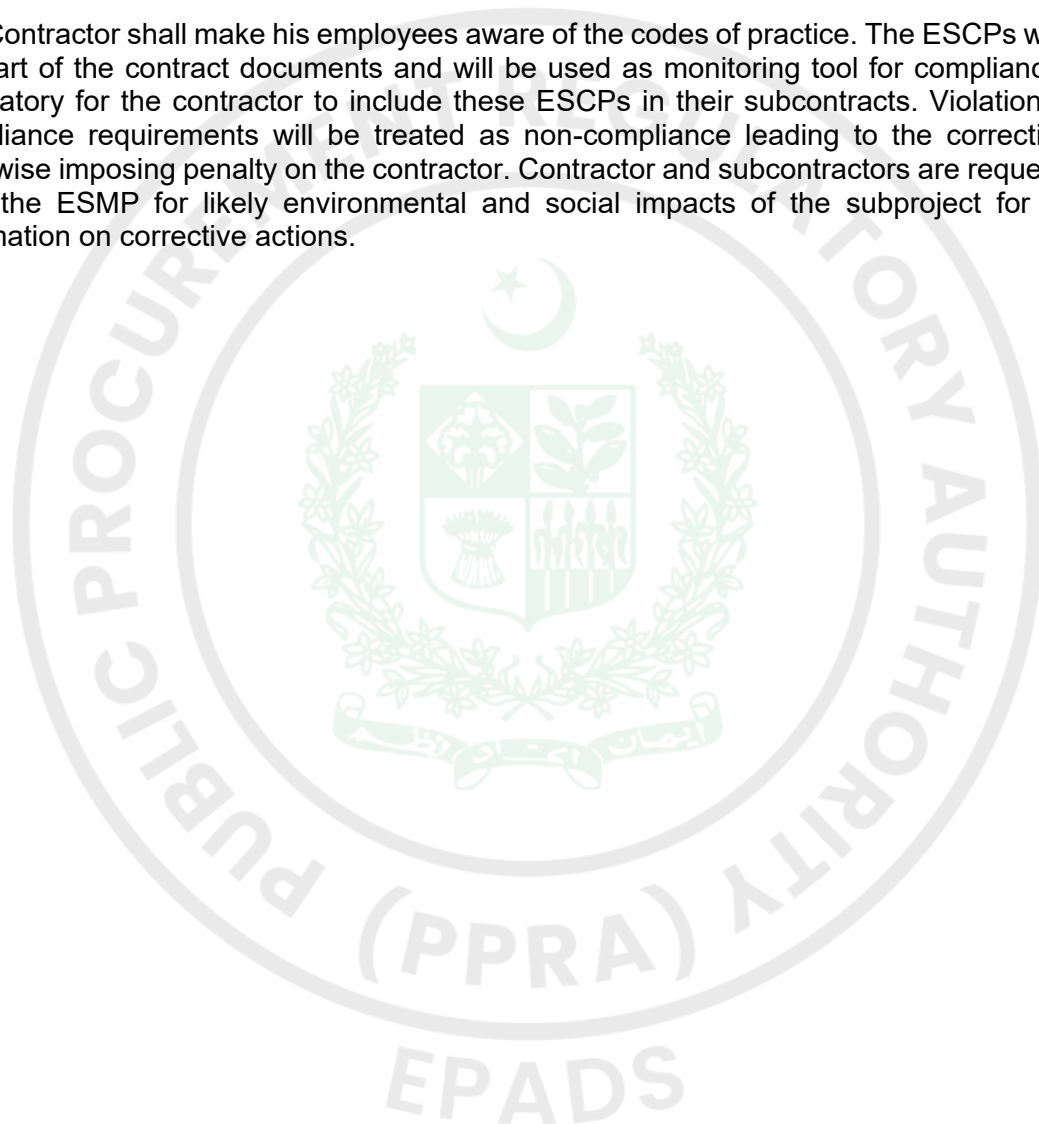
ANNEX – D
Environmental and Social Code of Practices

ENVIRONMENTAL AND SOCIAL CODE OF PRACTICES (ESCPs)

Introduction

The objective of the Environmental and Social Code of Practices (ESCPs) is to address all potential and general construction related impacts during implementation of the subproject. The ESCPs will provide guidelines for best operating practices and environmental management guidelines to be followed by the contractor for sustainable management of all environmental issues.

The Contractor shall make his employees aware of the codes of practice. The ESCPs will form the part of the contract documents and will be used as monitoring tool for compliance. It is mandatory for the contractor to include these ESCPs in their subcontracts. Violation of the compliance requirements will be treated as non-compliance leading to the corrections or otherwise imposing penalty on the contractor. Contractor and subcontractors are requested to refer the ESMP for likely environmental and social impacts of the subproject for further information on corrective actions.



ESCP 1: Waste Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
General Waste	Soil and water pollution from the improper management of wastes and excess materials from the construction sites.	The Contractor shall - Develop waste management plan for various specific waste streams (e.g., reusable waste, flammable waste, construction debris, food waste etc.) prior to commencing of construction and submit to CSC for approval. - Organize disposal of all wastes generated during construction in an environmentally acceptable manner. This will include consideration of the nature and location of disposal site, so as to cause less environmental impact. - Minimize the production of waste materials by 3R (Reduce, Recycle and Reuse) approach. - Segregate and reuse or recycle all the wastes, wherever practical. - Prohibit burning of solid waste - Collect and transport non-hazardous wastes to all the approved disposal sites. Vehicles transporting solid waste shall be covered with tarps or nets to prevent spilling waste along the route - Train and instruct all personnel in waste management practices and procedures as a component of the environmental induction process. - Provide refuse containers at each worksite. - Request suppliers to minimize packaging where practicable. - Place a high emphasis on good housekeeping practices. - Maintain all construction sites in a cleaner, tidy and safe condition and provide and maintain appropriate facilities as temporary - Storage of all wastes before transportation and final disposal.
Hazardous Waste	Health hazards and environmental impacts due to improper waste management practices	The Contractor shall - Collect chemical wastes drums (or similar sealed container), appropriately labeled for safe transport to an approved chemical waste depot. - Store, transport and handle all chemicals avoiding potential environmental pollution. - Store all hazardous wastes appropriately in bunded areas away from water courses. - Make available Material Safety Data Sheets (MSDS) for hazardous materials on-site during construction. - Collect hydrocarbon wastes, including lube oils, for safe transport off-site for reuse, recycling, treatment or disposal at approved locations. - Construct concrete or other impermeable flooring to prevent seepage in case of spills

ESCP 2: Fuels and Hazardous Goods Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Fuels and hazardous goods.	Materials used in construction have a potential to be a source of contamination. Improper storage and handling of fuels, lubricants, chemicals and hazardous goods/materials on-site, and potential spills from these goods may harm the environment or health of construction workers.	The Contractor shall Prepare spill control procedures and submit the plan for CSC approval. Train the relevant construction personnel in handling of fuels and spill control procedures. Store dangerous goods in bunded areas on a top of a sealed plastic sheet away from watercourses; and also under a rainwater shed (to prevent contact with rainwater). Refueling shall occur only within bunded areas. Make available MSDS for chemicals and dangerous goods on-site. Transport waste of dangerous goods, which cannot be recycled, to a designated disposal site approved by KP EPA or sold to KP EPA registered vendors. Provide absorbent and containment material (e.g., absorbent matting) where hazardous material are used and stored and personnel trained in the correct use. Provide protective clothing, safety boots, helmets, masks, gloves, goggles, to the construction personnel, appropriate to materials in use. Make sure all containers, drums, and tanks that are used for storage are in good condition and are labeled with expiry date. Any container, drum, or tank that is dented, cracked, or rusted might eventually leak. Check for leakage regularly to identify potential problems before they occur. Put containers and drums in temporary storages in clearly marked areas, where they will not be run over by vehicles or heavy machinery. The area shall preferably slope or drain to a safe collection area in the event of a spill. Put containers and drums in permanent storage areas on an impermeable floor that slopes to a safe collection area in the event of a spill or leak. Take all precautionary measures when handling and storing fuels and lubricants, avoiding environmental pollution. Avoid the use of material with greater potential for contamination by substituting them with more environmentally friendly materials. Return the gas cylinders to the supplier. However, if they are not empty prior to their return, they must be labeled with the name of the material they contained or contain, information on the supplier, cylinder serial number, pressure, their last Hydrostatic test date, and any additional identification marking that may be considered necessary.

ESCP 3: Water Resources Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Hazardous Material and Waste	Water pollution from the storage, handling and disposal of hazardous materials and general construction waste, and accidental spillage	The Contractor shall Follow the management guidelines proposed in ESCPs 1 and 2. Minimize the generation of sediment, oil and grease, excess nutrients, organic matter, litter, debris and any form of waste (particularly petroleum and chemical wastes). These substances must not enter waterways, storm water systems or underground water tables
Discharge from construction sites	Waste waters from construction sites and work camps. The construction works will modify groundcover and topography changing the surface water drainage patterns of the area including infiltration and storage of storm water.	The Contractor shall Minimize the amount of exposed soil at any one time (only clear vegetation immediately before construction is about to begin) Install temporary drainage works (channels and bunds) in areas required for sediment and erosion control and around storage areas for construction materials Install temporary sediment basins, where appropriate, to capture sediment-laden run-off from site Divert runoff from undisturbed areas around the construction site Stockpile materials away from drainage lines Prevent all solid entering waterways by collecting solid waste, oils, chemicals, bitumen spray waste and wastewaters from brick, concrete and asphalt cutting and transport to an approved waste disposal site or recycling depot Collect, transport and discharge the septic tank waste from the construction camps in the nearby municipal waste water treatment plants Ensure that tires of construction vehicles are cleaned in the washing bay (constructed at the entrance of the construction site) to remove the mud from the wheels. This shall be done in every exit of each construction vehicle to ensure the local roads are kept clean.
Soil Erosion and siltation	Soil erosion and dust from the material stockpiles will increase the sediment and contaminant loading of surface water bodies.	The Contractor shall Ensure that sealed roads used by construction vehicles are swept regularly to remove sediment. Water the material stockpiles, access roads and bare soils on an as required basis to minimize dust. Increase the watering frequency during periods of high risk (e.g. high winds)

ESCP 4: Drainage Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Excavation and earth works, and construction yards	Lack of proper drainage for rainwater/liquid waste or wastewater owing to the construction activities harms environment in terms of water and soil contamination, and mosquito growth.	The Contractor shall Prepare a program for prevent/avoid standing waters, which CSC will verify in advance and confirm during implementation Provide alternative drainage for rainwater if the construction works/earth-fillings cut the established drainage line Establish local drainage line with appropriate silt collector and silt screen for rainwater or wastewater connecting to the existing established drainage lines already there Rehabilitate road drainage structures immediately if damaged by contractors' road transports. Build new drainage lines as appropriate and required for wastewater from construction yards connecting to the available nearby recipient water bodies. Ensure wastewater quality conforms to the relevant standards provided by NEQS, before it being discharged into the recipient water bodies. Ensure the internal roads/hard surfaces in the construction yards/construction camps that generate has storm water drainage to accommodate high runoff during downpour and that there is no stagnant water in the area at the end of the downpour. Construct wide drains instead of deep drains to avoid sand deposition in the drains that require frequent cleaning. Provide appropriate silt collector and silt screen at the inlet and manholes and periodically clean the drainage system to avoid drainage congestion Protect natural slopes of drainage channels to ensure adequate storm water drains. Regularly inspect and maintain all drainage channels to assess and alleviate any drainage congestion problem. Reduce infiltration of contaminated drainage through storm water management design
Ponding of water	Health hazards due to mosquito breeding	Do not allow ponding of water especially near the waste storage areas and construction camps Discard all the storage containers that are capable of storing of water, after use or store them in inverted position

ESCP 5: Soil Quality Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Storage of Hazardous and toxic chemicals	Spillage of hazardous and toxic chemicals will contaminate the soils	The Contractor shall Strictly manage the wastes management plans proposed in ESCP1 and storage of materials in ESCP2 Construct appropriate spill contaminant facilities for all fuel storage areas Establish and maintain a hazardous materials register detailing the location and quantities of hazardous substances including the storage, use of disposals Train personnel and implement safe work practices for minimizing the risk of spillage Identify the cause of contamination, if it is reported, and contain the area of contamination. The impact may be contained by isolating the source or implementing controls around the affected site Remediate the contaminated land using the most appropriate available method to achieve required commercial/industrial guideline validation results
Construction material stock piles	Erosion from construction material stockpiles may contaminate the soils	The Contractor shall Protect the toe of all stockpiles, where erosion is likely to occur, with silt fences, straw bales or bunds

ESCP 6: Erosion and Sediment Control

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities and material stockpiles	The impact of soil erosion are (i) Increased run off and sedimentation causing a greater flood hazard to the downstream, (ii) destruction of aquatic environment in nearby lakes, streams, and reservoirs caused by erosion and/or deposition of sediment damaging the spawning grounds of fish, and (iii) destruction of vegetation by burying or gullyng.	The Contractor shall Locate stockpiles away from drainage lines Protect the toe of all stockpiles, where erosion is likely to occur, with silt fences, straw bales or bunds Remove debris from drainage paths and sediment control structures Cover the loose sediments and water them if required Divert natural runoff around construction areas prior to any site disturbance Install protective measures on site prior to construction, for example, sediment traps Observe the performance of drainage structures and erosion controls during rain and modify as required.

ESCP 7: Top Soil Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Land clearing and earth works	Earthworks will impact the fertile top soils that are enriched with nutrients required for plant growth or agricultural development.	The Contractor shall Strip the top soil to a depth of 15 cm and store in stock piles of height not exceeding 2m. Remove unwanted materials from top soil like grass, roots of trees and similar others. The stockpiles will be done in slopes of 2:1 to reduce surface runoff and enhance percolation through the mass of stored soil. Locate topsoil stockpiles in areas outside drainage lines and protect from erosion. Construct diversion channels and silt fences around the topsoil stockpiles to prevent erosion and loss of topsoil. Spread the topsoil to maintain the physico-chemical and biological activity of the soil. The stored top soil will be utilized for covering all disturbed area and along the proposed plantation sites Prior to the re-spreading of topsoil, the ground surface will be ripped to assist the bunding of the soil layers, water penetration and revegetation
Transport	Vehicular movement outside right of way of existing roads or temporary access roads will affect the soil fertility of the agricultural lands	Limit equipment and vehicular movements to within the approved construction zone Construct temporary access tracks to cross concentrated water flow lines at right angles Use vehicle-cleaning devices, for example, ramps or wash down areas

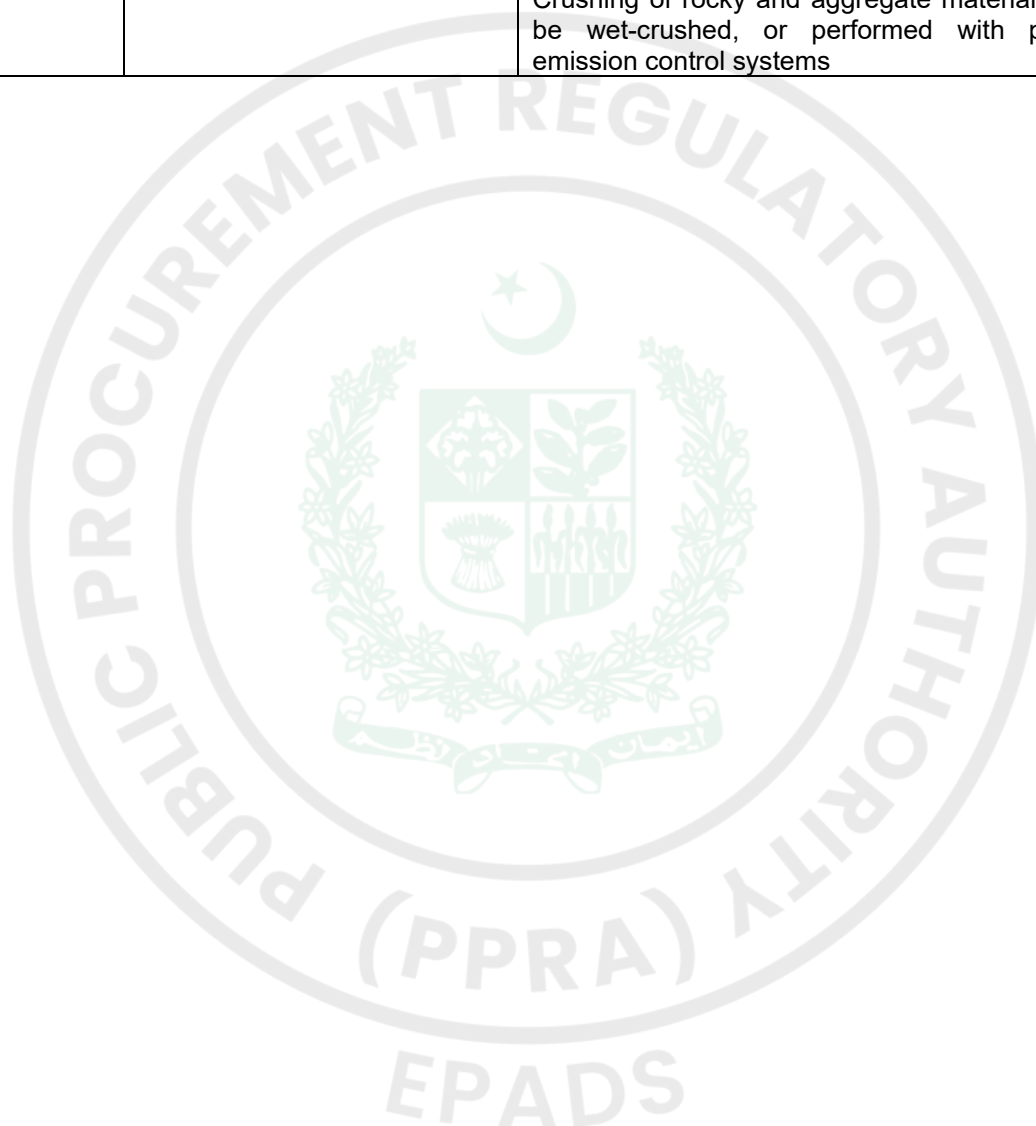
ESCP 8: Topography and Landscaping

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Land clearing and earth works	Construction activities especially earthworks will change topography and disturb the natural rainwater/flood water drainage as well as will change the local landscape.	The Contractor shall Ensure the topography of the final surface of all raised lands (construction yards, approach roads, access roads, etc.) are conducive to enhance natural draining of rainwater/flood water; Keep the final or finished surface of all the raised lands free from any kind of depression that insists water logging Undertake mitigation measures for erosion control/prevention by grass-turfing and tree plantation, where there is a possibility of rain- cut that will change the shape of topography. Cover immediately the uncovered open surface that has no use of construction activities with grass-cover and tree plantation to prevent soil erosion and bring improved landscaping

ESCP 9: Air Quality Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Air quality can be adversely affected by vehicle exhaust emissions and combustion of fuels.	The Contractor shall - Fit vehicles with appropriate exhaust systems and emission control devices. Maintain these devices in good working condition. - Operate the vehicles in a fuel efficient manner - Cover haul vehicles carrying dusty materials moving outside the construction site - Impose speed limits on all vehicle movement at the worksite to reduce dust emissions - Control the movement of construction traffic - Water construction materials prior to loading and transport - Service all vehicles regularly to minimize emissions - Limit the idling time of vehicles not more than 2 minutes
Construction machinery	Air quality can be adversely affected by emissions from machinery and combustion of fuels.	The Contractor shall - Fit machinery with appropriate exhaust systems and emission control devices. Maintain these devices in good working condition in accordance with the specifications defined by their manufacturers to maximize combustion efficiency and minimize the contaminant emissions. Proof or maintenance register shall be required by the equipment suppliers and contractors/subcontractors - Focus special attention on containing the emissions from generators - Machinery causing excess pollution (e.g. visible smoke) will be banned from construction sites - Service all equipment regularly to minimize emissions - Provide filtering systems, duct collectors or humidification or other techniques (as applicable) to the concrete batching and mixing plant to control the particle emissions in all its stages, including unloading, collection, aggregate handling, cement dumping, circulation of trucks and machinery inside the installations
Construction activities	Dust generation from construction sites, material stockpiles and access roads is a nuisance in the environment and can be a health hazard.	- Water the material stockpiles, access roads and bare soils on an as required basis to minimize the potential for environmental nuisance due to dust. Increase the watering frequency during periods of high risk (e.g. high winds). Stored materials such as gravel and sand shall be covered and confined to avoid their being wind-drifted - Minimize the extent and period of exposure of the bare surfaces - Reschedule earthwork activities or vegetation clearing activities, where practical, if necessary to avoid during periods of high wind and if visible dust is blowing off-site - Store the cement in silos and minimize the

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		emissions from silos by equipping them with filters. Establish adequate locations for storage, mixing and loading of construction materials, in a way that dust dispersion is prevented because of such operations Crushing of rocky and aggregate materials shall be wet-crushed, or performed with particle emission control systems



ESCP 10: Noise and Vibration Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Noise quality will be deteriorated due to vehicular traffic	The Contractor shall - Maintain all vehicles in order to keep it in good working order in accordance with manufactures maintenance procedures - Make sure all drivers will comply with the traffic codes concerning maximum speed limit, driving hours, etc. - Organize the loading and unloading of trucks, and handling operations for the purpose of minimizing construction noise on the work site
Construction machinery	Noise and vibration may have an impact on people, property, fauna, livestock and the natural environment.	The Contractor shall - Appropriately site all noise generating activities to avoid noise pollution to local residents - Use the quietest available plant and equipment - Modify equipment to reduce noise (for example, noise control kits, lining of truck trays or pipelines) - Maintain all equipment in order to keep it in good working order in accordance with manufactures maintenance procedures. Equipment suppliers and contractors shall present proof of maintenance register of their equipment. - Install acoustic enclosures around generators to reduce noise levels. - Fit high efficiency mufflers to appropriate construction equipment - Avoid the unnecessary use of alarms, horns and sirens
Construction activity	Noise and vibration may have an impact on people, property, fauna, livestock and the natural environment.	The Contractor shall - Notify adjacent landholders prior any typical noise events outside of daylight hours (6 pm to 7 am) if the construction works are being carried out near residential areas - Educate the operators of construction equipment on potential noise problems and the techniques to minimize noise emissions - Employ best available work practices on-site to minimize occupational noise levels - Install temporary noise control barriers where appropriate - Notify affected people if major noisy activities will be undertaken, e.g. pile driving - Plan activities on site and deliveries to and from site to minimize impact - Monitor and analyze noise and vibration results and adjust construction practices as required. - Avoid undertaking the noisiest activities, where possible, when working at night (6pm to 7 am) near the residential areas

ESCP 11: Protection of Flora

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Vegetation clearance	Local flora are important to provide shelters for the birds, offer fruits and/or timber/fire wood, protect soil erosion and overall keep the environment very friendly to human-living. As such damage to flora has wide range of adverse environmental impacts.	The Contractor shall Reduce disturbance to surrounding vegetation Use appropriate type and minimum size of machine to avoid disturbance to adjacent vegetation. Get approval from supervision consultant for clearance of vegetation. Make selective and careful pruning of trees where possible to reduce need of tree removal. Control noxious weeds by disposing of at designated dump site or burn on site. Clear only the vegetation that needs to be cleared in accordance with the plans. These measures are applicable to both the construction areas as well as to any associated activities such as sites for stockpiles, disposal of fill and construction of diversion roads, etc. Before excavation, mark the trees that must remain on the site and cannot be removed. Do not burn off cleared vegetation – where feasible, chip or mulch and reuse it for the rehabilitation of affected areas, temporary access tracks or landscaping. Mulch provides a seed source, can limit embankment erosion, retains soil moisture and nutrients, and encourages re-growth and protection from weeds. Return topsoil and mulched vegetation (in areas of native vegetation) to approximately the same area of the roadside it came from. Avoid work within the drip-line of trees to prevent damage to the tree roots and compacting the soil. Minimize the length of time the ground is exposed or excavation left open by clearing and re-vegetate the area at the earliest practically possible. Ensure excavation works occur progressively and re-vegetation done at the earliest Provide adequate knowledge to the workers regarding nature protection and the need of avoid felling trees during construction Supply appropriate fuel in the work caps to prevent fuel wood collection

ESCP 12: Protection of Fauna

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Vegetation clearance	Clearance of vegetation may impact shelter, feeding and/or breeding of animals	The Contractor shall Restrict the tree removal to the minimum required. Retain tree hollows on site, or relocate hollows, where appropriate Leave dead trees where possible as habitat for fauna Identify the trees that require specific attention (e.g the hollow bearing trees) and fell them in a manner which reduces the potential for fauna mortality. Felled trees will be inspected after felling for fauna and if identified and readily accessible will be removed and relocated or rendered assistance if injured. After felling, hollow bearing trees will remain unmoved overnight to allow animals to move of their own volition.
Construction camps	Illegal poaching	Provide adequate knowledge to the workers regarding protection of flora and fauna, and relevant government regulations and punishments for illegal poaching.

ESCP 13: Road Transport and Road Traffic Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Increased traffic use of road by construction vehicles will affect the movement of normal road traffics and the safety of the road-users.	The Contractor shall Prepare and submit a traffic management plan to the CSC for their approval before commencement of construction. Include in the traffic management plan to ensure uninterrupted traffic movement during construction: detailed drawings of traffic arrangements showing all detours, temporary road, temporary bridges temporary diversions, necessary barricades, warning signs/ lights, and road signs. Provide signs at strategic locations of the roads complying with the schedules of signs contained in the Pakistan Traffic Regulations. Install and maintain a display board at each important road intersection on the roads to be used during construction, which shall clearly show the following information in local language: Location: chainage and village name Duration of construction period Period of proposed detour / alternative route Suggested detour route map Name and contact address/telephone number of the concerned personnel Name and contact address / telephone number of the Contractor Inconvenience is sincerely regretted.
Construction vehicular traffic	Accidents and spillage of fuels and chemicals	Restrict truck deliveries, where practicable, to day time working hours (7 am to 6 pm). Restrict the transport of oversize loads. Operate road traffics/transport vehicles, if possible, to non-peak periods to minimize traffic disruptions. Enforce on-site speed limit

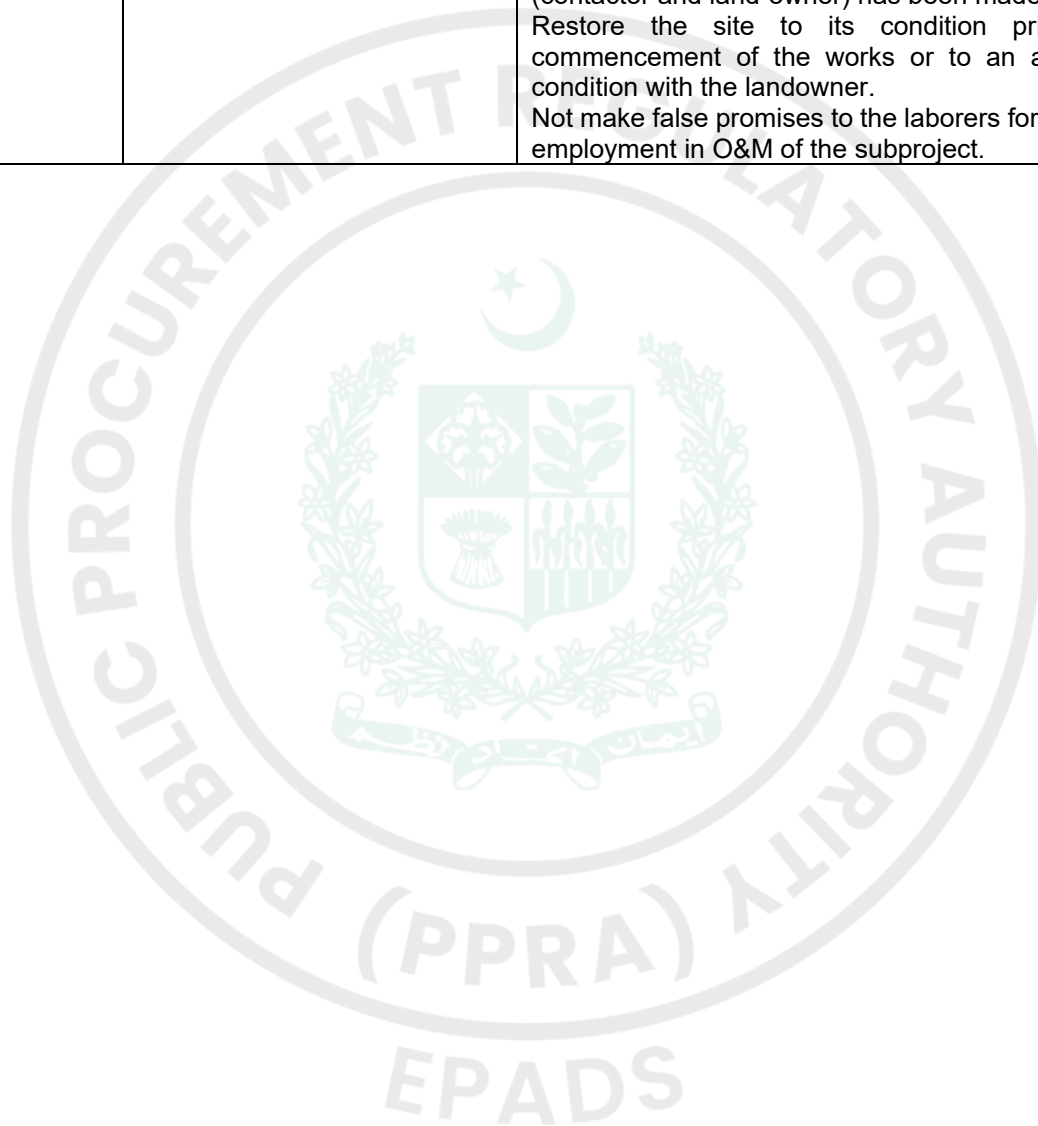
ESCP 14: Construction Camp Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Siting and Location of construction camps	Campsites for construction workers are the important locations that have significant impacts such as health and safety hazards on local resources and infrastructure of nearby communities.	The Contractor shall Locate the construction camps within the proposed site Consider the location of construction camps away from communities in order to avoid social conflict in using the natural resources such as water or to avoid the possible adverse impacts of the construction camps on the surrounding communities. Submit to the CSC for approval a detailed layout plan for the development of the construction camp showing the relative locations of all temporary buildings and facilities that are to be constructed together with the location of site roads, fuel storage areas (for use in power supply generators), solid waste management and dumping locations, and drainage facilities, prior to the development of the construction camps. Local authorities responsible for health, religious and security shall be duly informed on the set up of camp facilities so as to maintain effective surveillance over public health, social and security matters
Construction Camp Facilities	Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	Contractor shall provide the following facilities in the campsites Housing facilities for all the non-local workers hired by the contractor Safe and reliable water supply. Hygienic sanitary facilities and sewerage system. The toilets and domestic waste water will be collected through a common sewerage. Provide separate latrines and bathing places for males and females with total isolation by wall or by location. The minimum number of toilet facilities required is one toilet for every ten persons. Treatment facilities for sewerage of toilet and domestic wastes Storm water drainage facilities. Both sides of roads are to be provided with shallow v drains to drain off storm water to a silt retention pond which shall be sized to provide a minimum of 20 minutes retention of storm water flow from the whole site. Channel all discharge from the silt retention pond to natural drainage via a grassed swale at least 20 meters in length with suitable longitudinal gradient. Paved internal roads. Ensure with grass/vegetation coverage to be made of the use of top soil that there is no dust generation from the loose/exposed sandy surface. Pave the internal roads of at least haring-bond bricks to suppress dusts and to work against possible muddy surface during monsoon.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		Provide in-house community/common entertainment facilities. dependence of local entertainment outlets by the construction camps to be discouraged/prohibited to the extent possible.
Disposal of waste	Management of wastes is crucial to minimize impacts on the environment	The Contractor shall Ensure proper collection and disposal of solid wastes within the construction camps Insist waste separation by source; organic wastes in one pot and inorganic wastes in another pot at household level. Store inorganic wastes in a safe place within the household and clear organic wastes on daily basis to waste collector. Establish waste collection, transportation and disposal systems with the manpower and equipment/vehicles needed. Dispose organic wastes in a designated safe place on daily basis. At the end of the day cover the organic wastes with a thin layer of sand so that flies, mosquitoes, dogs, cats, rats, are not attracted. One may dig a large hole to put organic wastes in it; take care to protect groundwater from contamination by leachate formed due to decomposition of wastes. Cover the bed of the pit with impervious layer of materials (clayey or thin concrete) to protect groundwater from contamination. Locate the garbage pit/waste disposal site min 500 m away from the residence so that peoples are not disturbed with the odor likely to be produced from anaerobic decomposition of wastes at the waste dumping places. Encompass the waste dumping place by fencing and tree plantation to prevent children to enter and play with. Do not establish site specific landfill sites. All solid waste will be collected and removed from the work camps and disposed in approval waste disposal sites.
Fuel supplies for cooking purposes	Illegal sourcing of fuel wood by construction workers will impact the natural flora and fauna	The Contractor shall Provide fuel to the construction camps for their domestic purpose, in order to discourage them to use fuel wood or other biomass. Made available alternative fuels like natural gas or kerosene on ration to the workforce to prevent them using biomass for cooking. Conduct awareness campaigns to educate workers on preserving the protecting the biodiversity and wildlife of the subproject area, and relevant government regulations and punishments on wildlife protection.
Health and Hygiene	There will be a potential for diseases to be transmitted including COVID 19, heat stroke, malaria, exacerbated	The Contractor shall Provide adequate health care facilities within construction sites. Provide first aid facility round the clock. Maintain

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
	by inadequate health and safety practices. There will be an increased risk of work crews spreading sexually transmitted infections and HIV/AIDS.	stock of medicines in the facility and appoint fulltime designated first aider or nurse. Provide ambulance facility for the laborers during emergency to be transported to nearest hospitals. Initial health screening of the laborers coming from outside areas Train all construction workers in basic sanitation and health care issues and safety matters, and on the specific hazards of their work Provide COVID 19, heat stroke and HIV awareness programming, including STI (sexually transmitted infections) and HIV information, education and communication for all workers on regular basis Complement educational interventions with easy access to condoms at campsites as well as voluntary counseling and testing Provide adequate drainage facilities throughout the camps to ensure that disease vectors such as stagnant water bodies and puddles do not form. Regular mosquito repellent sprays during monsoon. Carryout short training sessions on best hygiene practices to be mandatorily participated by all workers. Place display boards at strategic locations within the camps containing messages on best hygienic practices
Safety	In adequate safety facilities to the construction camps may create security problems and fire hazards	The Contractor shall Provide appropriate security personnel (police / home guard or private security guards) and enclosures to prevent unauthorized entry in to the camp area. Maintain register to keep a track on a head count of persons present in the camp at any given time. Encourage use of flameproof material for the construction of labor housing / site office. Also, ensure that these houses/rooms are of sound construction and capable of withstanding wind storms/cyclones. Provide appropriate type of firefighting equipment suitable for the construction camps Display emergency contact numbers clearly and prominently at strategic places in camps. Communicate the roles and responsibilities of laborers in case of emergency in the monthly meetings with contractors.
Site Restoration	Restoration of the construction camps to original condition requires demolition of construction camps.	The Contractor shall Dismantle and remove from the site all facilities established within the construction camp including the perimeter fence and lockable gates at the completion of the construction work. Dismantle camps in phases and as the work gets decreased and not wait for the entire work to be completed Give prior notice to the laborers before

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		demolishing their camps/units Reuse the demolition debris to a maximum extent. Dispose remaining debris at the designated waste disposal site. Handover the construction camps with all built facilities as it is if agreement between both parties (contractor and land-owner) has been made so. Restore the site to its condition prior to commencement of the works or to an agreed condition with the landowner. Not make false promises to the laborers for future employment in O&M of the subproject.



ESCP 15: Socio-Cultural and Religious Issues

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities near residential areas	Disturbance from construction activities (dust, noise, traffic, conflicts with contractor's work force etc.)	The Contractor shall Establish a system for receiving complaints from the community and address them (the community can also make complaints to the GRM established under the subproject) Shall ensure all the construction workers follows the following code of conduct: All workers are strictly forbidden to establish any kind of relationship with local women bring any unrelated women to the subproject site. All workers will avoid sexual harassment and child abuse. All workers must not leave the camps or work sites unless a written authorization is issued by the respective supervisor The contractors will advise and prohibit the local population and its authorities or representatives not to enter the subproject operation areas (camp sites, colonies, etc.) in order to minimize the potential risk of incidents related to the operations.
Construction activities near Religious and cultural sites	Disturbance from construction works to the cultural and religious sites, and contractors lack of knowledge on cultural issues cause social disturbances.	The Contractor shall Communicate to the public through community consultation and newspaper announcements regarding the scope and schedule of construction, as well as certain construction activities causing disruptions or access restriction. Do not block access to cultural and religious sites, wherever possible Restrict all construction activities within the foot prints of the construction sites. Stop construction works that produce noise (particularly during prayer time) shall there be any mosque/religious/educational institutions close to the construction sites and users make objections. Take special care and use appropriate equipment when working next to a cultural/religious institution. Stop work immediately and notify the site manager if, during construction, an archaeological or burial site is discovered. It is an offence to recommence work in the vicinity of the site until approval to continue is given by the CSC/PMU. Provide separate prayer facilities to the construction workers. Show appropriate behavior with all construction workers especially women and elderly people Allow the workers to participate in praying during construction time Resolve cultural issues in consultation with local leaders and supervision consultants Establish a mechanism that allows local people to raise grievances arising from the construction process.

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works so as to maintain effective surveillance over public health, social and security matters

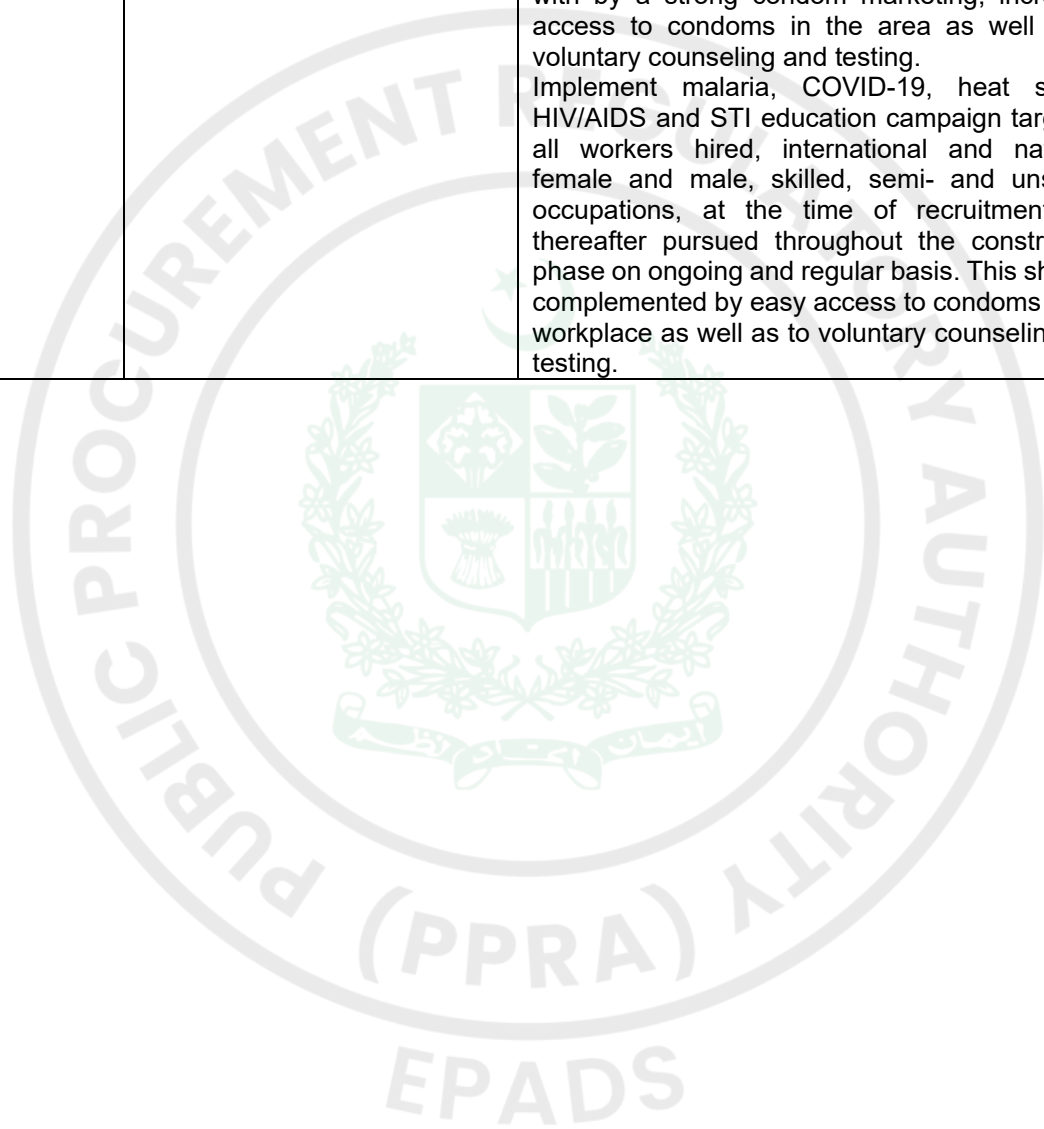


ESCP 16: Worker Health and Safety

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Best practices	Construction works may pose health and safety risks to the construction workers and site visitors leading to severe injuries and deaths. The population in the proximity of the construction site and the construction workers will be exposed to a number of (i) biophysical health risk factors, (e.g. noise, dust, chemicals, construction material, solid waste, waste water, vector transmitted diseases etc), (ii) risk factors resulting from human behavior (e.g. COVID 19, heat stroke, STD, HIV etc) and (iii) road accidents from construction traffic.	The Contractor shall Implement suitable safety standards for all workers and site visitors which shall not be less than those laid down on the international standards (e.g. International Labor Office guideline on 'Safety and Health in Construction; World Bank Group's 'Environmental Health and Safety Guidelines') and contractor's own national standards or statutory regulations, in addition to complying with the national standards of the Government of Pakistan (Provide the workers with a safe and healthy work environment, taking into account inherent risks in its particular construction activity and specific classes of hazards in the work areas, Provide personal protection equipment (PPE) for workers, such as safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields, and ear protection. Maintain the PPE properly by cleaning dirty ones and replacing them with the damaged ones. Safety procedures include provision of information, training and protective clothing to workers involved in hazardous operations and proper performance of their job Appoint an environment, health and safety manager to look after the health and safety of the workers Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works and establishment of construction camps so as to maintain effective surveillance over public health, social and security matters
Best practices	Child and pregnant labor	The Contractor shall not hire children of less than 16 years of age and pregnant women or women who delivered a child within 8 preceding weeks, in accordance with the national Labor Laws
Accidents	Lack of first aid facilities and health care facilities in the immediate vicinity will aggravate the health conditions of the victims	Provide health care facilities and first aid facilities are readily available. Appropriately equipped first-aid stations shall be easily accessible throughout the place of work Document and report occupational accidents, diseases, and incidents. Prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, so far as reasonably practicable, the causes of hazards. In a manner consistent with good international industry practice. Identify potential hazards to workers, particularly those that may be life-threatening and provide

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		necessary preventive and protective measures. Provide awareness to the construction drivers to strictly follow the driving rules Provide adequate lighting in the construction area and along the roads
Construction Camps	Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	The Contractor shall provide the following facilities in the campsites to improve health and hygienic conditions as mentioned in ESCP 14 Construction Camp Management Adequate ventilation facilities Safe and reliable water supply Hygienic sanitary facilities and sewerage system. The toilets and domestic waste water will be collected through a common sewerage. Treatment facilities for sewerage of toilet and domestic wastes Storm water drainage facilities. Recreational and social facilities Safe storage facilities for petroleum and other chemicals in accordance with ESCP 2 Solid waste collection and disposal system in accordance with ESCP1. Arrangement for trainings Paved internal roads. Security fence at least 2 - 3 m height. Sick bay and first aid facilities
Water and sanitation facilities at the construction sites	Lack of Water sanitation facilities at construction sites cause inconvenience to the construction workers and affect their personal hygiene.	The contractor shall provide portable toilets at the construction sites, if about 25 people are working the whole day for a month. Location of portable facilities shall be at least 6 m away from storm drain system and surface waters. These portable toilets shall be cleaned once a day and all the sewerage shall be pumped from the collection tank once a day and shall be brought to the common septic tank for further treatment. Contractor shall provide bottled drinking water facilities to the construction workers at all the construction sites.
Other ESCPs	Potential risks on health and hygiene of construction workers and general public	The Contractor shall follow the following ESCPs to reduce health risks to the construction workers and nearby community ESCP 2: Fuels and Hazardous Goods Management ESCP 4: Drainage Management ESCP 9: Air Quality Management ESCP 10: Noise and Vibration Management ESCP 13: Road Transport and Road Traffic Management
Trainings	Lack of awareness and basic knowledge in health care among the construction workforce, make them susceptible to potential diseases.	The Contractor shall Train all construction workers in basic sanitation and health care issues (e.g., how to avoid malaria, heat stroke, COVID-19 and transmission of sexually transmitted infections (STI) HIV/AIDS. Train all construction workers in general health and safety matters, and on the specific hazards of their work. Training shall consist of basic hazard

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
		awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Commence the malaria, heat stroke, COVID-19, HIV/AIDS and STI education campaign before the start of the construction phase and complement it with by a strong condom marketing, increased access to condoms in the area as well as to voluntary counseling and testing. Implement malaria, COVID-19, heat stroke, HIV/AIDS and STI education campaign targeting all workers hired, international and national, female and male, skilled, semi- and unskilled occupations, at the time of recruitment and thereafter pursued throughout the construction phase on ongoing and regular basis. This shall be complemented by easy access to condoms at the workplace as well as to voluntary counseling and testing.



TECHNICAL SPECIFICATION

1. The KPK MRS and NHA CSR items as given in the BOQ shall be executed in conformance with the Technical Specifications issued by Khyber Pakhtunkhwa, Government of Pakistan for Market Rate System (MRS) Items and National Highway, Government of Pakistan for Composite schedule of Rates (CSR) Items respectively and whereof any such specification appearing in this document shall be deemed as null and void. The relevant specs no. for KPK MRS and NHA CSR are provided along with BOQ in Volume-1.
2. The Non-CSR items as given in the BOQ shall be executed in-conformance with the enclosed Technical Specifications.



TECHNICAL SPECIFICATIONS

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1 TECHNICAL SPECIFICATIONS

1.1 PVC PIPES

The PVC pipe/accessories shall be manufactured according to the standards as below.

- PS4607 Part-1: PVC conduits and accessories (metric units)
- BS3595: PVC pipes and accessories.

The PVC pipes and their accessories shall be of polyvinyl chloride (PVC) complying with above stated or equivalent other reputed standards. Manufactured smooth bends shall be used where pipe/conduit changes direction. Bending of conduit by heating or otherwise shall be allowed only at special situation with the approval of Engineer. The use of sharp bends or tees shall not be allowed. PVC pipes shall be placed underground across the road for future use. These pipes shall be surrounded by concrete which shall conform to provisions of section 401 and shall be paid extra under pay item No. 401a.

1.1.1 Measurement and Payment

Measurement shall be made for the number of running meters for PVC pipe acceptably supplied and installed by the Contractor. Payment shall be made for the number of running meters of PVC pipe measured as provided above, at the Contract unit price per running metre and shall constitute full compensation for supplying installing, connecting, earth excavation and backfilling to the satisfaction of the Engineer including all accessories.

1.2 WIRE MESH

The work shall comprise the supply, transportation, cutting, placing, fixing, anchoring, and securing of spot-welded steel wire mesh to serve as reinforcement for shotcrete applied on drainage channels, side drains, cut slopes, embankments, retaining structures, erosion protection works, and other locations shown on the drawings or directed by the Engineer.

1.2.1 Material

- Welded wire mesh shall be factory manufactured by electric resistance spot welding.
- Mesh opening: 75 mm × 75 mm (3" × 3")
- Wire size: 8 SWG (4.06 mm nominal diameter)
- Steel shall comply with ASTM A1064/A1064M (or equivalent BS 4483/ISO standard) for welded wire reinforcement.
- Minimum tensile strength: 485 MPa
- Minimum yield strength: 415 MPa
- Welded joints shall be uniform and capable of developing the required strength without separation during handling.
- Unless otherwise specified, the mesh shall be hot-dip galvanized after fabrication with a minimum zinc coating of 275 g/m², particularly for drainage and erosion protection works exposed to moisture.

1.2.2 Installation

1. The surface shall be cleaned of loose soil, rock fragments, vegetation, and other deleterious materials before installation. Mesh shall be securely fixed using:
 - Rock bolts,
 - Steel anchor pins,
 - Expansion anchors, or
 - Reinforcing dowels,
as shown on the drawings.
2. Maximum spacing of anchors shall generally not exceed 1.0 m × 1.0 m, unless otherwise directed by the Engineer.
3. The mesh shall be held away from the surface using suitable spacers to ensure it is embedded approximately at the middle third of the shotcrete layer.
4. Adjacent sheets shall overlap by not less than one full mesh (75 mm) or 300 mm, whichever is greater, and shall be securely tied using 16 SWG galvanized binding wire. Good practice for shotcrete reinforcement requires adequate overlap and secure lacing of adjacent sheets.
5. Mesh shall be taut and free from excessive sagging before shotcrete placement.

1.2.3 Shotcrete Cover

- Minimum concrete cover over the mesh shall be 25 mm, and shall be increased to 40–50 mm where the structure is exposed to severe weathering or water flow. Adequate cover is important for corrosion protection and proper encapsulation of the mesh.

1.2.4 Measurement and Payment

Measurement shall be made in square metres (m²) of wire mesh satisfactorily supplied, installed, fixed, overlapped, and accepted by the Engineer. Payment shall be made for the number of square meter of Wire Mash installed in full capacity measured as provided above, at the Contract unit price per running metre and shall constitute full compensation for supplying installing, connecting, earth excavation and backfilling to the satisfaction of the Engineer including all accessories.

1.3 SONIC INTEGRITY TEST

Sonic Integrity Test shall be executed in accordance with Standard Test Method for Low Strain Impact Integrity Testing of Deep Foundations ASTM Standard D5882 (Latest Edition).

WATER AND POWER
DEVELOPMENT AUTHORITY (WAPDA)



MUTAHIDA KOHISTAN GRAND JIRGA SCHEMES

**CONSTRUCTION OF DUBAIR ROAD
(PACKAGE-1)**

TENDER DRAWINGS

JULY, 2026



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MUTAHIDA KOHISTAN GRAND JIRGA SCHEMES
CONSTRUCTION OF DUBAIR ROAD PACKAGE-1 RD 0+00 to 2+021 KM

LIST OF DRAWINGS

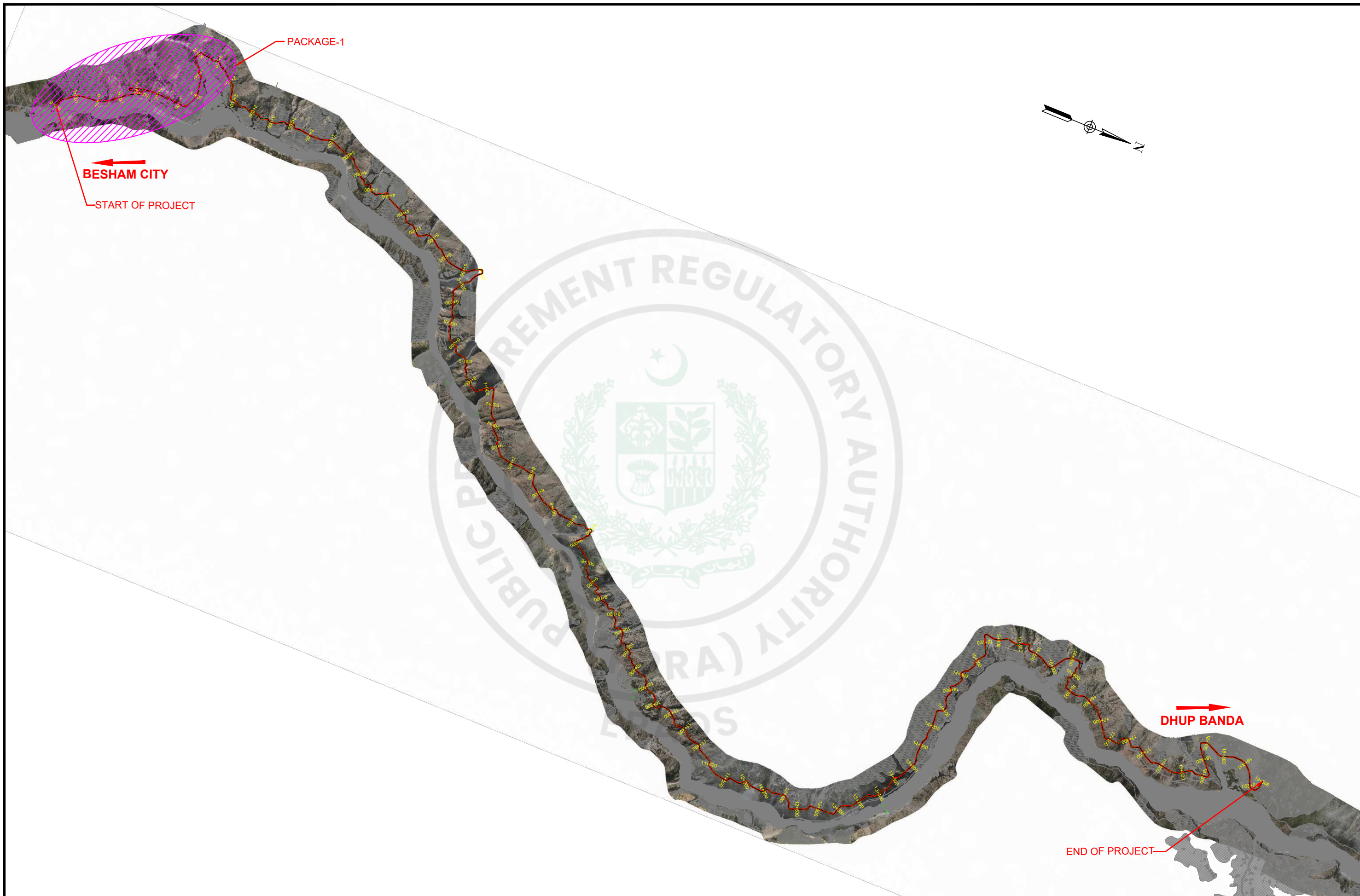
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SR. NO.	DRAWING NO.	TITLE
	GENERAL DRAWINGS	
01	4520/102/C/1A001	Dubair Road Layout Plan
02	4520/102/C/1A002	Project Location Map
03	4520/102/C/1A002A	Location Plan Distance From Major Cities
04	4520/102/C/1A003	List of Structures
05	4520/102/C/XS001	Typical Cross Section Road Works
06	4520/102/C/XS002	Typical Cross Section Road Works
07	4520/102/C/XS003	Typical Cross Section Road Works
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10	4520/102/C/XS006	Typical Cross Section Road Works
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12	4520/102/C/XS008	Typical Cross Section Slope Protection Works
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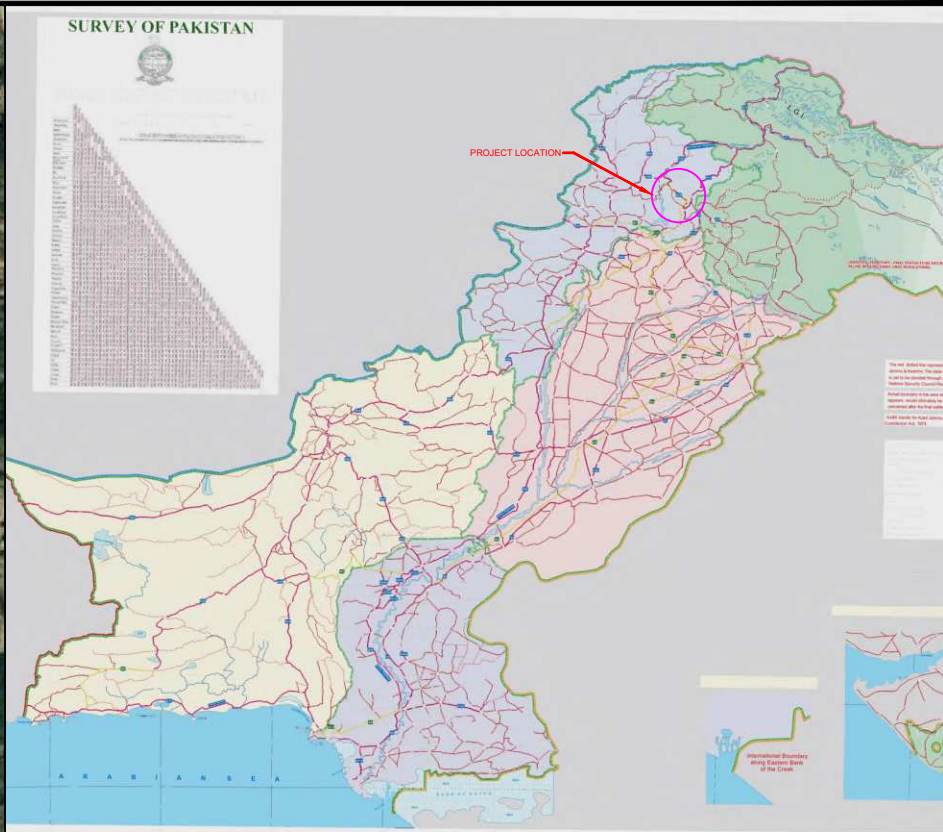
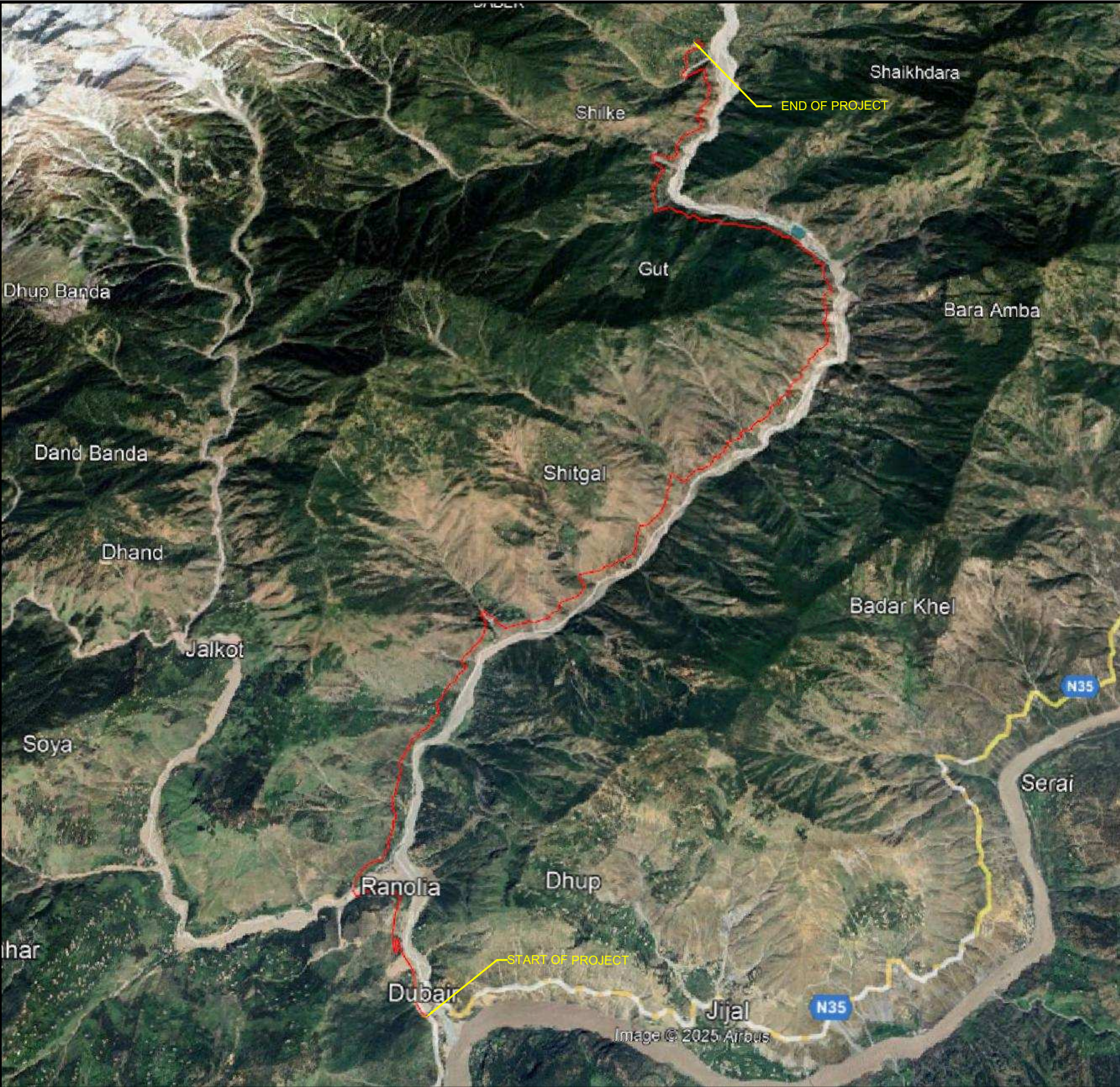
SR. NO.	DRAWING NO.	TITLE
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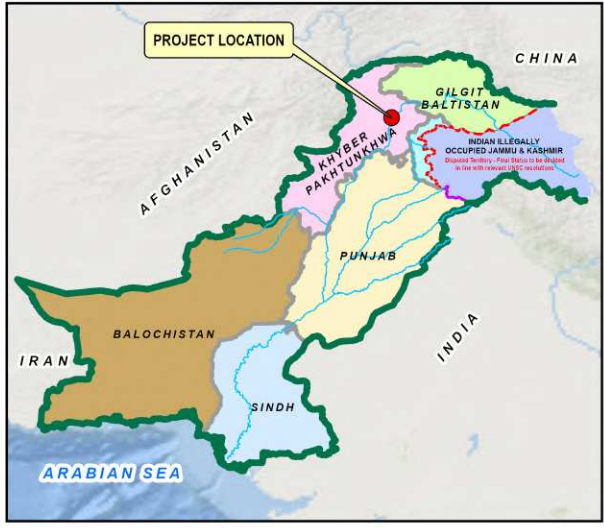
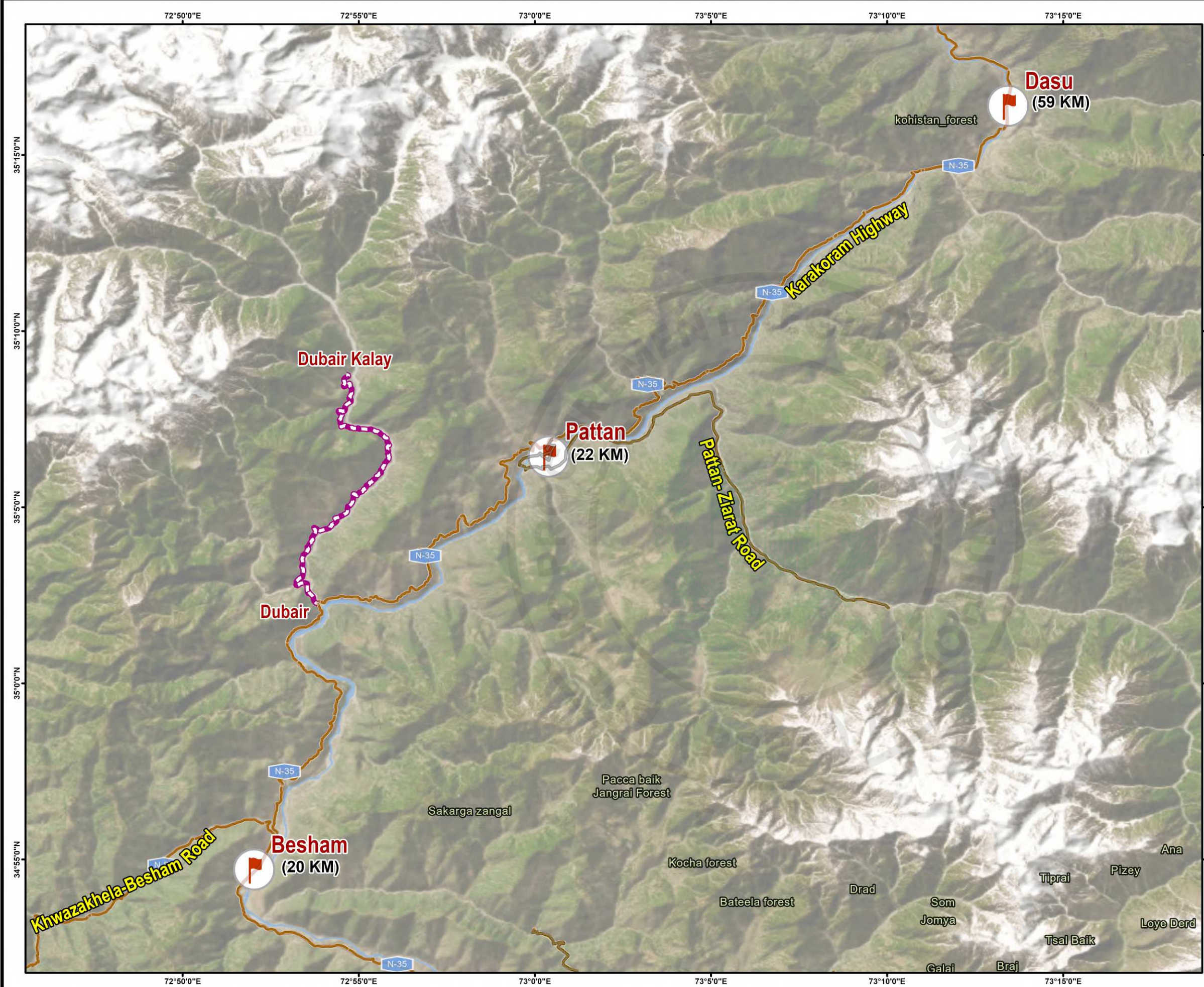
PLANS



CLIENT	WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT	04				DRAWN	Faisal	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	DUBAIR ROAD LAYOUT PLAN		SCALE
		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	03				SUBMITTED			DATE JUNE, 2026	DRAWING No. 4520/102/C/1A001	REV. 0
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			01				CHD./VER.					
			REV.	DATE	DESCRIPTION	APPROVED	APPROVED					
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.										



CLIENT WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	Faisal	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	PROJECT LOCATION MAP		SCALE	
		03				SUBMITTED						
		02				RECOMMENDED						
		01				CHD./VER.						
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED						
		DATE		DRAWING No.		REV.						
		JUNE, 2026		4520/102/C/1A002		0						

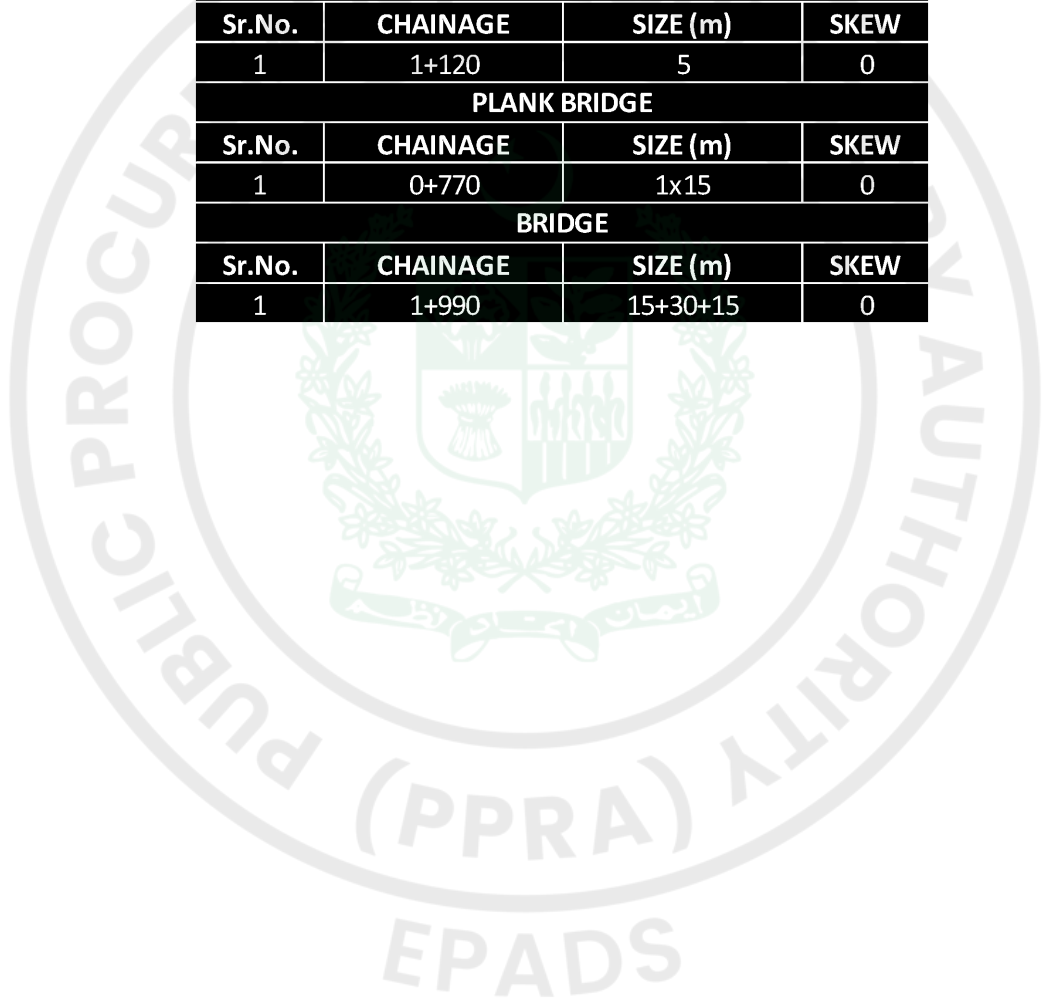


LEGEND

- Major Cities
- Project Area
- Main Roads
- River

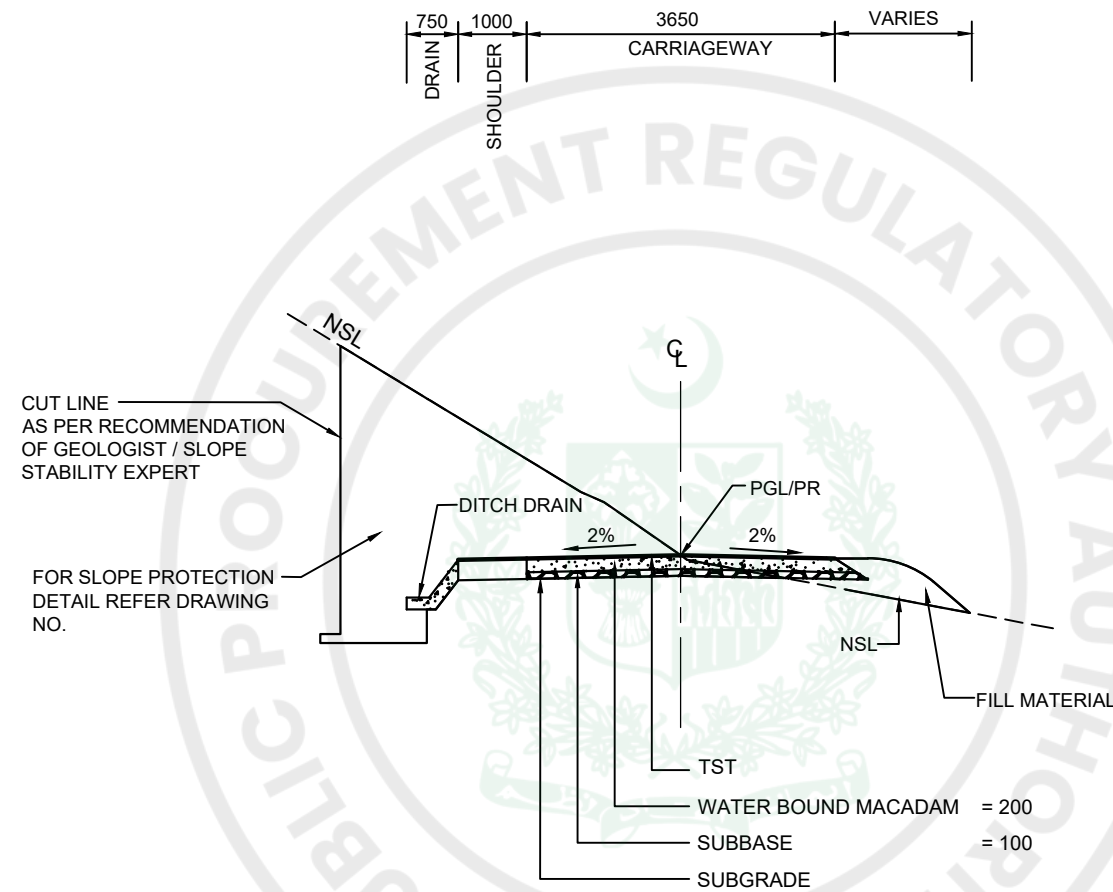
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	 1:200,000 Kilometers 0 2 4 6 8					DRAWN	M.A.S.	LOCATION PLAN WITH DISTANCE FROM MAJOR CITIES		
							SUBMITTED				
							RECOMMENDED		DECEMBER, 2025 Date		
							CHD./VER.				
The Client NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED 1-C, Block-N, Model Town Extension, Lahore 54700, Pakistan			The Consultant			REV.	DATE	DESCRIPTION	APPROVED	APROVED	4520/102/TD/1A002A Drawing No.

DUBAIR ROAD P-1			
SLAB CULVERTS			
Sr.No.	CHAINAGE	SIZE (m)	SKEW
1	0+170	12	0
2	2+000	12	0
CAUSEWAY			
Sr.No.	CHAINAGE	SIZE (m)	SKEW
1	1+120	5	0
PLANK BRIDGE			
Sr.No.	CHAINAGE	SIZE (m)	SKEW
1	0+770	1x15	0
BRIDGE			
Sr.No.	CHAINAGE	SIZE (m)	SKEW
1	1+990	15+30+15	0



CLIENT  WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	Faisal	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	LIST OF STRUCTURES		SCALE
		03				SUBMITTED					
		02				RECOMMENDED					
		01				CHD./VER.					
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED			DATE	DRAWING No.	REV.
						JUNE, 2026	4520/102/C/1A003				

TYPICAL CROSS SECTIONS

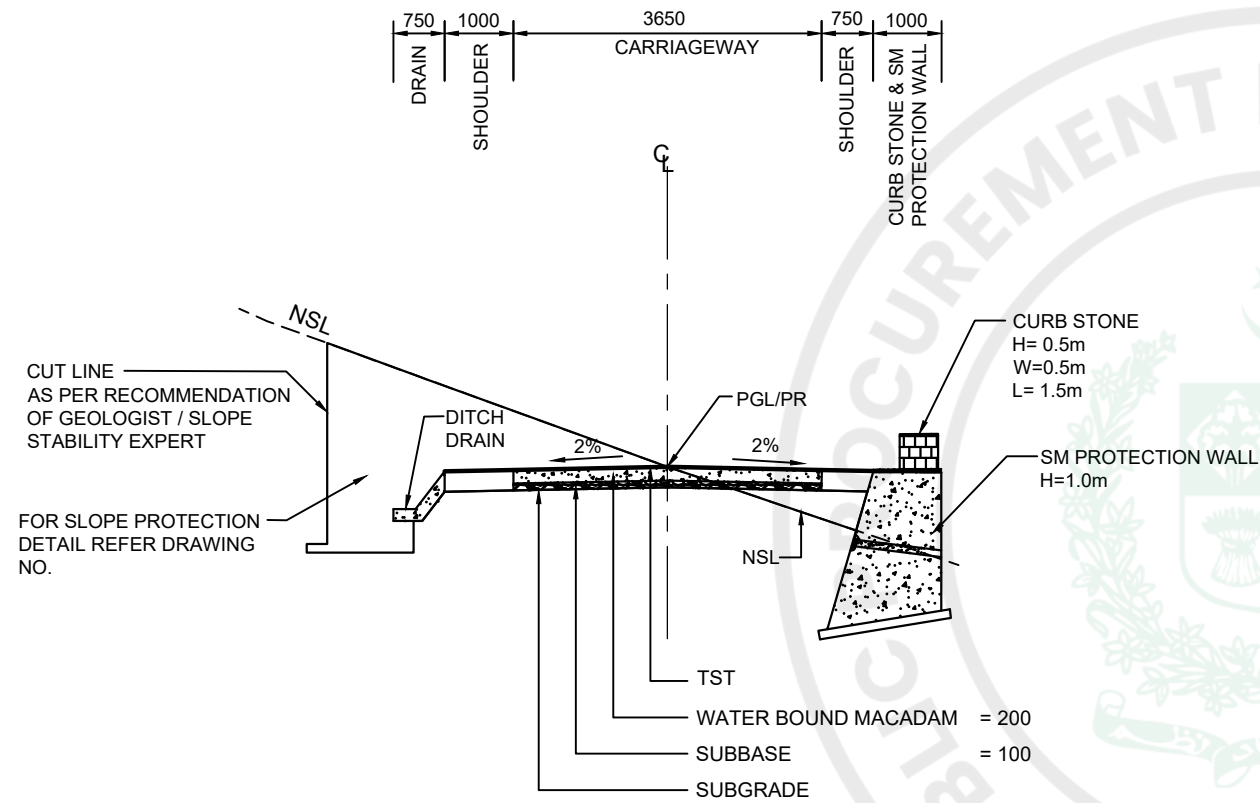


TYPICAL CROSS SECTION MODULE-1
(CUT = 80-100%)
(FILL = 0-20%)

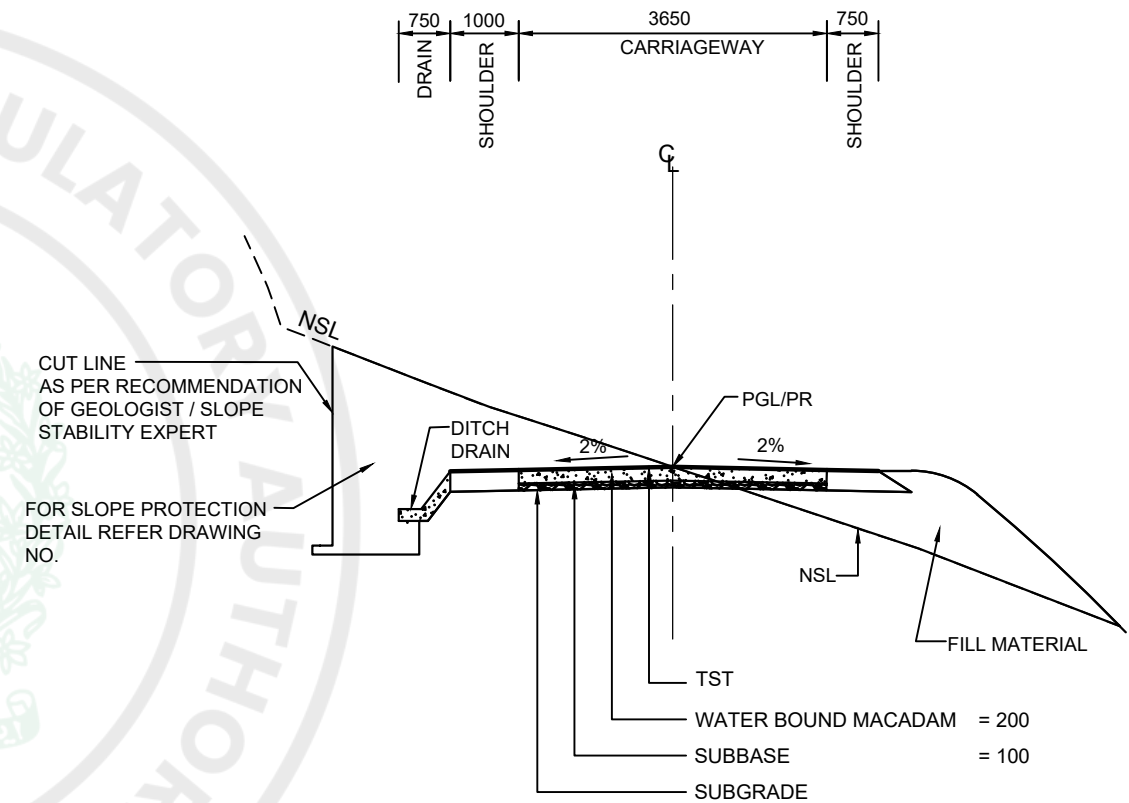
NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. FOR SHOULDER DETAILS REFER SLOPE PROTECTION DRAWINGS.

CLIENT		CONSULTANT		04		DRAWN		Faisal		PROJECT		TYPICAL CROSS SECTION ROAD WORKS		SCALE									
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		DATE JUNE, 2026		DRAWING No. 4520/102/C/XS001		REV. 0							
				02		RECOMMENDED																	
				01		CHD./VER.																	
				REV.		DATE		DESCRIPTION										APPROVED		APPROVED			
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.																					



TYPICAL CROSS SECTION MODULE-2
(CUT = 50%)
(FILL = 50%)



TYPICAL CROSS SECTION MODULE-2A
(CUT = 50%)
(FILL = 50%)

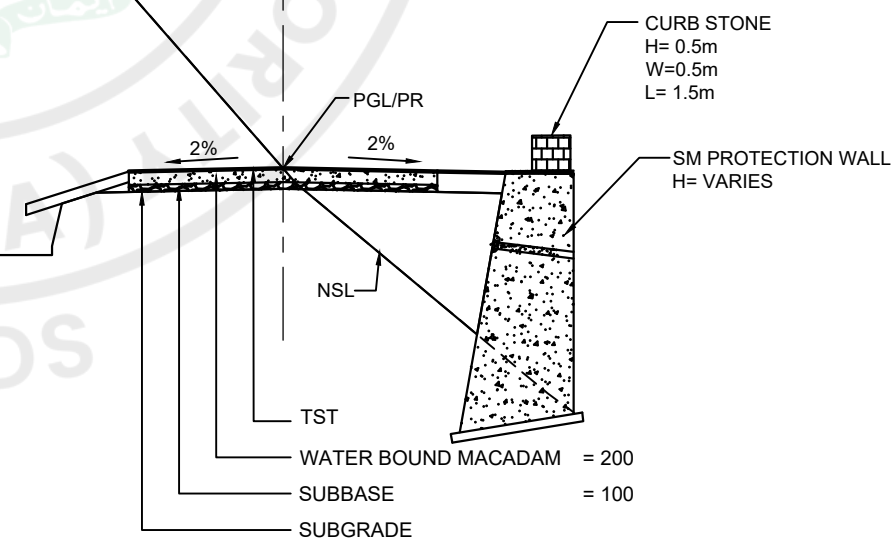
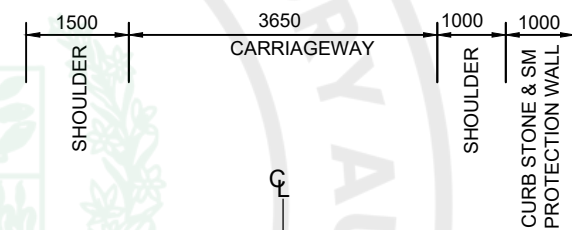
NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
- FOR SHOULDER DETAILS REFER SLOPE PROTECTION DRAWINGS.

CLIENT		CONSULTANT		04			DRAWN		Faisal		PROJECT		TYPICAL CROSS SECTION ROAD WORKS		SCALE		
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03			SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		DATE JUNE, 2026		DRAWING No. 4520/102/C/XS002		REV. 0
				02			RECOMMENDED										
				01			CHD./VER.										
				REV.			DATE	DESCRIPTION	APPROVED	APPROVED							
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.															

CUT LINE
AS PER RECOMMENDATION
OF GEOLOGIST / SLOPE
STABILITY EXPERT

FOR SLOPE PROTECTION
DETAIL REFER DRAWING
NO.

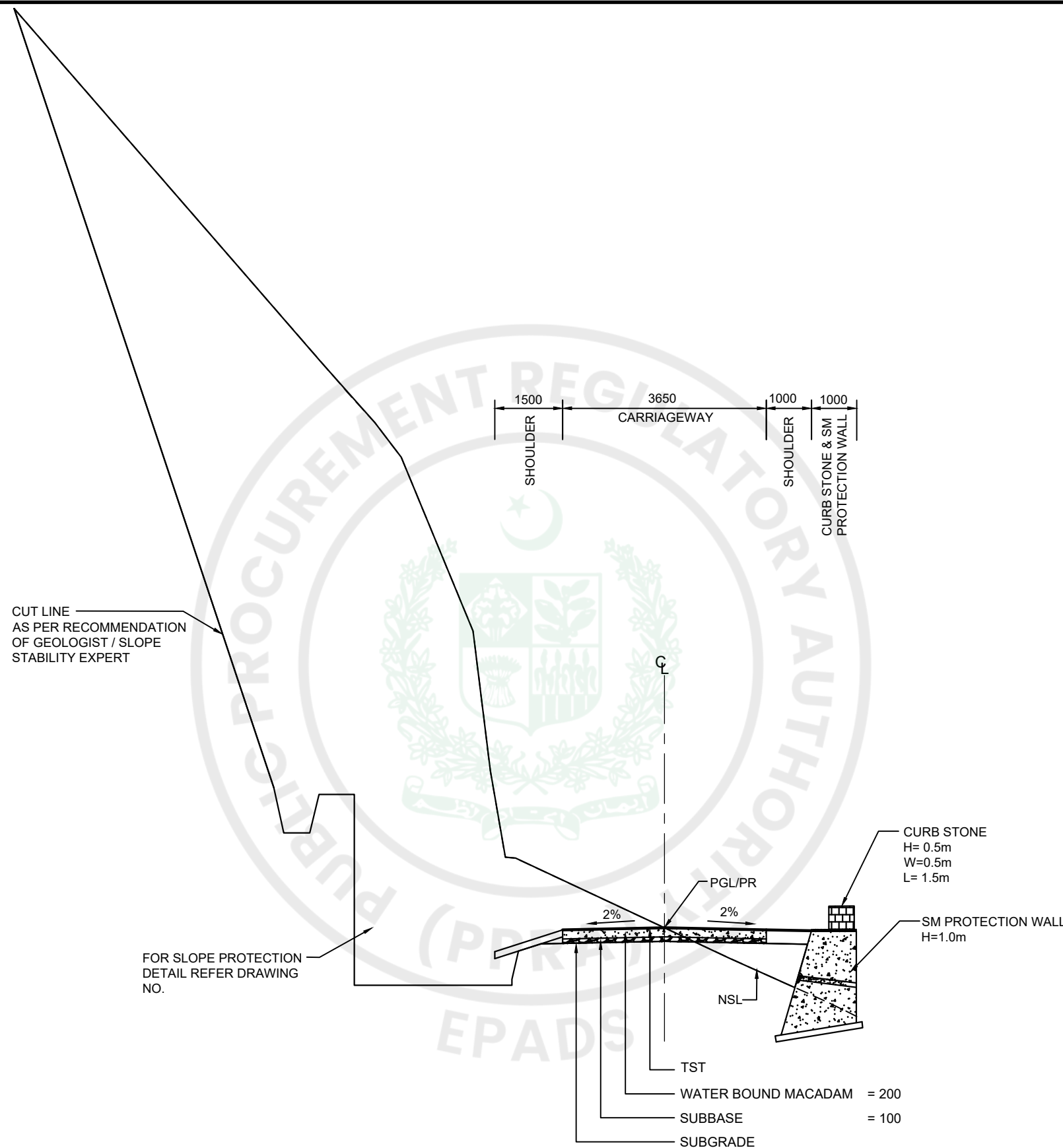


TYPICAL CROSS SECTION MODULE-3
(CUT TO FILL RATIO = 40 : 60%)
(VARIES)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. FOR SHOULDER DETAILS REFER SLOPE PROTECTION DRAWINGS.

CLIENT		CONSULTANT		04				DRAWN		Faisal		PROJECT		TYPICAL CROSS SECTION		SCALE	
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03				SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		ROAD WORKS			
				02				RECOMMENDED									
				01				CHD./VER.									
				REV.				DATE		DESCRIPTION							
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.										DATE		DRAWING No.		REV.	
												JUNE, 2026		4520/102/C/XS003		⬆	

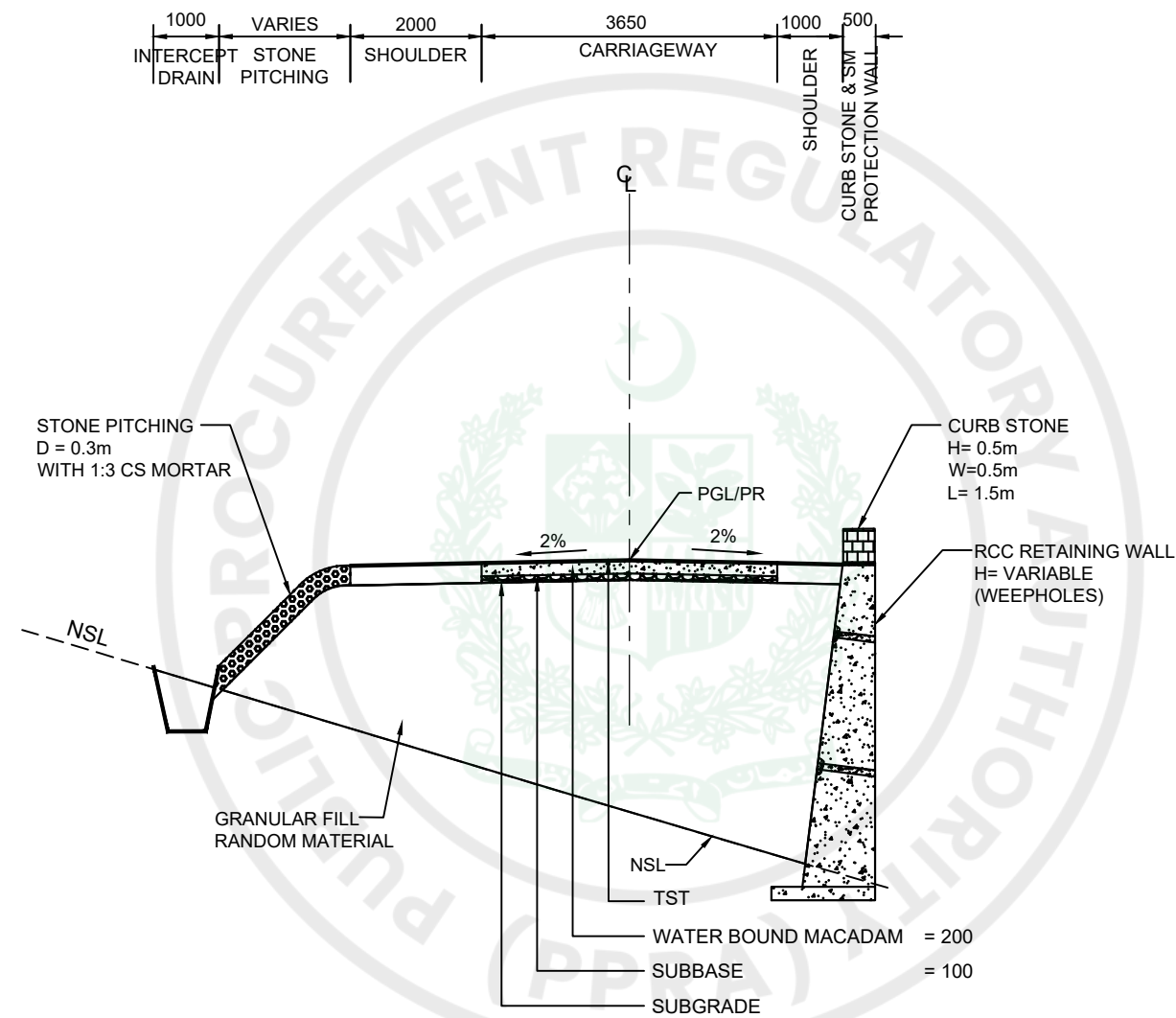


TYPICAL CROSS SECTION MODULE-4
(CUT TO FILL RATIO = 40 : 60%)
(VARIES)
(FOR HARD TO MODERATE ROCK)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. FOR SHOULDER DETAILS REFER SLOPE PROTECTION DRAWINGS.

CLIENT		CONSULTANT		04		DRAWN		Faisal		PROJECT		TYPICAL CROSS SECTION ROAD WORKS		SCALE			
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		DATE JUNE, 2026		DRAWING No. 4520/102/C/XS004		REV. 0	
				02		RECOMMENDED											
				01		CHD./VER.											
				REV.		DATE		DESCRIPTION									
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.															

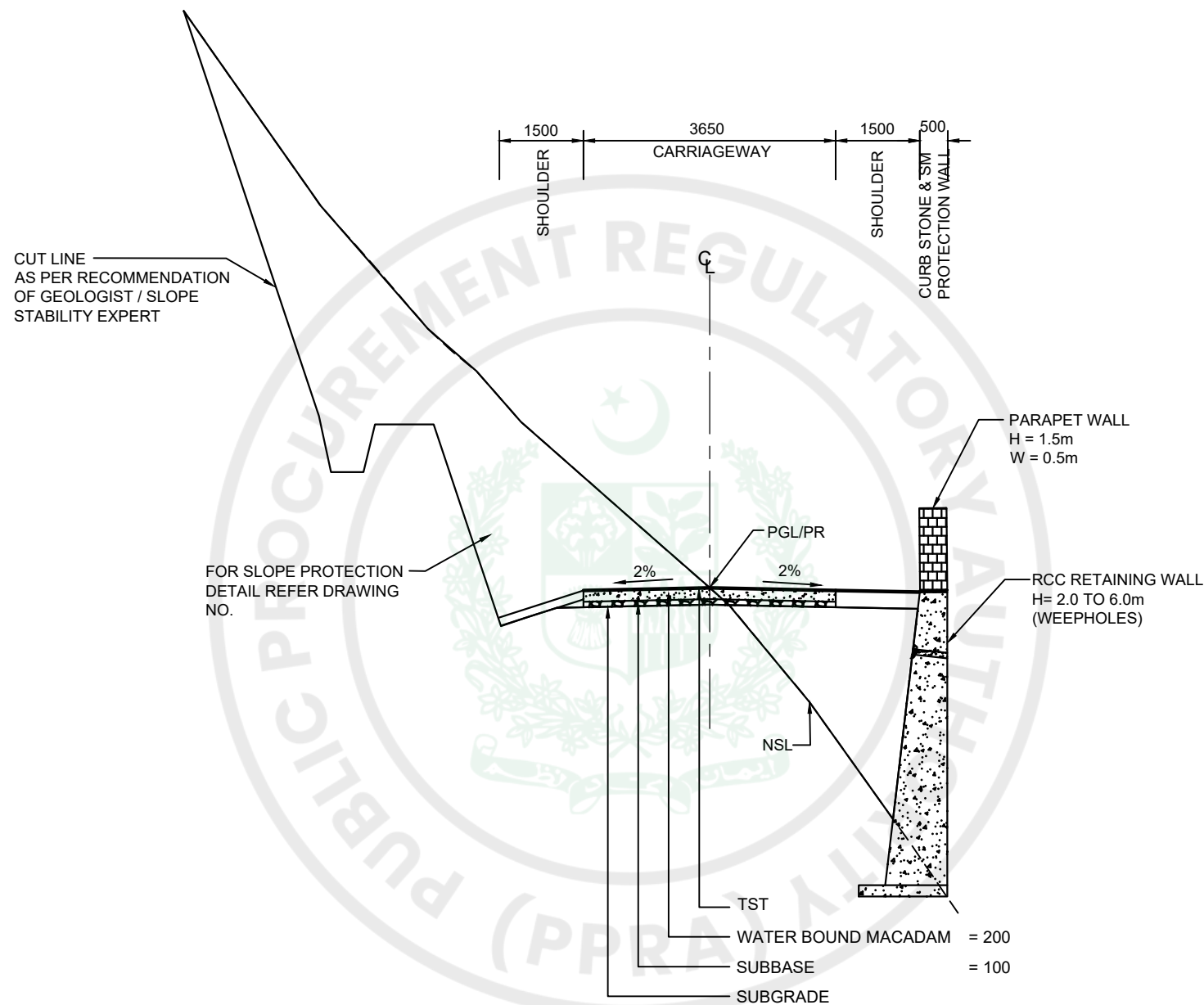


TYPICAL CROSS SECTION MODULE-5
(FILL = 100%)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. FOR SHOULDER DETAILS REFER SLOPE PROTECTION DRAWINGS.

CLIENT		CONSULTANT		04		DRAWN		Faisal		PROJECT		TYPICAL CROSS SECTION ROAD WORKS		SCALE			
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		DATE JUNE, 2026		DRAWING No. 4520/102/C/XS005		REV. 0	
				02		RECOMMENDED											
				01		CHD./VER.											
				REV.		DATE		DESCRIPTION									
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.															

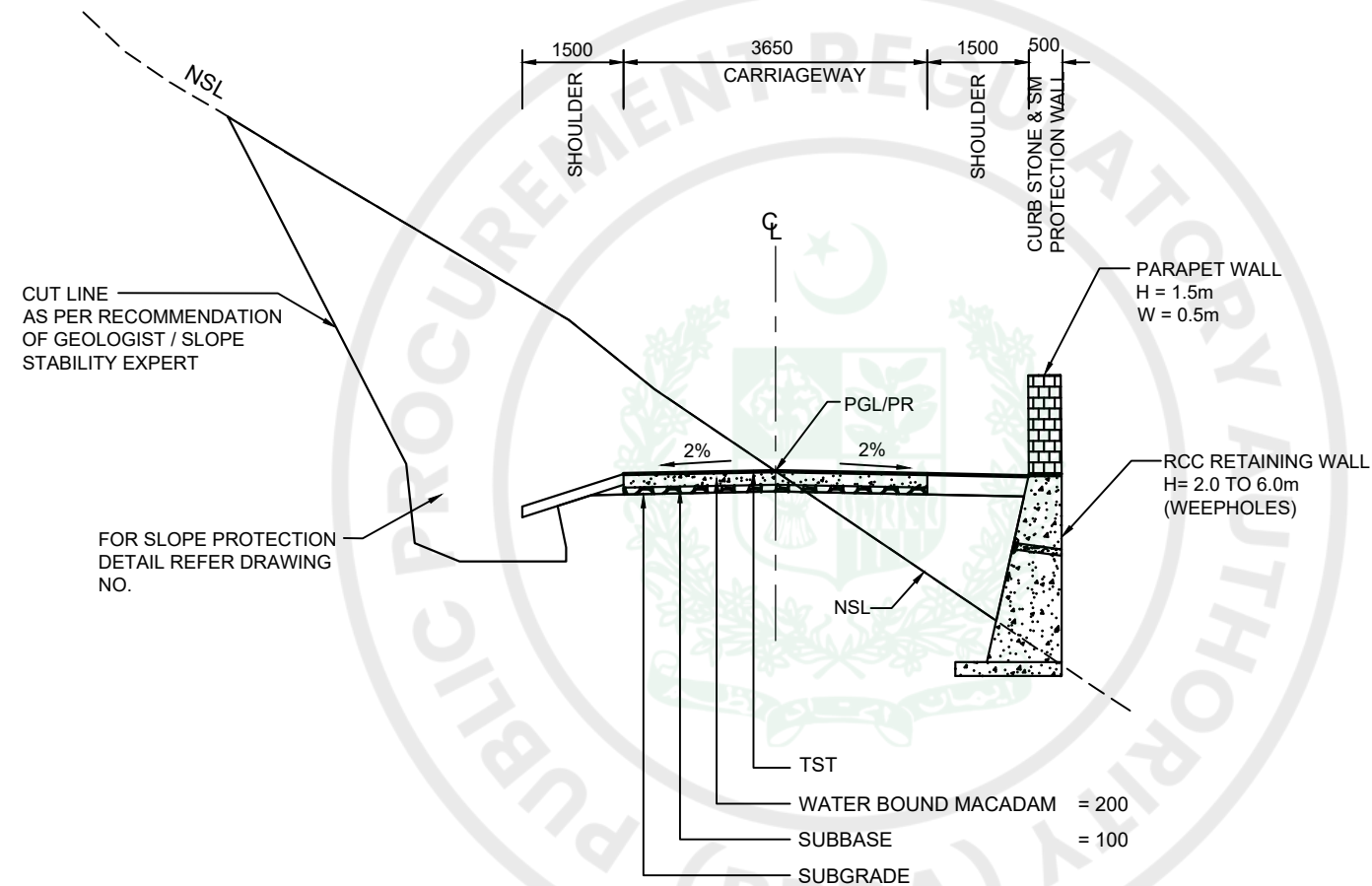


TYPICAL CROSS SECTION MODULE-6A
(CUT = 20 ~ 25 %)
(FILL = 75 ~ 80 %)

- NOTES:-
- 1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
 - 2. FOR SHOULDER DETAILS REFER SLOPE PROTECTION DRAWINGS.

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.

CLIENT		CONSULTANT		04		DRAWN		Faisal		PROJECT		TYPICAL CROSS SECTION ROAD WORKS		SCALE							
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		DATE		DRAWING No.		REV.					
				02		RECOMMENDED															
				01		CHD./VER.															
				REV.		DATE		DESCRIPTION										APPROVED		APPROVED	
				HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.																	
						JUNE, 2026		4520/102/C/XS006		0											



TYPICAL CROSS SECTION MODULE-6B
(CUT = 20 ~ 25 %)
(FILL = 75 ~ 80 %)

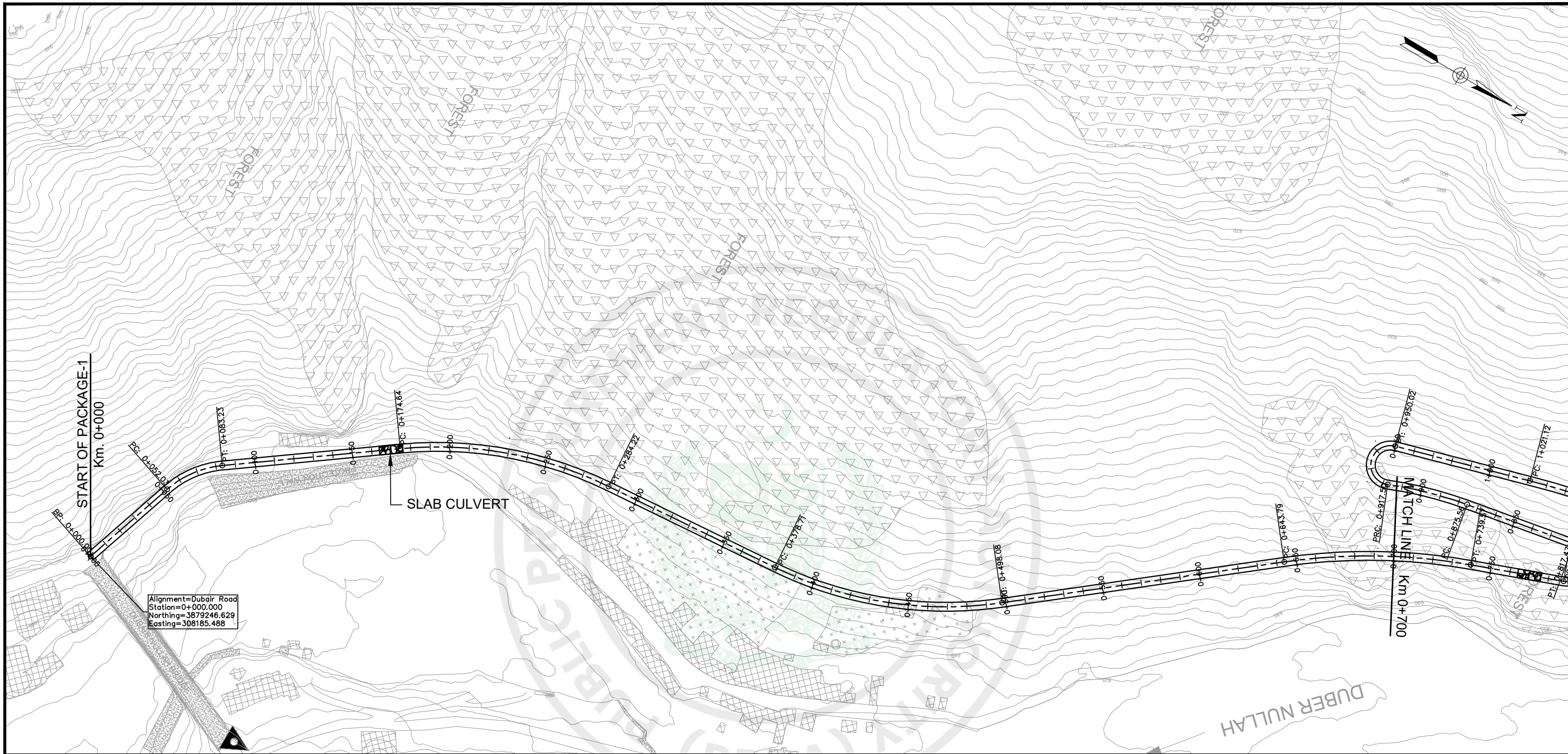
NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. FOR SHOULDER DETAILS REFER SLOPE PROTECTION DRAWINGS.

CLIENT  WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	Faisal	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	TYPICAL CROSS SECTION ROAD WORKS		SCALE
		03				SUBMITTED					
		02				RECOMMENDED					
		01				CHD./VER.			DATE	DRAWING No.	REV.
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED			JUNE, 2026	4520/102/C/XS007	0

PLAN AND PROFILE





Alignment=Dubair Road
Station=0+000.000
Northing=3879246.629
Easting=308185.488

PI # 1 PI STA =0+068.160 N = 3879267.740 E = 308120.680 I = 144°15'	PI # 2 PI STA =0+230.838 N = 3879399.857 E = 308023.968 I = 148°36'	PI # 3 PI STA =0+440.233 N = 3879611.330 E = 308006.164 I = 145°48'	PI # 4 PI STA =0+692.087 N = 3879809.886 E = 307845.321 I = 161°42'
T = 16.126 R = 50.00 L = 31.199 C = 30.696 E = 2.536 M = 2.414	T = 56.203 R = 200.00 L = 109.580 C = 108.214 E = 7.747 M = 7.458	T = 61.522 R = 200.00 L = 119.370 C = 117.606 E = 9.249 M = 8.840	T = 48.301 R = 300.00 L = 95.780 C = 95.374 E = 3.863 M = 3.814

CLIENT
 **WATER AND POWER
DEVELOPMENT AUTHORITY
(WAPDA)**

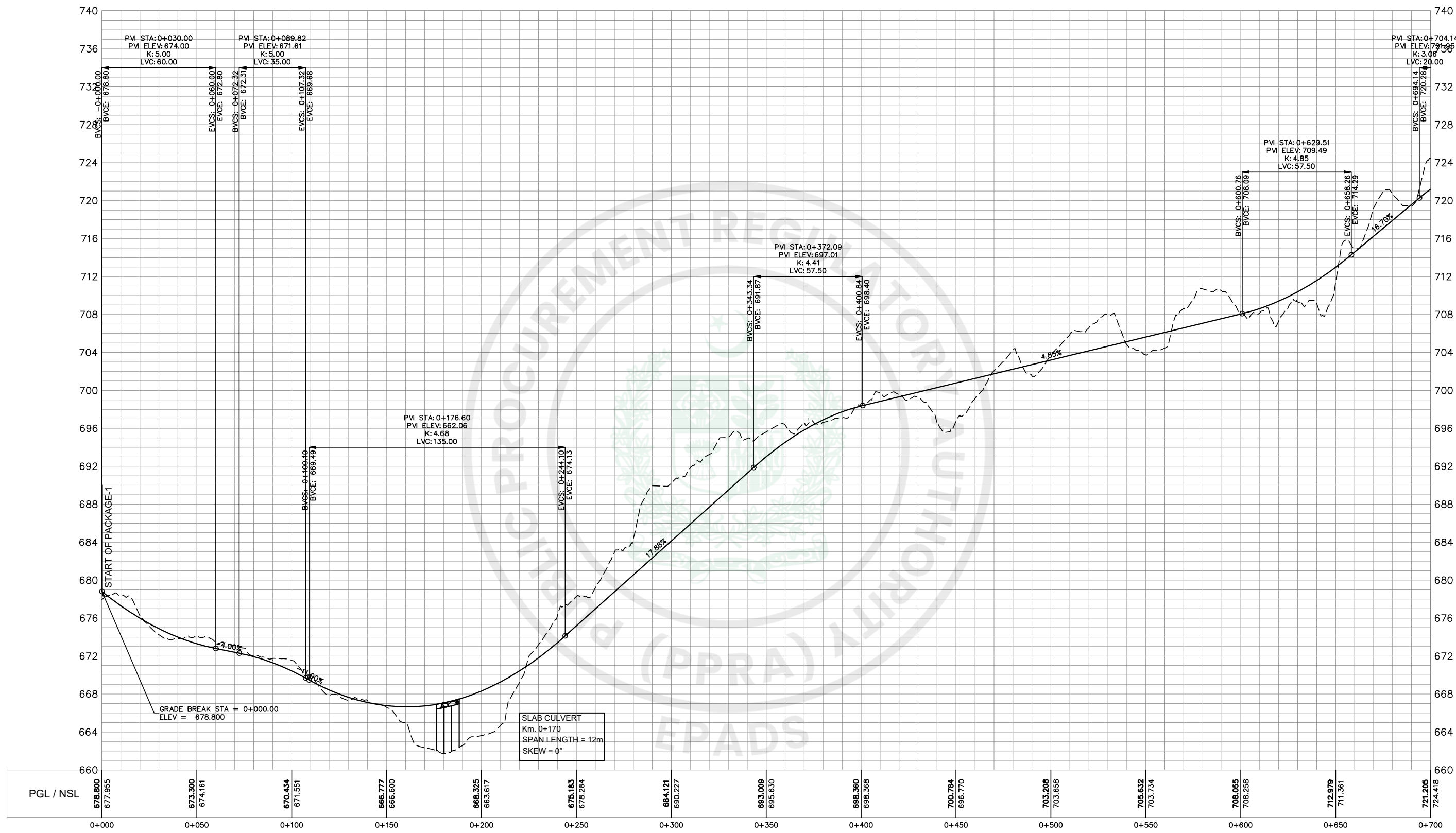
CONSULTANT
 **NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.**
HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04				DRAWN	Faisal
03				SUBMITTED	
02				RECOMMENDED	
01				CHD./VER.	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED	

PROJECT
**DETAILED DESIGN AND CONSTRUCTION SUPERVISION /
IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM
(LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND
DOWNSTREAM FISHERIES PLANS;
NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)**

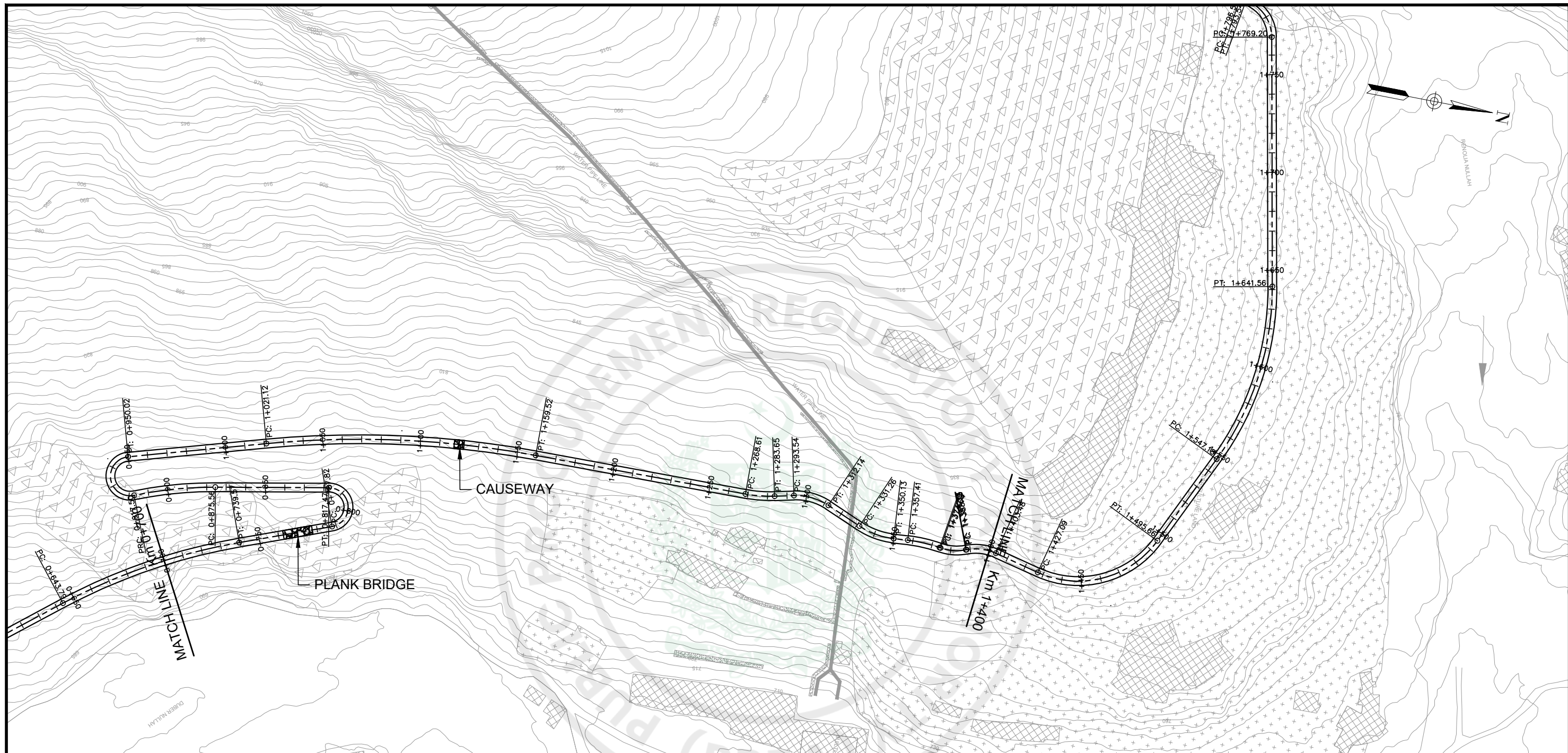
DUBAIR ROAD PLAN FROM KM. 0+000 TO KM. 0+700		SCALE
DATE JUNE, 2026	DRAWING No. 4520/102/C/1C001	REV. 0

Dubair Road PROFILE



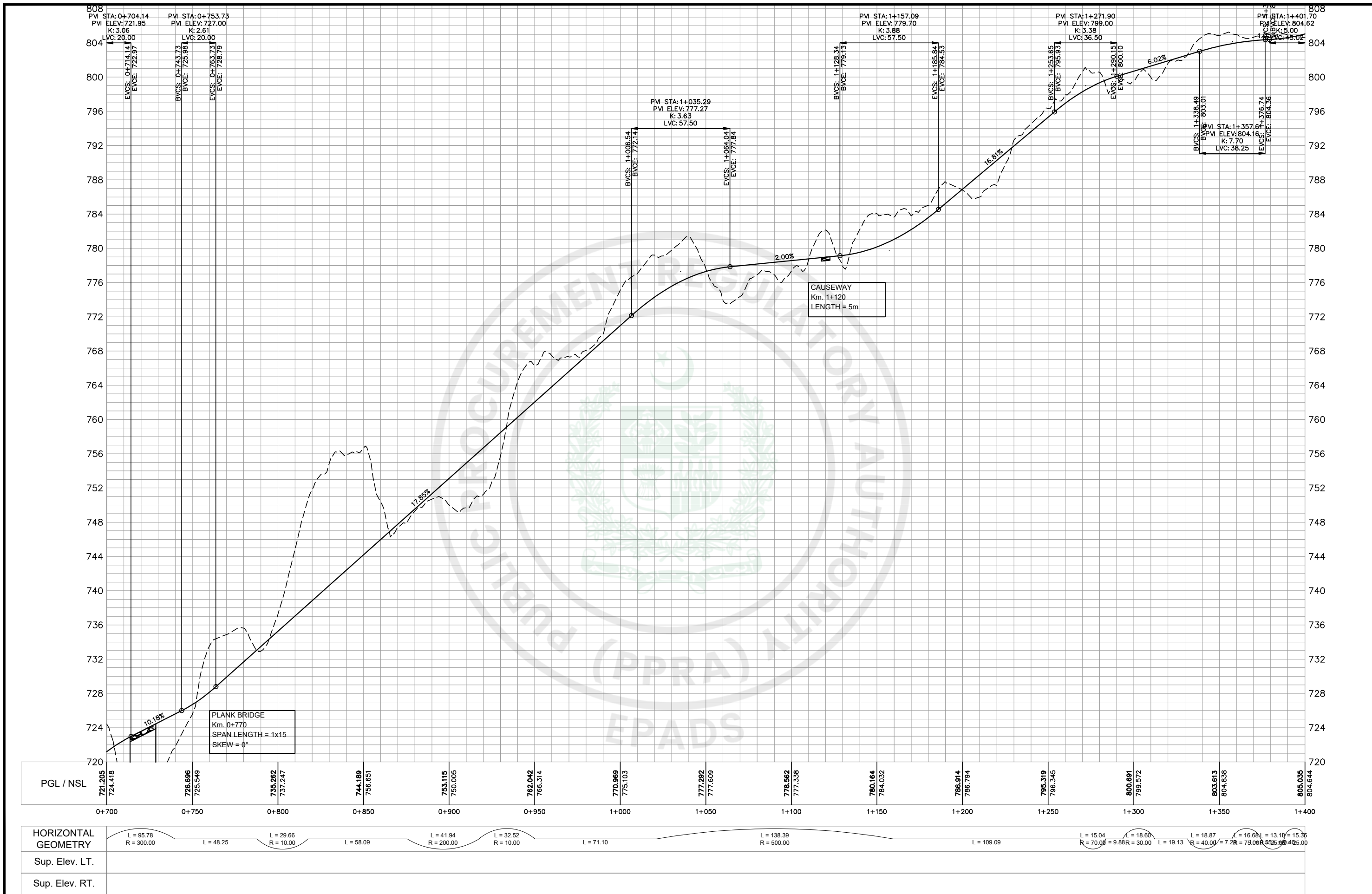
HORIZONTAL GEOMETRY	L = 52.03	L = 31.20 R = 50.00	L = 91.40	L = 109.58 R = 200.00	L = 94.50	L = 119.37 R = 200.00	L = 145.70	L = 95.78 R = 300.00
Sup. Elev. LT.								
Sup. Elev. RT.								

CLIENT		CONSULTANT		04		DRAWN		Faisal		PROJECT		DUBAIR ROAD PROFILE		SCALE			
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		FROM KM. 0+000 TO KM. 0+700					
				02		RECOMMENDED											
				01		CHD./VER.											
				REV.		DATE		DESCRIPTION								APPROVED	
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.										DATE		DRAWING No.		REV.	
												JUNE, 2026		4520/102/C/1C001A		0	

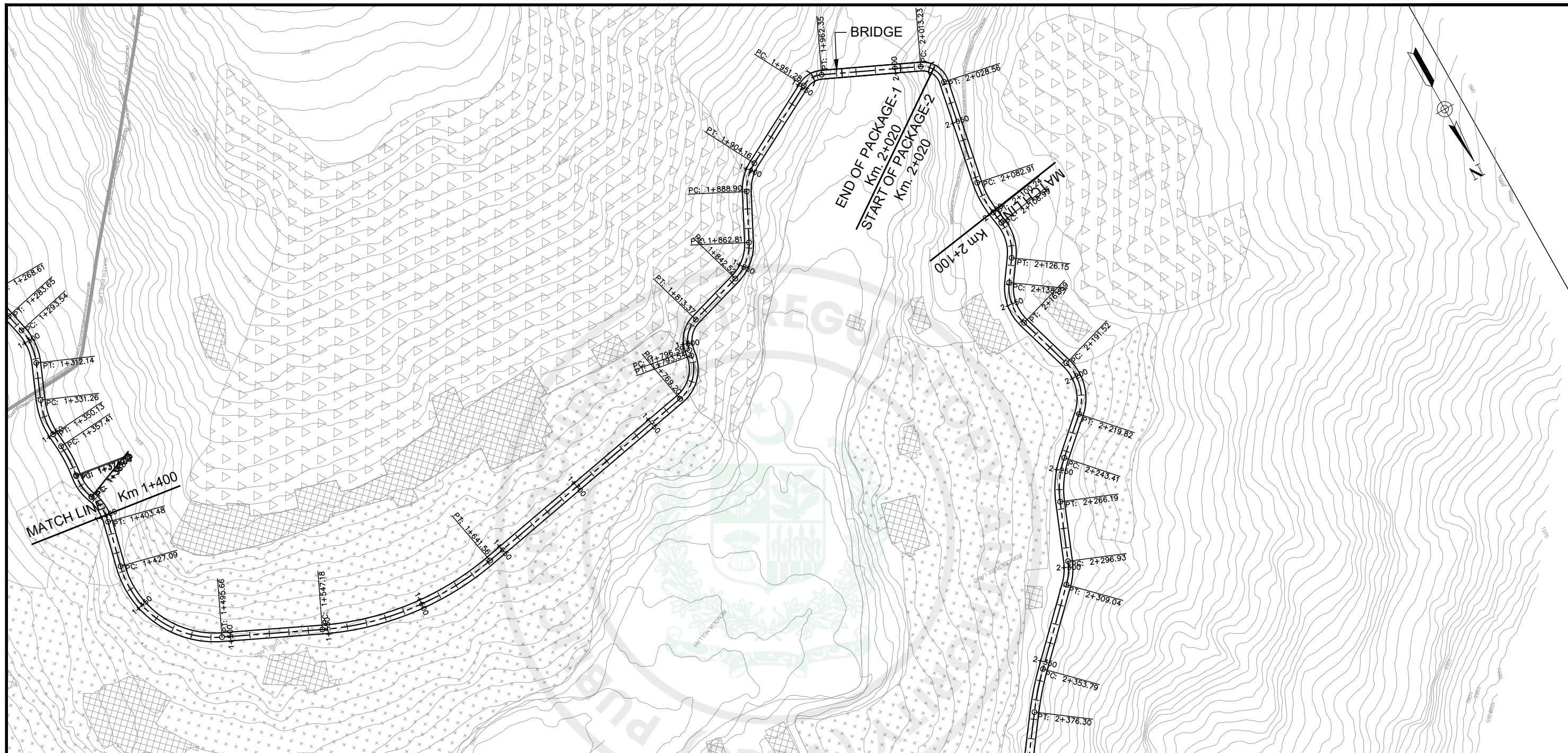


PI # 5 PI STA =0+901.155 N = 3880006.204 E = 307771.072 I = 10°05'	PI # 6 PI STA =0+896.609 N = 3879817.034 E = 307806.585 I = 167°59'	PI # 7 PI STA =0+928.070 N = 3879787.857 E = 307818.759 I = 86°51'	PI # 8 PI STA =0+944.329 N = 3879926.011 E = 307798.837 I = 86°51'	PI # 9 PI STA =1+090.767 N = 3879926.011 E = 307756.282 I = 164°08'	PI # 10 PI STA =1+276.160 N = 3880112.288 E = 307754.736 I = 167°41'	PI # 11 PI STA =1+303.146 N = 3880138.662 E = 307748.750 I = 144°29'	PI # 12 PI STA =1+340.876 N = 3880174.032 E = 307763.571 I = 152°58'
T = 113.338 R = 10.00 L = 29.656 C = 19.923 E = 103.778 M = 9.121	T = 21.048 R = 200.00 L = 41.942 C = 41.865 E = 1.105 M = 1.098	T = 10.567 R = 10.00 L = 16.259 C = 14.526 E = 4.548 M = 3.126	T = 10.567 R = 10.00 L = 16.259 C = 14.526 E = 4.548 M = 3.126	T = 69.642 R = 500.00 L = 138.394 C = 137.953 E = 4.827 M = 4.781	T = 7.550 R = 70.00 L = 15.042 C = 15.013 E = 0.406 M = 0.404	T = 9.610 R = 30.00 L = 18.600 C = 18.303 E = 1.501 M = 1.430	T = 9.613 R = 40.00 L = 18.868 C = 18.694 E = 1.139 M = 1.107
PI # 13 PI STA =1+365.785 N = 3880199.227 E = 307761.680 I = 167°16'	PI # 14 PI STA =1+381.339 N = 3880214.681 E = 307763.975 I = 149°59'	PI # 15 PI STA =1+396.059 N = 3880228.657 E = 307758.450 I = 144°49'					
T = 8.372 R = 75.00 L = 16.675 C = 16.641 E = 0.466 M = 0.463	T = 6.703 R = 25.00 L = 13.098 C = 12.948 E = 0.883 M = 0.853	T = 7.925 R = 25.00 L = 15.349 C = 15.110 E = 1.226 M = 1.169					

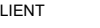
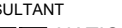
CLIENT		CONSULTANT		04		DRAWN		PROJECT		DUBAIR ROAD		SCALE
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED		DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		PLAN FROM KM. 0+700 TO KM. 1+400		
				02		RECOMMENDED						
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.		01		CHD./VER.				DATE		REV.
				REV.		DATE		APPROVED		JUNE, 2026		4520/102/C/1C002
				DESCRIPTION		APPROVED				DRAWING No.		0



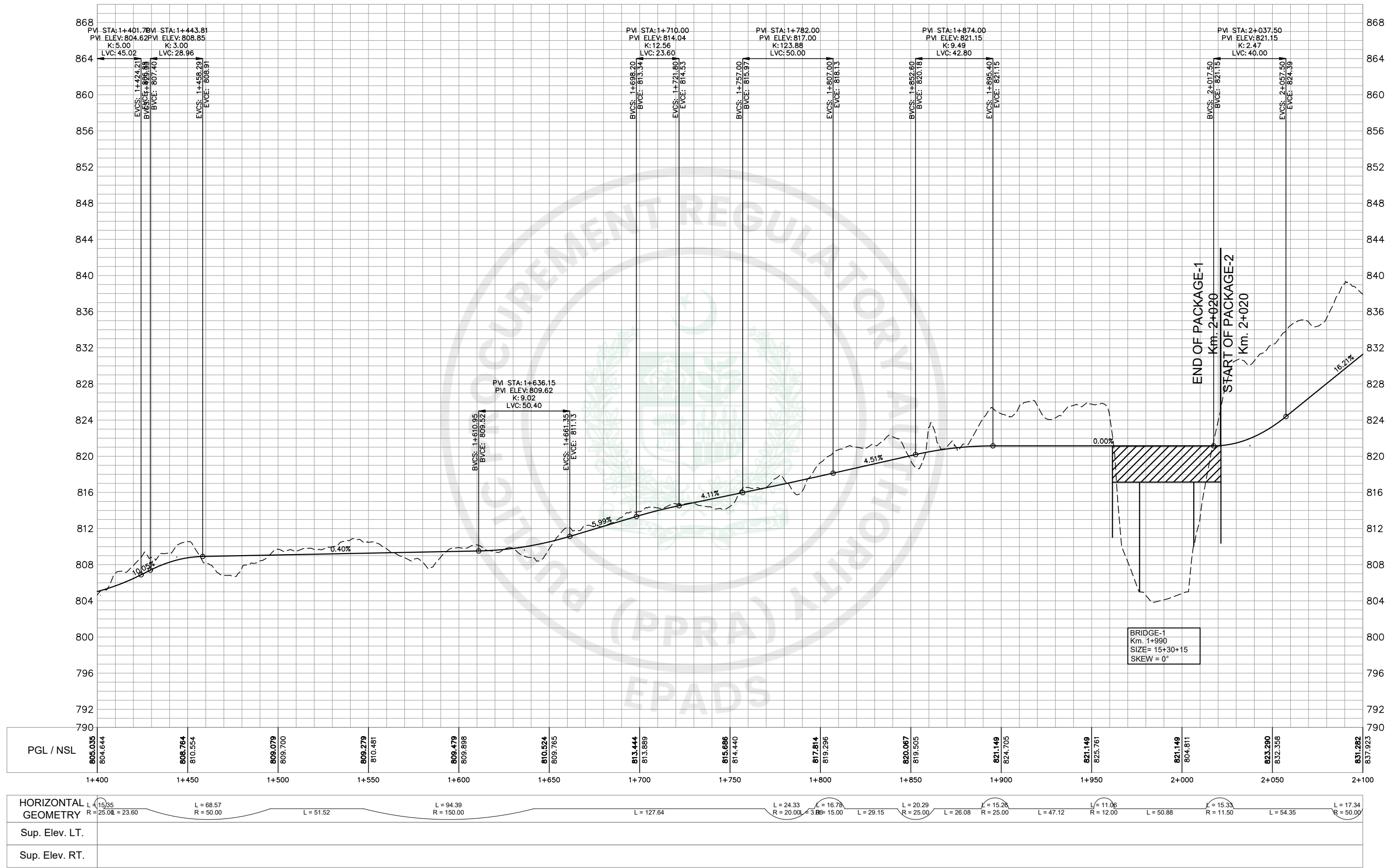
CLIENT		CONSULTANT		04		DRAWN		Faisal		PROJECT		DUBAIR ROAD PROFILE		SCALE			
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		FROM KM. 0+700 TO KM. 1+400					
				02		RECOMMENDED											
				01		CHD./VER.											
				REV.		DATE		DESCRIPTION								APPROVED	
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.										DATE		DRAWING No.		REV.	
												JUNE, 2026		4520/102/C/1C002A		⬆	



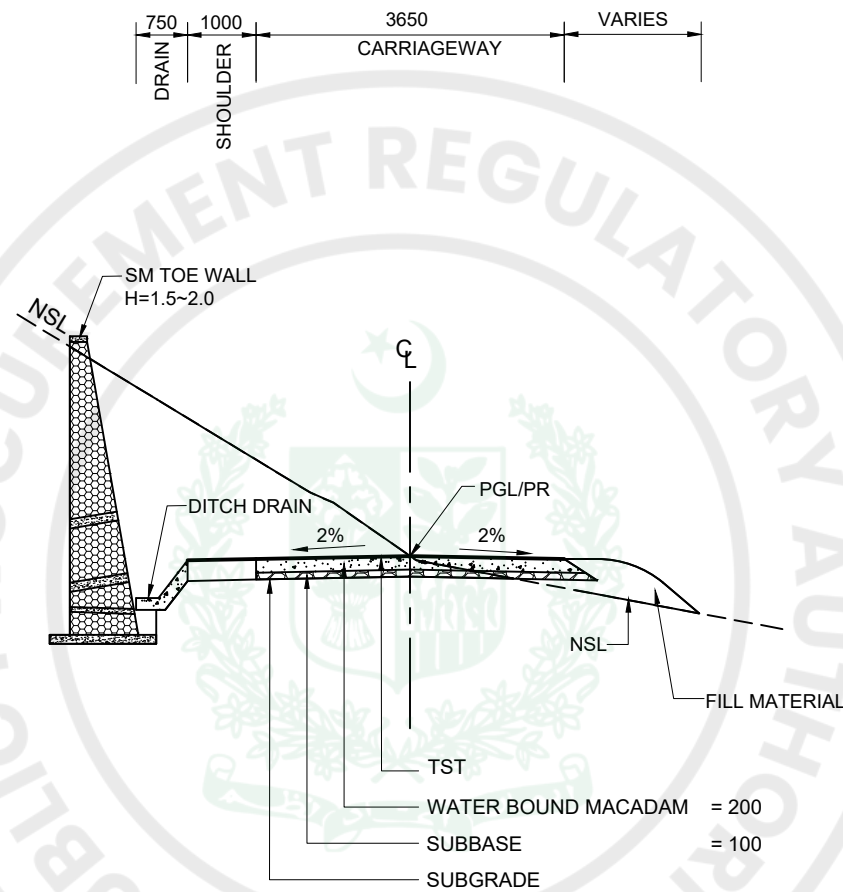
PI # 16 PI STA =1+467.995 N = 3880299.060 E = 307775.493 I = 101°25' T = 40.910 R = 50.00 L = 68.574 C = 63.324 E = 14.604 M = 11.302	PI # 17 PI STA =1+595.993 N = 3880358.815 E = 307647.512 I = 143°57' T = 48.815 R = 150.00 L = 94.367 C = 92.837 E = 7.743 M = 7.363	PI # 18 PI STA =1+783.132 N = 3880322.407 E = 307460.643 I = 110°18' T = 13.927 R = 20.00 L = 24.331 C = 22.858 E = 4.372 M = 3.587	PI # 19 PI STA =1+805.980 N = 3880296.380 E = 307456.395 I = 115°55' T = 9.388 R = 15.00 L = 16.776 C = 15.916 E = 2.696 M = 2.285	PI # 20 PI STA =1+853.264 N = 3880282.261 E = 307409.178 I = 133°30' T = 10.742 R = 25.00 L = 20.291 C = 19.738 E = 2.210 M = 2.030	PI # 21 PI STA =1+896.775 N = 3880242.377 E = 307388.987 I = 145°01' T = 7.877 R = 25.00 L = 15.262 C = 15.026 E = 1.212 M = 1.156	PI # 22 PI STA =1+957.245 N = 3880213.595 E = 307335.247 I = 127°10' T = 5.961 R = 12.00 L = 11.064 C = 10.677 E = 1.399 M = 1.253	PI # 23 PI STA =2+022.276 N = 3880241.083 E = 307275.367 I = 103°38' T = 9.045 R = 11.50 L = 15.329 C = 14.219 E = 3.131 M = 2.461
PI # 24 PI STA =2+091.665 N = 3880311.901 E = 307289.168 I = 160°08' T = 8.756 R = 50.00 L = 17.336 C = 17.249 E = 0.761 M = 0.749							

 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.		04 03 02 01 REV. DATE DESCRIPTION APPROVED APPROVED		DRAWN Faisal SUBMITTED RECOMMENDED CHD./VER. APPROVED APPROVED		PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMESLY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		DUBAIR ROAD PLAN FROM KM. 1+400 TO KM. 2+100 DATE JUNE, 2026 DRAWING No. 4520/102/C/1C003		SCALE REV. 0
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Dubair Road PROFILE



CLIENT  WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	Faisal	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	DUBAIR ROAD PROFILE FROM KM. 1+400 TO KM. 2+100		SCALE
		03				SUBMITTED					
		02				RECOMMENDED					
		01				CHD./VER.					
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED					
								DATE	DRAWING No.	REV.	
								JUNE, 2026	4520/102/C/1C003A	0	

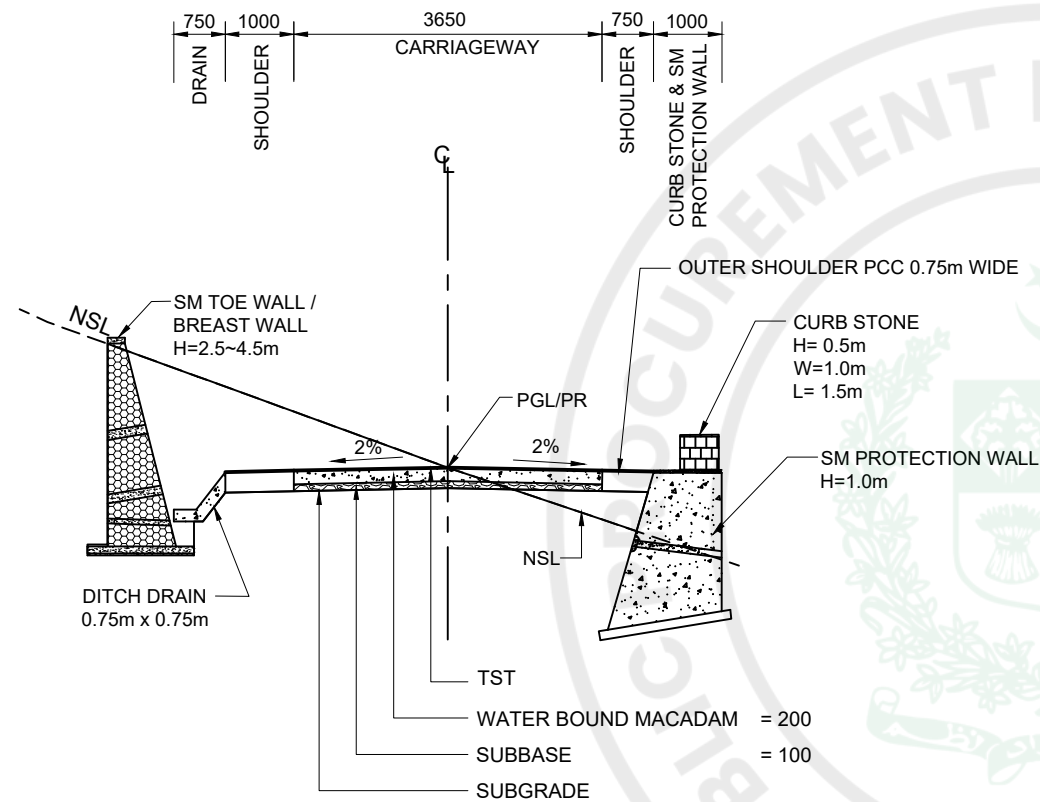


TYPICAL CROSS SECTION MODULE-1
(CUT = 80-100%)
(FILL = 0-20%)

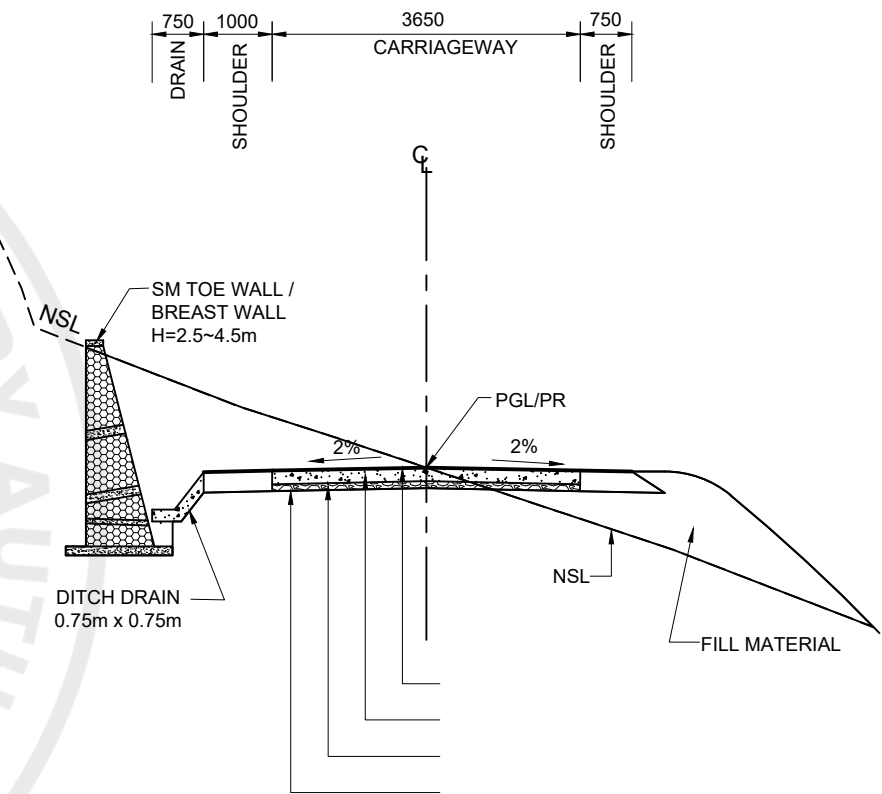
NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. REFER GEOHAZARDS MITIGATION LOG TABLE - 03.

CLIENT		CONSULTANT		04		DRAWN		Faisal		PROJECT		TYPICAL CROSS SECTION		SCALE					
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		SLOPE PROTECTION WORKS							
				02		RECOMMENDED													
				01		CHD./VER.													
				REV.		DATE		DESCRIPTION								APPROVED		APPROVED	
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.										DATE		DRAWING No.		REV.			
												JUNE, 2026		4520/102/C/XS008		0			



TYPICAL CROSS SECTION MODULE-2
(CUT = 50%)
(FILL = 50%)

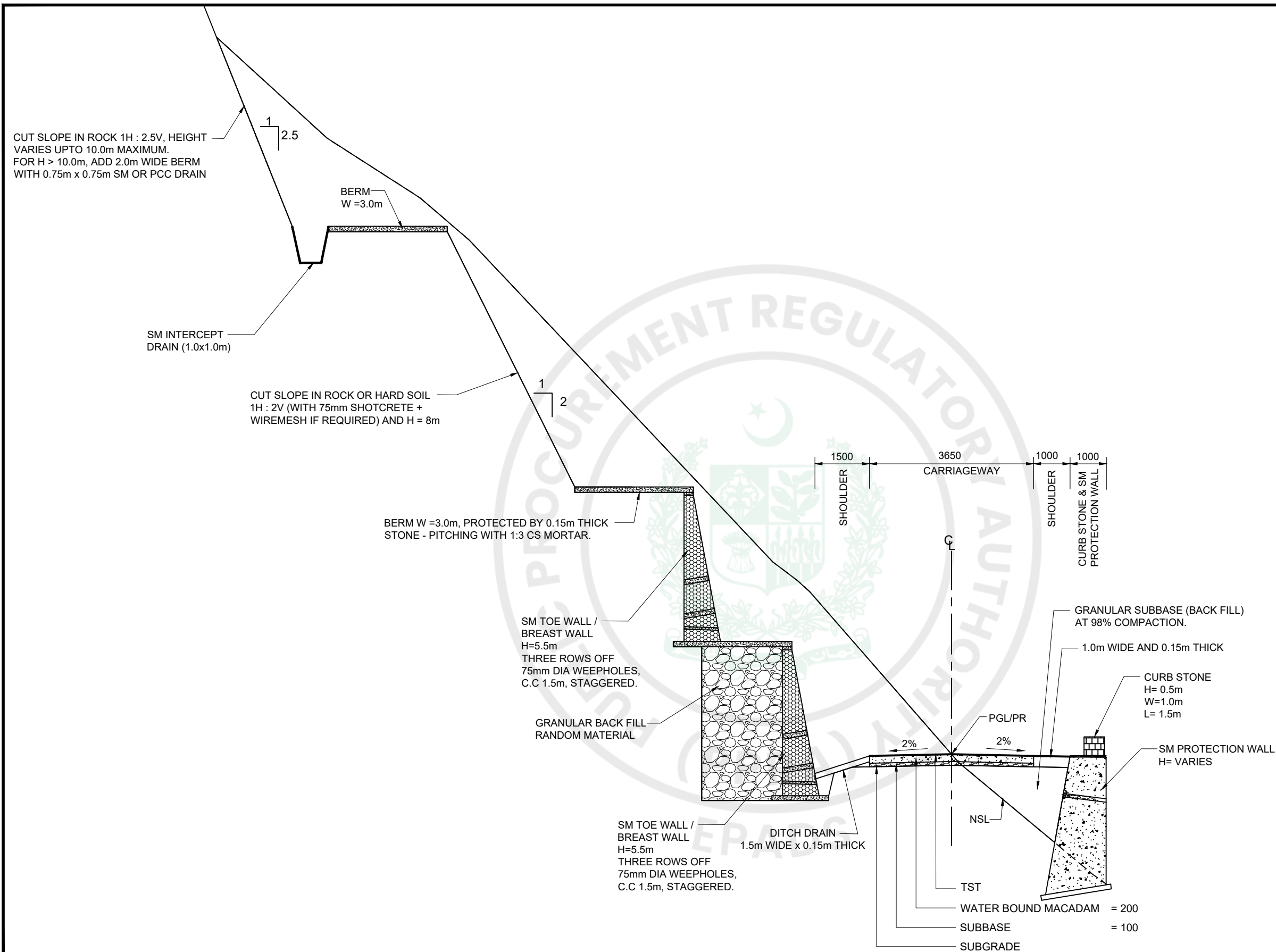


TYPICAL CROSS SECTION MODULE-2A
(CUT = 50%)
(FILL = 50%)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. REFER GEOHAZARDS MITIGATION LOG TABLE - 03.

CLIENT		CONSULTANT		04		DRAWN		Faisal		PROJECT		TYPICAL CROSS SECTION SLOPE PROTECTION WORKS		SCALE			
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		DATE JUNE, 2026		DRAWING No. 4520/102/C/XS009		REV. 0	
				02		RECOMMENDED											
				01		CHD./VER.											
				REV.		DATE		DESCRIPTION									
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.															



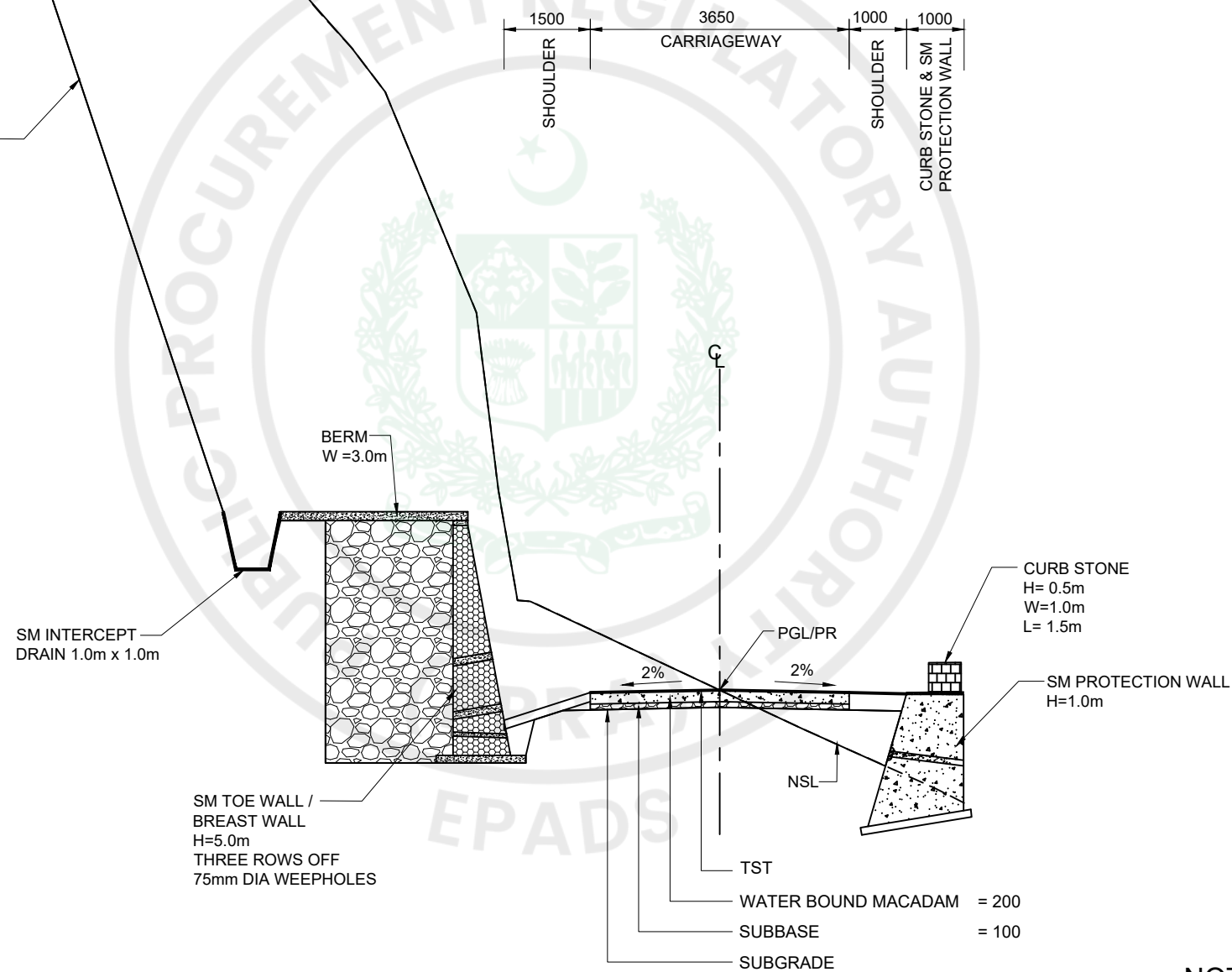
TYPICAL CROSS SECTION MODULE-3
(CUT TO FILL RATIO = 40 : 60%)
(VARIES)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. REFER GEOHAZARDS MITIGATION LOG TABLE - 03.

CLIENT		CONSULTANT		04						DRAWN	Faisal	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	TYPICAL CROSS SECTION SLOPE PROTECTION WORKS		SCALE	
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.		03						SUBMITTED			DATE JUNE, 2026		DRAWING No. 4520/102/C/XS010	REV. 0
				02						RECOMMENDED						
				01						CHD./VER.						
				REV.		DATE	DESCRIPTION	APPROVED	APPROVED							

MINOR CUT IN HARD ROCK 1H : 3V
FOR WEAK ROCK SHOTCRETE WITH
WIREMESH 75mm



TYPICAL CROSS SECTION MODULE-4
(CUT TO FILL RATIO = 40 : 60%)
(VARIES)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. REFER GEOHAZARDS MITIGATION LOG TABLE - 03.
3. FOR WEAK / FRACTURED ROCK OR SOIL THERE SHOULD BE NO CUT IN THE NATURAL SLOPE AND ROAD SHOULD BE ON FILL.

CLIENT



WATER AND POWER
DEVELOPMENT AUTHORITY
(WAPDA)

CONSULTANT



NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04

03

02

01

REV.

DATE

DESCRIPTION

APPROVED

DRAWN

Faisal

SUBMITTED

RECOMMENDED

CHD./VER.

APPROVED

PROJECT

DETAILED DESIGN AND CONSTRUCTION SUPERVISION /
IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM
(LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND
DOWNSTREAM FISHERIES PLANS;
NAMESLY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)

TYPICAL CROSS SECTION
SLOPE PROTECTION WORKS

DATE

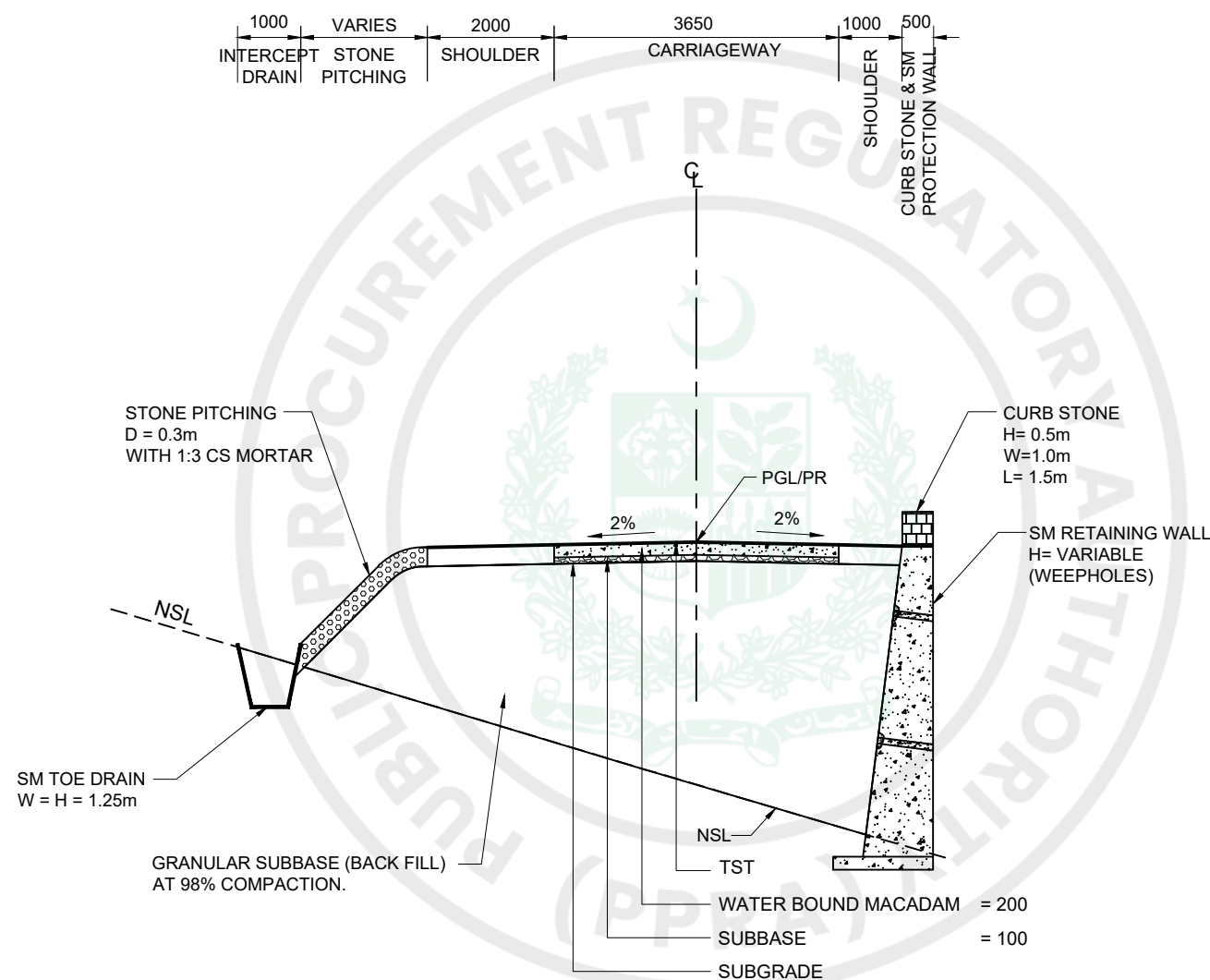
JUNE, 2026

DRAWING No.

4520/102/C/XS011

REV.

0

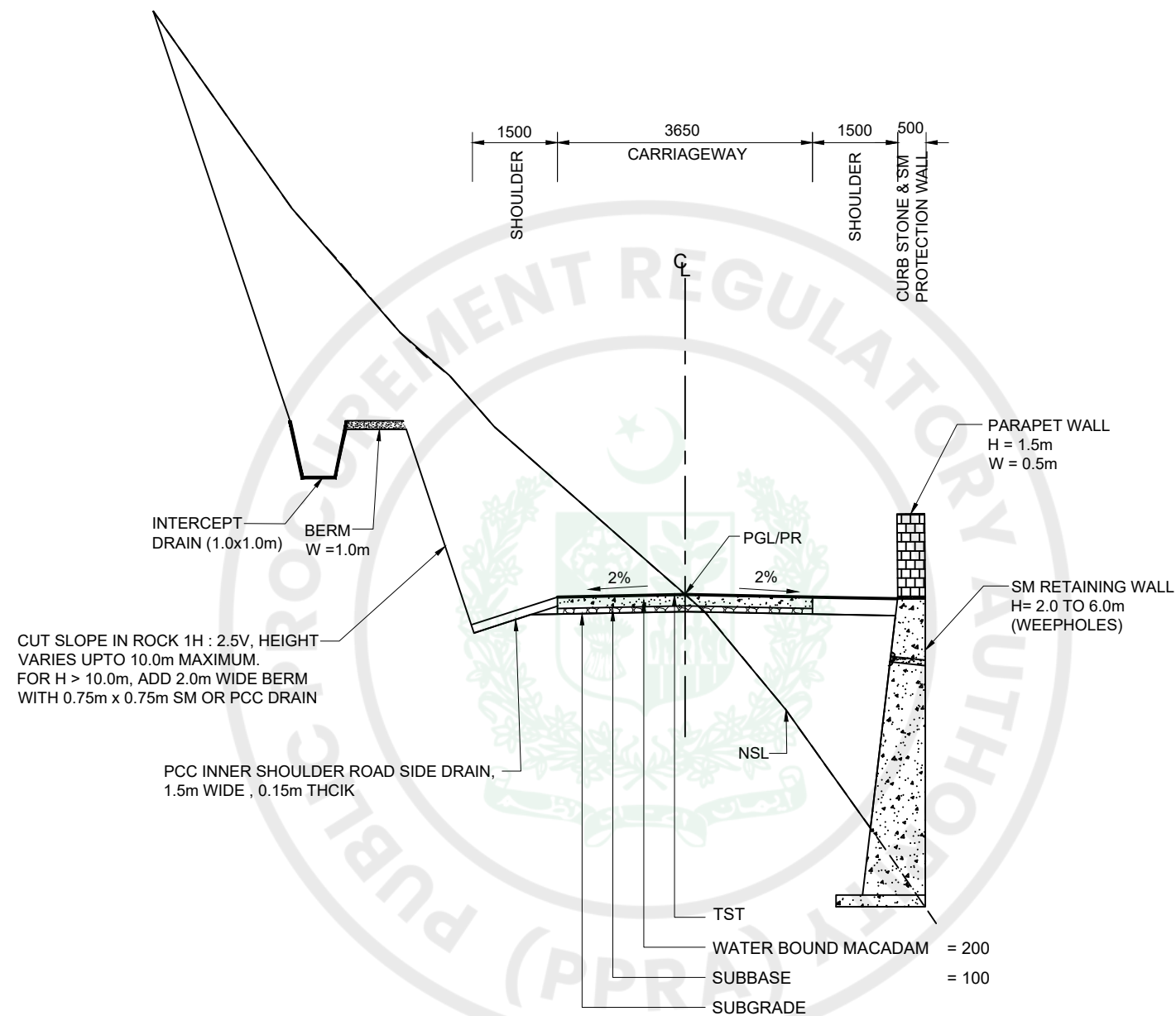


TYPICAL CROSS SECTION MODULE-5
(FILL = 100%)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. REFER GEOHAZARDS MITIGATION LOG TABLE - 03.

CLIENT		CONSULTANT		04					DRAWN	Faisal	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	TYPICAL CROSS SECTION SLOPE PROTECTION WORKS		SCALE
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03					SUBMITTED					
				02					RECOMMENDED					
				01					CHD./VER.					
				REV.		DATE	DESCRIPTION	APPROVED	APPROVED					
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.										DATE	DRAWING No.	REV.
												JUNE, 2026	4520/102/C/XS012	0

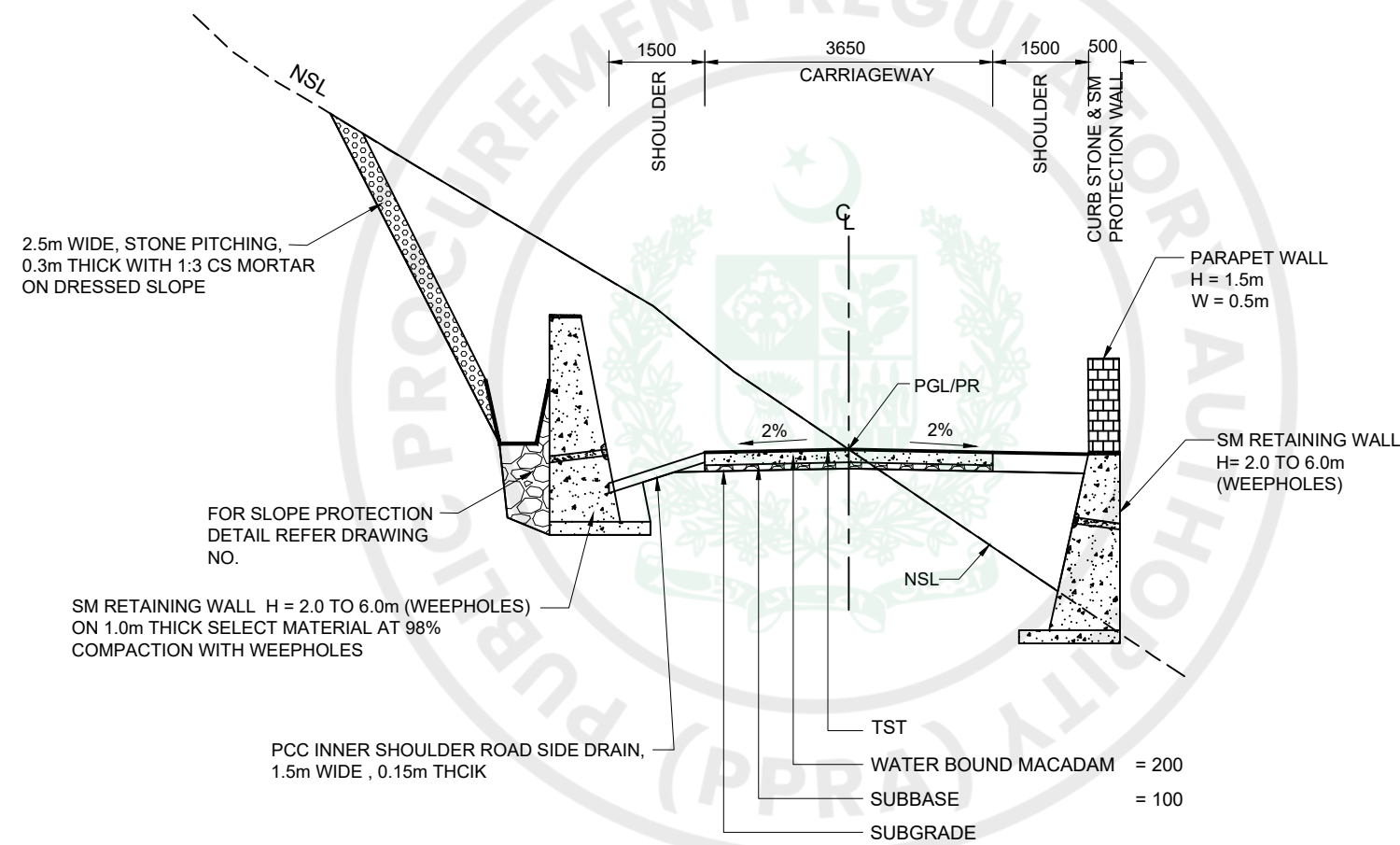


TYPICAL CROSS SECTION MODULE-6A
(CUT = 20 ~ 25 %)
(FILL = 75 ~ 80 %)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. REFER GEOHAZARDS MITIGATION LOG TABLE - 03.

CLIENT		CONSULTANT		04		DRAWN		Faisal		PROJECT		TYPICAL CROSS SECTION SLOPE PROTECTION WORKS		SCALE			
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		DATE JUNE, 2026		DRAWING No. 4520/102/C/XS013		REV. 0	
				02		RECOMMENDED											
				01		CHD./VER.											
				REV.		DATE		DESCRIPTION									
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.															



TYPICAL CROSS SECTION MODULE-6B
(CUT = 20 ~ 25 %)
(FILL = 75 ~ 80 %)

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHER WISE NOTED.
2. REFER GEOHAZARDS MITIGATION LOG TABLE - 03.

CLIENT		CONSULTANT		04		DRAWN		Faisal		PROJECT		TYPICAL CROSS SECTION SLOPE PROTECTION WORKS		SCALE			
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		DATE JUNE, 2026		DRAWING No. 4520/102/C/XS014		REV. 	
				02		RECOMMENDED											
				01		CHD./VER.											
				REV.		DATE		DESCRIPTION									
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.															

TABLE - 2
GEOHAZARD LOG OF 0+000 - 2+021 KM (PACKAGE-1) DUBAIR ROAD, DISTRICT
KOHISTAN LOWER, KP

Sr. No.	Chainage (RD)		Segment Length (m)	Geohazard Constraints
	From	To		
1	0+000	0+150	150	Slope Failure/ Rockfall
2	0+150	0+190	40	Rock Slide/Debris Slide
3	0+200	0+220	20	Minor Debris Flow
4	0+260	0+270	10	Minor Debris Flow
5	0+485	0+680	195	Massive Landslide / Rockfall/ Rockslide
6	0+680	0+740	60	Unstable Slope / Extensive Vertical Cut
7	0+790	0+810	20	Minor Debris Flow
8	0+810	1+050	240	Slope Failure/ Rockfall
9	1+050	1+070	20	Minor Debris Flow
10	1+070	1+370	300	Slope Failure/ Rockfall
11	1+800	1+960	160	Dip Slope Failure

TABLE - 1**GEOLOGIC LOG OF 0+000 - 2+021 KM DUBAIR ROAD, DISTRICT
KOHISTAN LOWER, KP**

Sr. No.	RD	Legend	Description
1	0+000-0+140	BrG1	Bedrock (Ripable / Can be removed by Jack Hammer)
2	0+140-0+240	Qa	Quaternary Aluvial Deposits
3	0+240-0+485	Qt	Terrace Deposits
4	0+485-0+630	Qsm	Slid Mass
5	0+630-1+120	BrG1	Bedrock (Blastable Rock)
6	1+120-1+370	BrG2	Bedrock (Ripable / Can be removed by Jack Hammer)
7	1+370-1+750	Qt	Terrace Deposits
8	1+750 - 1+950	BrG1	Bedrock (Blastable Rock)
9	1+950-2+000	Qf	Nala Bed Deposits / Flood Plain Deposits
10	2+000 - 2+021	Qa	Colluvial Deposists

DETAILED DESIGN AND CONSTRUCTION SUPERVISION/ IMPLEMENTATION OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS

TABLE 03
GEOHAZARD MITIGATION LOG OF DUBAIR VALLEY ROAD, KOHISTAN LOWER, KP

Sr No.	RD	Type of Module (Refer to typical Modules for Slope Hazard Mitigation)	Land Acquisition for the Roadway and Slope Stability Measures (Width of Land Strip) (m)	Guideline For Excavation		REMARKS
				Cut	Fill	
1	0+000	II-A	10.5	50	50	SM Breast Wall Is not required
2	0+020	I	8.25	100-80	0-20	SM Breast Wall Is not required
3	0+040	III	22.5	60	40	SM Breast Wall Is not required
4	0+060	IV	18.0	30	70	SM Breast Wall Is not required
5	0+080	II	10.5	70	30	SM Breast Wall Is not required
6	0+100	I-A	11.5	100-80	0-20	SM Breast Wall Is not required
7	0+120	II	10.5	90	10	SM Breast Wall Is not required
8	0+140	II	10.5	90	10	SM Breast Wall Is not required
9	0+160	V	13.0	0	100	-
10	0+180	V	13.0	0	100	-
11	0+200	V	13.0	0	100	-
12	0+220	II	10.5	30	70	SM Breast Wall is Required H=2.5m
13	0+240	II	10.5	80	20	SM Breast Wall is Required H=2.5m
14	0+260	III	22.5	80	20	SM Breast Wall is Required H=2.5m
15	0+280	III	22.5	80	20	SM Breast Wall is Required H=2.5m
16	0+300	III	22.5	80	20	SM Breast Wall is Required H=2.5m
17	0+320	III	22.5	80	20	SM Breast Wall is Required H=2.5m
18	0+340	III	22.5	80	20	SM Breast Wall is Required H=2.5m
19	0+360	III	22.5	80	20	SM Breast Wall is Required H=2.5m
20	0+380	III	22.5	80	20	SM Breast Wall is Required H=2.5m
21	0+400	III	22.5	80	20	SM Breast Wall is Required H=2.5m
22	0+420	III	22.5	80	20	If hard bedrock not encountered as subgrade for SM Breast and Retaining Walls then the Gabion Walls Should be opted, SM Breast Wall is Required H=2.5m
23	0+440	V	13	0	100	-
24	0+460	V	13	0	100	-
25	0+480	I	11.5	100-80	0-20	SM Toe Wall is required 1.5 -2.0 m
26	0+500	Customized Solution			Landslide	
27	0+520					
28	0+540					
29	0+560					
30	0+580					
31	0+600					
32	0+620					
33	0+640					
34	0+660					

DETAILED DESIGN AND CONSTRUCTION SUPERVISION/ IMPLEMENTATION OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS

TABLE 03
GEOHAZARD MITIGATION LOG OF DUBAIR VALLEY ROAD, KOHISTAN LOWER, KP

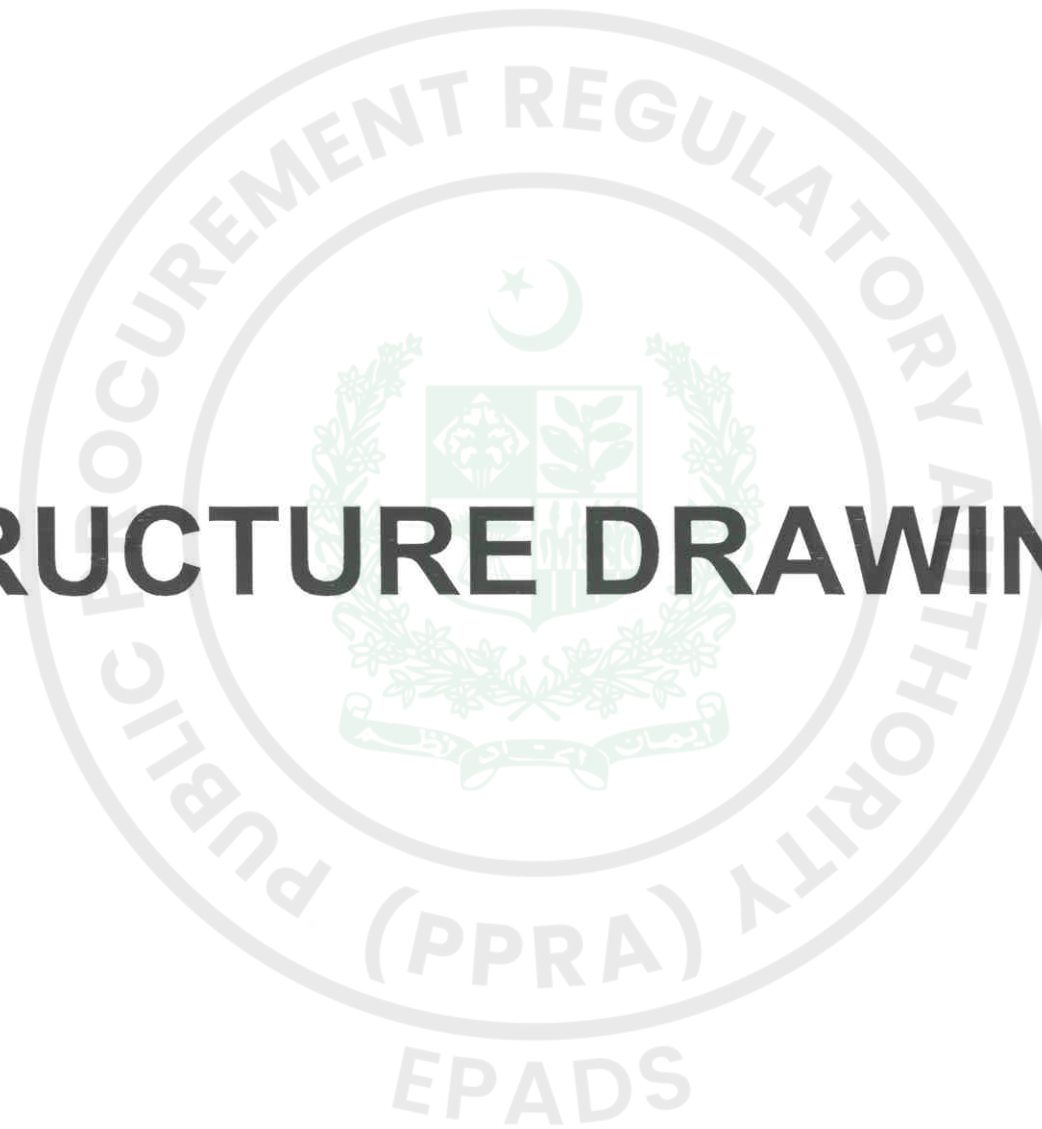
Sr No	PD	Type of Module (Refer to typical	Land Acquisition for the Roadway and Slope Stability Measures	Guideline For Excavation		REMARKS
35	0+680					
36	0+700	I	8.25	100	0	Move the roadway outwards toward the edge of Profile, SM Breast Wall Is not required
37	0+720	VI a	13	15	85	SM Breast Wall Is not required
38	0+740	VI a	13	0	100	SM Breast Wall Is not required
39	0+760	IV	18.0	100	0	Move the roadway outwards toward the edge of Profile, SM Breast Wall Is not required
40	0+780	IV	18.0	100	0	Move the roadway outwards toward the edge of Profile, SM Breast Wall Is not required
41	0+800	I-A	18.0	30	70	Move the roadway outwards toward the edge of Profile,SM Breast Wall Is not required
42	0+820	IV	18.0	100	0	SM Breast Wall Is not required
43	0+840	IV	18.0	100	0	SM Breast Wall Is not required
44	0+860	IV	18.0	100	0	SM Breast Wall Is not required
45	0+880	VI a	13	20-25	80-75	SM Breast Wall Is not required
46	0+900	VI a	13	20-25	80-75	SM Breast Wall Is not required
47	0+920	V	13	0	100	SM Breast Wall Is not required
48	0+940	I-A	18.0	100	0	SM Breast Wall and Outwards Toe Wall may not be required
49	0+960	IV	18	100	0	SM Breast Wall Is not required
50	0+980	IV	18	100	0	SM Breast Wall Is not required
51	1+000	IV	18	100	0	SM Breast Wall Is not required
52	1+020	IV	18	100	0	SM Breast Wall Is not required
53	1+040	I-A	11.5	100-80	0-20	SM Breast Wall Is not required
54	1+060	IV	18	80	20	SM Breast Wall Is not required
55	1+080	IV	18	80	20	SM Breast Wall Is not required
56	1+100	IV	18	80	20	SM Breast Wall Is not required
57	1+120	IV	18	100	0	SM Breast Wall Is not required
58	1+140	I	8.25	100-80	0-20	SM Breast Wall Is not required
59	1+160	I	8.25	100-80	0-20	SM Breast Wall Is not required
60	1+180	I	8.25	100-80	0-20	SM Breast Wall Is not required
61	1+200	I	8.25	100-80	0-20	SM Breast Wall Is not required
62	1+220	I	8.25	100-80	0-20	SM Breast Wall Is not required
63	1+240	I	8.25	100-80	0-20	SM Breast Wall Is not required
64	1+260	I	8.25	100-80	0-20	SM Breast Wall Is not required
65	1+280	VI a	13	60	40	SM Breast Wall Is not required
66	1+300	VI a	13	50	50	SM Breast Wall Is not required
67	1+320	VI a	13	50	50	SM Breast Wall Is not required
68	1+340	I	8.25	100-80	0-20	SM Breast Wall Is not required
69	1+360	I	8.25	100-80	0-20	SM Breast Wall Is not required
70	1+380	VI a	13	20-25	80-75	-

DETAILED DESIGN AND CONSTRUCTION SUPERVISION/ IMPLEMENTATION OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS

TABLE 03
GEOHAZARD MITIGATION LOG OF DUBAIR VALLEY ROAD, KOHISTAN LOWER, KP

Sr No	PD	Type of Module (Refer to typical	Land Acquistion for the Roadway and Slope Stability Measures	Guideline For Excavation		REMARKS
71	1+400	VI b	15.5	20-25	80-75	SM Retaining Wall required H=varies, SM Breast Wall is required H=2.5-3m
72	1+420	VI b	15.5	50	50	SM Retaining Wall required H=varies, SM Breast Wall is required H=2.5-3m
73	1+440	I	8.25	100-80	0-20	SM Toe Wall is required 1.5 -2.0 m
74	1+460	I	8.25	100-80	0-20	SM Toe Wall is required 1.5 -2.0 m
75	1+480	I	8.25	100-80	0-20	SM Toe Wall is required 1.5 -2.0 m
76	1+500	I	8.25	100-80	0-20	SM Toe Wall is required 1.5 -2.0 m
77	1+520	I	8.25	100-80	0-20	SM Toe Wall is required 1.5 -2.0 m
78	1+540	I	8.25	100-80	0-20	SM Toe Wall is required 1.5 -2.0 m
79	1+560	I	8.25	100-80	0-20	SM Toe Wall is required 1.5 -2.0 m
80	1+580	I	8.25	100-80	0-20	SM Toe Wall is required 1.5 -2.0 m
81	1+600	I	8.25	100-80	0-20	SM Toe Wall is required 1.5 -2.0 m
82	1+620	I	8.25	100-80	0-20	SM Toe Wall is required 1.5 -2.0 m
83	1+640	VI b	15.5	20-25	80-75	SM Retaining Wall required H=varies, SM Breast Wall is required H=2.5-3m
84	1+660	I	8.25	100	0	SM Toe Wall is required 1.5 -2.0 m
85	1+680	I	8.25	100	0	SM Toe Wall is required 1.5 -2.0 m
86	1+700	I	8.25	100	0	SM Toe Wall is required 1.5 -2.0 m
87	1+720	II	10.5	80	20	SM Breast Wall is required H=2.5m
88	1+740	VI a	13	0	100	-
89	1+760	I	8.25	100	0	SM Breast Wall Is not required
90	1+780	I	8.25	100	0	SM Breast Wall Is not required
91	1+800	IV	18	50	50	SM Breast Wall Is not required
92	1+820	VI a	13	20-25	80-75	SM Breast Wall Is not required
93	1+840	III	22.5	50	50	SM Retaining Wall H=Varies, SM Breast Wall Is not required
94	1+860	III	22.5	30	70	SM Retaining Wall H=Varies, SM Breast Wall Is not required
95	1+880	III	22.5	30	70	SM Retaining Wall H=Varies, SM Breast Wall Is not required
96	1+900	III	22.5	20	80	SM Retaining Wall H=Varies, SM Breast Wall Is not required
97	1+920	VI b	15.5	50	50	SM Retaining Wall H=Varies, SM Breast Wall Is not required
98	1+940	VI b	13	50	50	SM Retaining Wall H=Varies, SM Breast Wall Is not required
99	1+960	VI b	13	25	75	SM Breast and Retaining Wall
100	1+980					Bridge
101	2+000					Bridge
102	2+020	V	13	0	100	SM Retaining Wall H=Varies

STRUCTURE DRAWINGS



1. GENERAL:

- 1.1 THESE NOTES ARE SPECIFIC TO DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS) , SHOULD BE READ IN THE PROJECT SPECIFICATIONS, STRUCTURAL ENGINEERING DRAWINGS, RELEVANT CONTRACT CONDITIONS AND ENGINEER'S INSTRUCTIONS.
- 1.2 ALL DRAWINGS SHALL BE CO-ORDINATED WITH OTHER SPECIALTY DRAWINGS / DETAILS. ANY DISCREPANCY, ERROR OR RECTIFICATION IF REQUIRED, SHALL BE BROUGHT TO THE NOTICE OF THE ENGINEER FOR NECESSARY APPROVAL.
- 1.3 ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS IN METRES. UNLESS SPECIFIED OTHERWISE.
- 1.4 ALL ELEVATIONS SHOWN ON DRAWINGS ARE FINISHED SURFACE LEVELS UNLESS NOTED OTHERWISE.
- 1.5 ALL EXPOSED CONCRETE CORNERS, EDGES AND ANGLES SHALL BE CHAMFERED OR FILLETED 20mm x 20 mm UNLESS SPECIFIED OTHERWISE.
- 1.6 THE CONTRACTOR SHALL SUBMIT, COMPLETE METHODOLOGY FOR DIFFERENT WORK ITEMS LIKE EXCAVATION/BACKFILLING, DEWATERING/DRAINAGE, CONCRETING, LIFTING/LAUNCHING OF GIRDERS, AND JOINTS FOR APPROVAL OF ENGINEER.
- 1.7 SULPHATE RESISTING CEMENT SHALL BE USED WHERE REQUIRED, AND AS PER ENGINEER'S INSTRUCTIONS.
- 1.8 ALL FACES OF CONCRETE IN ABUTMENTS AND WING WALLS IN CONTACT WITH SOIL SHALL BE DAMP PROOFED WITH TWO COATS OF BITUMINOUS MATERIAL AT NO EXTRA COST.
- 1.9 ALL EXPOSED SURFACES SHALL HAVE CLASS 1 SURFACE FORM FINISH UNLESS SPECIFIED OTHERWISE.

2. DESIGN SPECIFICATIONS:

- 2.1 AASHTO LRFD SPECIFICATIONS FOR HIGHWAY BRIDGES – 2012.
- 2.2 WEST PAKISTAN CODE OF PRACTICE FOR HIGHWAY BRIDGES –1967 (WHERE APPLICABLE)

3. LIVE LOADS:

- 3.1 THREE LANES OF CLASS 'B' LOADING, OF WEST PAKISTAN CODE OF PRACTICE FOR HIGHWAY BRIDGES– 1967 WHICHEVER GOVERNS.

4. MATERIALS:

- 4.1 ALL THE MATERIALS AND WORKMANSHIP SHALL BE ACCORDING TO THE AASHTO SPECIFICATIONS AND ASTM STANDARDS EXCEPT WHERE MODIFIED BELOW, OR IN PARTICULAR SPECIFICATIONS AND SPECIAL PROVISIONS OF TENDER DOCUMENTS.

4.2 CONCRETE

CONCRETE CLASSIFICATION AND STRENGTHS SHALL BE AS PER TABLE GIVEN BELOW:

CONCRETE	CLASS	28 DAYS (15Cm X 30 Cm) CYLINDER STRENGTH Kg/Sq.Cm
----------	-------	---

REINFORCED (CONCRETE BARRIER, APPROACH SLAB)	A1	210 (3,000 psi)
REINFORCED (DECK SLAB, CURTAIN WALL, CONCRETE PAD, PRE CAST REINFORCED CONCRETE BEAM, TRANSOM, ABUTMENT SEAT, BACK WALLS, FOUNDATION, WATER COURSE CULVERTS, DRAINAGE CULVERTS, AND RETAINING WALLS ETC.)	A2	280 (4,000 psi)
REINFORCED (PILES & PIERS)	A3	280 (4,000 psi)
LEAN-		105 (1,500 psi)

4.3 REINFORCEMENT

REINFORCING STEEL SHALL BE DEFORMED ROUND BARS OF INTERMEDIATE GRADE (GRADE 60) CONFORMING TO AASHTO M-31 (ASTM A-615) WITH MINIMUM YIELD STRENGTH OF 4,200 Kg/Sq.Cm (60,000 Psi).

4.4 STRUCTURAL STEEL

MAIN STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36 HAVING MINIMUM YIELD STRENGTH OF 2,500 Kg/Sq.Cm (36,000 psi). BOLTS AND NUTS SHALL CONFORM TO ASTM A-307 OR EQUIVALENT. WELDS SHALL CONFORM TO A.W.S (AMERICAN WELDING STANDARDS).

5. CONCRETE COVER:

THE MINIMUM COVER TO REINFORCEMENT SHALL BE AS UNDER UNLESS SPECIFIED OTHERWISE.

DECK SLAB	
TOP	40 mm
BOTTOM	25 mm
BARRIER	
TOP, BOTTOM & SIDES	30 mm
PILES	75 mm
PIER	40 mm
PRECAST BEAM	40 mm
APPROACH SLAB	
BOTTOM	50 mm
TOP	75 mm
FOUNDATION	
TOP	50 mm
BOTTOM & SIDES	75 mm
WALLS	
EARTH SIDE	50 mm
OTHER SIDE	40 mm
ABUTMENT SEAT	50 mm

MATERIAL FOR CONCRETE COVER

BAR SUPPORTS SHALL BE PRECAST MORTAR BLOCK, PLASTIC OR METAL SUPPORTS. MORTAR BLOCKS SHALL BE CONSTRUCTED AND CURED. THE MINIMUM COMPRESSIVE STRENGTH OF MORTAR USED FOR BLOCKS SHALL EQUAL THE MINIMUM COMPRESSIVE STRENGTH OF CONCRETE FOR THE STRUCTURE THEY ARE USED IN. MORTAR BLOCK SUPPORTS SHALL BE ATTACHED TO THE SUPPORTED BAR BY MEANS OF 16-GAUGE WIRE CAST IN THE CENTER OF EACH BLOCK.

6. FOUNDATIONS:

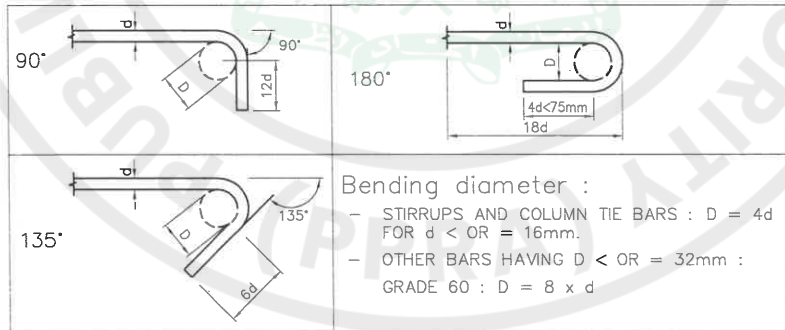
- 6.1 ALL THE EXCAVATION FOR OPEN FOUNDATIONS / BOX CULVERTS SHALL BE SUBJECT TO INSPECTION BY THE ENGINEER PRIOR TO POURING OF CONCRETE.
- 6.2 THE LENGTH OF PILES ARE TENTATIVE. PILE DESIGN SHALL BE EXECUTED ON THE BASIS OF SOIL EXPLORATORY BORING BY THE CONTRACTOR AND SHALL BE FINALIZED AFTER RESULTS OF THE PILE LOAD TEST.
- 6.3 ALL ABUTMENT PILES SHALL BE CAST AFTER CONSTRUCTION OF ROAD EMBANKMENT.
- 6.4 PILE LOAD TEST:
ONE/TWO PILES SHOULD BE CAST, AS SHOWN ON DRAWINGS AND AT LOCATION DIRECTED BY THE ENGINEER, FOR PILE LOAD TEST. PILE SHALL BE TESTED UPTO 3 TIMES OF THE DESIGN LOAD. PILE LOAD TESTS SHALL BE CARRIED OUT AS PER ASTM DESIGNATION D 1143-87 AND TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. CONSTRUCTION OF WORKING PILES SHALL COMMENCE AFTER COMPLETION AND INTERPRETATION OF TEST RESULTS.
- 6.5 PILE CONCRETING WILL BE CONTINUED WITH IMMERSED TREMIE UNTIL THE INITIAL BATCH OF CONTAMINATED CONCRETE HAS OVER FLOWN AND THE PILE CONCRETE SURFACE IS ATLEST 600mm ABOVE THE FINAL CUT-OFF LEVEL. THIS EXTRA LENGHT OF CONCRETE SUBSEQUENTLY BE CUT-OFF AFTER MINIMUM 3 DAYS TO ACHIEVE A UNIFORM SOUND CONCRETE BED.PILE ONCE REJECTED BY THE ENGINEER SHALL NOT BE ALLOWED FOR ANY TESTING BY CONTRACTOR TO PROVE ITS STABILITY FOR PERMANENT WORK. ADDITIONAL REQUIRED PILES DUE TO SUCH REJECTION BE DONE BY CONTRACTOR AT HIS OWN COST. IF TREMIE IS WITHDRAW PREMATURELY BEFORE FINAL BATCH OF CONCRETE OR IS STUCK IN WET CONCRETE, THE PILE WILL BE REJECTED. HOWEVER THE ENGINEER AT SITE WILL GIVE APPROVAL OF SUCH REJECTIONS.
- 6.6 BEHIND THE ABUTMENT AND WING WALLS, COMPACTED GRANULAR BACKFILL SHALL BE PLACED IN LAYERS OF THICKNESS APPROPRIATE TO THE COMPACTION EQUIPMENT ENSURING A MINIMUM IN SITU COMPACTION OF 95% MODIFIED PROCTOR.

7. JOINTS:

- 7.1 THE CONTRACTOR SHALL SUBMIT COMPLETE LAYOUT AND DETAILS OF ALL CONSTRUCTION JOINTS FOR APPROVAL OF THE ENGINEER.
- 7.2 CONCRETE IN DECK SLAB SHALL BE PLACED IN FULL WIDTH. NO CONSTRUCTION JOINT SHALL BE PERMITTED. DIAPHRAGMS AND DECK
- 7.3 CONCRETE FOR THE BARRIERS AND SIDEWALKS SHALL BE PLACED NO SOONER THAN 20 DAYS AFTER PLACING OF CONCRETE IN THE DECK SLAB.

8. BAR BENDING SCHEDULE

DETAILED BAR BENDING SCHEDULE SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED FOR ENGINEER'S APPROVAL.
LAP LENGTHS AND STANDARD HOOKS SHALL BE AS GIVEN BELOW:



9. CANAL LINING WORKS:

- 9.1 IF THE EXISTING LINING OF THE CANAL IS BEING DAMAGED DURING CONSTRUCTION OF BRIDGE, THE DAMAGED PORTION MUST BE RESTORED AS PER ORIGINAL DESIGN IN CLASS 'A' BRICK WORK.

10. TENDER DOCUMENTS, DRAWINGS & CONSTRUCTION DRAWINGS:

- 10.1 TENDER DRAWINGS ISSUED WITH TENDER DOCUMENTS ARE TO APPRAISE THE BIDDERS OF THE GENERAL NATURE & FAIR IDEA OF THE WORK TO PREPARE BOQ & TENDER DOCUMENTS. ENGINEER SHALL ISSUE THE DETAILED CONSTRUCTION DRAWINGS & SUCH FIELD SKETCHES FROM TIME TO TIME AS NECESSARY FOR THE EASE OF CONSTRUCTION.
- 10.2 THE CONTRACTOR SHALL CHECK ALL CONSTRUCTION DRAWINGS AND CONTRACT DOCUMENTS CAREFULLY AS SOON AS PRACTICABLE AFTER RECEIPT THERE OF, AND SHALL PROMPTLY ADVISE THE ENGINEER'S REP OF ANY ERRORS OR OMISSIONS THERE IN PRIOR TO START OF ANY CONSTRUCTION ACTIVITIES.

11. SCAFFOLDING:

ALL SCAFFOLDING SHALL BE DESIGNED BY THE CONTRACTOR & THE TRAFFIC MOVEMENT UNDERNEATH SUCH SCAFFOLDING MAY REMAIN UNOBSTRUCTED.

12. LAUNCHING OF PRECAST R.C.C BEAMS

CONTRACTOR SHALL SUBMIT ITS WORK STATEMENT FOR LIFTING THE PRECAST R.C.C BEAMS TO THE ENGINEER FOR ITS APPROVAL LIFTING OF PRECAST R.C.C BEAMS SHOULD BE DONE DURING NIGHT TIME AND OFF DAYS TO AVOID TRAFFIC DISTURBANCE.

13. METAL WORK:

- 13.1 MATERIALS TO BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- 13.2 ALL WELDED CONSTRUCTION UNLESS OTHERWISE NOTED.
- 13.3 ALL STEEL TO BE PAINTED OR GALVANIZED AS DIRECTED BY THE ENGINEER.
- 13.4 ALL SHEAR EDGES TO BE GROUND SMOOTH.
- 13.5 ALL WELDS SHALL BE 6mm CONTINUOUS FILLET WELD, E70XX ELECTRODE UNLESS OTHERWISE NOTED ON DRAWING.

14. LIST OF SYMBOLS AND ABBREVIATIONS:

Ao	=	THEORETICAL ELONGATION OF PRESTRESSING TENDON
B	=	BOTTOM
○B.H	=	BORE HOLE
C. JT.	=	CONSTRUCTION JOINT
C	=	CENTRELINE
C/C	=	CENTER TO CENTER
DIA.	=	DIAMETER
EXP. JT.	=	EXPANSION JOINT
E.F	=	EACH FACE
ELE.	=	ELEVATION
F.F	=	FAR FACE
G.I	=	GALVANIZED IRON
GUTS	=	GUARANTEED ULTIMATE TENSILE STRENGTH (OF PRESTRESSING CABLES)
ID	=	INTERNAL DIAMETER
I.F	=	INNER FACE
m	=	METER
mm	=	MILLIMETER
N.F	=	NEAR FACE
N.S.L	=	NATURAL SURFACE LEVEL
P.G.L	=	PROFILE GRADE LEVEL
SYM.	=	SYMMETRICAL
T	=	TOP
TH.	=	THICK
TYP.	=	TYPICAL
θ	=	SKEW ANGLE IN DEGREES

TABLE NO.1

(i) SPLICE LENGTH IN TENSION

(a) TOP BARS										
Bar Size fc' Kg/cm ²	SPLICE LENGTH mm									
	#3	#4	#5	#6	#7	#8	#9	#10	#11	
210	710	945	1180	1410	2060	2355	2645	2940	3240	
280	610	820	1020	1225	1780	2040	2995	2550	2805	

(b) OTHER BARS

Bar Size fc' Kg/cm ²	SPLICE LENGTH mm									
	#3	#4	#5	#6	#7	#8	#9	#10	#11	
210	550	730	905	1085	1590	1815	2035	2265	2490	
280	475	630	790	945	1375	1570	1765	1960	2160	

(ii) SPLICE LENGTH IN COMPRESSION

SPLICE LENGTH (mm) IN COMPRESSION (Fy=4220Kg/cm ²)									
Bar Size	#3	#4	#5	#6	#7	#8	#9	#10	#11
Splice Length	300	380	480	575	670	765	860	955	1050

(iii) EMBEDMENT LENGTH IN TENSION

(a) TOP BARS										
Bar Size fc' Kg/cm ²	SPLICE LENGTH mm									
	#3	#4	#5	#6	#7	#8	#9	#10	#11	
210	545	730	910	1090	1590	1820	2050	2310	2565	
280	475	630	785	945	1360	1555	1755	1975	2190	

(b) OTHER BARS

Bar Size fc' Kg/cm ²	SPLICE LENGTH mm									
	#3	#4	#5	#6	#7	#8	#9	#10	#11	
210	420	560	700	840	1225	1400	1580	1775	1970	
280	365	485	605	725	1045	1195	1350	1520	1685	

CLIENT



WATER AND POWER
DEVELOPMENT AUTHORITY
(WAPDA)

CONSULTANT



NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04

03

02

01

REV.

DATE

DESCRIPTION

APPROVED

APPROVED

DRAWN

SUBMITTED

RECOMMENDED

CHD./VER.

RASHID AZIZ

PROJECT

DETAILED DESIGN AND CONSTRUCTION SUPERVISION /
IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM
(LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND
DOWNSTREAM FISHERIES PLANS;
NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)

GENERAL NOTES

DATE

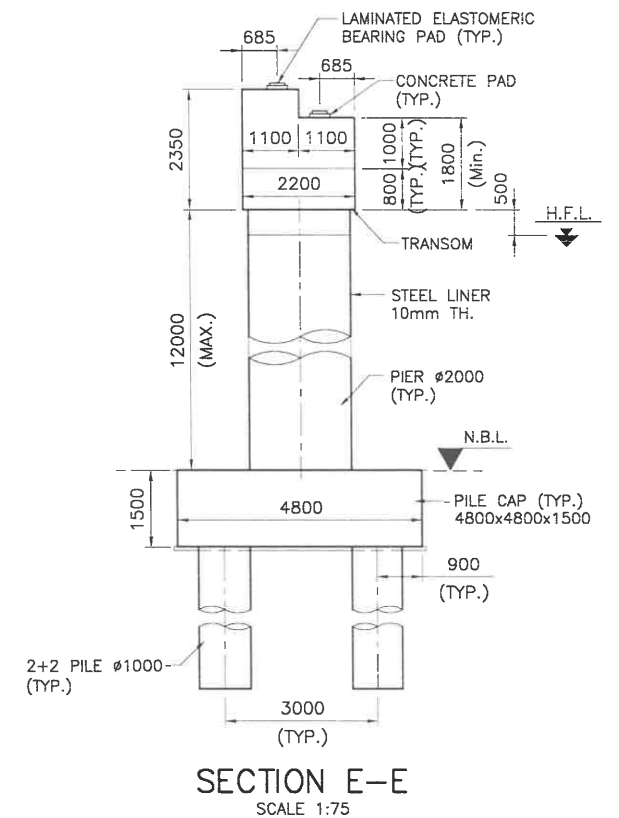
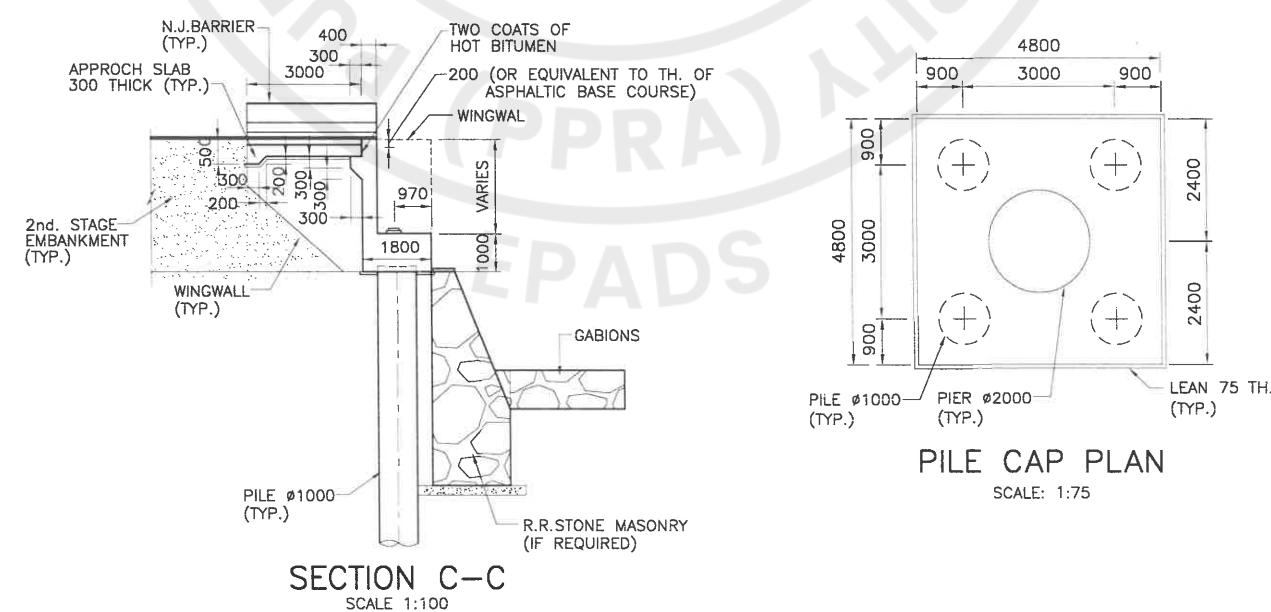
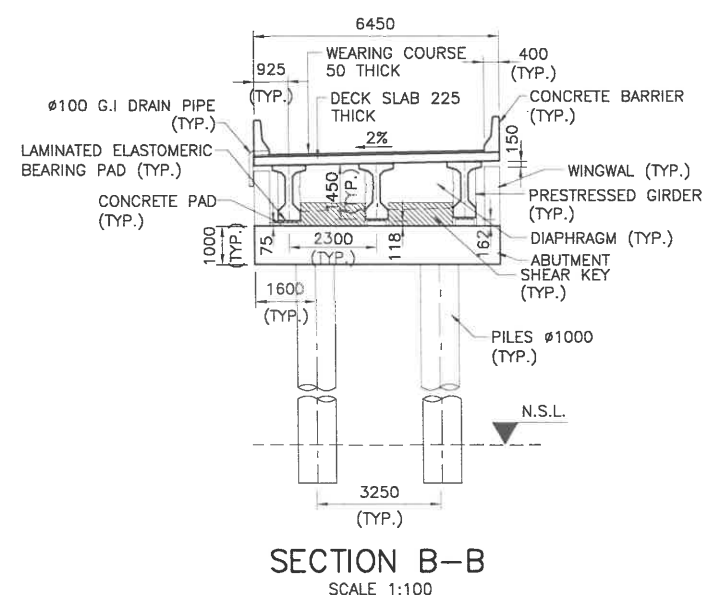
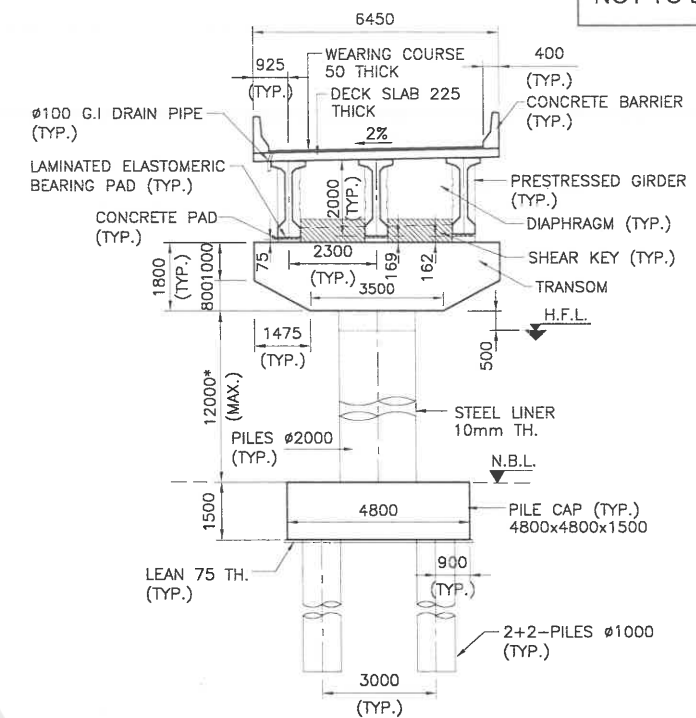
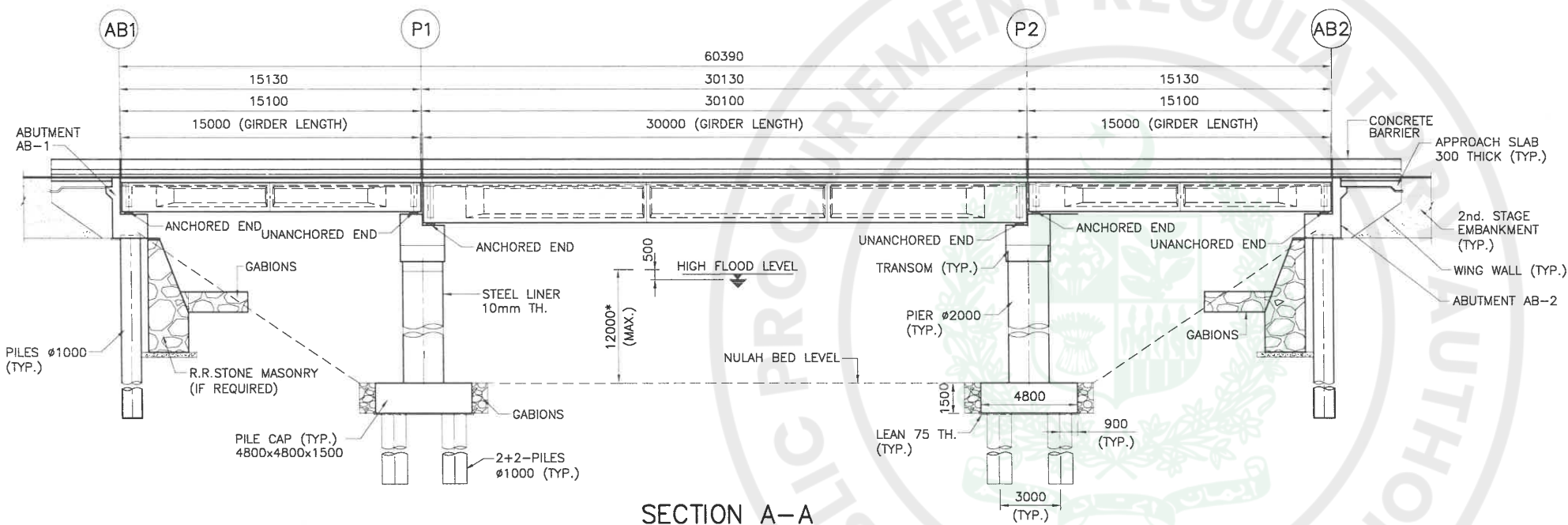
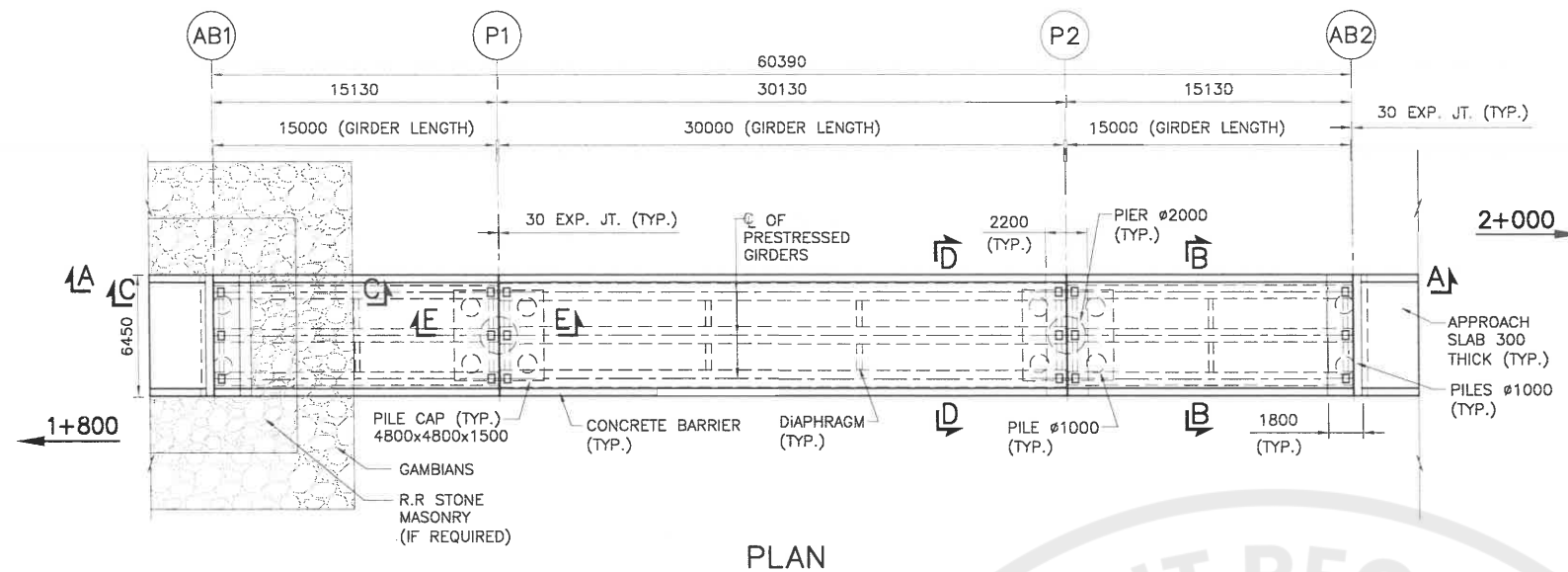
DRAWING No.

JULY 2026

4520/102/TD/PG001

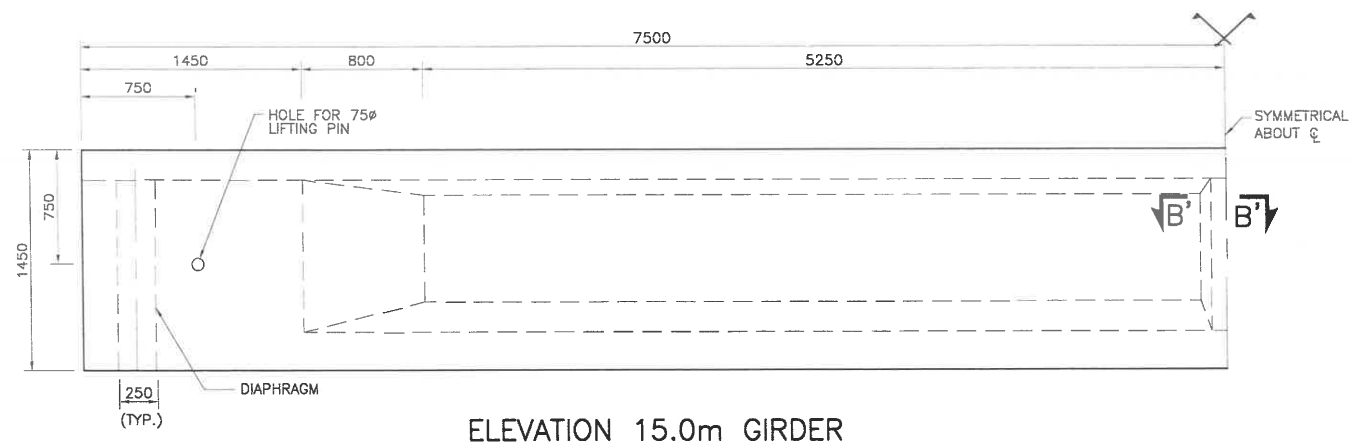
SCALE

REV.

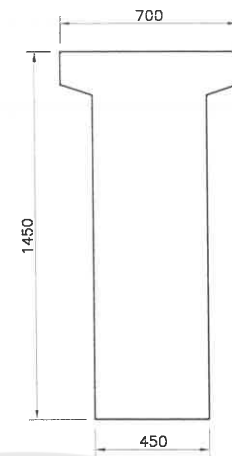


- ## NOTES:
1. FOR GENERAL NOTES REFER DRG. NO. P1G001.
 2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
 3. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
 4. * HEIGHT OF PIER WILL BE CONFIRMED FROM PLAN AND PROFILE DRAWING.

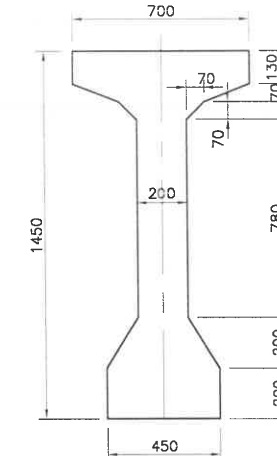
TENDER DRAWING
NOT TO BE USED FOR CONSTRUCTION



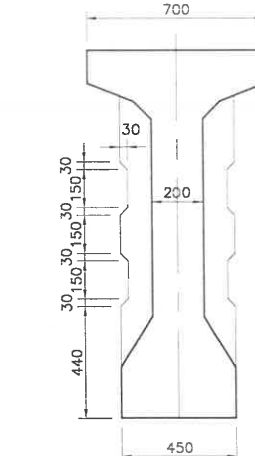
ELEVATION 15.0m GIRDER



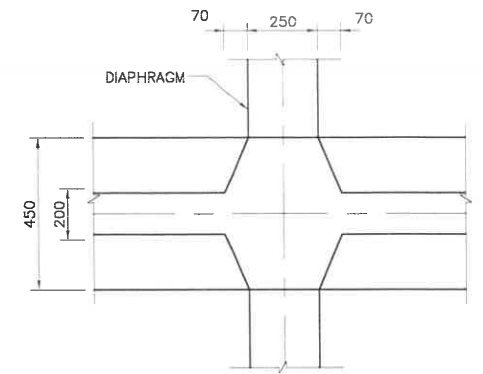
END VIEW OF GIRDER



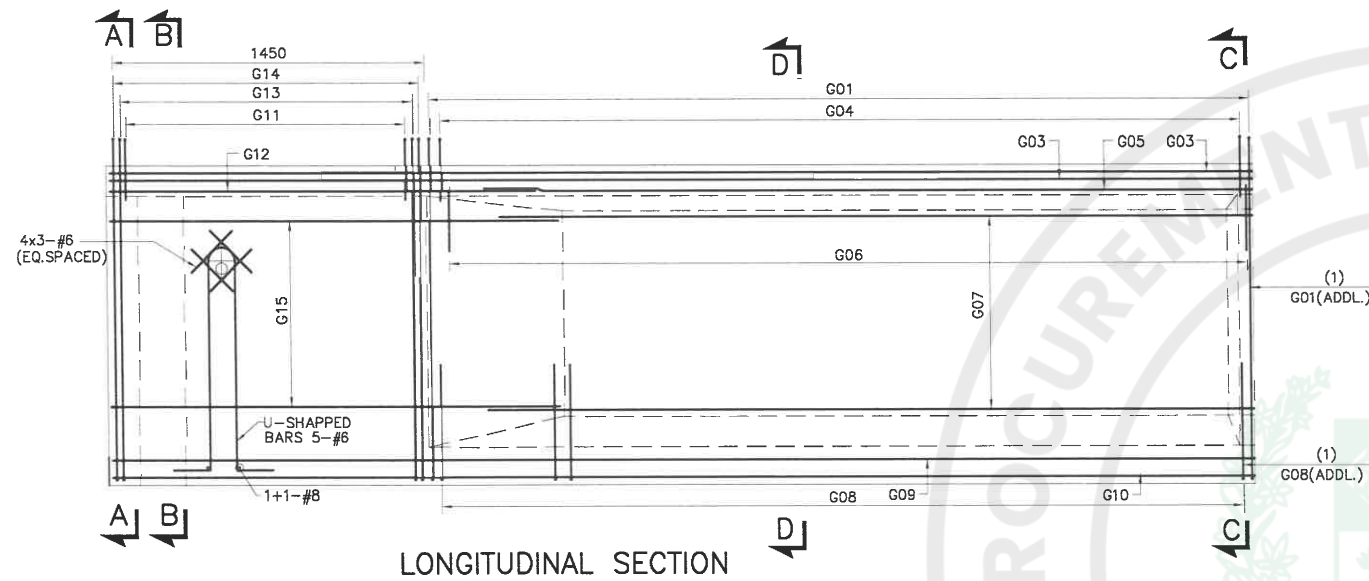
SECTION AT MIDSPAN



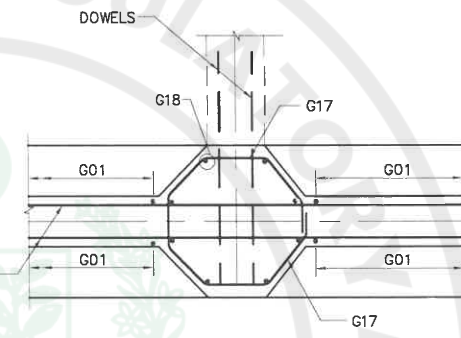
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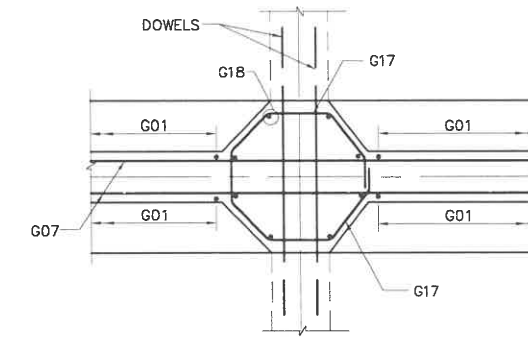
SECTIONAL PLAN B'-B'
SCALE 1:15



LONGITUDINAL SECTION

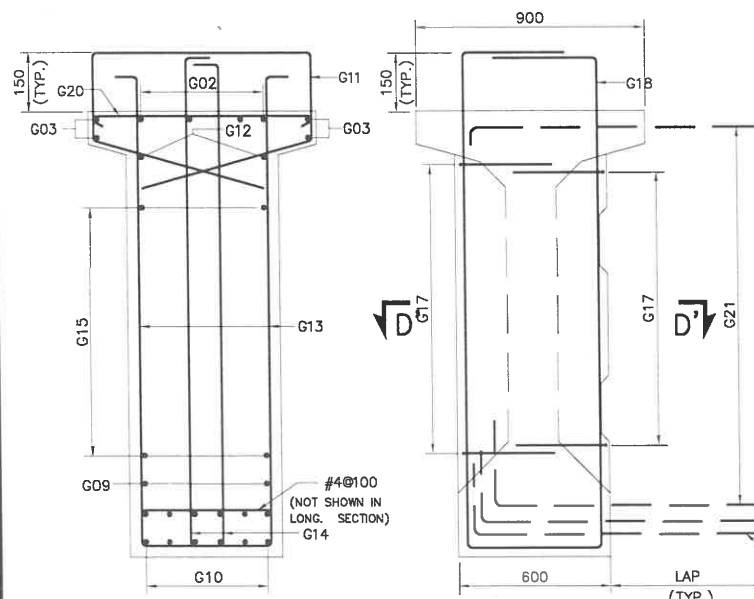


SECTIONAL PLAN D'-D'
(FOR EXTERIOR GIRDER)
SCALE 1:15

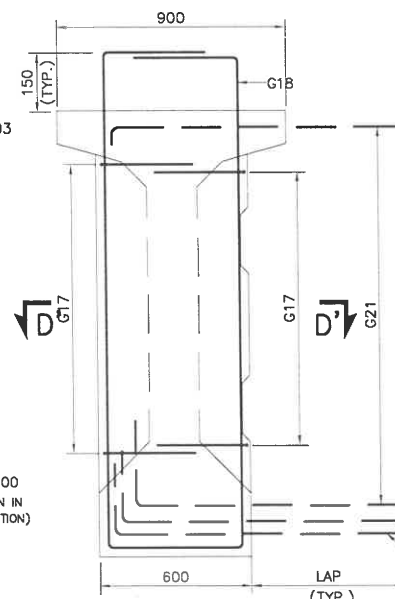


SECTIONAL PLAN D-D
(FOR INTERIOR GIRDER)
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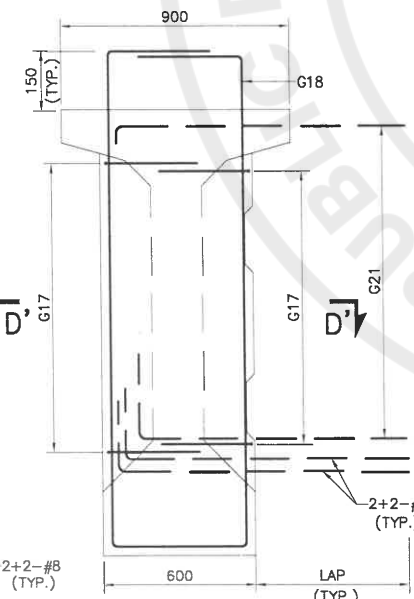
REINFORCEMENT SCHEDULE	
MARK	BAR DIA. ⊕ SPACING
G01	#4⊕130
G02	4-#6
G03	2#6(E.F)
G04	#4⊕130
G05	#6(E.F)
G06	#4⊕130
G07	4-#6(E.F)
G08	#4⊕130
G09	#6(E.F)
G10	7-7-#10
G11	#4⊕100
G12	#6(E.F)
G13	#4⊕100
G14	#4⊕100
G15	4-#6(E.F)
G17	#4⊕50
G18	8-#4
G19	#4⊕130
G20	#4⊕100
G21	#4⊕200



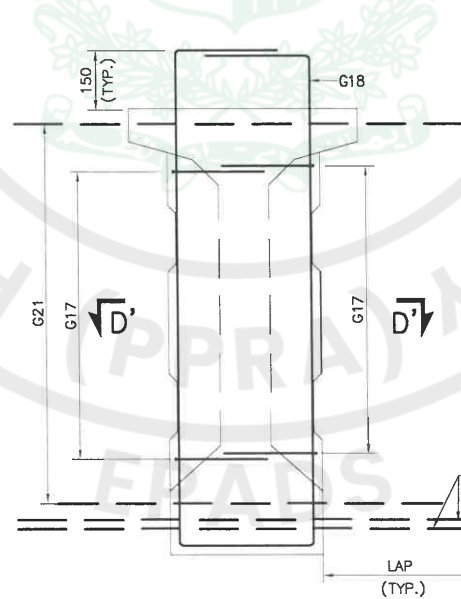
SECTION A-A
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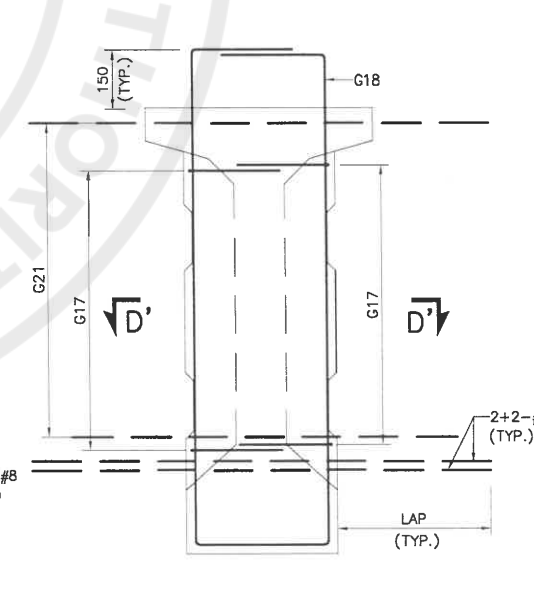
SECTION B-B
(FOR EXTERIOR GIRDER)
(EXTERIOR DIAPHRAGM)
SCALE 1:15



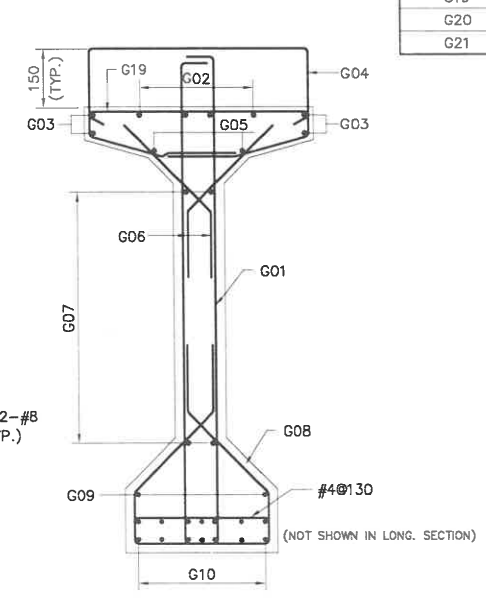
SECTION C-C
(FOR EXTERIOR GIRDER)
(INTERIOR DIAPHRAGM)
SCALE 1:15



SECTION B-B
(FOR INTERIOR GIRDER)
(EXTERIOR DIAPHRAGM)
SCALE 1:15



SECTION C-C
(FOR INTERIOR GIRDER)
(INTERIOR DIAPHRAGM)
SCALE 1:15

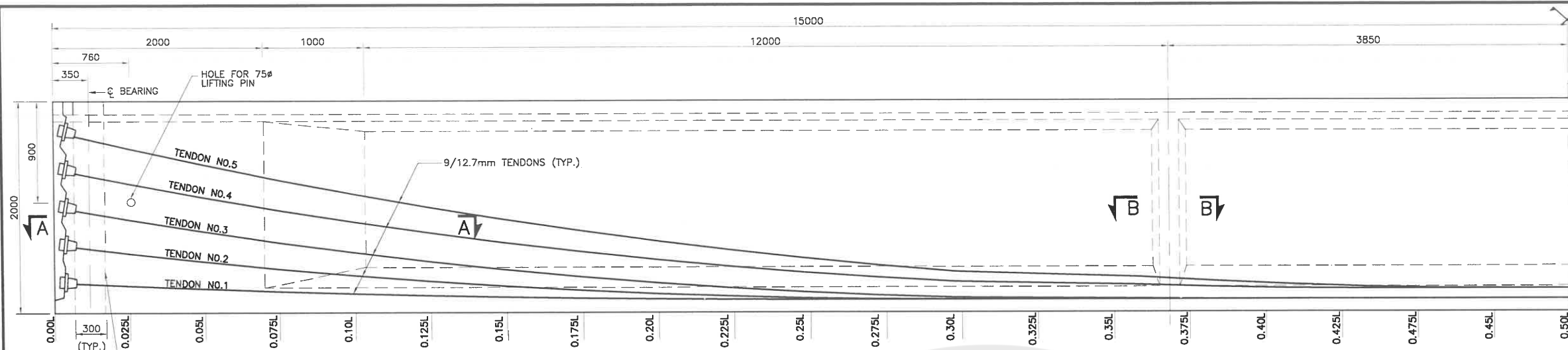


SECTION D-D
SCALE 1:15

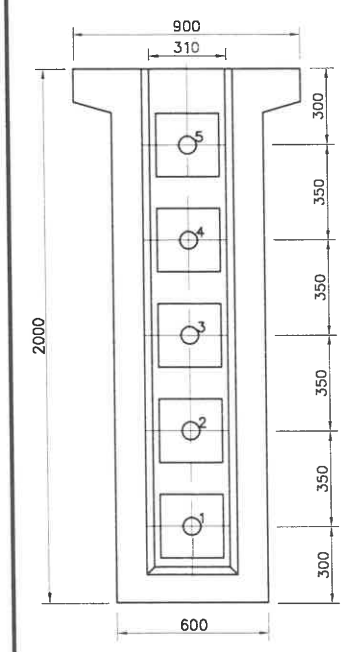
NOTES:

1. FOR GENERAL NOTES REFER DRAWING No. P1G001.
2. ALL CONCRETE SHALL BE OF 5000 Psi CYLINDRICAL STRENGTH.
3. REINFORCEMENT FOR CONCRETE SHALL BE DEFORMED ROUND BARS OF (GRADE 60) CONFORMING TO AASHTO M-31(ASTM A-615) WITH MINIMUM YIELD STRENGTH OF 4200 Kg/Sq.Cm (60,000psi).

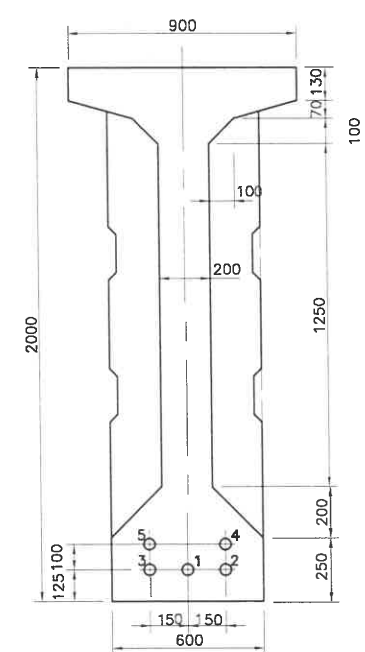
 CLIENT WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	WARIS	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-JCS)	15.0m R.C.C GIRDER CONC. OUTLINE & REINFORCEMENT DETAILS BRIDGE AT CH. 1+990 km.		SCALE
		03				SUBMITTED			DATE JULY, 2026	DRAWING No. 4520/102/TD/P1G102	REV. 
		02				RECOMMENDED					
		01				CHD./VER.					
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED					



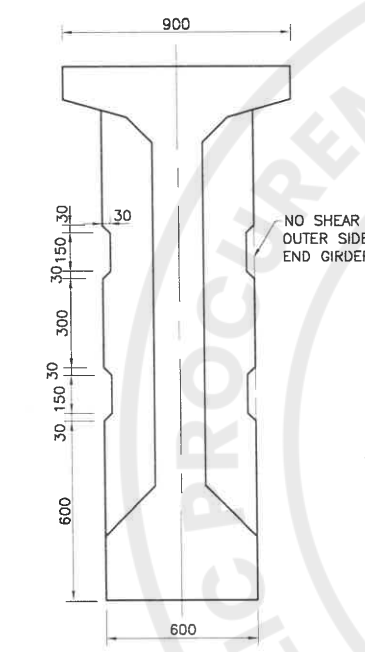
ELEVATION (Tendon Profile) 30.0m GIRDER



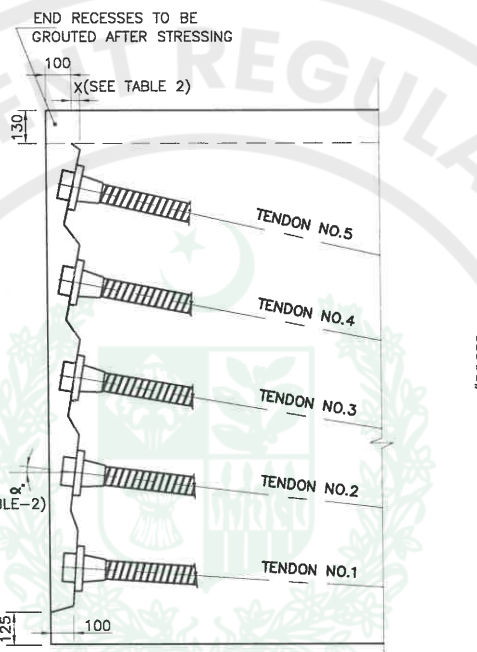
END VIEW OF GIRDER
SCALE 1:15



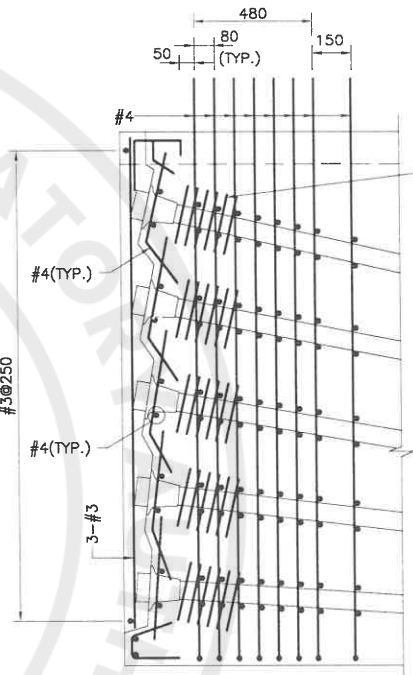
SECTION AT MIDSPAN
SCALE 1:15



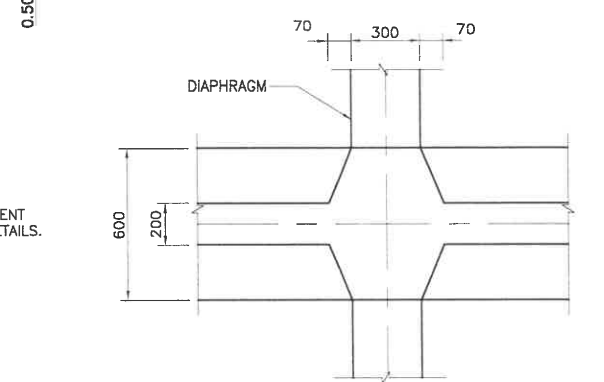
SECTION AT DIAPHRAGM
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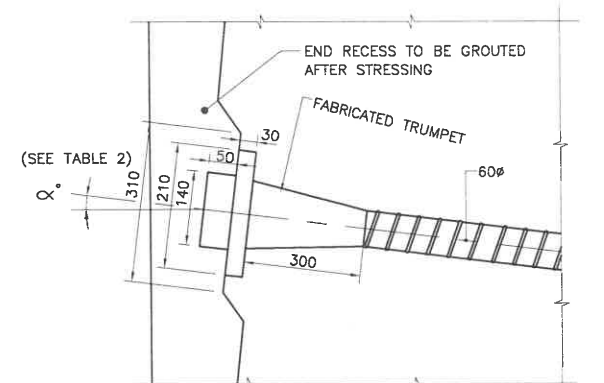
DETAIL OF ANCHORAGE RECESSES
SCALE 1:15



BURSTING REINF. DETAIL
SCALE 1:15

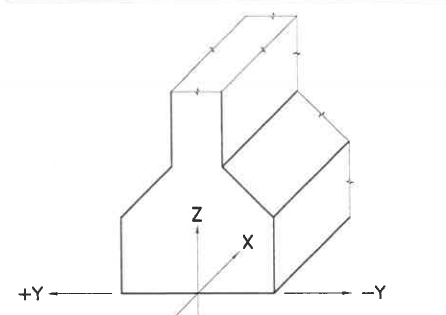


SECTIONAL PLAN B-B
SCALE 1:15



TYPICAL DETAIL
(ANCHORAGE RECESS)

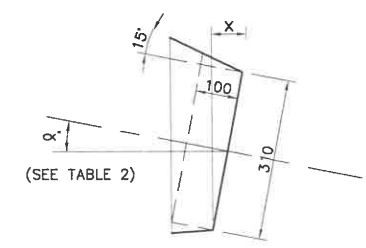
TENDER DRAWING
NOT TO BE USED FOR CONSTRUCTION



REFERENCE CO-ORDINATES

NOTES:

- FOR GENERAL NOTES REFER DRAWING No. P1G001.
- THE FOLLOWING VALUES HAVE BEEN ASSUMED IN THE CALCULATION OF THEORETICAL ELONGATION/EXTENSION (A_0) OF TENDONS:
MODULUS OF ELASTICITY, $E=198,8447 \text{ Kg/Sq.Cm (28,300 ksi)}$
COEFFICIENT OF CURVATURE FRICTION= 0.20 PER RADIAN
WOBBLE FRICTION COEFFICIENT= 0.00656 PER METER
ANY DEVIATION FROM THE ABOVE VALUES SHALL BE REPORTED TO THE ENGINEER.
- STRESSING SHALL BE STOPPED AS SOON AS ONE OF THE FOLLOWING CONDITIONS IS FULFILLED:
-STRESS REACHES 0.75 TIMES GUARANTEED ULTIMATE TENSILE STRENGTH (GUTS)
-ACTUAL ELONGATION/EXTENSION REACHES $1.067 A_0$
-IF AT 0.75 GUTS ACTUAL ELONGATION IS STILL BELOW $0.95 A_0$ STRESSING SHALL BE PROCEEDED UPTO MAXIMUM OF 0.80 GUTS.
-IN THE EVENT OF NON-CONFORMANCE OF ABOVE, THE CABLE MAY BE REPLACED.
- TENDON EXTENSION GIVEN IN TABLE IS FOR THE JACKING END.
- STRESSING OF GIRDERS SHOULD BE DONE FROM BOTH ENDS.
- ALL PRESTRESSED CONCRETE SHALL BE 5000 psi CYLINDER STRENGTH.



ANCHORAGE RECESS DETAILS

TABLE-1

TENDON NO.	END 0.00	DATA FOR GIRDER																EXTENSION AT EACH END (mm)	SEQUENCE OF STRESSING
		0.025L	0.05L	0.075L	0.10L	0.125L	0.15L	0.175L	0.20L	0.225L	0.25L	0.275L	0.30L	0.325L	0.35L	0.375L	0.40L		
1	Z	300	283	267	251	237	223	211	199	188	178	169	160	153	146	141	136	132	129
	Y	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Z	650	599	550	504	461	420	382	347	314	284	256	231	209	159	172	158	146	137
	Y	0	0	0	0	0	0	0	0	0	0	10	20	40	60	80	100	120	130
3	Z	1000	915	834	757	685	617	554	495	440	390	344	302	265	232	204	180	160	145
	Y	0	0	0	0	0	0	0	0	0	-5	-10	-20	-40	-60	-80	-100	-120	-130
4	Z	1350	1240	1136	1038	945	858	776	700	630	565	506	453	405	363	326	295	270	250
	Y	0	0	0	0	0	0	0	0	0	0	5	15	30	60	90	115	130	140
5	Z	1700	1556	1420	1291	1169	1055	948	848	756	671	594	524	461	406	358	317	284	258
	Y	0	0	0	0	0	0	0	0	0	0	-5	-15	-30	-60	-90	-115	-130	-140

TABLE-2

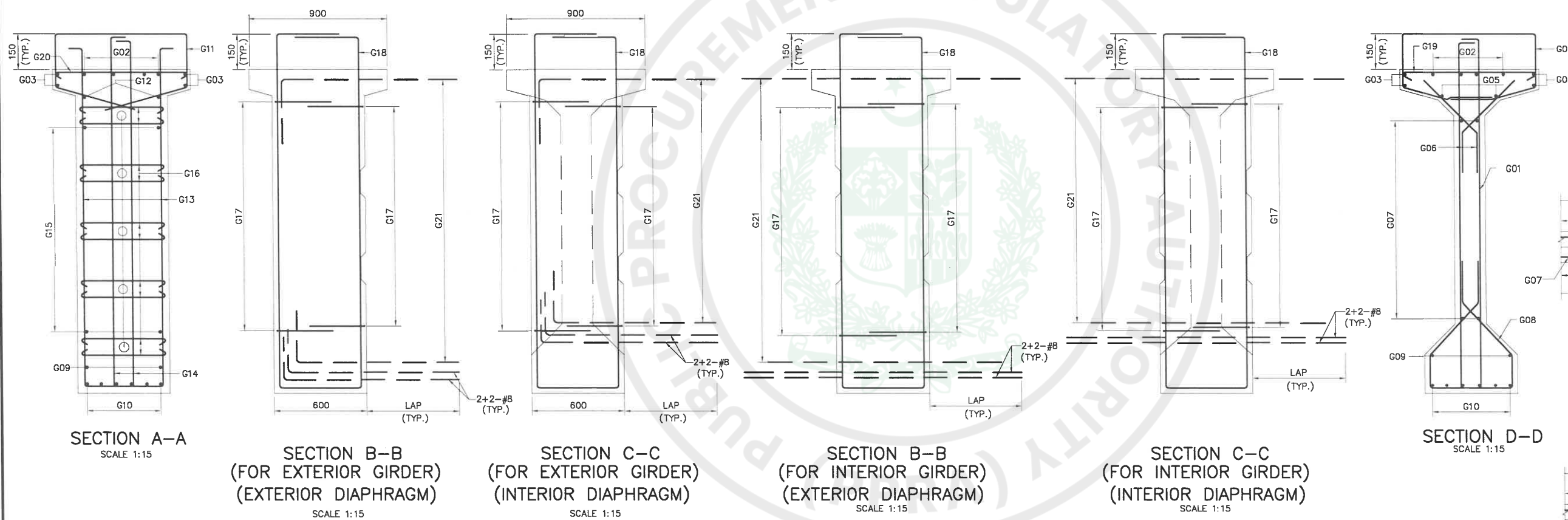
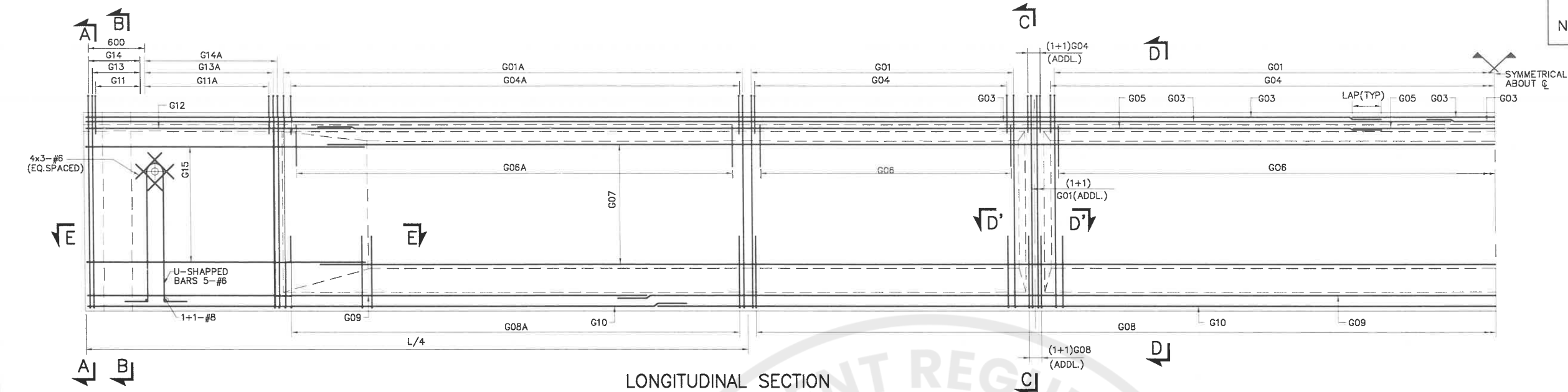
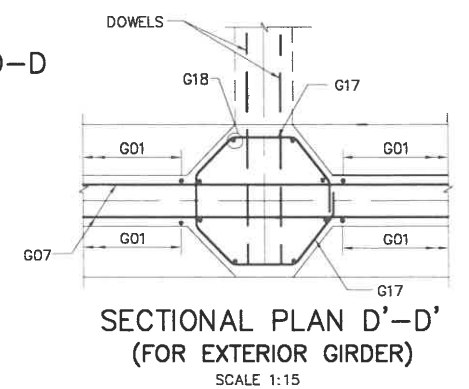
ANCHORAGE RECESS DATA		
TENDON NO.	ANGLE α°	X (mm)
1	1' 21' 00"	7
2	4' 02' 59"	22
3	6' 44' 58"	37
4	8' 40' 40"	47
5	11' 22' 39"	62

CLIENT		CONSULTANT		04				DRAWN		WARIS		PROJECT		30.0m PRESTRESSED GIRDER CONC.OUTLINE & PRESTRESSING DETAILS BRIDGE AT CH. 1+990 km.		SCALE			
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03				SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		DATE JULY, 2026		DRAWING No. 4520/102/TD/P1G103		REV. 1 : 15 	
				02				RECOMMENDED											
				01				CHD./VER.											
				REV.		DATE		DESCRIPTION		APPROVED									
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.																	

REINFORCEMENT
SCHEDULE

MARK	BAR DIA. @ SPACING
G01	#4@300
G01A	#4@150
G02	4-#4
G03	2#4(E.F)
G04	#4@300
G04A	#4@150
G05	#4(E.F)
G06	#4@300
G06A	#4@150
G07	4-#4(E.F)
G08	#4@300
G08A	#4@150
G09	#4(E.F)
G10	6-#6
G11	#4@80
G11A	#4@150
G12	#4(E.F)
G13	#4@80
G13A	#4@150
G14	#4@80
G14A	#4@150
G15	4-#4(E.F)
G16	10x10-#4
G16A	10x7-#4
G17	#4@150
G18	8-#4
G19	#4@300
G20	#4@80/150
G21	#4@200

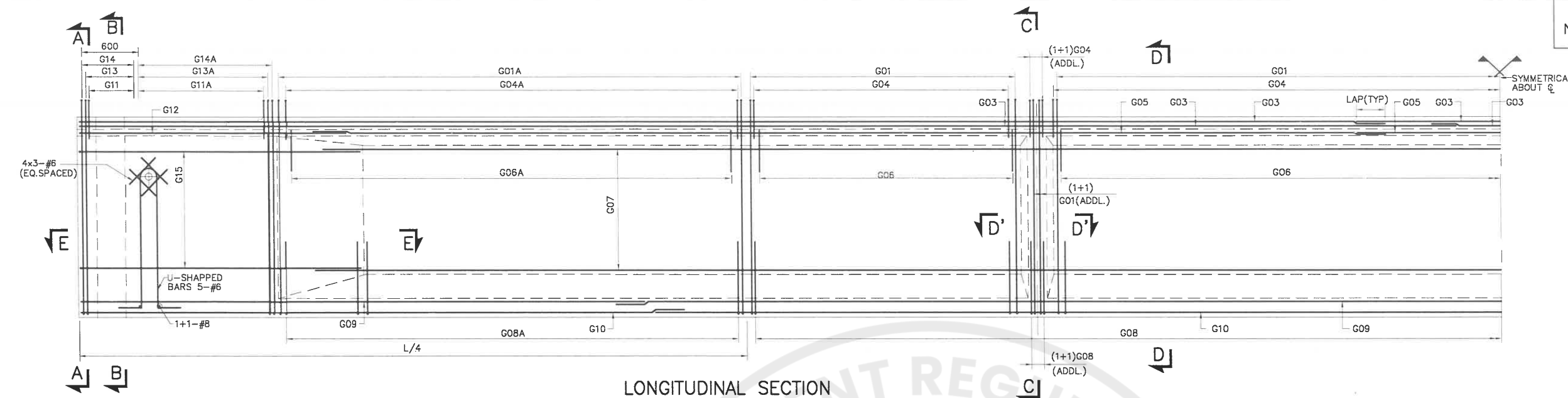
LONGITUDINAL SECTION

SECTIONAL PLAN D'-D'
(FOR INTERIOR GIRDER)
SCALE 1:15SECTIONAL PLAN D'-D'
(FOR EXTERIOR GIRDER)
SCALE 1:15

NOTES:

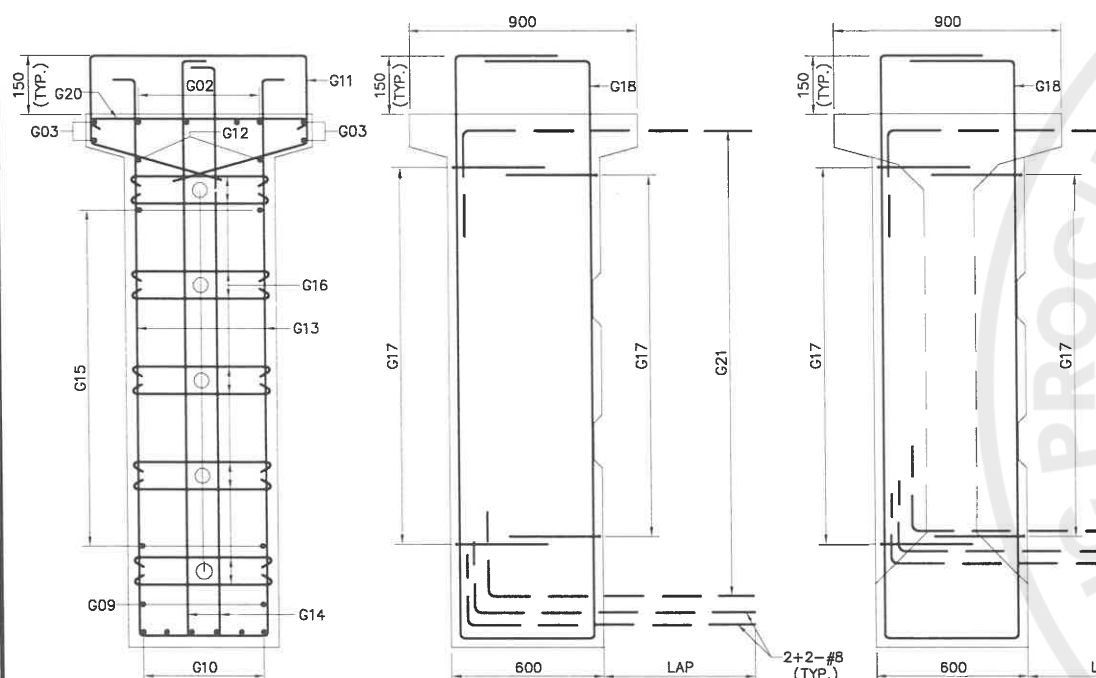
- FOR GENERAL NOTES REFER DWG. NO. P16001.
- ALL PRESTRESSED CONCRETE SHALL BE 5000 psi CYLINDER STRENGTH.
- CONCRETE REINFORCEMENT SHALL BE DEFORMED ROUND BARS OF (GRADE 60) CONFORMING TO AASHTO M-31(ASTM A-615) WITH MINIMUM YIELD STRENGTH OF 4200 Kg/Sq.Cm (60,000psi).

CLIENT		CONSULTANT		04		DRAWN		WARIS		PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		30.0m PRESTRESSED GIRDER REINFORCEMENT BRIDGE AT CH. 1+990 km		SCALE 1 : 15			
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED						DATE		DRAWING No.		REV.	
				02		RECOMMENDED						JULY, 2026		4520/102/TD/P1G103		0	
				01		CHD./VER.											
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.		REV.		DATE		DESCRIPTION		APPROVED		APPROVED					

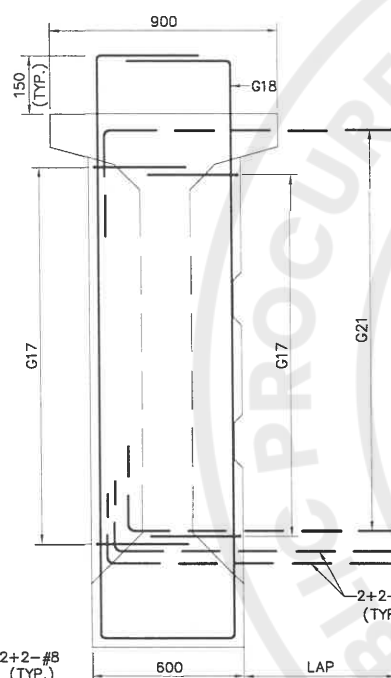


REINFORCEMENT SCHEDULE

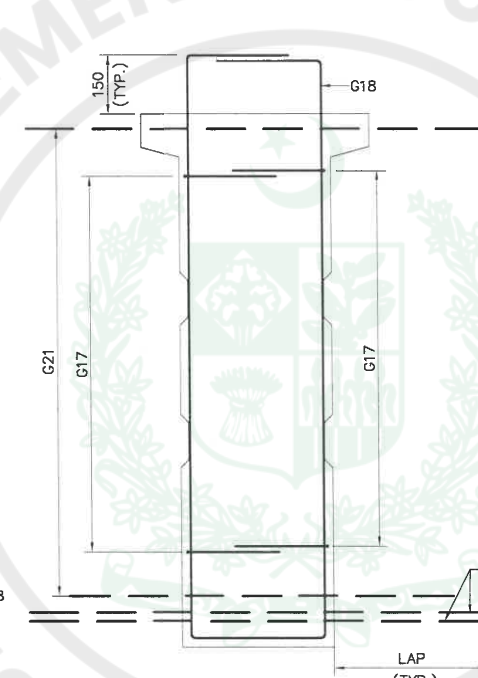
MARK	BAR DIA. @ SPACING
G01	#4@300
G01A	#4@150
G02	4-#4
G03	2#4(E.F)
G04	#4@300
G04A	#4@150
G05	#4(E.F)
G06	#4@300
G06A	#4@150
G07	4-#4(E.F)
G08	#4@300
G08A	#4@150
G09	#4(E.F)
G10	6-#6
G11	#4@80
G11A	#4@150
G12	#4(E.F)
G13	#4@80
G13A	#4@150
G14	#4@80
G14A	#4@150
G15	4-#4(E.F)
G16	10x10-#4
G16A	10x7-#4
G17	#4@150
G18	8-#4
G19	#4@300
G20	#4@80/150
G21	#4@200



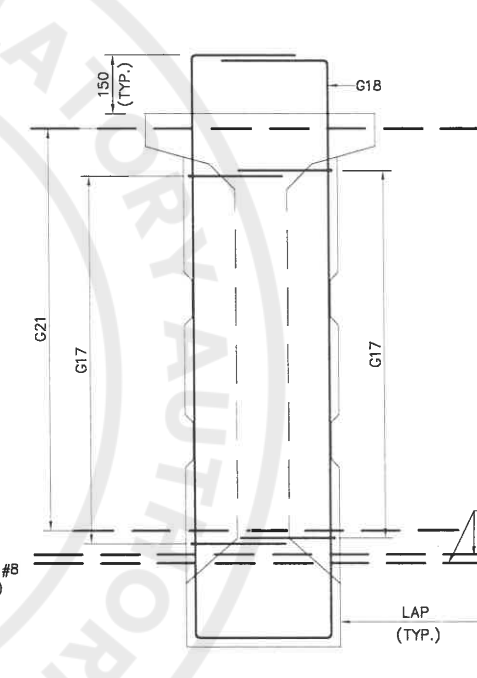
SECTION B-B
(FOR EXTERIOR GIRDER)
(EXTERIOR DIAPHRAGM)
SCALE 1:15



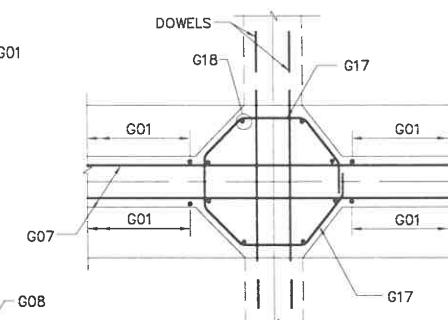
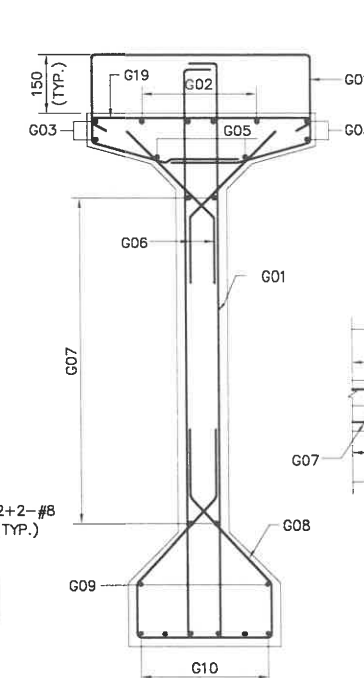
SECTION C-C
(FOR EXTERIOR GIRDER)
(INTERIOR DIAPHRAGM)
SCALE 1:15



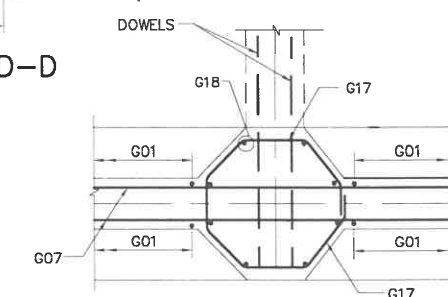
SECTION B-B
(FOR INTERIOR GIRDER)
(EXTERIOR DIAPHRAGM)
SCALE 1:15



SECTION C-C
(FOR INTERIOR GIRDER)
(INTERIOR DIAPHRAGM)
SCALE 1:15



SECTIONAL PLAN D'-D'
(FOR INTERIOR GIRDER)
SCALE 1:15



SECTIONAL PLAN D'-D'
(FOR EXTERIOR GIRDER)
SCALE 1:15

NOTES:

- FOR GENERAL NOTES REFER DWG. NO. P1G001.
- ALL PRESTRESSED CONCRETE SHALL BE 5000 psi CYLINDER STRENGTH.
- CONCRETE REINFORCEMENT SHALL BE DEFORMED ROUND BARS OF (GRADE 60) CONFORMING TO AASHTO M-31(ASTM A-615) WITH MINIMUM YIELD STRENGTH OF 4200 Kg/Sq.Cm (60,000psi).

CLIENT
**WATER AND POWER
DEVELOPMENT AUTHORITY
(WAPDA)**

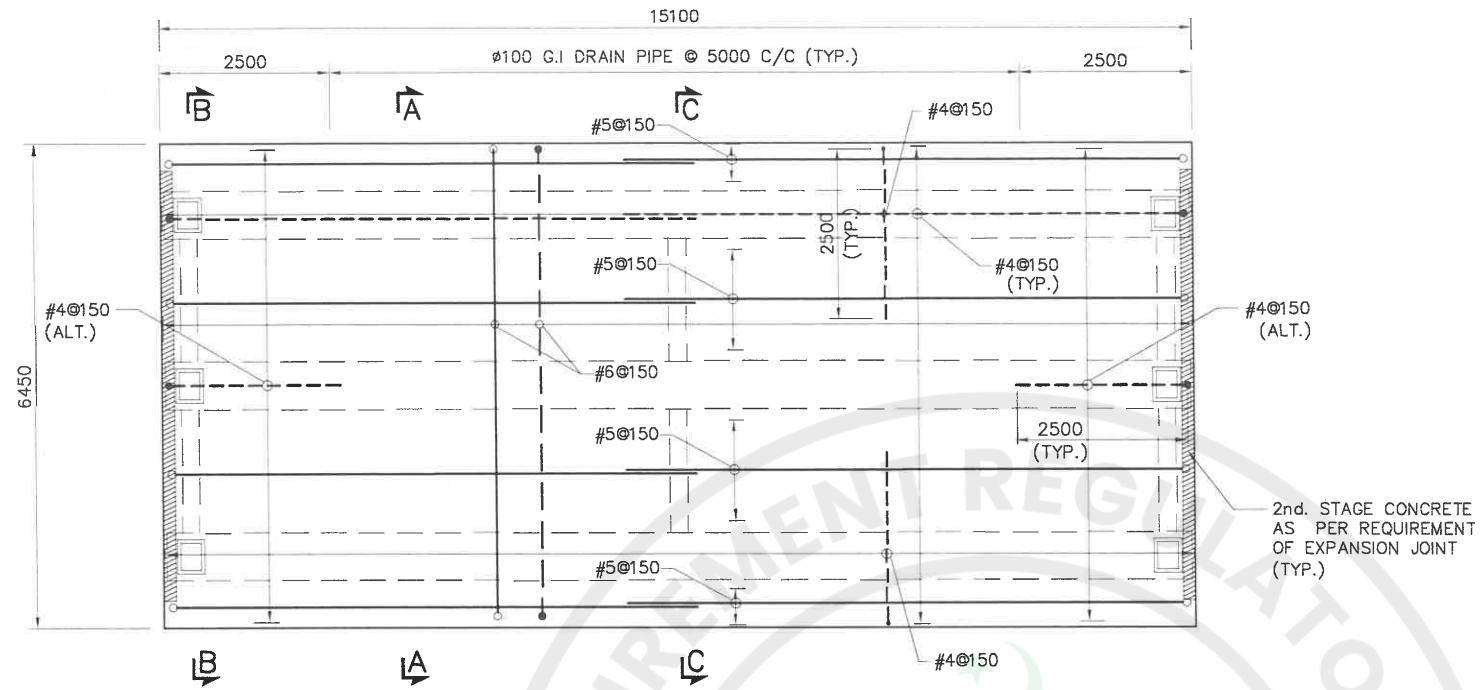
CONSULTANT
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.**
HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04				DRAWN	WARIS
03				SUBMITTED	
02				RECOMMENDED	
01				CHD./VER.	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED	

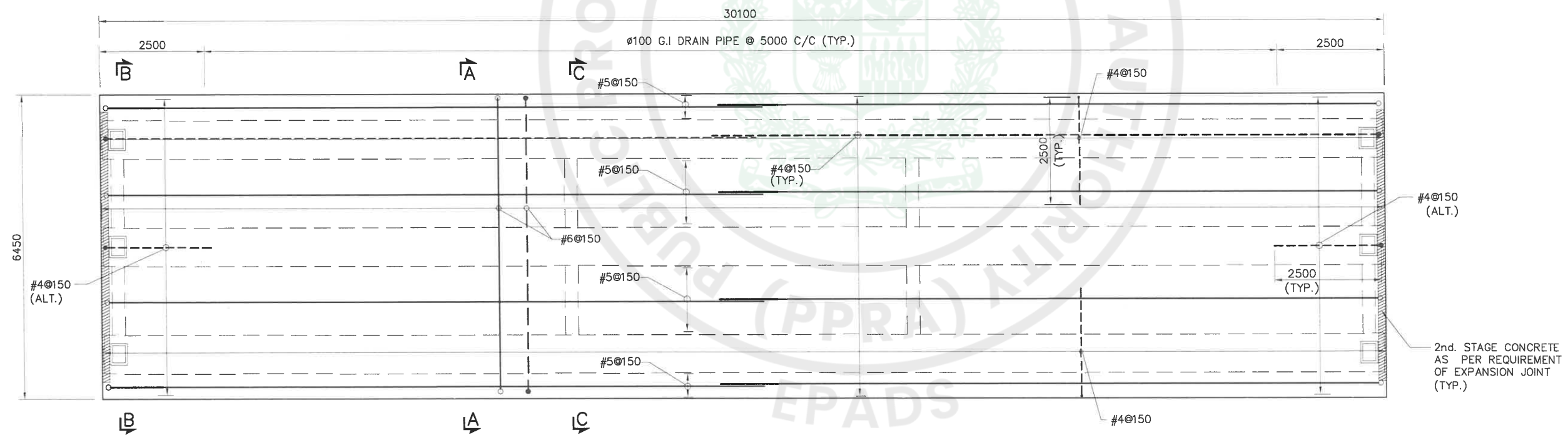
PROJECT
DETAILED DESIGN AND CONSTRUCTION SUPERVISION /
IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM
(LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND
DOWNSTREAM FISHERIES PLANS;
NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)

30.0m PRESTRESSED GIRDER
REINFORCEMENT
BRIDGE AT CH. 1+990 km

DATE	JULY, 2026	DRAWING No.	4520/102/TD/P1G104	SCALE	1:15
REV.					



PLAN
(N.J BARRIER NOT SHOWN)



PLAN
(N.J BARRIER NOT SHOWN)

NOTE:

1. FOR GENERAL NOTES REFER DWG. NO. P1G001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.

CLIENT



WATER AND POWER
DEVELOPMENT AUTHORITY
(WAPDA)

CONSULTANT



NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04

03

02

01

REV.

DATE

DESCRIPTION

APPROVED

DRAWN

SUBMITTED

RECOMMENDED

CHD/VER.

APPROVED

WARIS

PROJECT

DETAILED DESIGN AND CONSTRUCTION SUPERVISION /
IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM
(LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND
DOWNSTREAM FISHERIES PLANS;
NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)

DECK SLAB FOR 15.1m & 30.1m SPAN
REINFORCEMENT
BRIDGE AT CH. 1+990 km.

SCALE

1 : 200

DATE

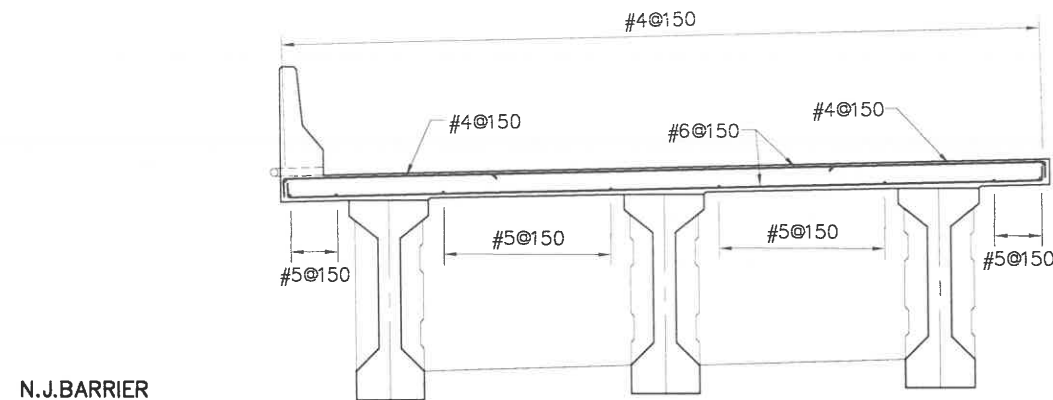
JULY, 2026

DRAWING No.

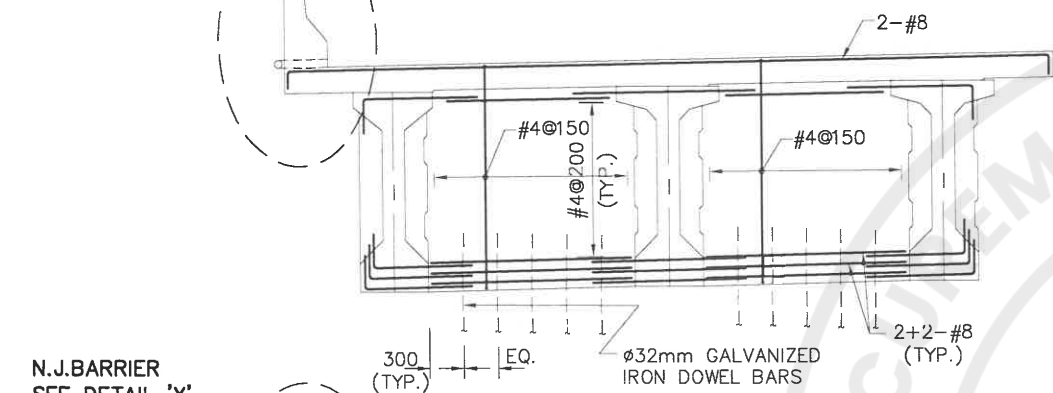
4520/102/TD/P1G105

REV.

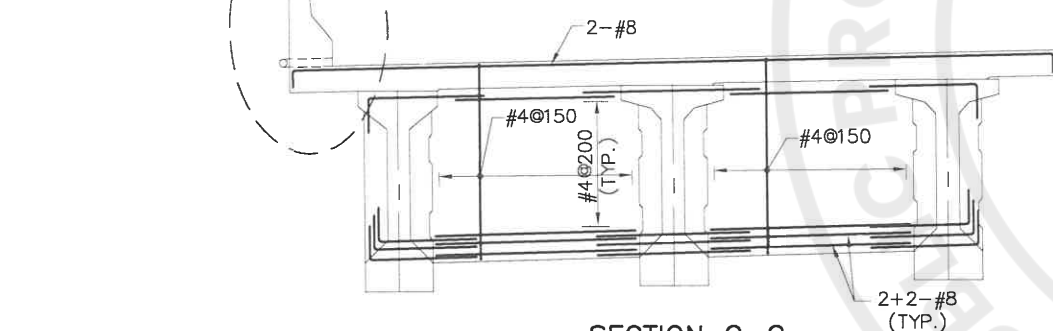
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SECTION A-A
SCALE 1:75

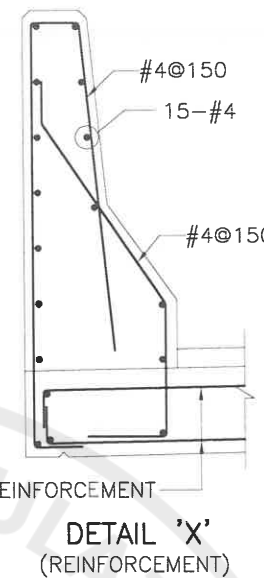
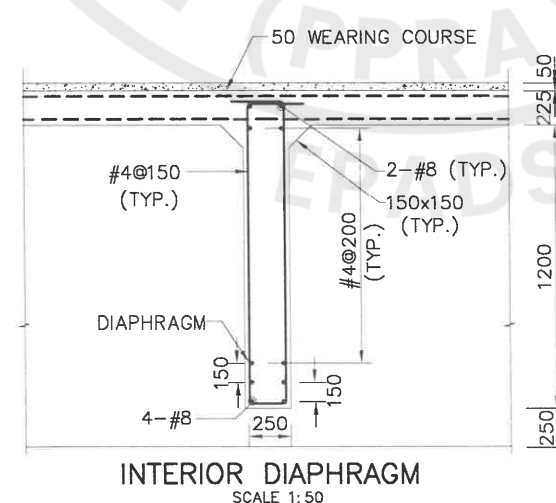
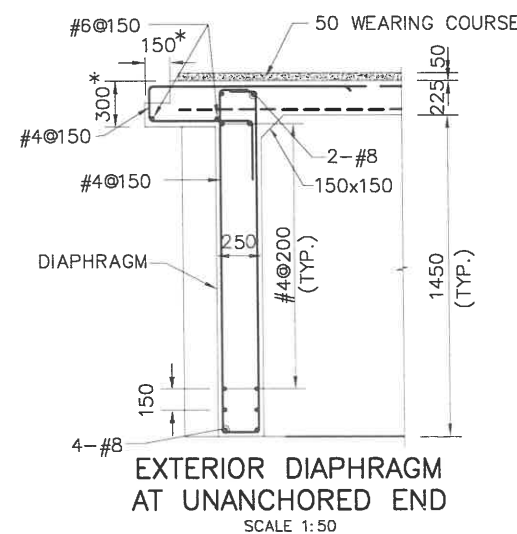
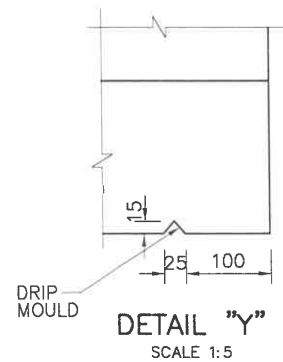


SECTION B-B
ELEVATION OF EXTERIOR DIAPHRAGM
SCALE 1:75

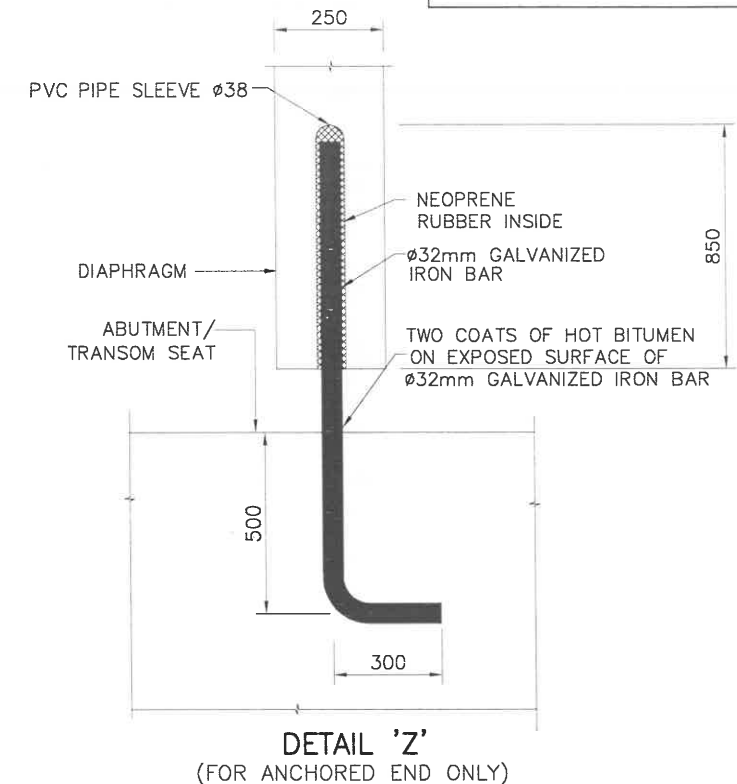


SECTION C-C
ELEVATION OF INTERIOR DIAPHRAGM
SCALE 1:75

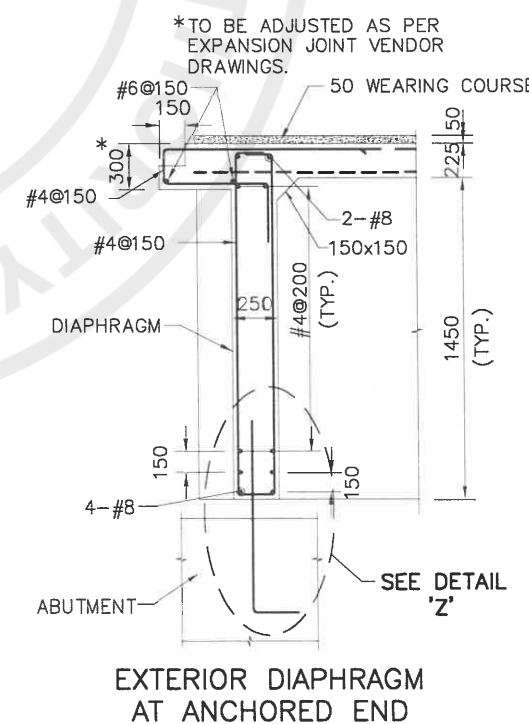
* TO BE ADJUSTED AS PER
EXPANSION JOINT VENDOR
DRAWINGS.



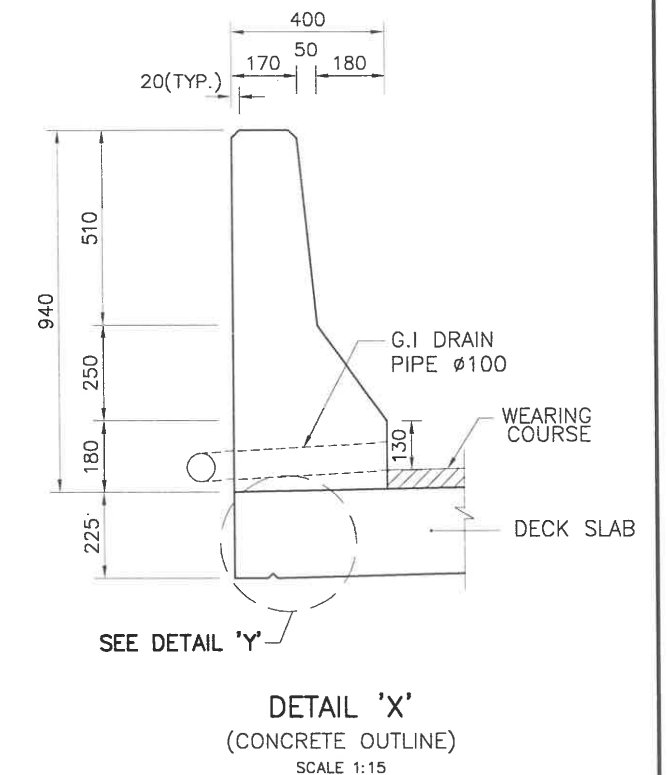
DETAIL 'X'
(REINFORCEMENT)



DETAIL 'Z'
(FOR ANCHORED END ONLY)



EXTERIOR DIAPHRAGM
AT ANCHORED END



DETAIL 'X'
(CONCRETE OUTLINE)
SCALE 1:15

NOTES:

1. FOR GENERAL NOTES REFER DWG. NO. P1G001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
3. THE GALVANIZED DOWELS SHALL BE PLAIN BARS HAVING MINIMUM YIELD STRENGTH OF 4200 Kg/Sq. Cm.

SHEET 1 OF 2

CLIENT
**WATER AND POWER
DEVELOPMENT AUTHORITY
(WAPDA)**

CONSULTANT
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.**
HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

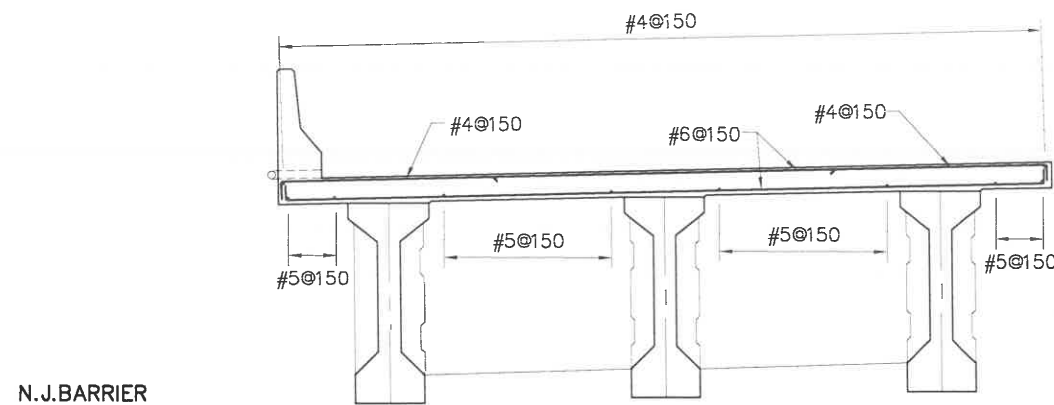
04					
03					
02					
01					
REV.	DATE	DESCRIPTION	APPROVED	APPROVED	

DRAWN
SUBMITTED
RECOMMENDED
CHD/VER.
APPROVED

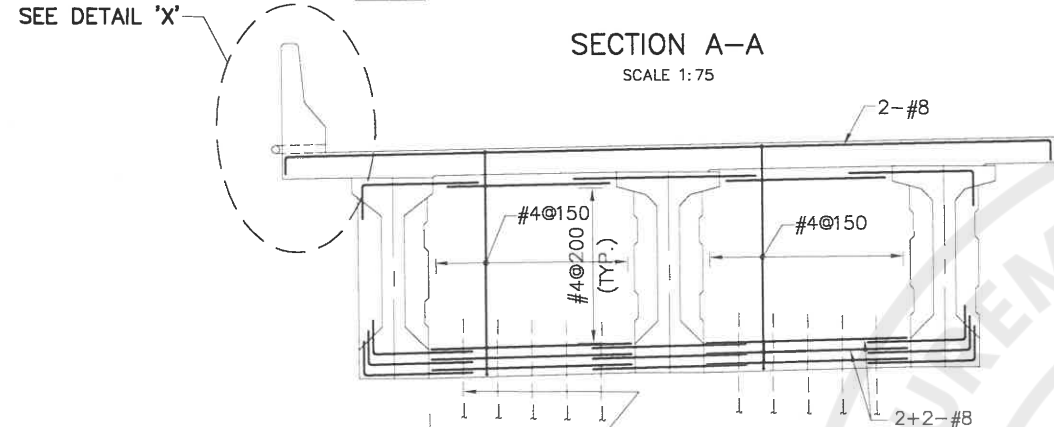
WARIS

PROJECT
DETAILED DESIGN AND CONSTRUCTION SUPERVISION /
IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM
(LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND
DOWNSTREAM FISHERIES PLANS;
NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)

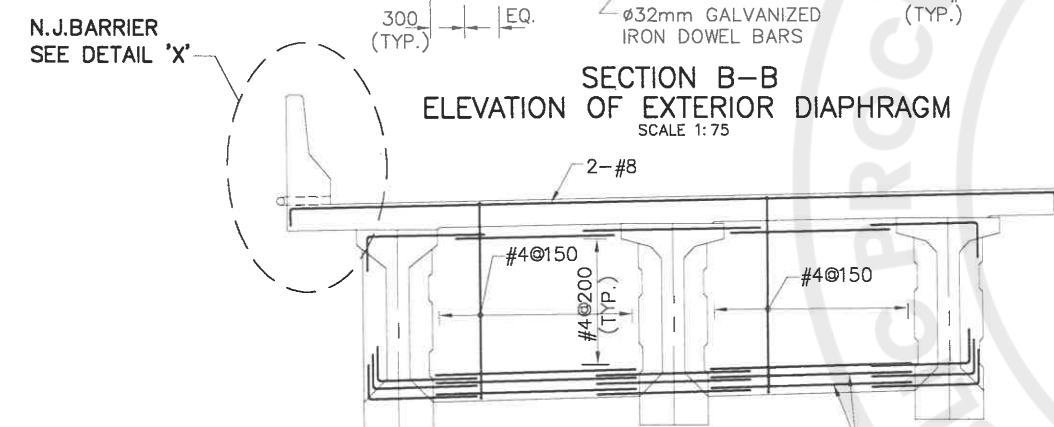
DIAPHRAGM REINFORCEMENT DETAILS FOR 15.0m SPAN GIRDER BRIDGE AT CH. 1+990 km		SCALE 1 : 200
DATE JULY, 2026	DRAWING No. 4520/102/TD/P1G106	REV. 0



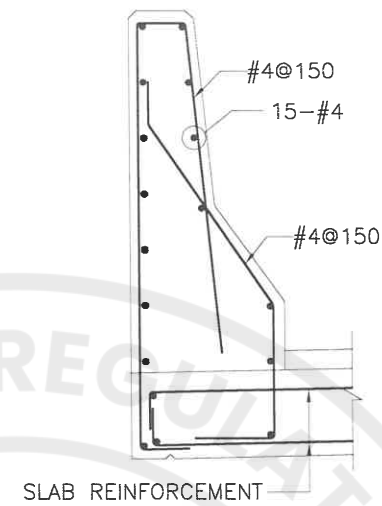
SECTION A-A
SCALE 1:75



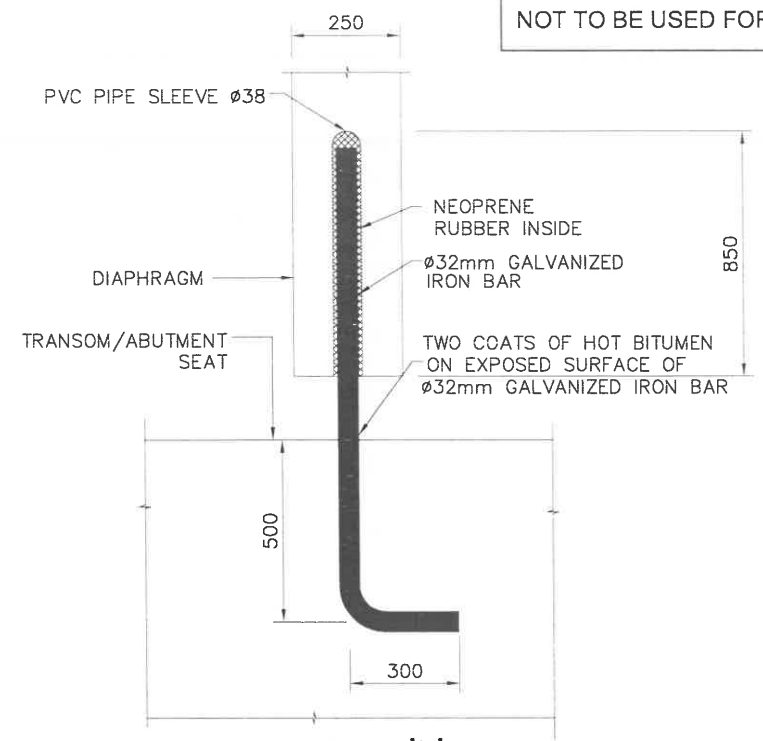
SECTION B-B
ELEVATION OF EXTERIOR DIAPHRAGM
SCALE 1:75



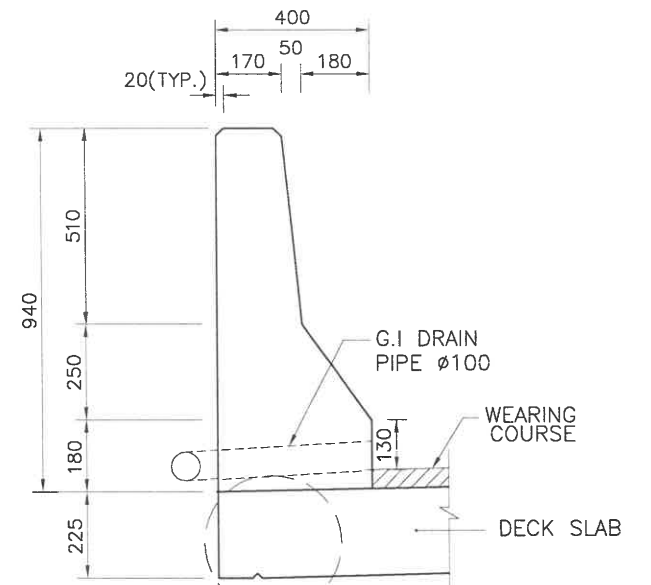
SECTION C-C
ELEVATION OF INTERIOR DIAPHRAGM
SCALE 1:75



DETAIL 'X'
(REINFORCEMENT)

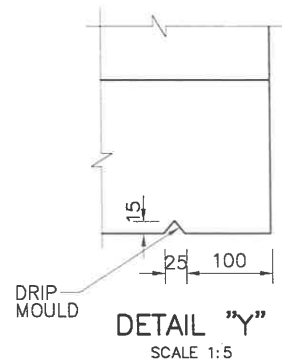


DETAIL 'Z'
(FOR ANCHORED END ONLY)

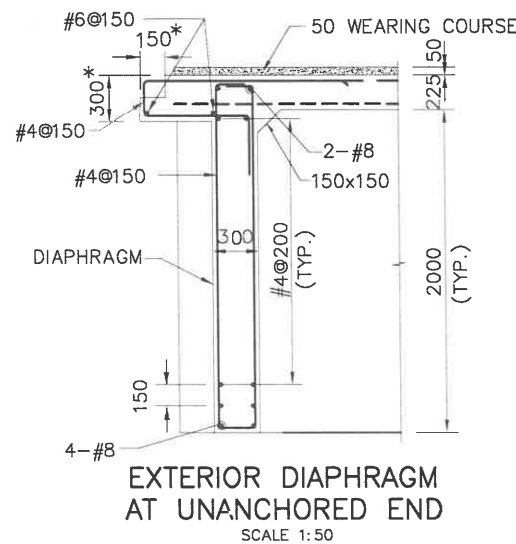


DETAIL 'Y'
DETAIL 'X'
(CONCRETE OUTLINE)
SCALE 1:15

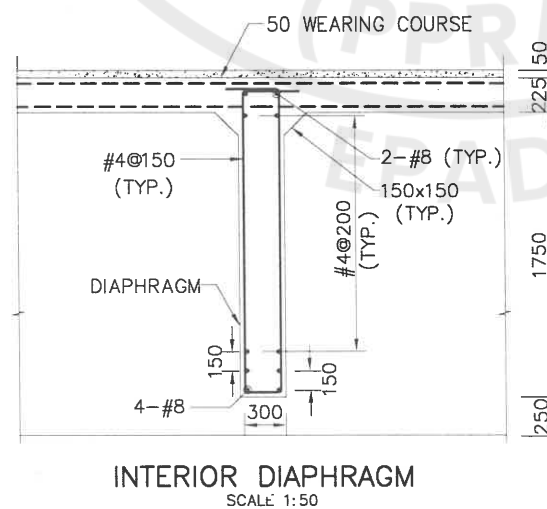
* TO BE ADJUSTED AS PER
EXPANSION JOINT VENDOR
DRAWINGS.



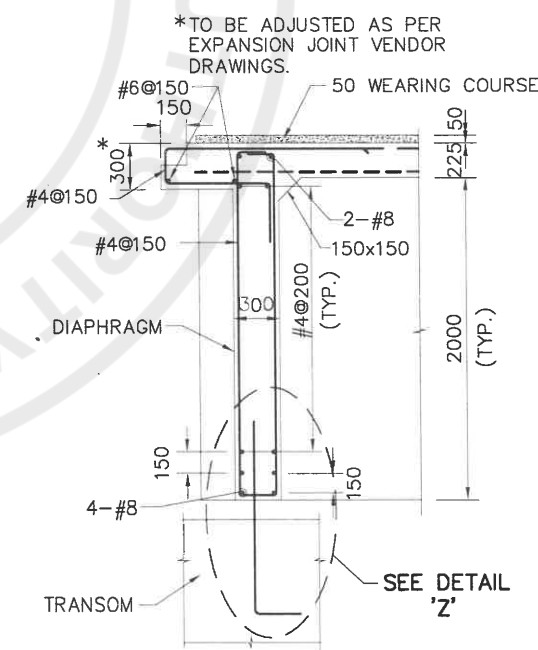
DETAIL 'Y'
SCALE 1:5



EXTERIOR DIAPHRAGM
AT UNANCHORED END
SCALE 1:50



INTERIOR DIAPHRAGM
SCALE 1:50

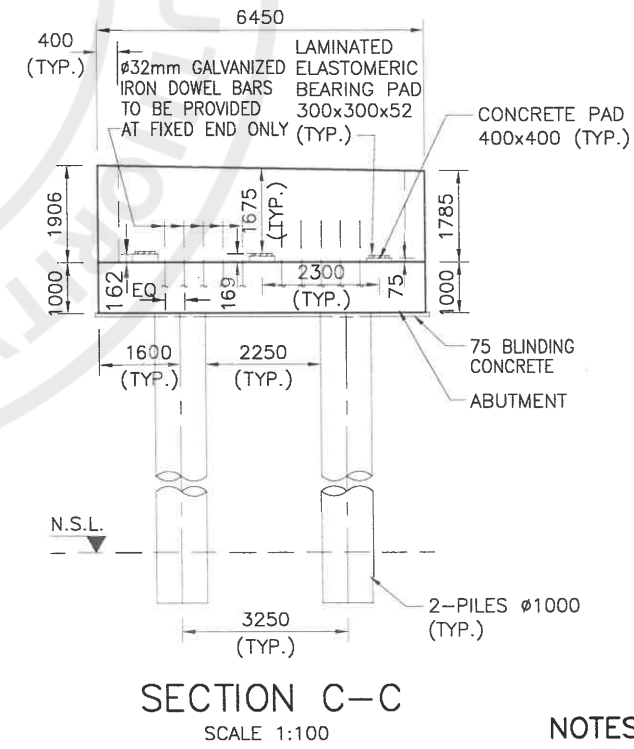
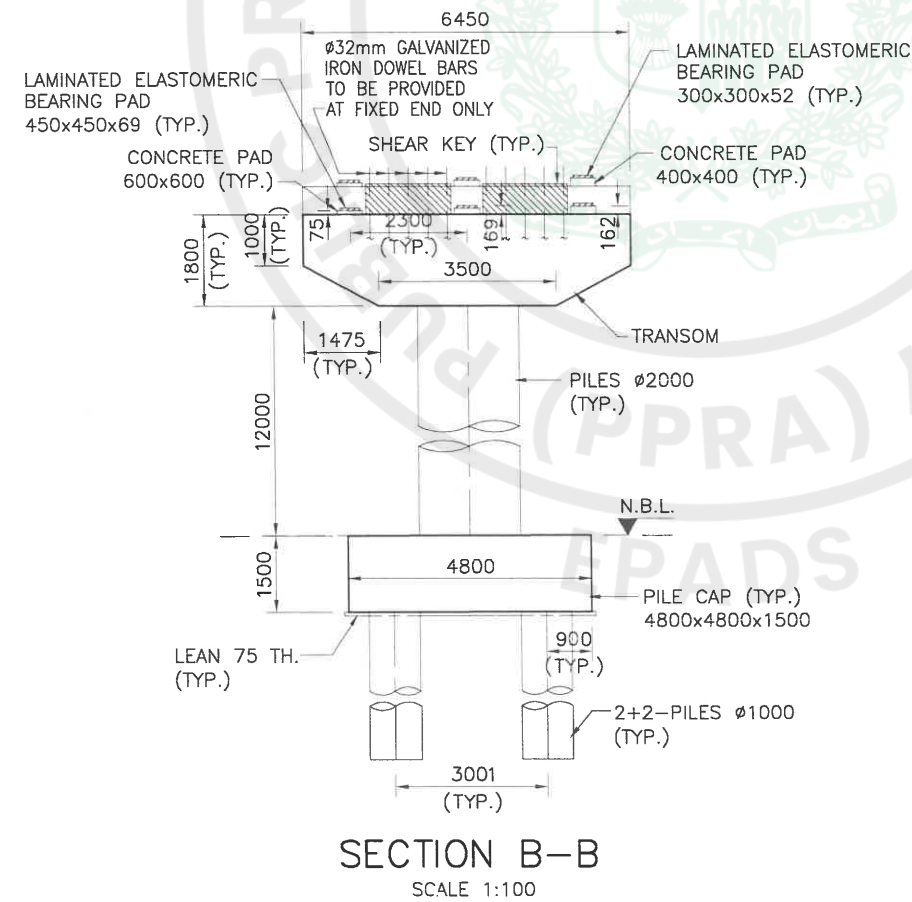
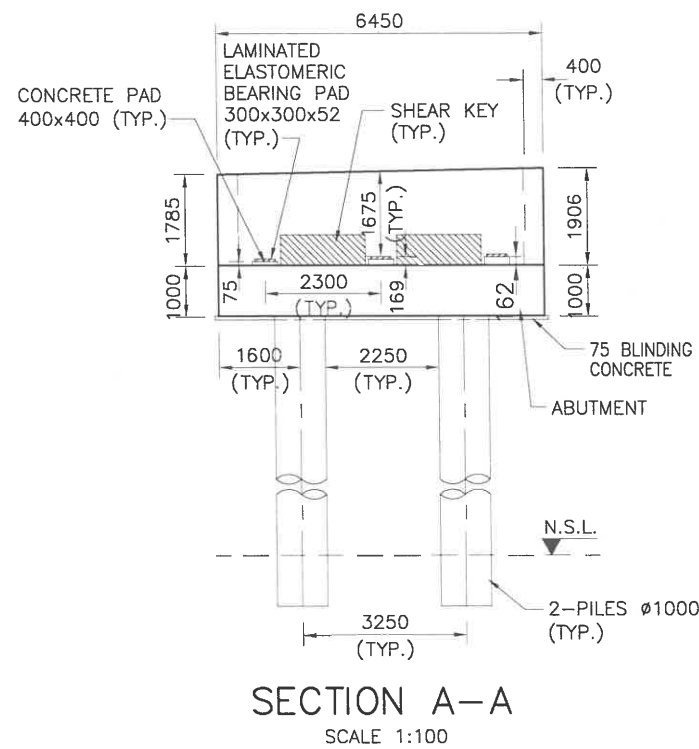
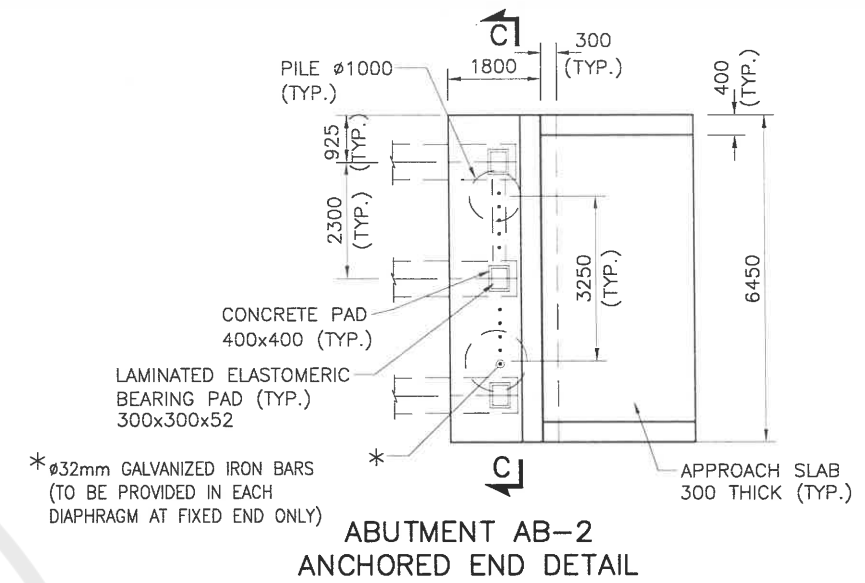
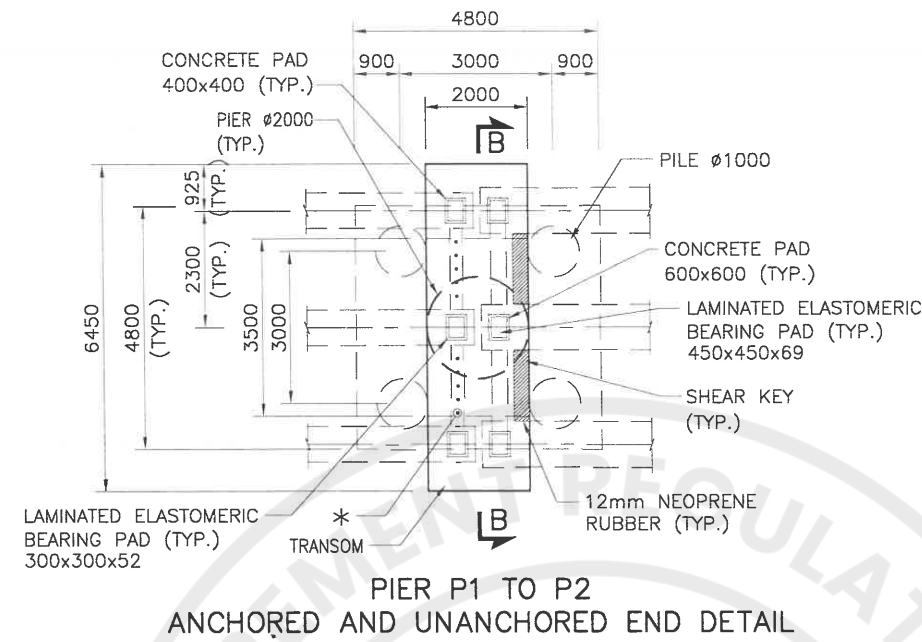
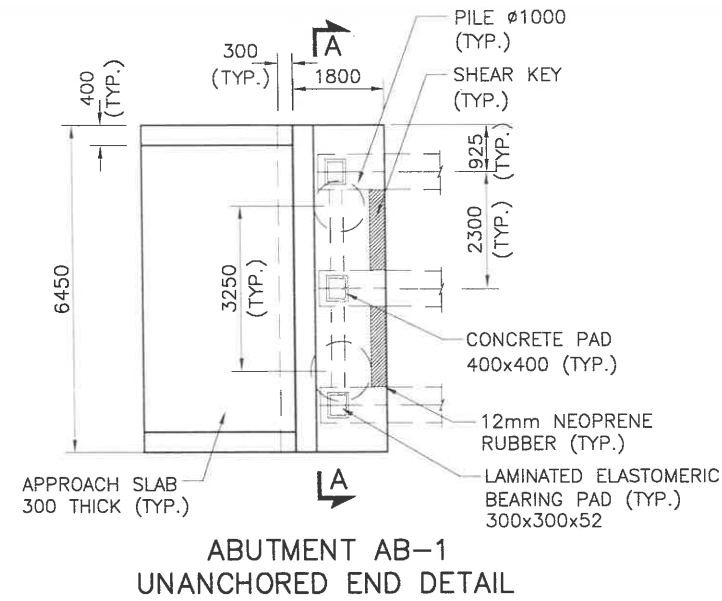


EXTERIOR DIAPHRAGM
AT ANCHORED END

- NOTES:
1. FOR GENERAL NOTES REFER DWG. NO. P1G001.
 2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
 3. THE GALVANIZED DOWELS SHALL BE PLAIN BARS HAVING MINIMUM YIELD STRENGTH OF 4200 Kg/Sq. Cm.

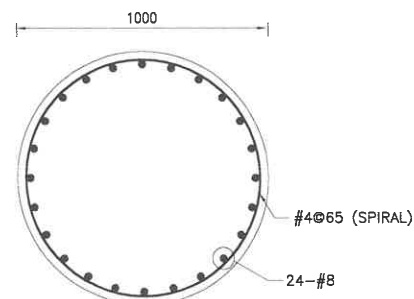
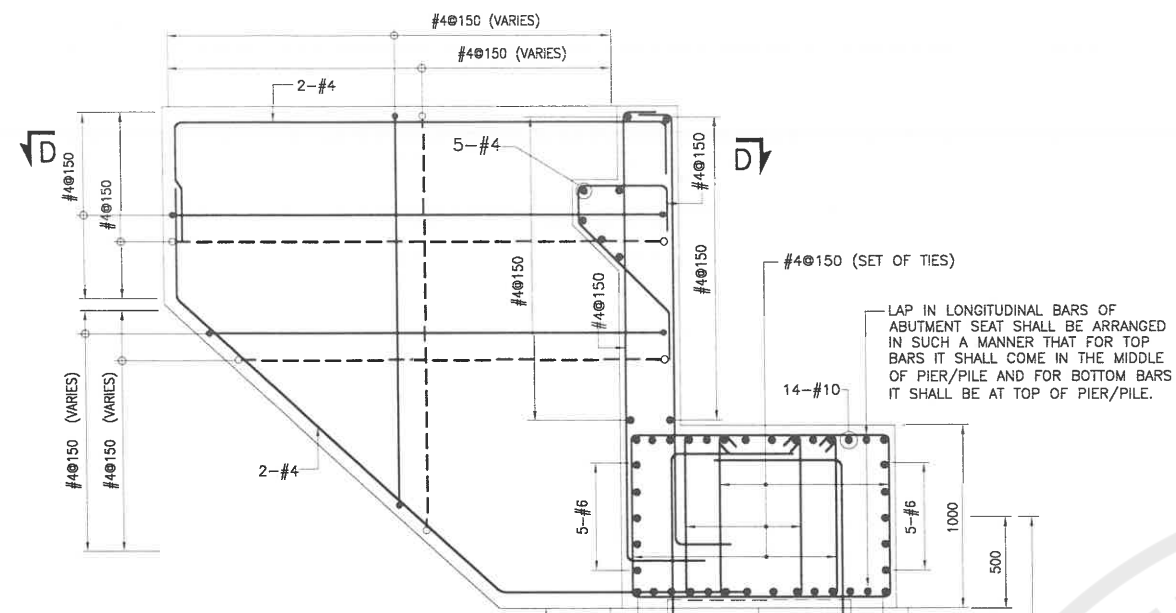
SHEET 2 OF 2

CLIENT WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	<table> <tr><td>04</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>03</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>02</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>01</td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <th>REV</th><th>DATE</th><th>DESCRIPTION</th><th>APPROVED</th><th>APPROVED</th><th></th></tr> </table>	04						03						02						01						REV	DATE	DESCRIPTION	APPROVED	APPROVED		DRAWN WARIS PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	DIAPHRAGM REINFORCEMENT DETAILS FOR 30.0m SPAN GIRDER BRIDGE AT CH. 1+990 km DATE JULY, 2026 DRAWING No. 4520/102/TD/P1G106A	SCALE 1 : 200 REV. 0
04																																			
03																																			
02																																			
01																																			
REV	DATE	DESCRIPTION	APPROVED	APPROVED																															

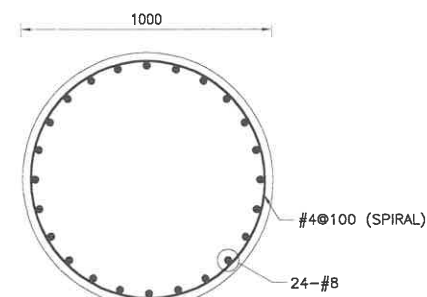


- NOTES:**
- FOR GENERAL NOTES REFER DWG. NO. P1G001.
 - WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
 - THE LENGTH OF TEST PILE IS BASED ON THE GEOTECHNICAL INVESTIGATION REPORT PROVIDED BY M/S XINJANG BEIXIN ROAD & BRIDGE GROUP CO. LTD.

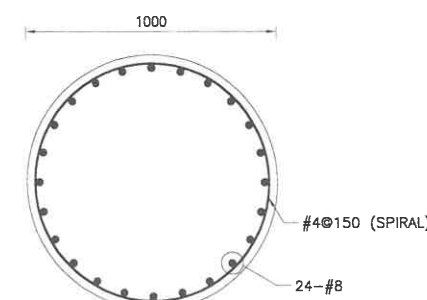
CLIENT		CONSULTANT		04		DRAWN		WARIS		PROJECT		ABUTMENT AB-1, AB-2, PIER P-1 TO P-2		SCALE			
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.		03		SUBMITTED				DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		CONCRETE OUTLINE BRIDGE AT CH. 1+990 km.		1 : 75			
				02		RECOMMENDED											
				01		CHD/VER.											
				REV		DATE		DESCRIPTION								APPROVED	
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.										DATE		DRAWING No.		REV.	
												JULY, 2026		4520/102/TD/P1G107		 0	



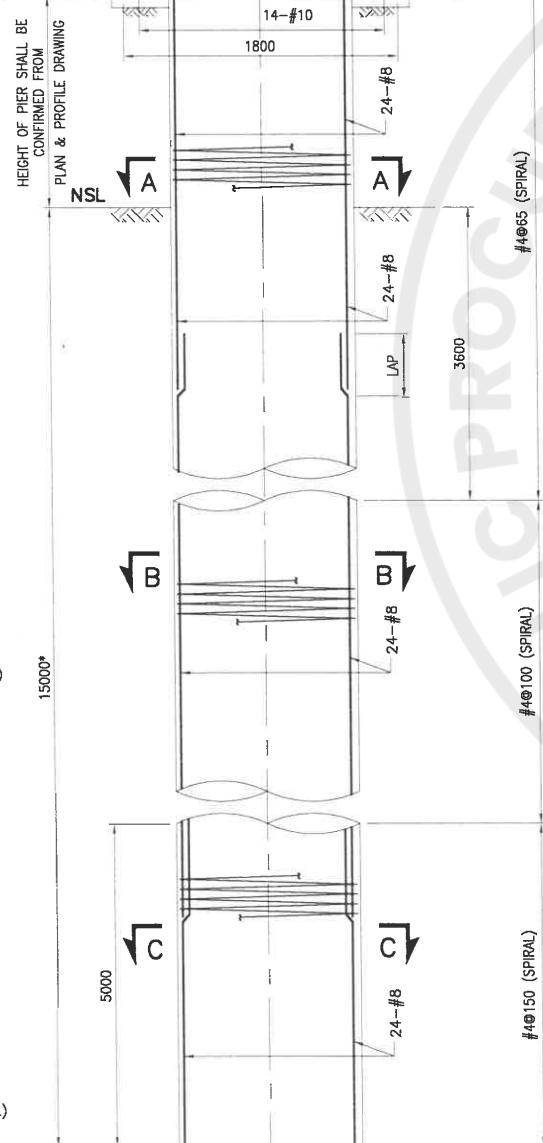
SECTION A-A
SCALE 1:15



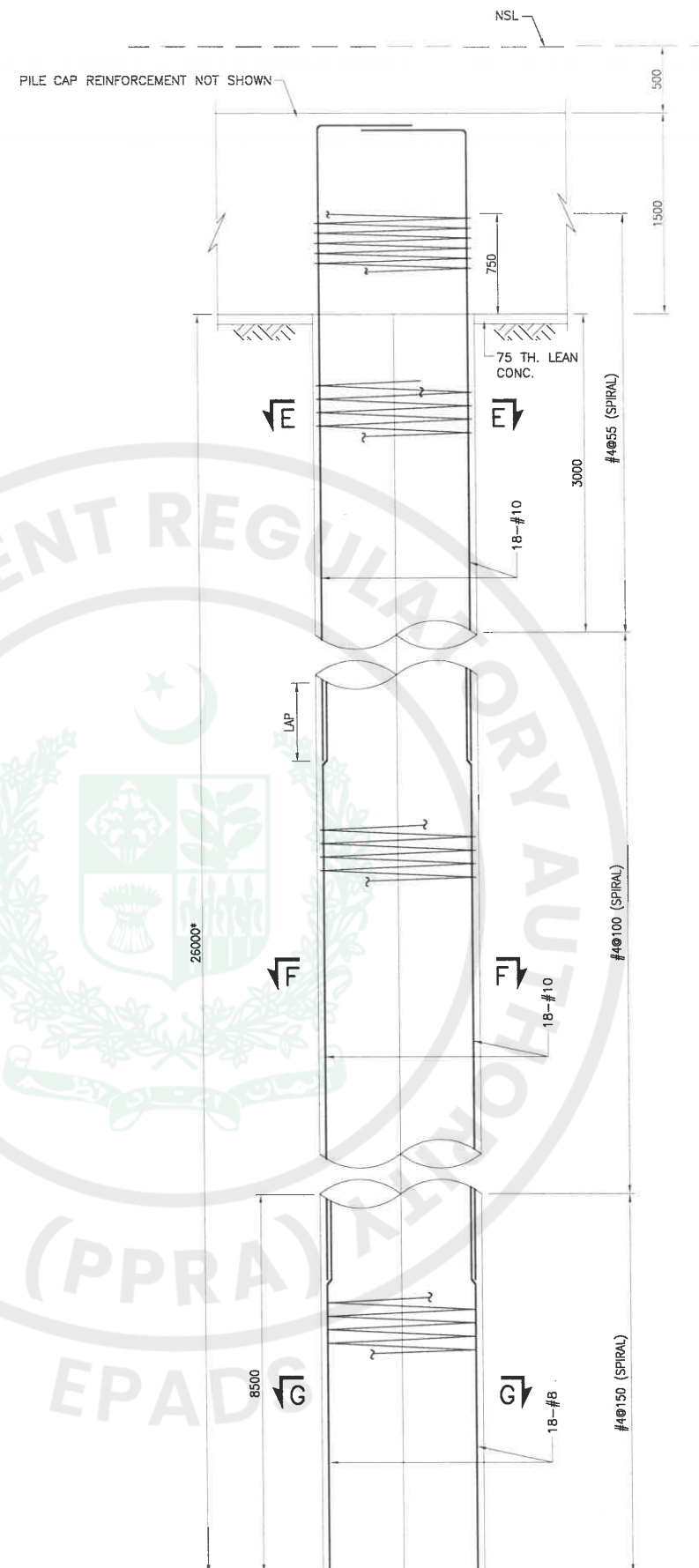
SECTION B-B
SCALE 1:15



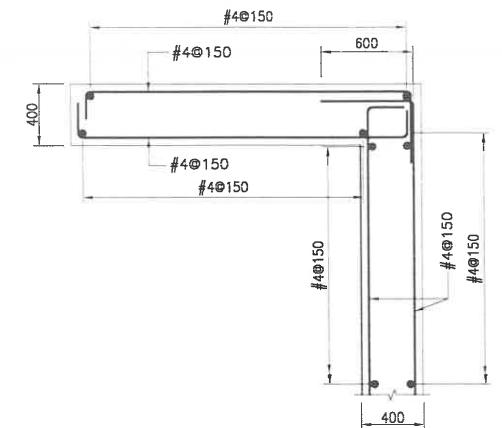
SECTION C-C
SCALE 1:15



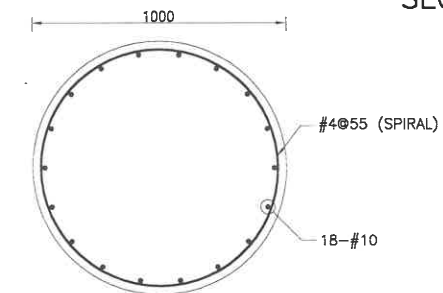
ABUTMENT SEAT, WING WALL & PILE
(REINFORCEMENT DETAIL)



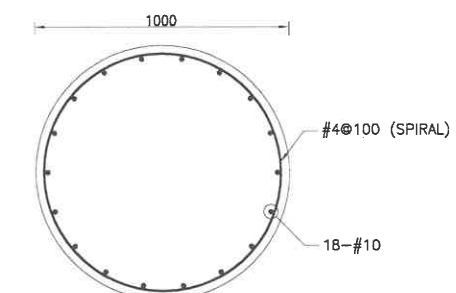
PILE AT PIER P1 TO P2
REINFORCEMENT DETAIL



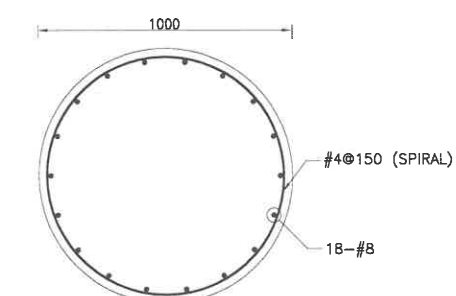
SECTIONAL PLAN D-D



SECTION E-E
SCALE 1:15



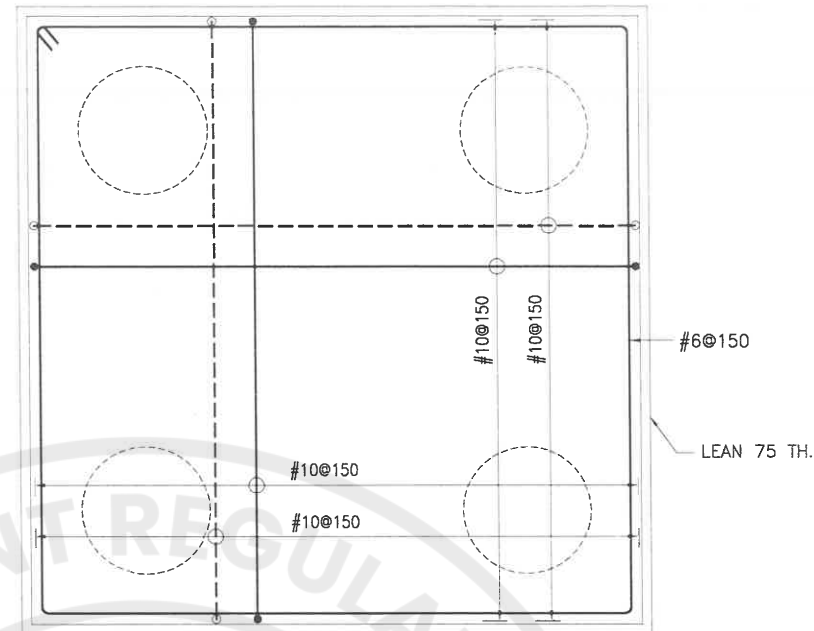
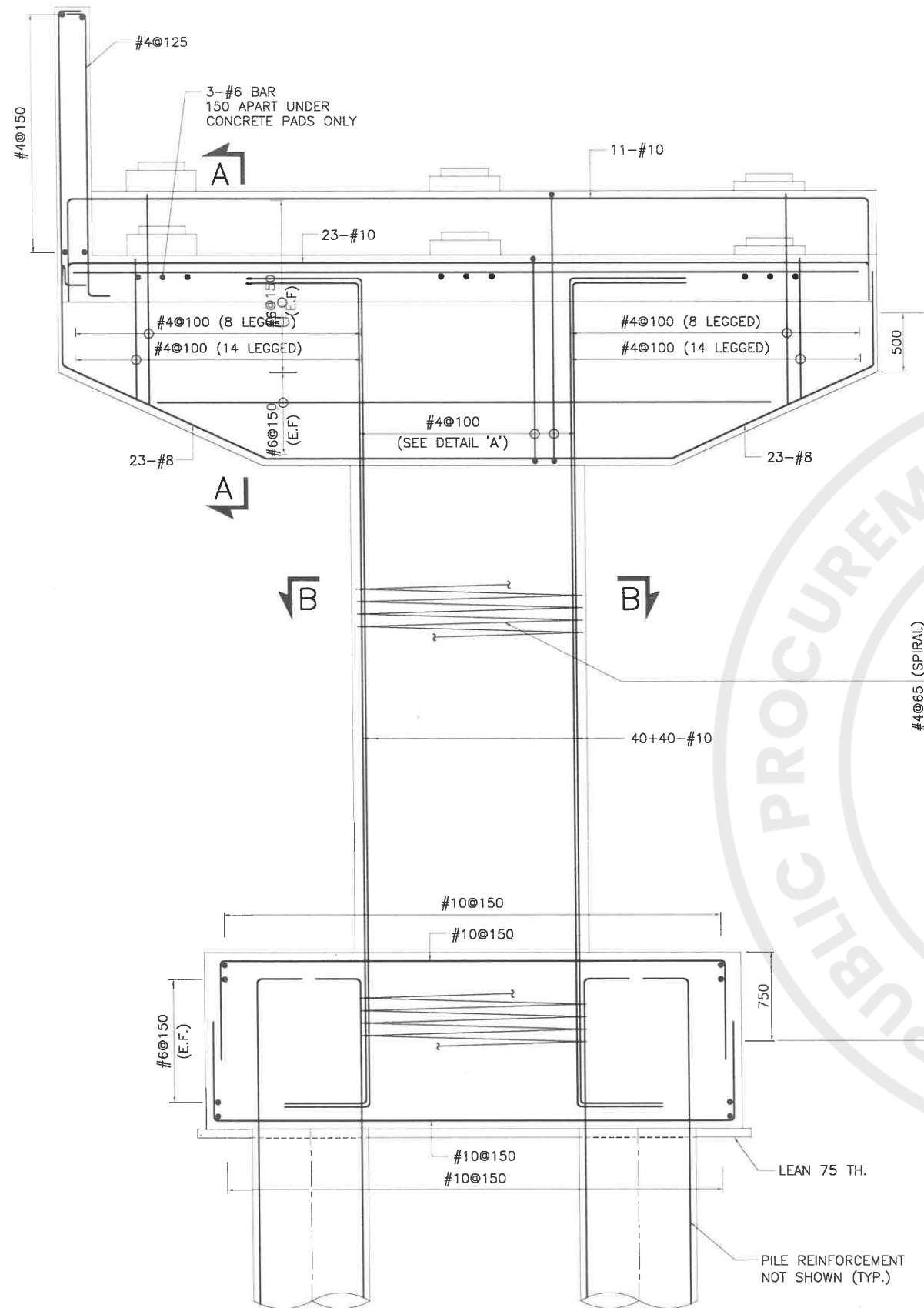
SECTION F-F
SCALE 1:15



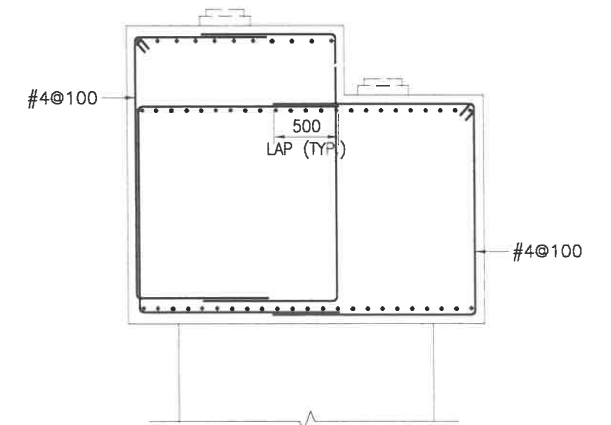
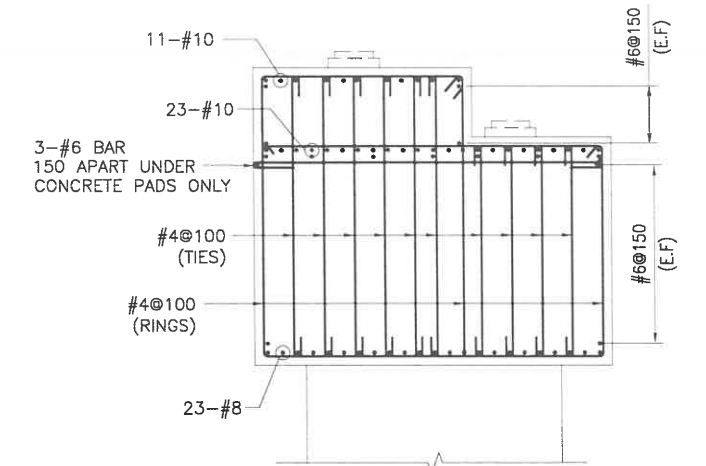
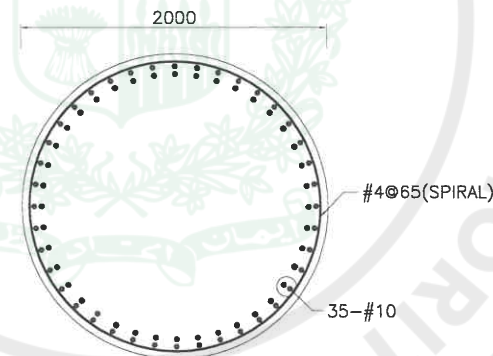
SECTION G-G
SCALE 1:15

- NOTE:
- FOR GENERAL NOTES REFER DWG. NO. P1G001.
 - READ THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRGS.
 - PROVIDE ONE AND HALF 1½ EXTRA TURNS OF SPIRAL AT THE TOP AND BOTTOM OF EACH PILE & AT EACH SEGMENT OF REINFORCEMENT CAGE OR SPLICE OF MAIN REINFORCEMENT.
 - * LENGTH OF PILE SHALL BE FINALIZED FROM DETAILED GEOTECHNICAL INVESTIGATIONS AND FULL SCALE PILE LOAD TEST.

CLIENT  WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	WARIS	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	ABUTMENT SEAT, BACK WALL AB1, AB2 & PIER (P1 TO P2) REINFORCEMENT DETAILS BRIDGE AT CH. 1+990 km.		SCALE		
		03				SUBMITTED					AS SHOWN		
		02				RECOMMENDED							
		01				CHD./VER.					DATE	DRAWING No.	REV.
				REV.	DATE	DESCRIPTION	APPROVED		APPROVED		JULY, 2026	4520/102/TD/P1G108	



PILECAP PLAN AT PIER (P1 & P2)
(REINFORCEMENT)
SCALE 1:30



NOTE:

1. FOR GENERAL NOTES REFER DWG. NO. P1G001.
2. READ THIS DRAWING IN CONJUNCTION WITH RELEVANT DRAWINGS.
3. ALL REINFORCING STEEL SHALL BE DEFORMED ROUND BARS OF GRADE 60 CONFORMING TO AASHTO M-31 (ASTM A-615) WITH MINIMUM YIELD STRENGTH OF 4,200 Kg/Sq.Cm (60,000psi).

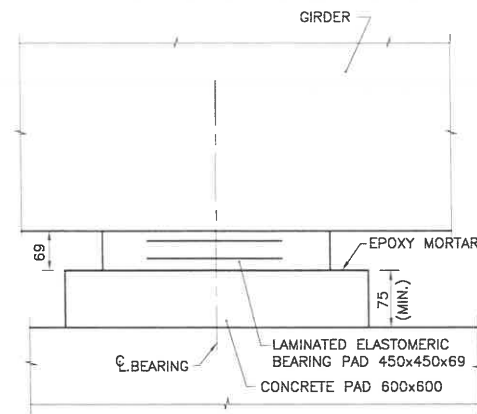
CLIENT
WATER AND POWER
DEVELOPMENT AUTHORITY
(WAPDA)

CONSULTANT
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.
HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

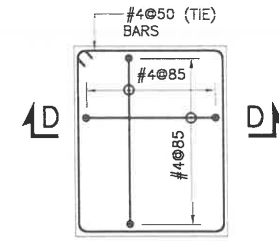
04				DRAWN	WARIS
03				SUBMITTED	
02				RECOMMENDED	
01				CHD./VER.	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED	

PROJECT
DETAILED DESIGN AND CONSTRUCTION SUPERVISION /
IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM
(LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND
DOWNSTREAM FISHERIES PLANS;
NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)

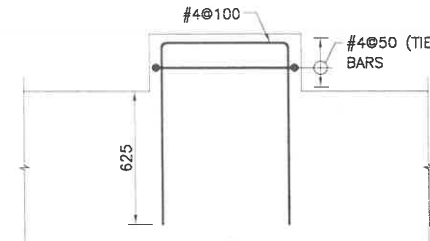
PIER (P1 & P2) AND PILE CAP REINFORCEMENT DETAILS BRIDGE AT CH. 1+990 km.	SCALE 1 : 150
DATE JULY, 2026	DRAWING No. 4520/102/TD/P1G109
REV.	



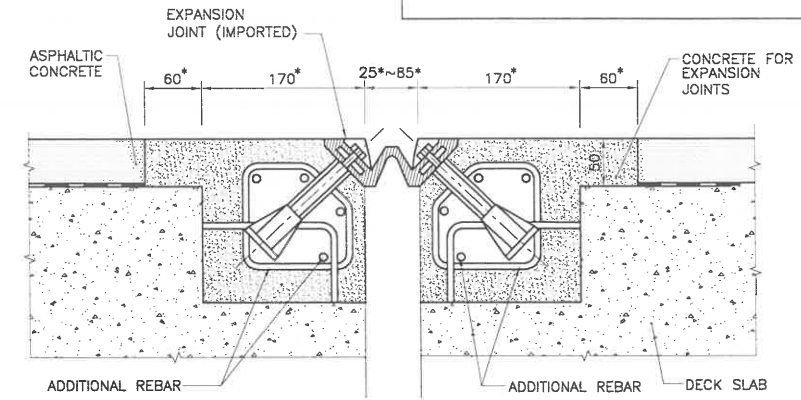
BEARING PAD & CONCRETE PAD
DETAIL FOR 30.0m GIRDER
SCALE 1:5



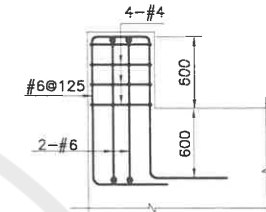
CONCRETE PAD
REINFORCEMENT
SCALE 1:10



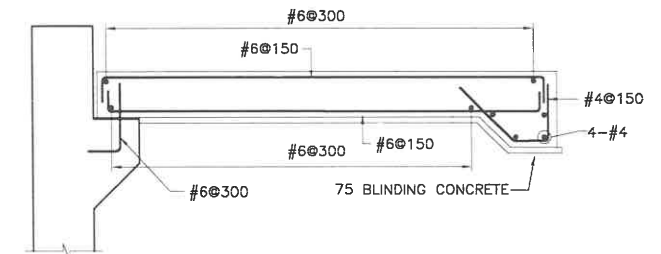
SECTION D-D
SCALE 1:10



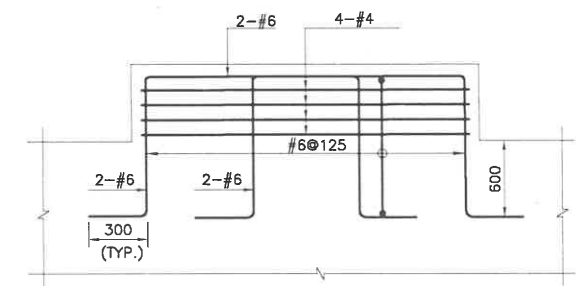
EXPANSION JOINT
SCALE 1:4



SECTION B-B
SCALE 1:20



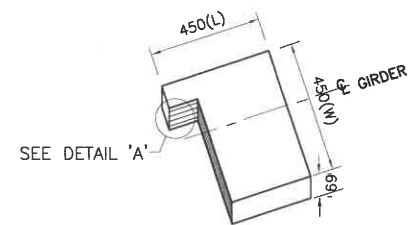
REINFORCEMENT - APPROACH SLAB
SCALE 1:25



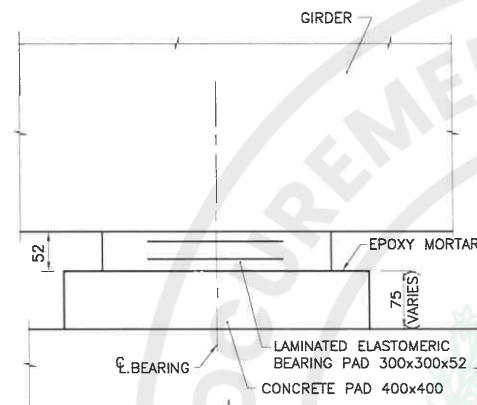
SECTION C-C
SCALE 1:20

NOTES:-

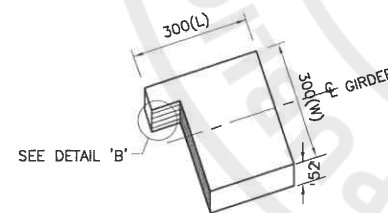
- FOR GENERAL NOTES REFER DWG. NO. P1G001.
- WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
- ALL REINFORCING STEEL SHALL BE DEFORMED ROUND BARS AND CONFORMING TO AASHTO M-31 OR ASTM A-615 GRADE 60 WITH MINIMUM YIELD STRENGTH OF 4,200 Kg/Sq.Cm (60,000 Psi).
- * THE DIMENSIONS OF EXPANSION JOINT ARE TENTATIVE AND WILL BE FINALIZED ON RECEIPT OF VENDOR'S DRAWINGS.



LAMINATED ELASTOMERIC BEARING PAD
FOR 30.0m GIRDER
SCALE 1:10



BEARING PAD & CONCRETE PAD
DETAIL FOR 15.0m GIRDER
SCALE 1:5

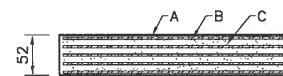


LAMINATED ELASTOMERIC BEARING PAD
FOR 15.0m GIRDER
SCALE 1:10



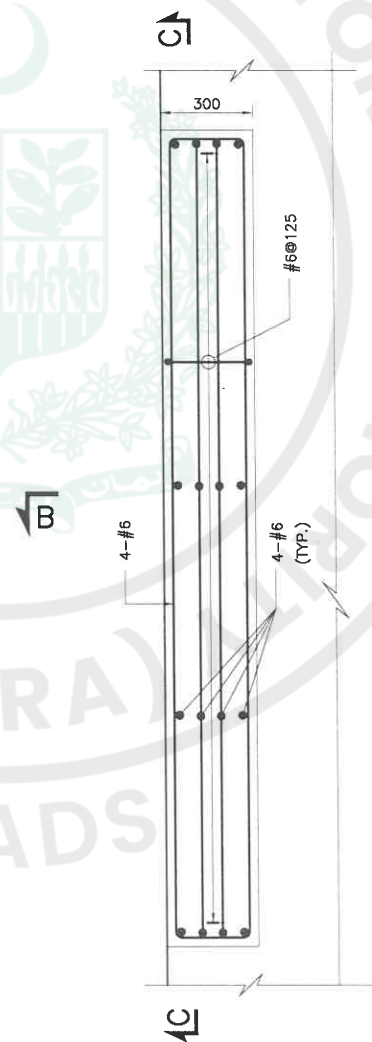
A = ELASTOMER LAYER 2.5mm THICK
B = STEEL PLATE LAYER 4mm THICK
C = ELASTOMER LAYER 11mm THICK

DETAIL 'A'
SCALE 1:20



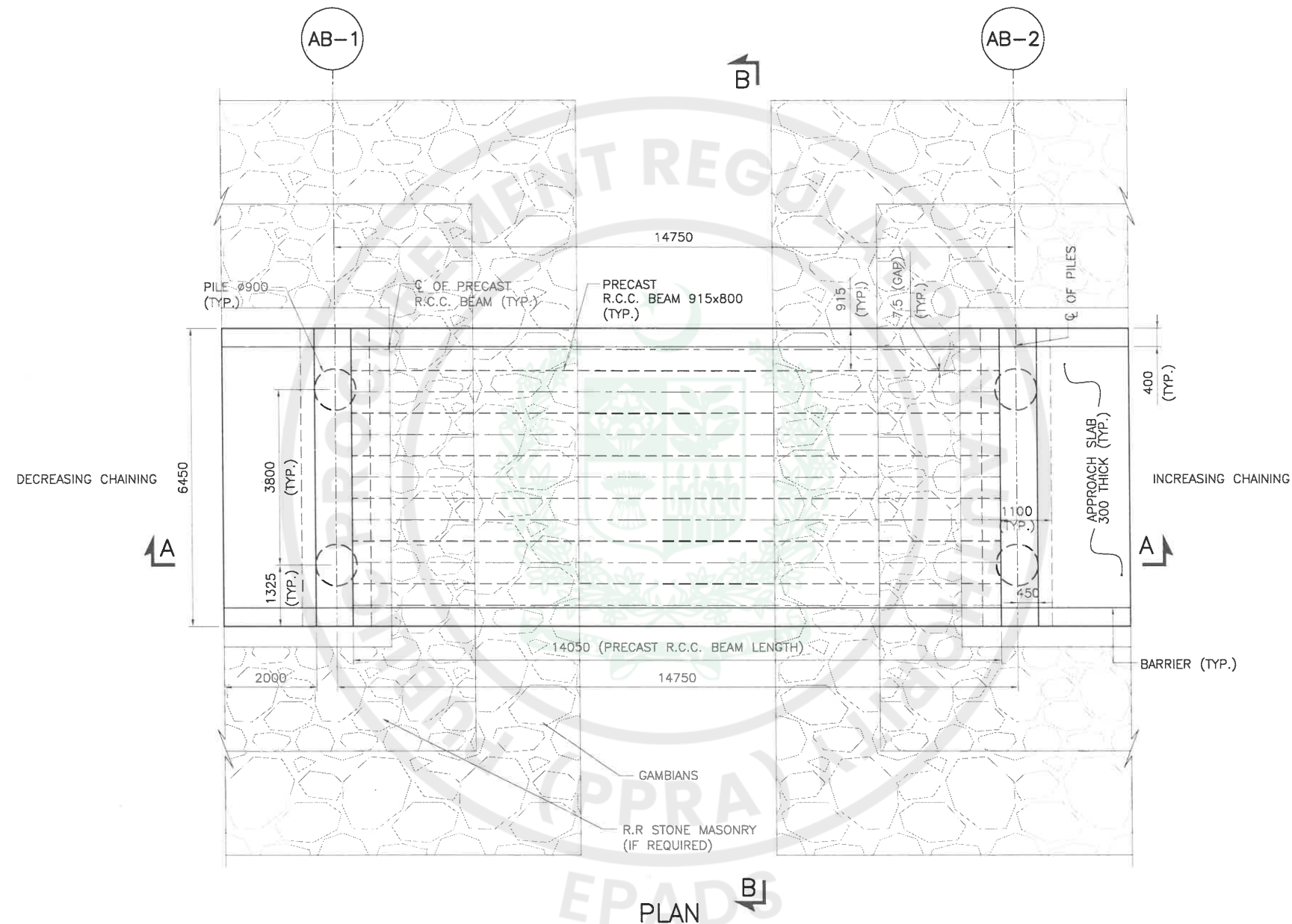
A = ELASTOMER LAYER 2.5mm THICK
B = STEEL PLATE LAYER 3mm THICK
C = ELASTOMER LAYER 8mm THICK

DETAIL 'B'
SCALE 1:20



PLAN OF SHEAR BLOCK
SCALE 1:20

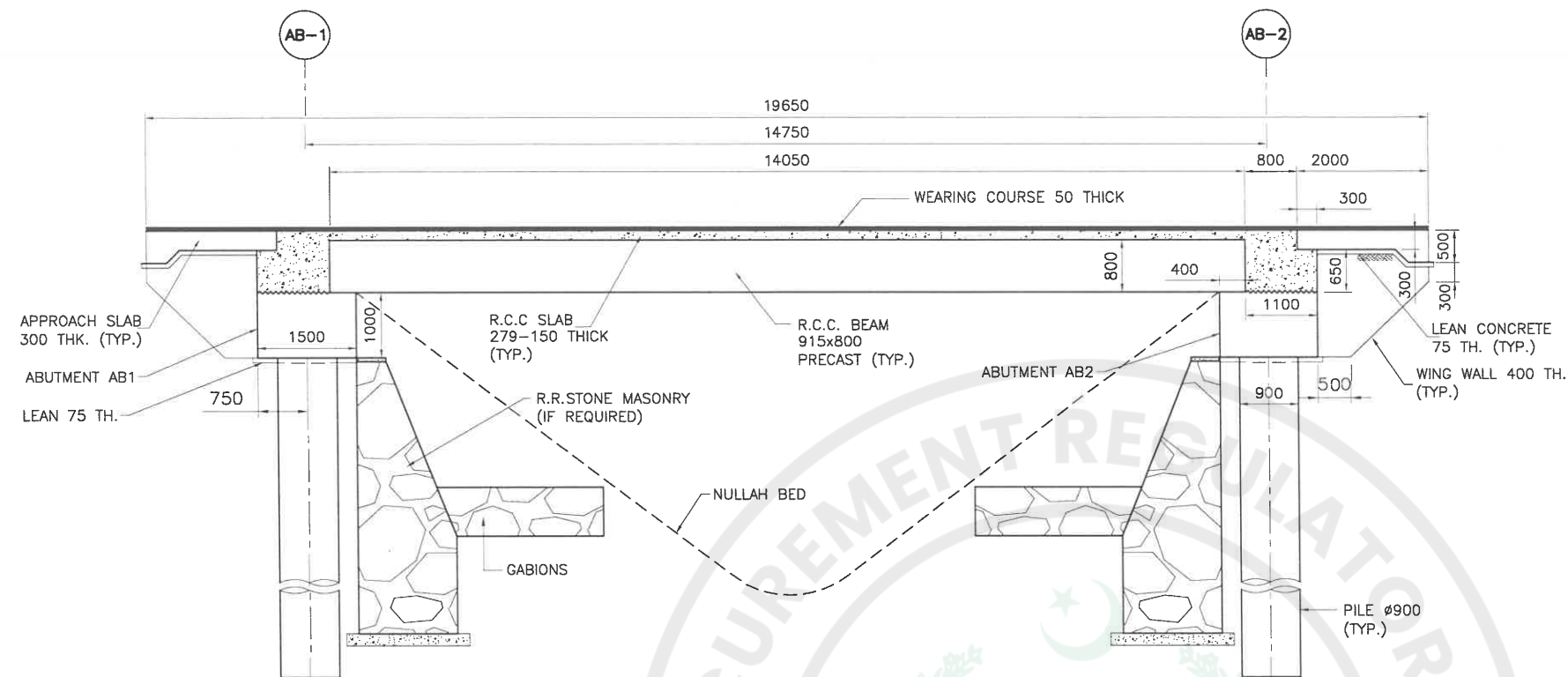
CLIENT WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	WARIS	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	APPROACH SLAB, BEARING PAD, SHEAR BLOCK, AND EXPANSION JOINT DETAILS BRIDGE AT CH. 1+990 km.		SCALE
		03				SUBMITTED					1:50
		02				RECOMMENDED					
		01				CHD/VER.					
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED			DATE	DRAWING No.	REV.
									JULY, 2026	4520/102/TD/P1G1011	0



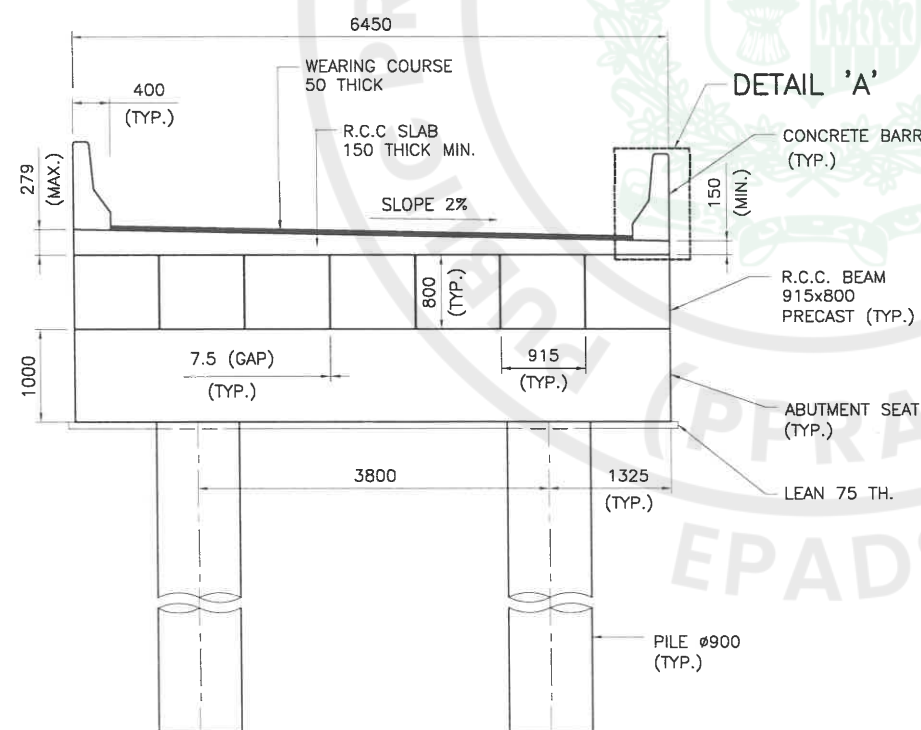
NOTES:

1. FOR GENERAL NOTES REFER DWG NO. PG001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
3. FOR SECTIONS REFER DWG NO. P1G101A.

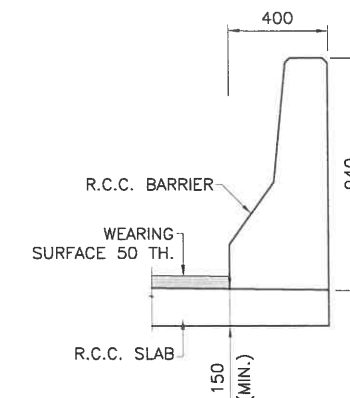
 WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		CONSULTANT		04					DRAWN	RASHID AZIZ	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	BRIDGE GENERAL ARRANGEMENT PLAN		SCALE
		 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.		03					SUBMITTED			1:60		
				02					RECOMMENDED					
				01					CHD./VER.					
				REV.		DATE	DESCRIPTION	APPROVED	APPROVED					
											DATE	DRAWING No.	REV.	
											JULY 2026	4520/102/TD/P1G101	0	



SECTION A-A
SCALE: 1:50



SECTION B-B
SCALE: 1:40

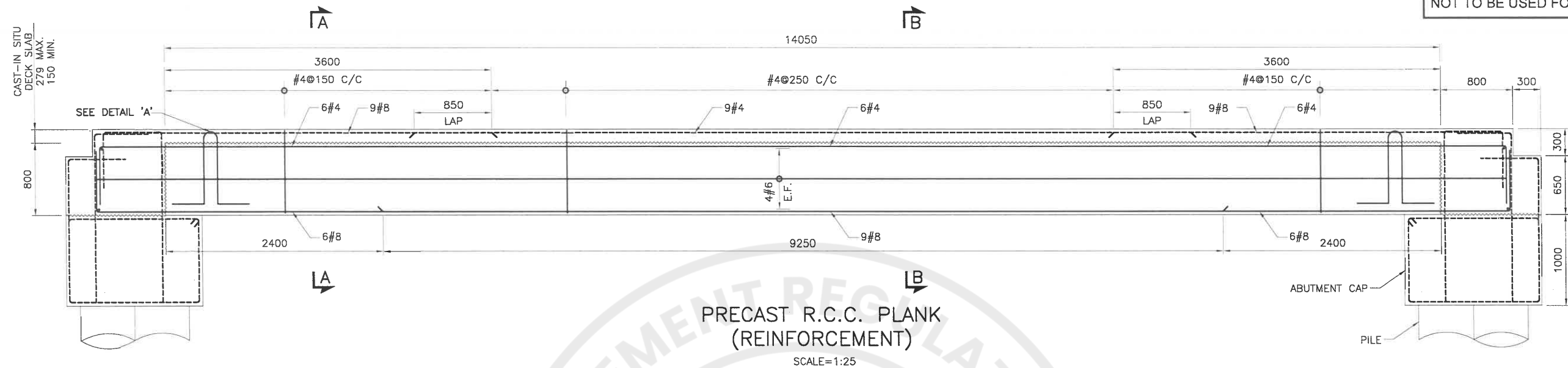


DETAIL A
SCALE: 1:15

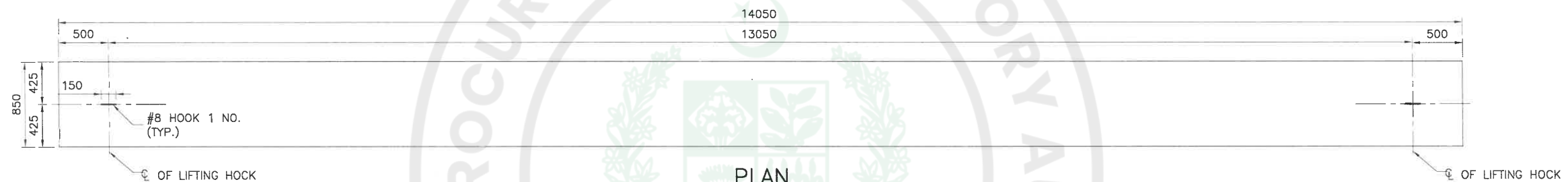
NOTES:

1. FOR GENERAL NOTES REFER DWG NO. PG001.
2. WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
3. LENGTH OF PILE WILL BE FINALIZED AFTER GEOTECHNICAL INVESTIGATION AND FULL SCALE PILE LOAD TEST.

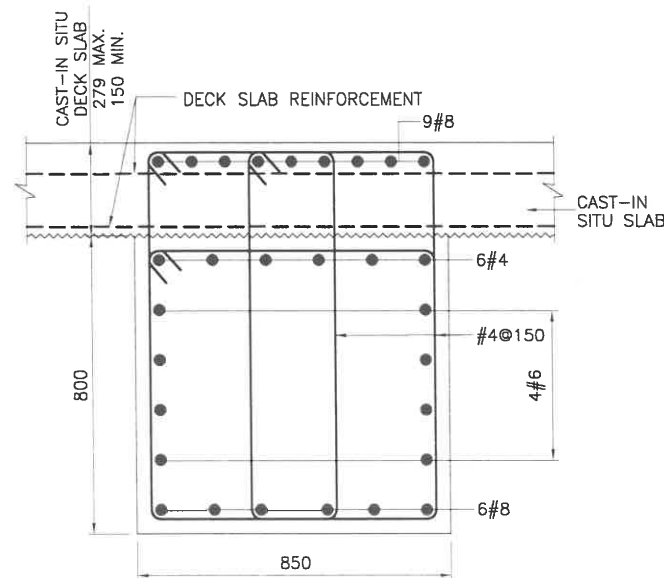
CLIENT  WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD.	04				DRAWN	RASHID AZIZ	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	BRIDGE GENERAL ARRANGEMENT SECTIONS		SCALE
		03				SUBMITTED					AS SHOWN
		02				RECOMMENDED					
		01				CHD./VER.					
		HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.		REV.	DATE	DESCRIPTION	APPROVED		APPROVED		DATE
									JULY 2026	4520/102/TD/P1G101A	0



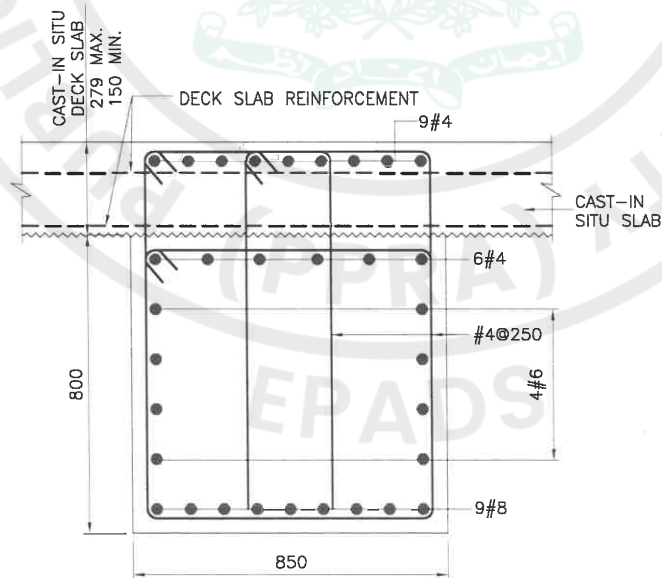
PRECAST R.C.C. PLANK
(REINFORCEMENT)
SCALE=1:25



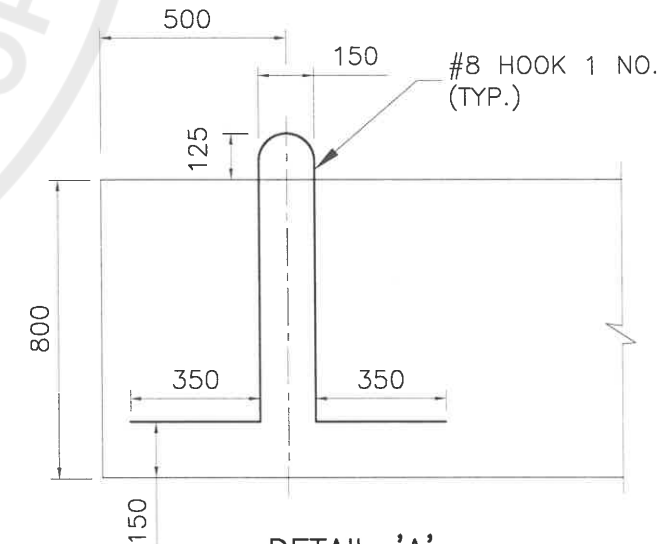
PLAN
(PRECAST R.C.C. PLANK PANEL)
SCALE=1:25



SECTION A-A
SCALE= 1:10



SECTION B-B
SCALE= 1:10

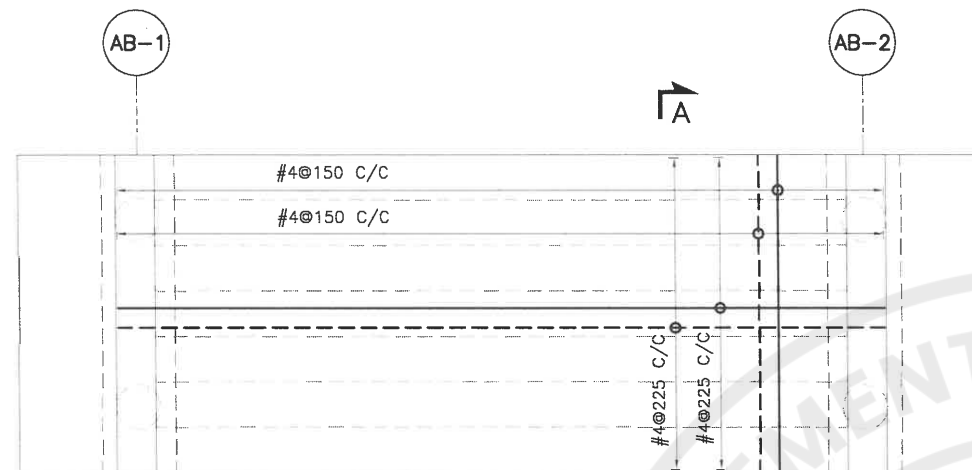


DETAIL 'A'
(DETAIL OF LIFTING HOOK)
SCALE= 1:10

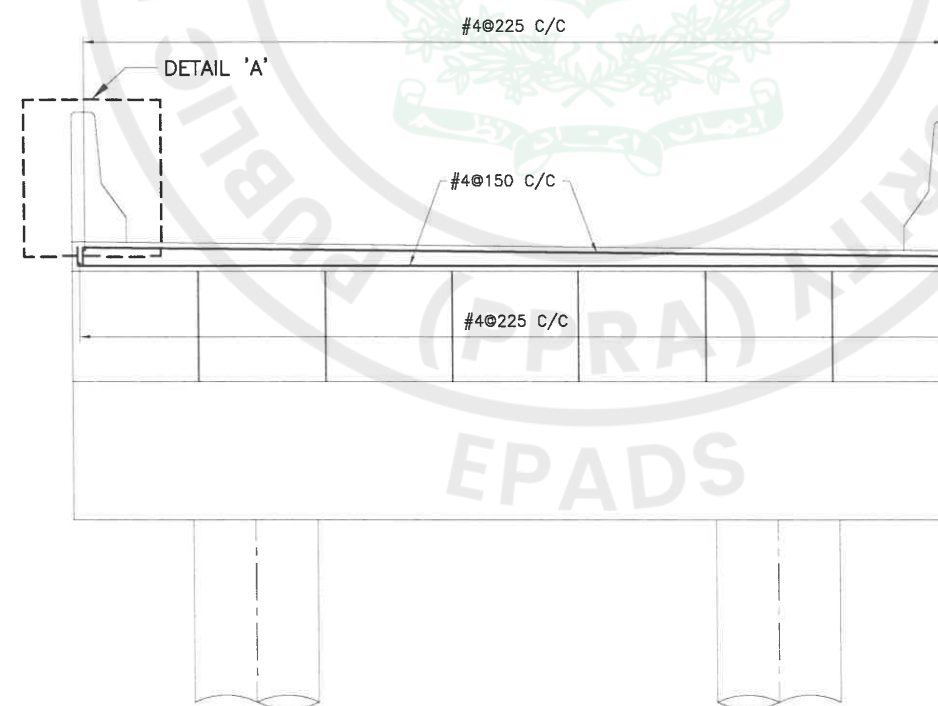
NOTES:

- FOR GENERAL NOTES REFER DWG NO. PG001.
- WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.

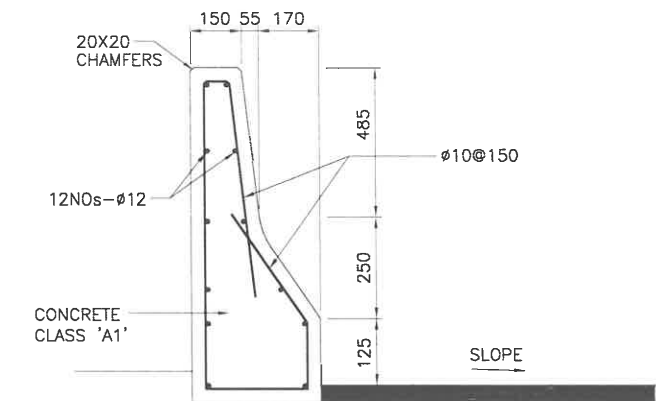
CLIENT  WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)		CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.		04 03 02 01 REV. DATE DESCRIPTION APPROVED		DRAWN RASHID AZIZ SUBMITTED RECOMMENDED CHD.VER. APPROVED		PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)		BRIDGE PRECAST R.C.C. PLANK REINFORCEMENT DATE JULY 2026 DRAWING No. 4520/102/TD/P1G102 REV. 0		SCALE 1:25
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DECK SLAB
(REINFORCEMENT PLAN)



SECTION A-A
SCALE: 1:25

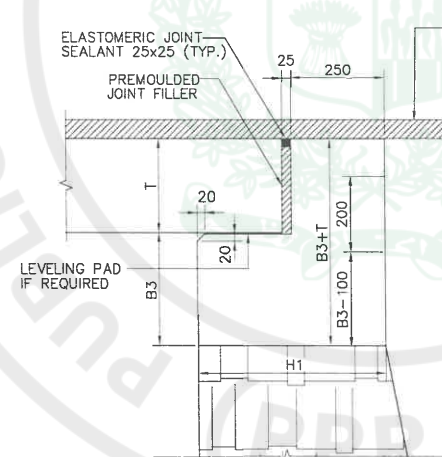
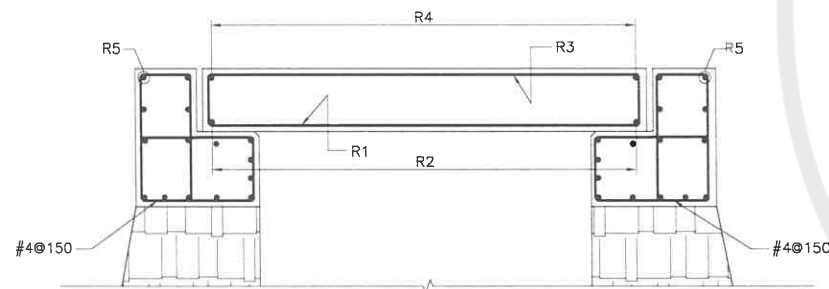
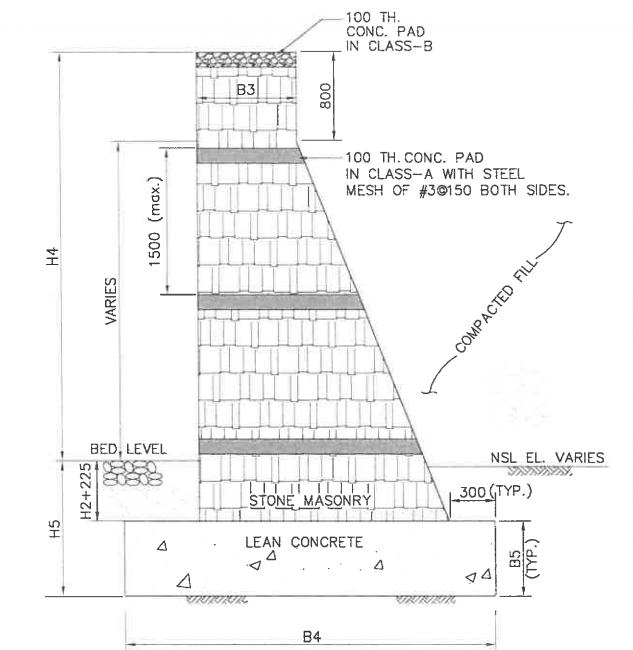
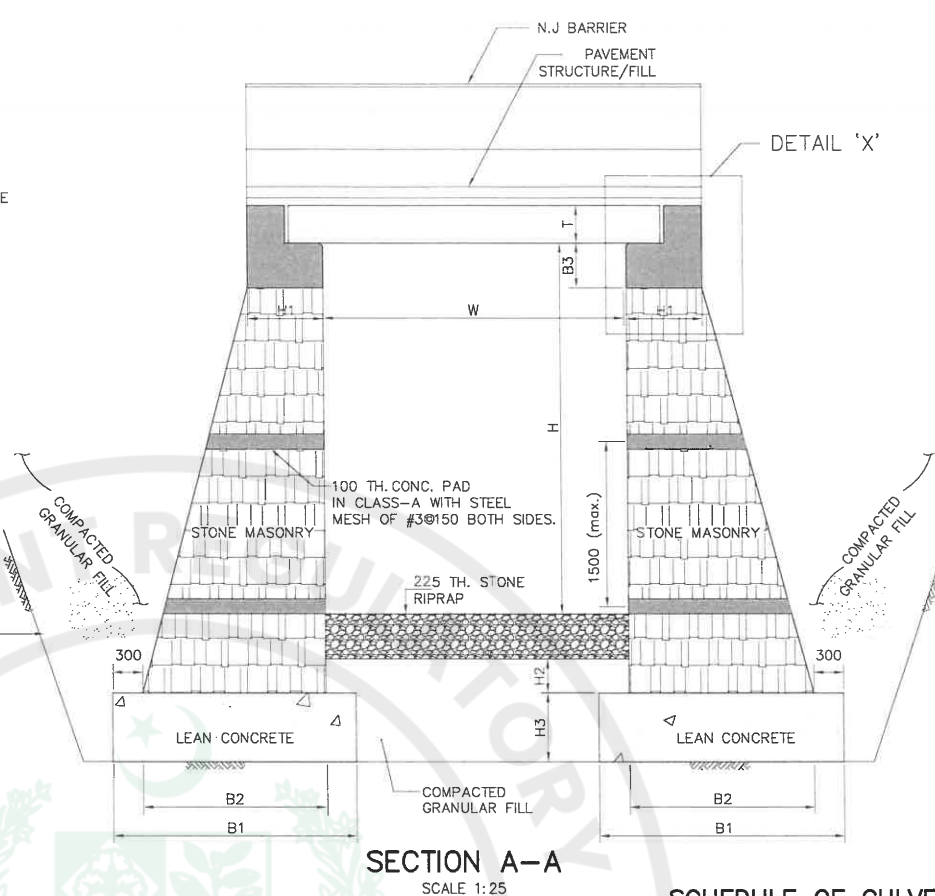
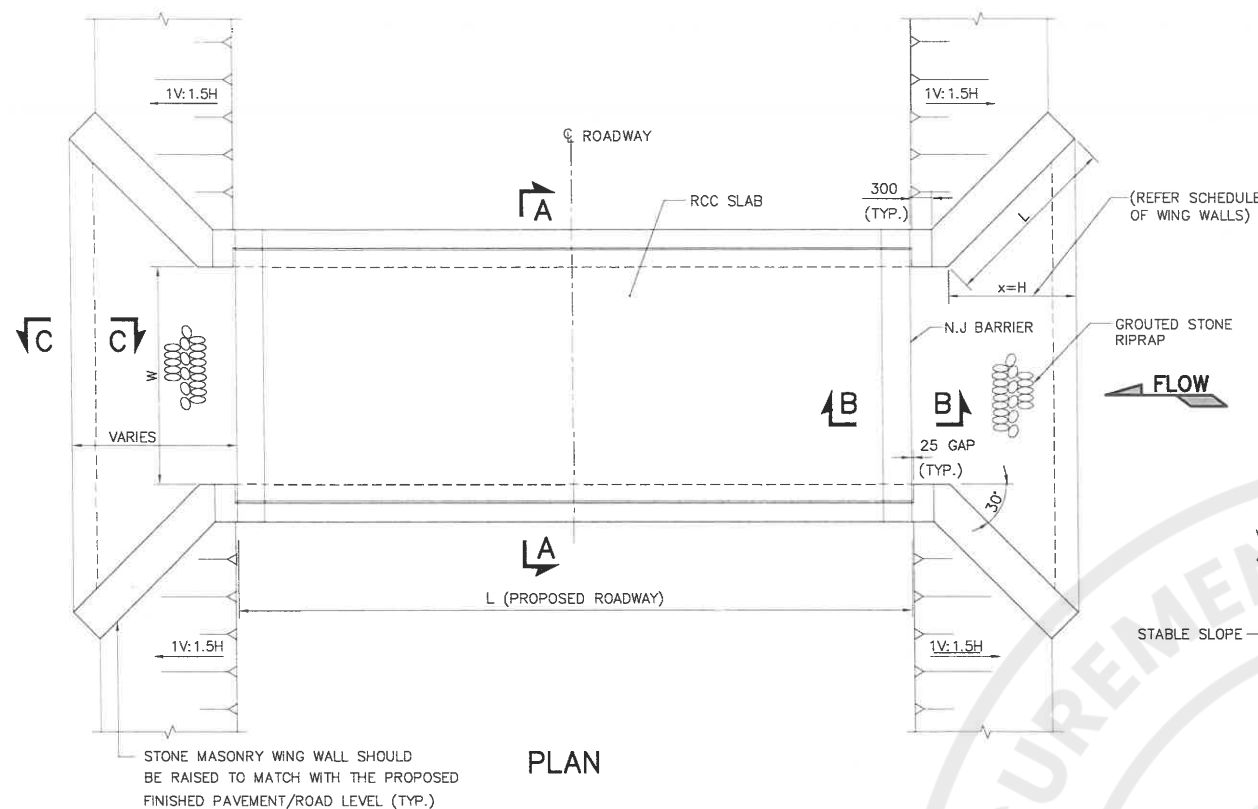


DETAIL 'A'
EDGE BARRIER (SINGLE FACE)
(REINFORCEMENT)
SCALE=1:10

NOTES:

- FOR GENERAL NOTES REFER DWG NO. PG001.
- WORK THIS DRAWING IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.

CLIENT  WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	RASHID AZIZ	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	BRIDGE DECK SLAB, EDGE BARRIER REINFORCEMENT DETAIL		SCALE 1:75	
		03				SUBMITTED				DATE JULY 2026	DRAWING No. 4520/102/TD/P1G104	REV. 
		02				RECOMMENDED						
		01				CHD./VER.						
		REV.		DATE	DESCRIPTION	APPROVED	APPROVED					

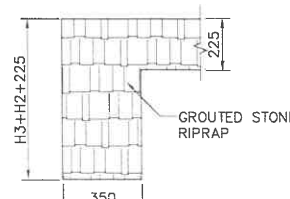
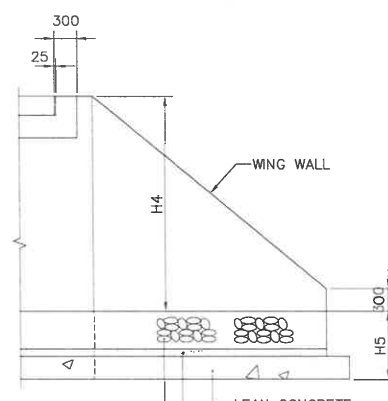
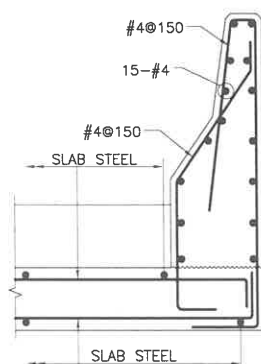
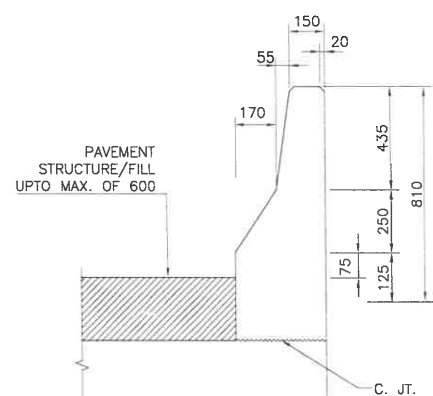


SCHEDULE OF CULVERTS

SECTION	DIMENSIONS								
	H	H1	H2	H3	B1	B2	B3	B4	B5
1	1000 ~ 1500	500	150	600	1500	900	300	450	300
2	1500 ~ 2000	500	150	800	1800	1200	300	450	300
3	2000 ~ 2500	600	200	900	2200	1600	350	500	350
4	2500 ~ 3000	700	200	900	2600	2000	400	600	400

REINFORCEMENT SCHEDULE OF RCC SLAB (SINGLE CELL)

DIMENSIONS		REINFORCEMENT					
W	T	R1	R2	R3	R4	R5	R6
1500	250	#4@150	#3@150	#3@150	#3@150	16-#4	12-#4
2000	300	#6@200	#4@200	#4@200	#3@150	16-#4	12-#4
2500	350	#6@200	#4@200	#4@200	#3@150	16-#4	14-#4
3000	400	#6@150	#4@150	#4@150	#4@200	20-#4	16-#4
3500	450	#6@150	#4@150	#4@150	#4@200	20-#4	16-#4
4000	500	#6@125	#4@125	#4@125	#4@150	24-#4	18-#4



SCHEDULE OF WING WALLS

SECTION	DIMENSIONS			
	H4	B6	B7	B8
1	600 ~ 900	500	800	400
2	900 ~ 1200	500	1050	400
3	1200 ~ 1500	500	1600	450
4	1500 ~ 1800	500	2100	450
5	1800 ~ 2400	500	2700	500
6	2400 ~ 3000	600	3300	600

NOTES

- FOR GENERAL NOTES REFER DRAWING P1G001.
- DOWELS FOR N.J. BARRIER SHALL BE PLACED IN END PANELS BEFORE PLACING OF CONCRETE.
- TOP LEVEL OF CULVERT SHALL BE FIXED MAKING ALLOWANCE FOR ASPHALT TOPPING LAYER.
- THE LENGTH AND INCLINATION IN PLAN OF THE WING WALL MAY VARY AS PER SITE CONDITIONS OR AS DIRECTED BY THE ENGINEER.
- PIER SHALL BE OF DRESSED STONE MASONRY IN 1:3 CEMENT SAND MORTAR.
- CROSS SLOPE OF 2% SHALL BE PROVIDED FOR STONE RIPRAP.

CLIENT



WATER AND POWER
DEVELOPMENT AUTHORITY
(WAPDA)

CONSULTANT



NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.

HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04

03

02

01

REV.

DATE

DESCRIPTION

APPROVED

DRAWN

SUBMITTED

RECOMMENDED

CHD/VER.

APPROVED

IFTIKHAR

PROJECT

DETAILED DESIGN AND CONSTRUCTION SUPERVISION /
IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM
(LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND
DOWNSTREAM FISHERIES PLANS;
NAMESLY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)

TYPICAL SINGLE CELLS STONE MASONRY
CULVERT CONCRETE OUTLINE AND
REINFORCEMENT

DATE

DRAWING No.

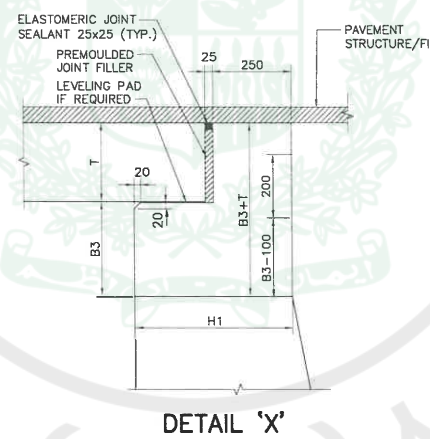
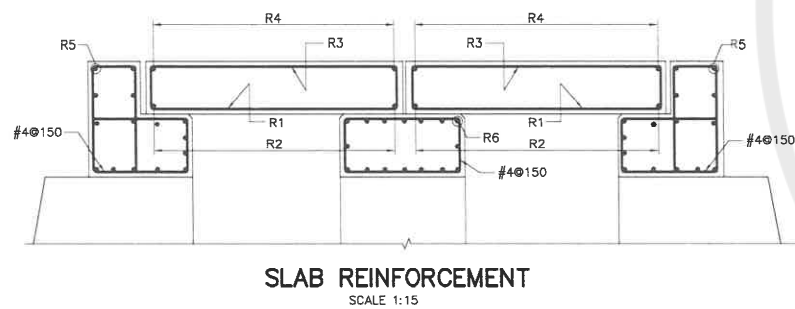
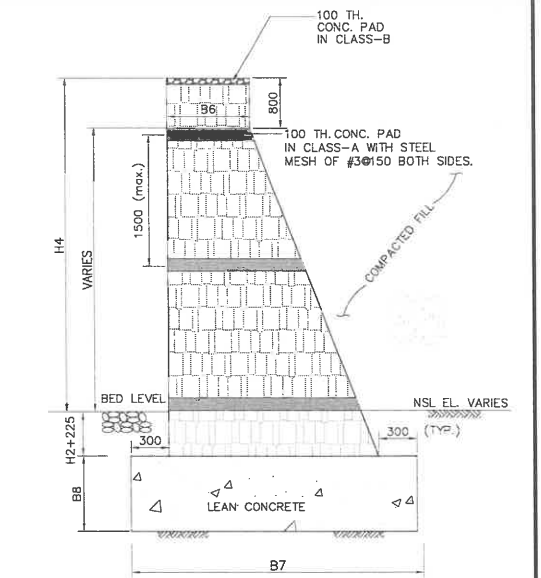
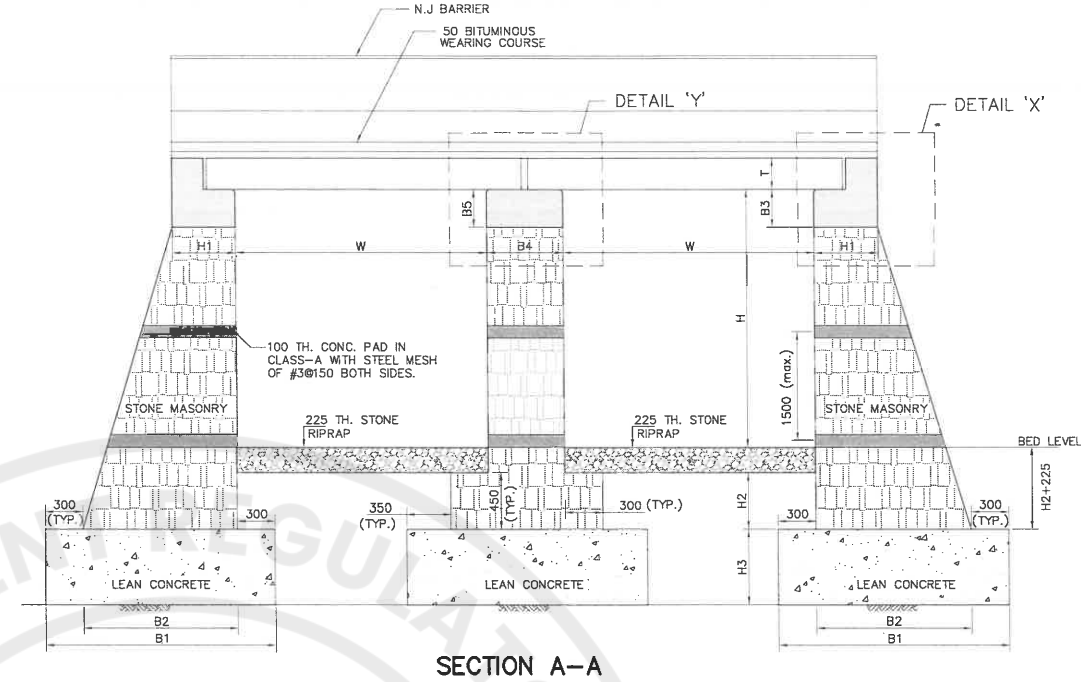
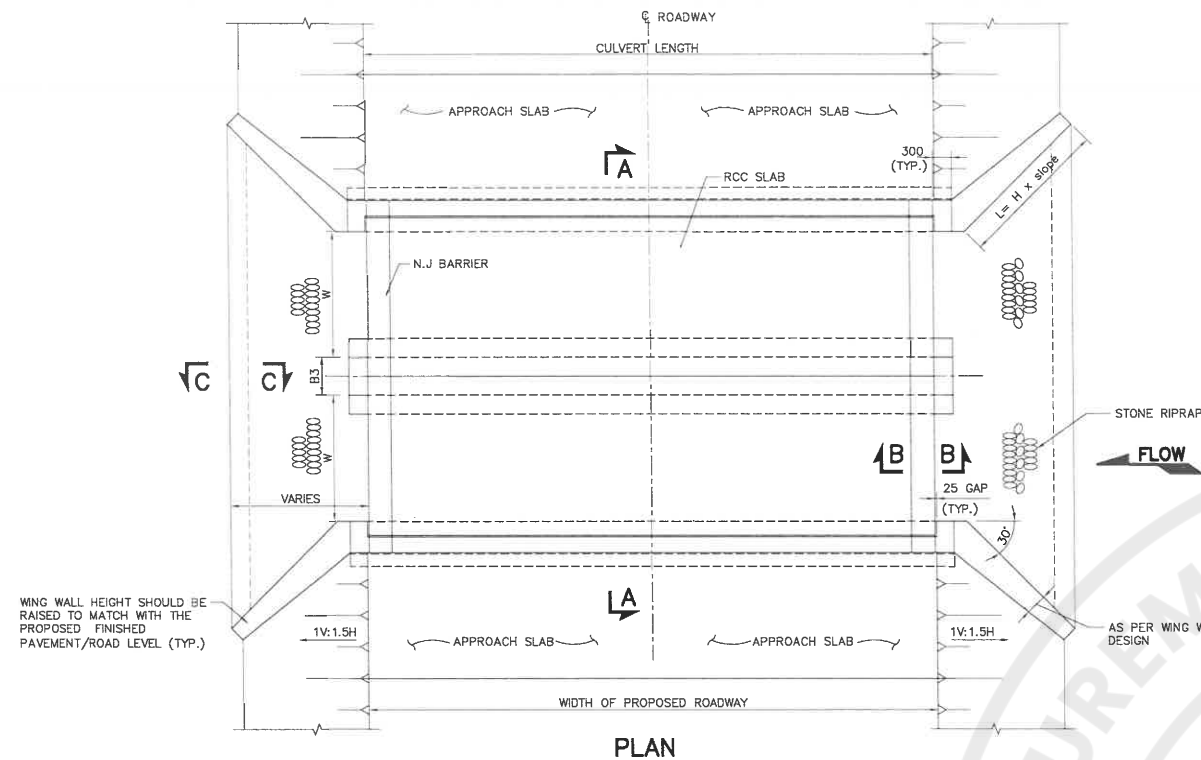
JULY, 2026

4520/102/TD/P1SM101

SCALE

REV.

0

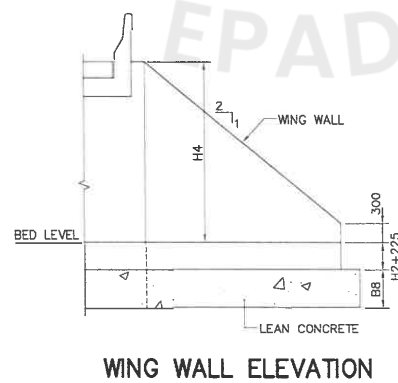
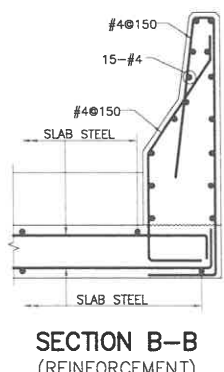
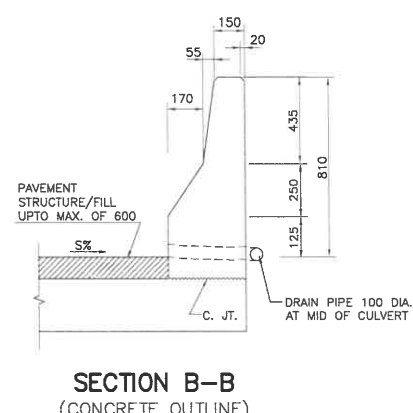
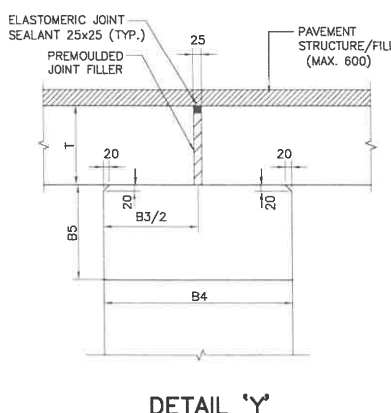


SCHEDULE OF CULVERTS

SECTION	DIMENSIONS								
	H	H1	H2	H3	B1	B2	B3	B4	B5
1	1000 ~ 1500	500	150	600	1500	900	300	450	300
2	1500 ~ 2000	500	150	800	1800	1200	300	450	300
3	2000 ~ 2500	600	200	900	2200	1600	350	500	350
4	2500 ~ 3000	700	200	900	2600	2000	400	600	400

REINFORCEMENT SCHEDULE OF RCC SLAB

DIMENSIONS		REINFORCEMENT					
W	T	R1	R2	R3	R4	R5	R6
1500	250	#4@150	#3@150	#3@150	#3@150	16-#4	12-#4
2000	300	#6@200	#4@200	#4@200	#3@150	16-#4	12-#4
2500	350	#6@200	#4@200	#4@200	#3@150	16-#4	14-#4
3000	400	#6@150	#4@150	#4@150	#4@200	20-#4	16-#4
3500	450	#6@150	#4@150	#4@150	#4@200	20-#4	16-#4
4000	500	#6@125	#4@125	#4@125	#4@150	24-#4	18-#4



SCHEDULE OF WING WALLS

SECTION	DIMENSIONS			
	H4	B6	B7	B8
1	600 ~ 900	500	800	400
2	900 ~ 1200	500	1050	400
3	1200 ~ 1500	500	1600	450
4	1500 ~ 1800	500	2100	450
5	1800 ~ 2400	500	2700	500
6	2400 ~ 3000	600	3300	600

NOTES

- FOR GENERAL NOTES REFER DRAWING P1G001.
- DOWELS FOR N.J. BARRIER SHALL BE PLACED IN DECK SLAB PLACING OF CONCRETE.
- THE SEAT FOR RCC SLAB SHALL BE LEVELED PERFECTLY USING CEMENT SAND MORTAR BEFORE PLACING OF CULVERT SLAB.
- TOP LEVEL OF CULVERT SHALL BE FIXED MAKING ALLOWANCE FOR ASPHALT TOPPING LAYER.
- THE LENGTH AND INCLINATION IN PLAN OF THE WING WALL MAY VARY AS PER SITE CONDITIONS OR AS DIRECTED BY THE ENGINEER.
- CROSS SLOPE OF 2% SHALL BE PROVIDED FOR STONE RIPRAP.
- ALL REINFORCED CONCRETE SHALL HAVE A MINIMUM CYLINDRICAL STRENGTH OF 3000 PSI.
- ALL STONE MASONRY WORKS SHALL BE AS PER PROJECT SPECS.
- IF THERE IS ANY CONSTRUCTION JOINT IN PLUM CONCRETE IT SHALL BE PROPERLY INTERLOCKED WITH NEW CONCRETE BY PLACING STONES AT APPROPRIATE INTERVAL AS PER ENGINEER DECISION.

CLIENT
WATER AND POWER
DEVELOPMENT AUTHORITY
(WAPDA)

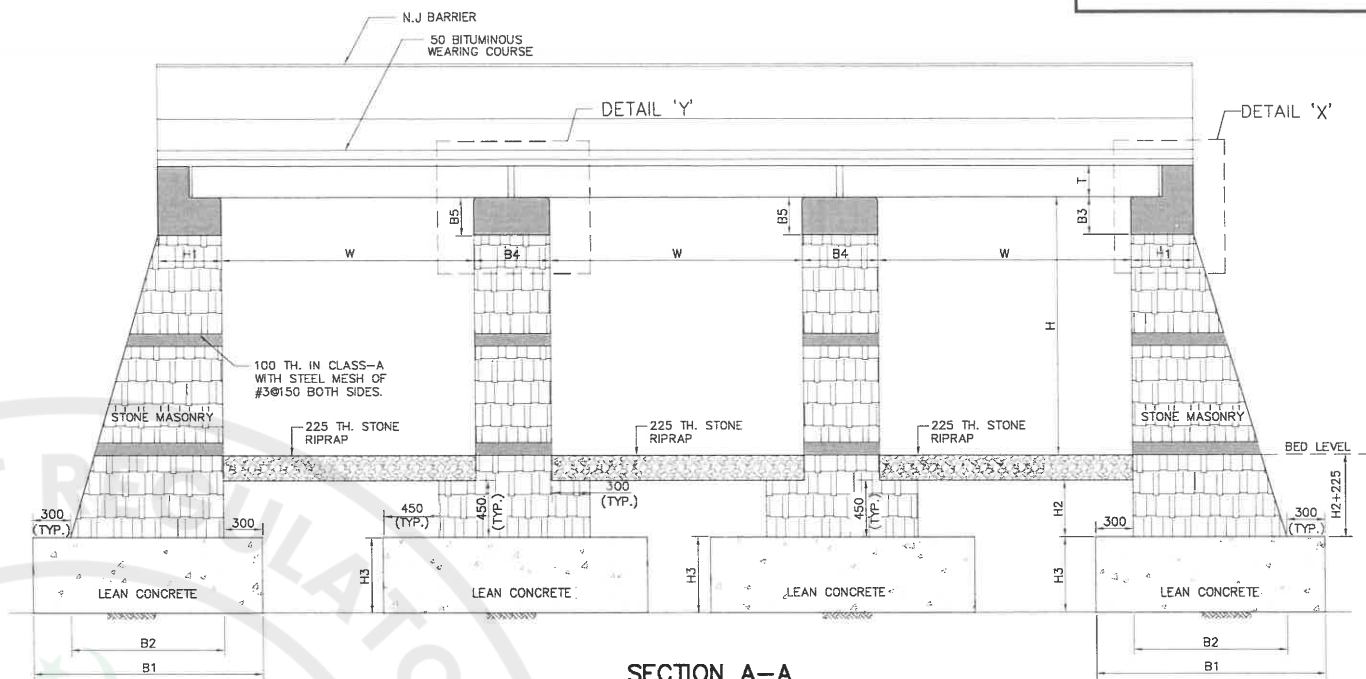
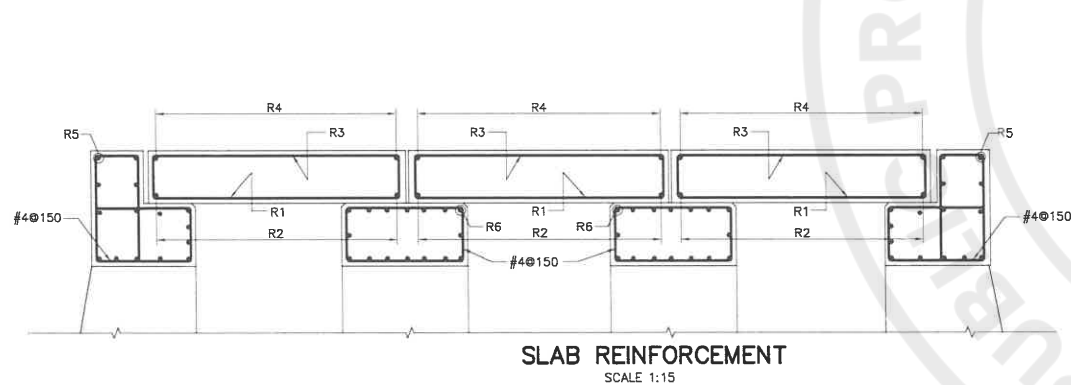
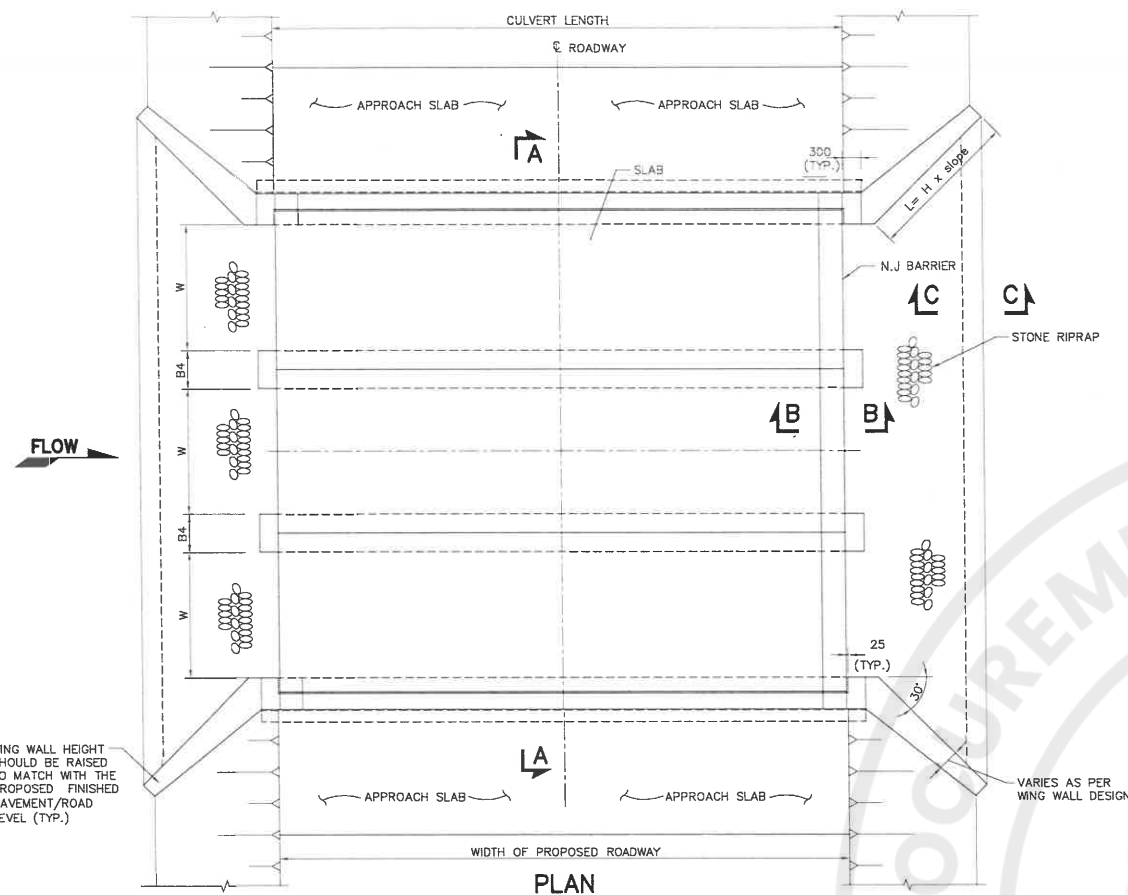
CONSULTANT
NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.
HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

04				DRAWN	IFTIKHAR
03				SUBMITTED	
02				RECOMMENDED	
01				CHD./VER.	
REV.	DATE	DESCRIPTION	APPROVED	APPROVED	

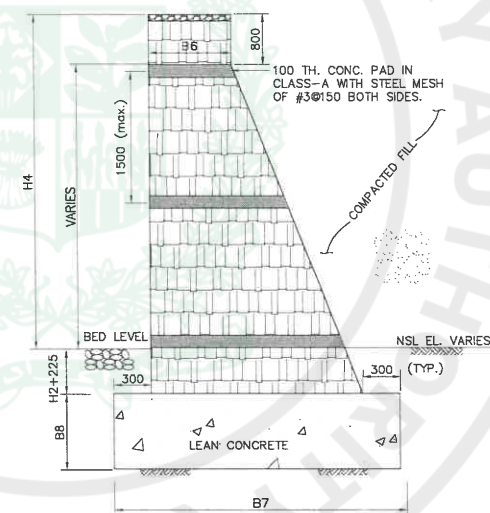
PROJECT
DETAILED DESIGN AND CONSTRUCTION SUPERVISION /
IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM
(LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND
DOWNSTREAM FISHERIES PLANS;
NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-4CS)

TYPICAL 2- CELLS STONE MASONRY
CULVERT CONCRETE OUTLINE AND
REINFORCEMENT
DATE JULY, 2026 DRAWING No. 4520/102/TD/P1SM102

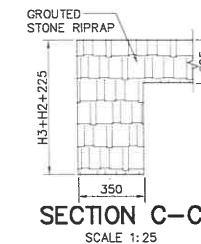
SCALE
REV.



SECTION A-A



TYPICAL SECTION OF STONE MASONRY WING WALL



SECTION C-C
SCALE 1:25

SCHEDULE OF WING WALLS

SECTION	DIMENSIONS			
	H4	B6	B7	B8
1	1200 ~ 1500	500	1600	450
2	1500 ~ 1800	500	2100	450
3	1800 ~ 2400	500	2700	500
4	2400 ~ 3000	600	3300	600

SCHEDULE OF CULVERTS

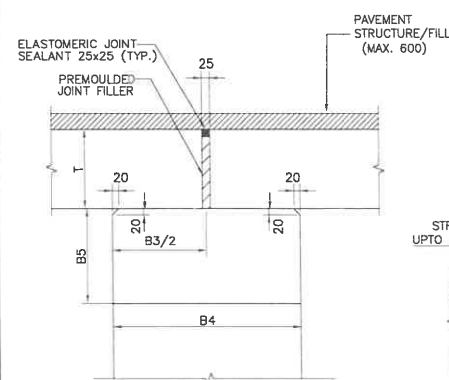
SECTION	DIMENSIONS								
	H	H1	H2	H3	B1	B2	B3	B4	B5
1	1000 ~ 1500	500	150	600	1500	900	300	450	300
2	1500 ~ 2000	500	150	800	1800	1200	300	450	300
3	2000 ~ 2500	600	200	900	2200	1600	350	500	350
4	2500 ~ 3000	700	200	900	2600	2000	400	600	400

REINFORCEMENT SCHEDULE OF RCC SLAB

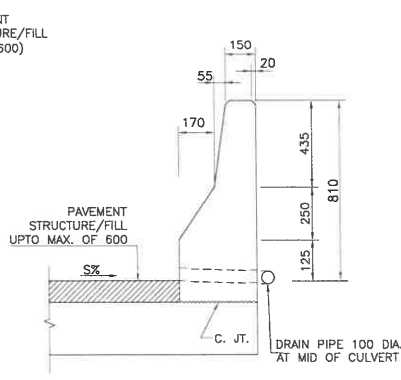
DIMENSIONS		REINFORCEMENT					
W	T	R1	R2	R3	R4	R5	R6
2000	300	#6@200	#4@200	#4@200	#3@150	16-#4	12-#4
2500	350	#6@200	#4@200	#4@200	#3@150	16-#4	14-#4
3000	400	#6@150	#4@150	#4@150	#4@200	20-#4	16-#4
3500	450	#6@150	#4@150	#4@150	#4@200	20-#4	16-#4
4000	500	#6@125	#4@125	#4@125	#4@150	24-#4	18-#4

NOTES

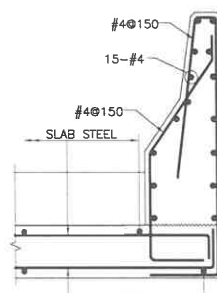
- FOR GENERAL NOTES REFER DRAWING P1G001.
- DOWELS FOR N.J. BARRIER SHALL BE PLACED IN DECK SLAB PLACING OF CONCRETE.
- THE SEAT FOR RCC SLAB SHALL BE LEVELED PERFECTLY USING CEMENT SAND MORTAR BEFORE PLACING OF CULVERT SLAB.
- TOP LEVEL OF CULVERT SHALL BE FIXED MAKING ALLOWANCE FOR ASPHALT TOPPING LAYER.
- THE LENGTH AND INCLINATION IN PLAN OF THE WING WALL MAY VARY AS PER SITE CONDITIONS OR AS DIRECTED BY THE ENGINEER.
- CROSS SLOPE OF 2% SHALL BE PROVIDED FOR STONE RIPRAP.
- ALL REINFORCED CONCRETE SHALL HAVE A MINIMUM CYLINDRICAL STRENGTH OF 3000 PSI.
- ALL STONE MASONRY WORKS SHALL BE AS PER PROJECT SPECS.
- IF THERE IS ANY CONSTRUCTION JOINT IN PLUM CONCRETE IT SHALL BE PROPERLY INTERLOCKED WITH NEW CONCRETE BY PLACING STONES AT APPROPRIATE INTERVAL AS PER ENGINEER DECISION.



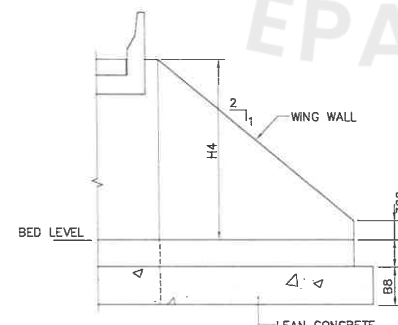
DETAIL 'Y'



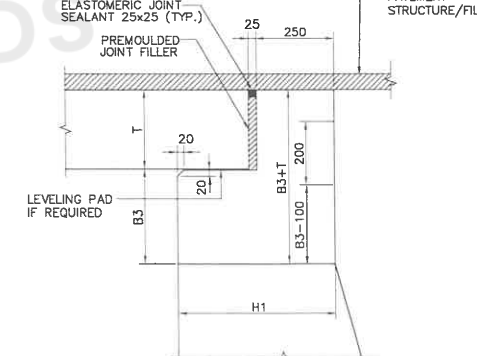
SECTION B-B
(CONCRETE OUTLINE)



SECTION B-B
(REINFORCEMENT)



WING WALL ELEVATION



DETAIL 'X'

CLIENT
**WATER AND POWER
DEVELOPMENT AUTHORITY
(WAPDA)**

CONSULTANT
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.**
HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

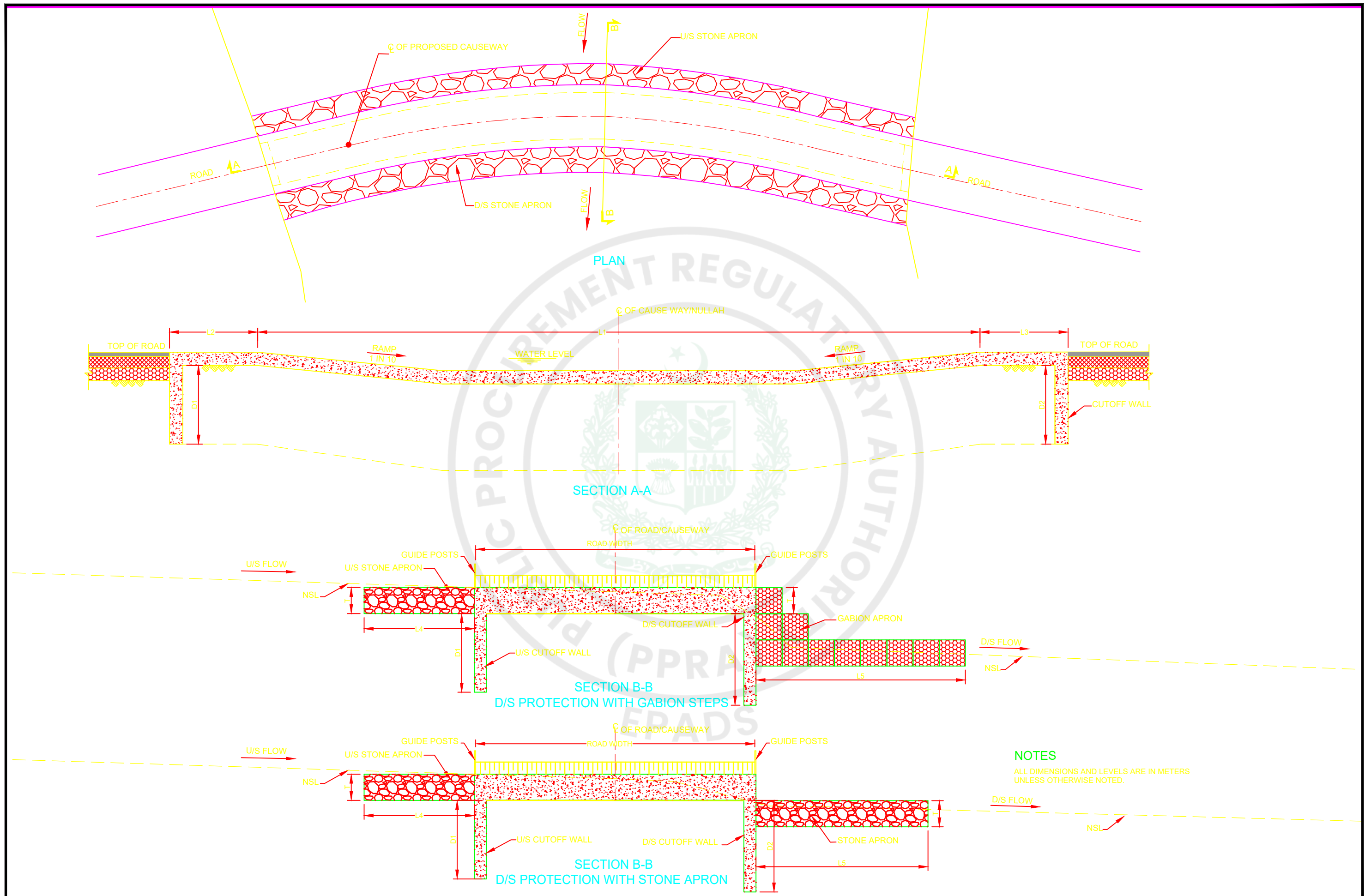
04					
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REV.	DATE	DESCRIPTION	APPROVED	APPROVED	

DRAWN	IFTIKHAR
SUBMITTED	
RECOMMENDED	
CHD./VER.	
APPROVED	

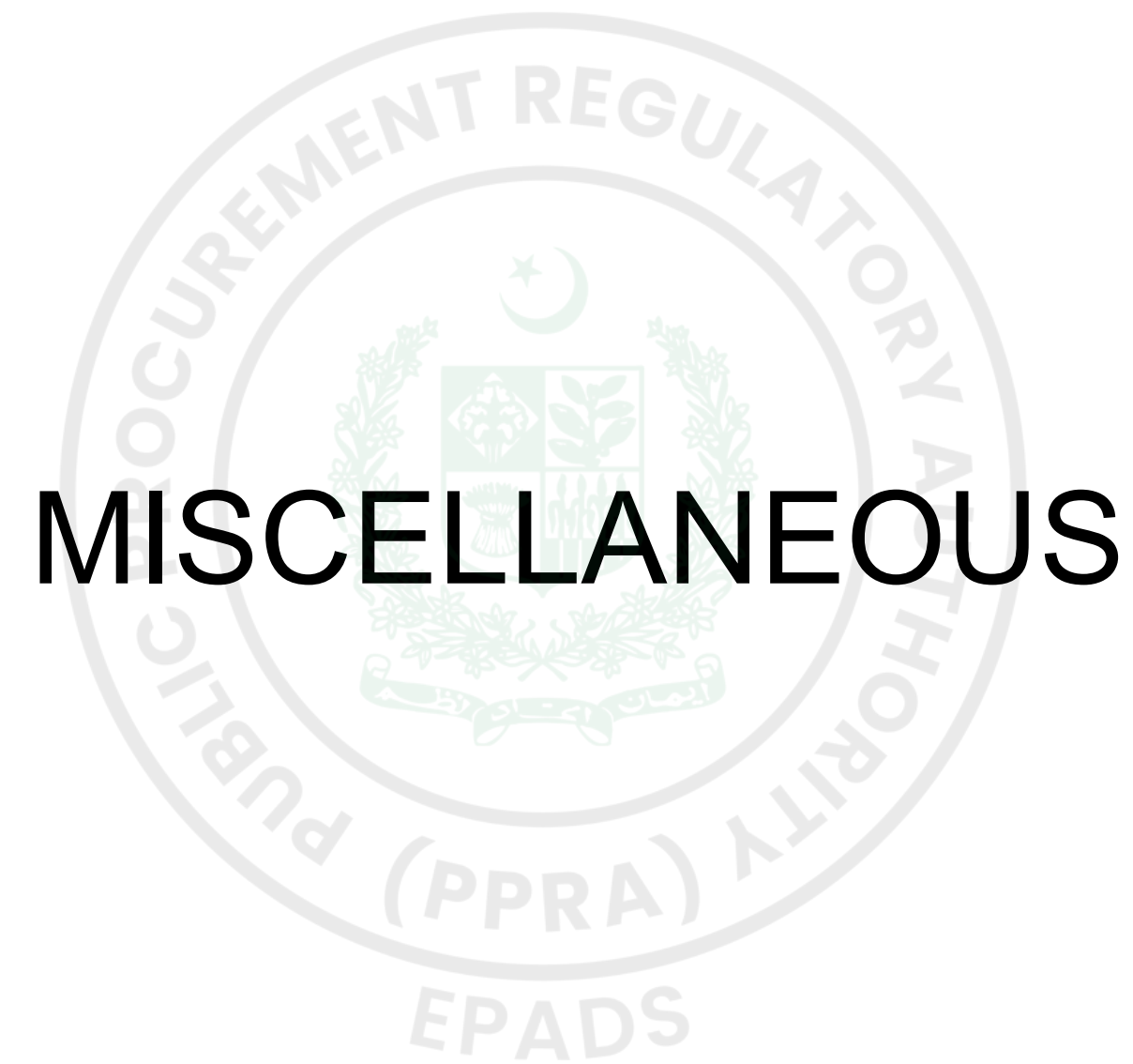
PROJECT
**DETAILED DESIGN AND CONSTRUCTION SUPERVISION /
IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM
(LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND
DOWNSTREAM FISHERIES PLANS;
NAMESLY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)**

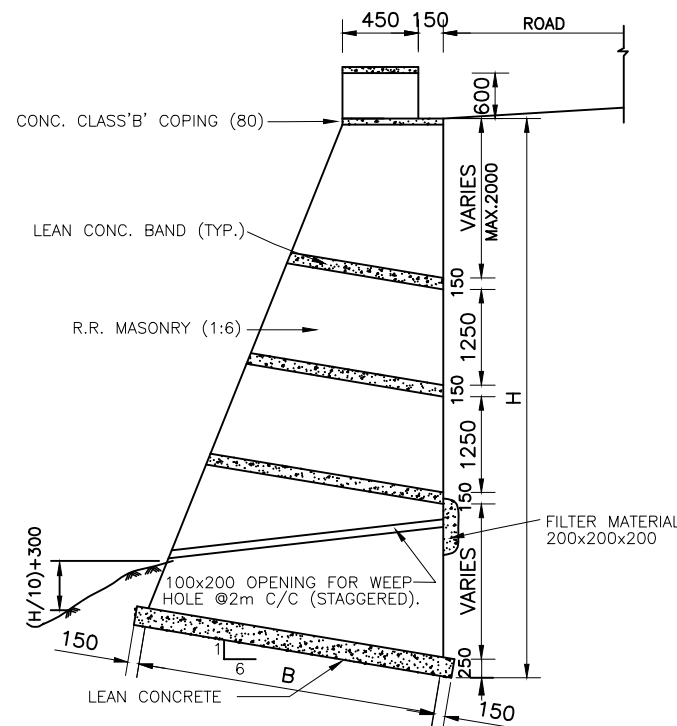
**TYPICAL 3 - CELLS STONE MASONRY
CULVERT CONCRETE OUTLINE AND
REINFORCEMENT**

DATE	DRAWING No.	REV.
JULY, 2026	4520/102/TD/P1SM103	0

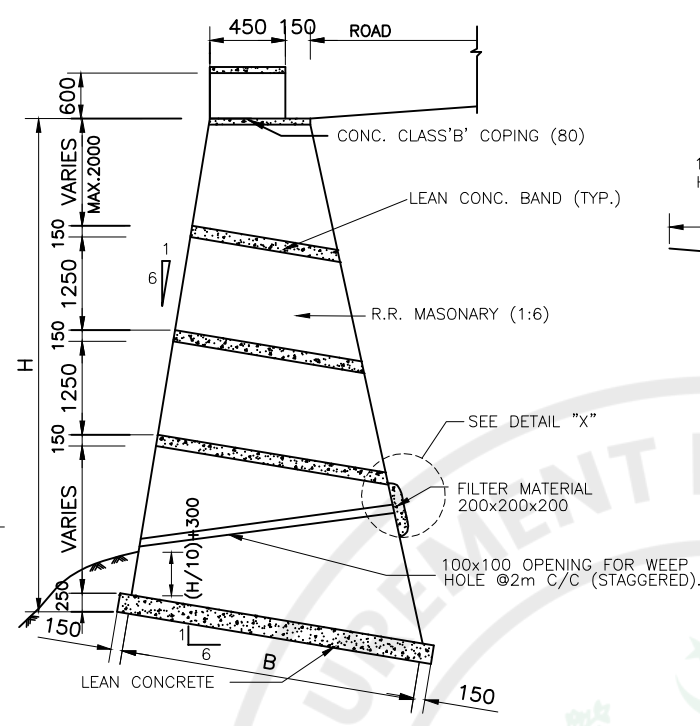


CLIENT  WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	F.A	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	CONSTRUCTION OF DUBAIR ROAD TYPICAL LAYOUT PLAN & SECTIONS OF CAUSEWAYS		SCALE HOR=1:7 VER =1:7	
		03				SUBMITTED						
		02				RECOMMENDED			DATE		DRAWING No.	REV.
		01				CHD./VER.			FEB, 2025			0
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED						

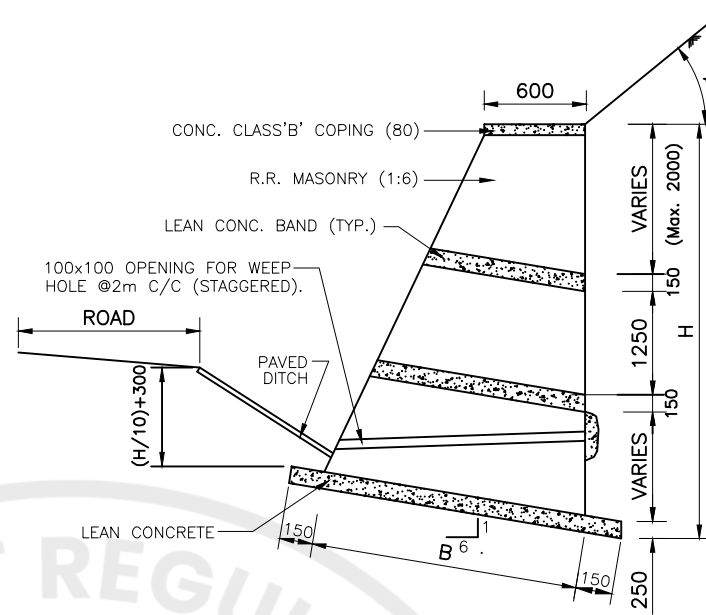




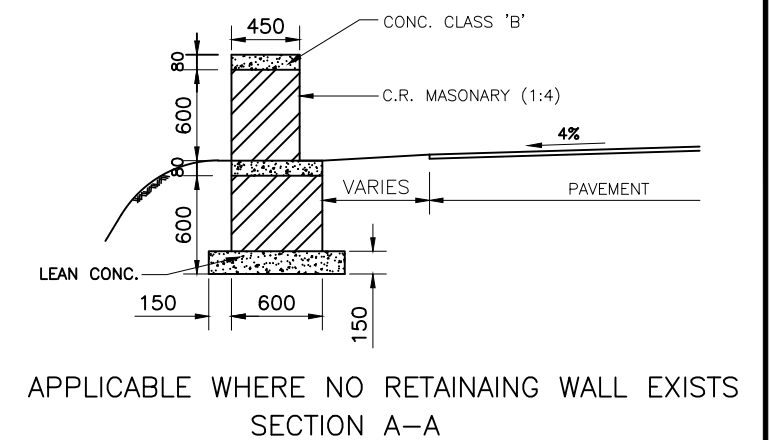
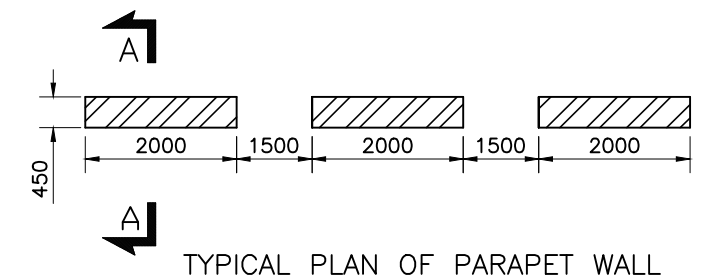
TYPICAL SECTION OF STONE MASONRY
RETAINING WALL TYPE RW1



TYPICAL SECTION OF STONE MASONRY
RETAINING WALL TYPE RW2



TYPICAL SECTION OF STONE MASONRY
RETAINING/BREAST WALL TYPE RW3



APPLICABLE WHERE NO RETAINING WALL EXISTS
SECTION A-A

TABLE RW1

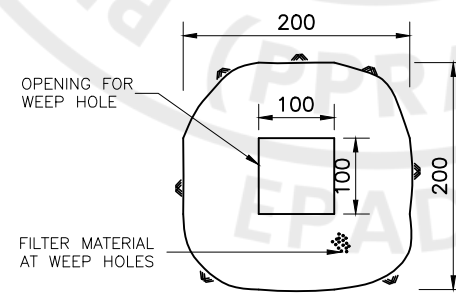
H (m)	B (m)
1.50	0.60
2.00	0.80
2.50	1.00
3.00	1.20
3.50	1.50
4.00	1.80
4.50	2.00
5.00	2.30
5.50	2.60
6.00	2.90
7.00	3.40
8.00	3.90

TABLE RW2

H (m)	B (m)
1.50	0.80
2.00	1.05
2.50	1.40
3.00	1.70
3.50	2.10
4.00	2.40
4.50	2.70
5.00	3.00
5.50	3.30
6.00	4.00
7.00	4.70
8.00	5.50

TABLE RW3
 $\theta \leq 32^\circ$

H (m)	B (m)
1.50	0.75
2.00	0.90
2.50	1.10
3.00	1.40
3.50	1.60
4.00	1.90
4.50	2.10
5.00	2.40
5.50	2.70
6.00	3.00
6.50	3.20
7.00	3.50
7.50	3.70
8.00	4.00



DETAIL "X"

NOTES

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.
- WEEP HOLES SHALL BE STAGGERED AT AN INTERVAL OF 2m VERTICALLY AND HORIZONTALLY AND/OR AS DIRECTED BY THE ENGINEER'S REPRESENTATIVE.
- THE SLOPE OF WEEP HOLE SHALL BE 1 IN 8 FROM BACK OF THE MASONRY TO THE OUTER FACE OR AS DIRECTED BY THE ENGINEER'S REPRESENTATIVE.
- TYPE OF RETAINING WALL TYPE RW1 SHALL BE DECIDED BY THE ENGINEER'S REPRESENTATIVE AS PER SITE CONDITIONS KEEPING FOLLOWING IN VIEW.
 - RETAINING WALL TYPE RW1 SHALL BE PROVIDED WHERE THE ROAD IS WELL AWAY FROM THE NALLAH, RIVER/RIVINE.
 - RETAINING TYPE RW2 WALL SHALL BE PROVIDED WHERE THE ROAD IS IN CLOSE VICINITY OF THE RIVER/RIVINE OR CLIFF FACE.
 - RETAINING WALL TYPE RW3 SHALL BE PROVIDED TO RETAIN THE SCREED MATERIAL.
- R.R. MASONRY AND C.R. MASONRY STANDS FOR RANDOM RUBBLE MASONRY AND COURSE RUBBLE MASONRY RESPECTIVELY. R.R. MASONRY SHALL BE LAID IN 1:6 CEMENT SAND MORTAR, WHERE AS C.R. MASONRY IN 1:4 C/S MORTAR.
- TYPICAL PARAPET WALL SHALL BE PROVIDED AT TOP OF RETAINING WALL AND AT OTHER HAZARDOUS LOCATIONS AS APPROVED BY THE ENGINEER'S REPRESENTATIVE.
- THE DESIGN OF RETAINING WALLS IS BASED ON FOLLOWING PARAMETERS.
 - BEARING CAPACITY 2.2 Kg/Cm²
 - ANGLE OF INTERNAL FRICTION
 - FOR WALL TYPE RW 1 & RW 2 = 32°
 - FOR WALL TYPE RW 3 = 32°
- VERTICAL SLOPE TO THE OUTER FACE OF THE RETAINING WALL TYPE RW 2 CAN BE CHANGED UP 1 IN 10.
- PAYMENT FOR WEEP HOLES AND FILTER MATERIAL IS INCLUDED IN THE COST OF OTHER ITEMS AND SHALL NOT BE PAID SEPARATELY.

CLIENT
**WATER AND POWER
DEVELOPMENT AUTHORITY
(WAPDA)**

CONSULTANT
**NATIONAL ENGINEERING SERVICES
PAKISTAN (PVT.) LTD.**
HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N,
MODEL TOWN EXTENSION, LAHORE, PAKISTAN.

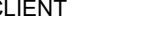
REV.	DATE	DESCRIPTION	APPROVED
04			
03			
02			
01			

PROJECT
**DETAILED DESIGN AND CONSTRUCTION SUPERVISION /
IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM
(LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND
DOWNSTREAM FISHERIES PLANS;
NAMESLY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)**

TYPICAL STONE MASONRY RETAINING WALL DETAILS		SCALE
DATE JUNE, 2026	DRAWING No. 4520/102/C/MS001	REV. 0





CLIENT  WATER AND POWER DEVELOPMENT AUTHORITY (WAPDA)	CONSULTANT  NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	MUTI	PROJECT DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATIONS OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLANS; NAMELY LADP IMPLEMENTATION CONSULTANTS (LADP-ICS)	DUBAIR ROAD DUMPING SITE LOCATION PLAN		SCALE		
		03				SUBMITTED					1:1		
		02				RECOMMENDED							
		01				CHD./VER.				REV.	DATE DECEMBER, 2025	DRAWING No. 4520/102/TD/1A003	REV. ↕
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED							

BS-1

FORM OF BID SECURITYSecurity Executed on _____
(Date)Expiry on _____
(Date)

Name of Surety with Address: _____

Name of Principal (Bidder) with Address _____

Penal Sum of Security PKR _____ (Pak Rupees _____)

Bid Reference No. _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bid and at the request of the said Principal (Bidder) we, the Surety above named, are held and firmly bound unto _____

(hereinafter called the 'Employer') in the sum stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Bidder has submitted the accompanying Bid dated _____ for _____
(Particulars of Bid) to the said Employer; and

- (1) WHEREAS, the Employer has required as a condition for considering said Bid that the Bidder furnishes a Bid Security in the above said sum to the Employer, conditioned as under: that the Bid Security shall remain in force for a period fourteen (14) days beyond the Bid Validity date i.e., upto _____.
- (2) that the Bid Securities of the Bidders except the lowest three will be returned by the Employer within twenty eight (28) days from the opening of Bids, provided a Bidder request for the return of its Bid Security, or on the expiry of original validity of Bid Security or as extended, whichever is earlier;
- (3) that the Bid Security of the lowest three Bidders comprising the successful Bidder will be returned when the successful Bidder has furnished the required Performance Security; and
- (4) that in the event of failure of the successful Bidder to furnish the required Performance Security, the entire said sum be paid immediately to the said Employer pursuant to IB.16 and IB.35 of the Instructions to Bidders for the successful Bidder's failure to perform.

NOW THEREFORE, if the successful Bidder shall, within the period specified therefor, on the prescribed form presented to him for signature enter into a formal Contract with the said Employer in accordance with his Bid as accepted and furnish within twenty eight (28) days of his being requested to do so, a Performance Security with good and sufficient surety, as may be required, upon the form prescribed by the said Employer for the faithful performance and proper fulfilment of the said Contract or in the event of non-withdrawal of the said Bid within the time specified for its validity then this obligation shall be void and of no effect, but otherwise to remain in full force and effect.

BS-2

PROVIDED THAT the Surety shall forthwith pay the Employer the said sum upon first written demand of the Employer (without cavil or argument) and without requiring the Employer to prove or to show grounds or reasons for such demand, notice of which shall be sent by the Employer by registered post duly addressed to the Surety at its address given above.

PROVIDED ALSO THAT the Employer shall decide, whether the Principal (Bidder) has duly performed his obligations to sign the Contract Agreement and to furnish the requisite Performance Security within the time stated above, or has defaulted in fulfilling said requirements and the Surety shall pay without objection the said sum upon demand from the Employer forthwith and without any reference to the Principal (Bidder) or any other person.

IN WITNESS WHEREOF, the above bounden Surety has executed the instrument under its seal on the date indicated above, the name and seal of the Surety being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

SURETY
(Schedule Bank/Insurance Company)

WITNESS:

1. _____ Signature _____
 _____ Name _____
 _____ Title _____
 Corporate Secretary (Seal) Corporate Guarantor (Seal)

2. _____

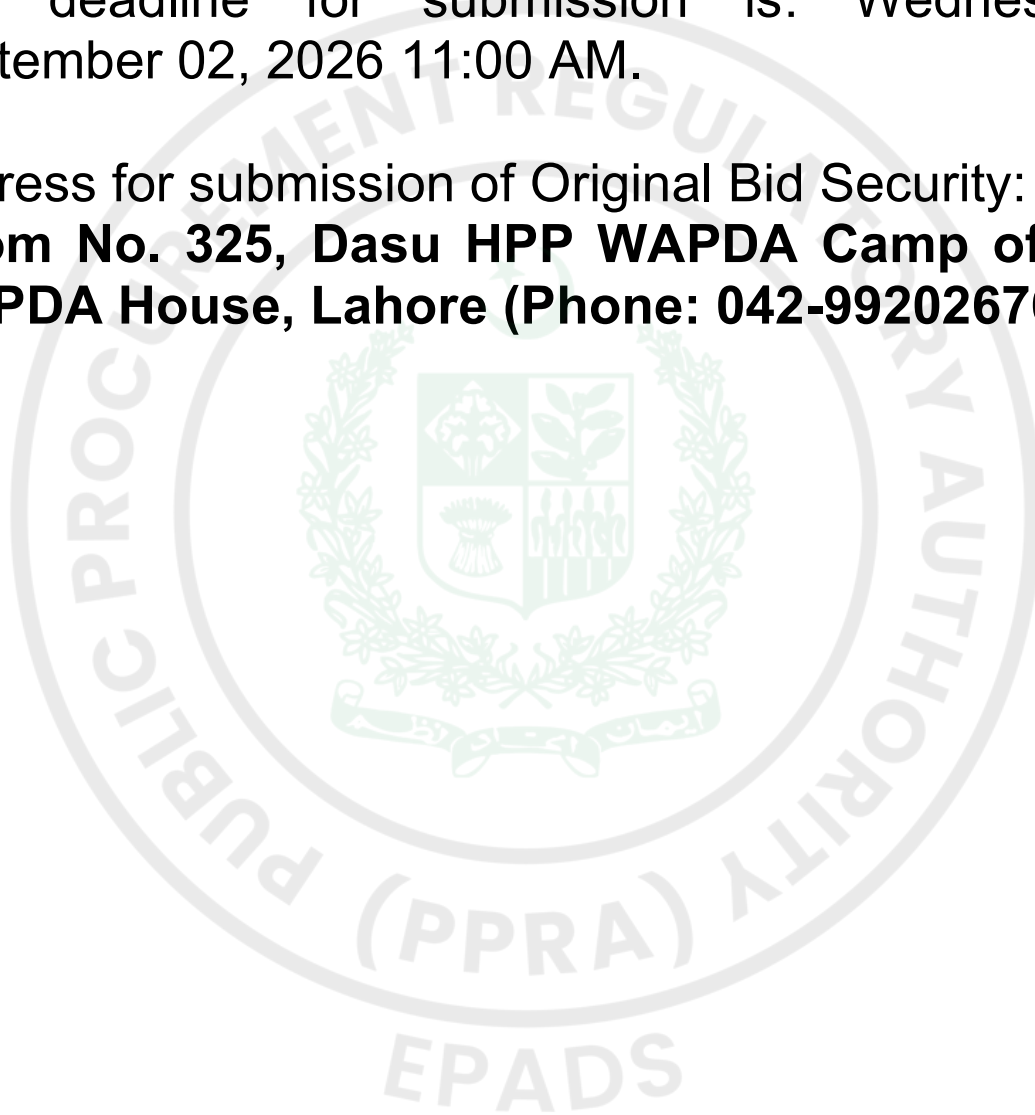
 Name, Title & Address

Refer Page No. 35 of Bidding Document

The contents mentioned under ITB Number 19.1 shall be replaced with the following:

The deadline for submission is: Wednesday, September 02, 2026 11:00 AM.

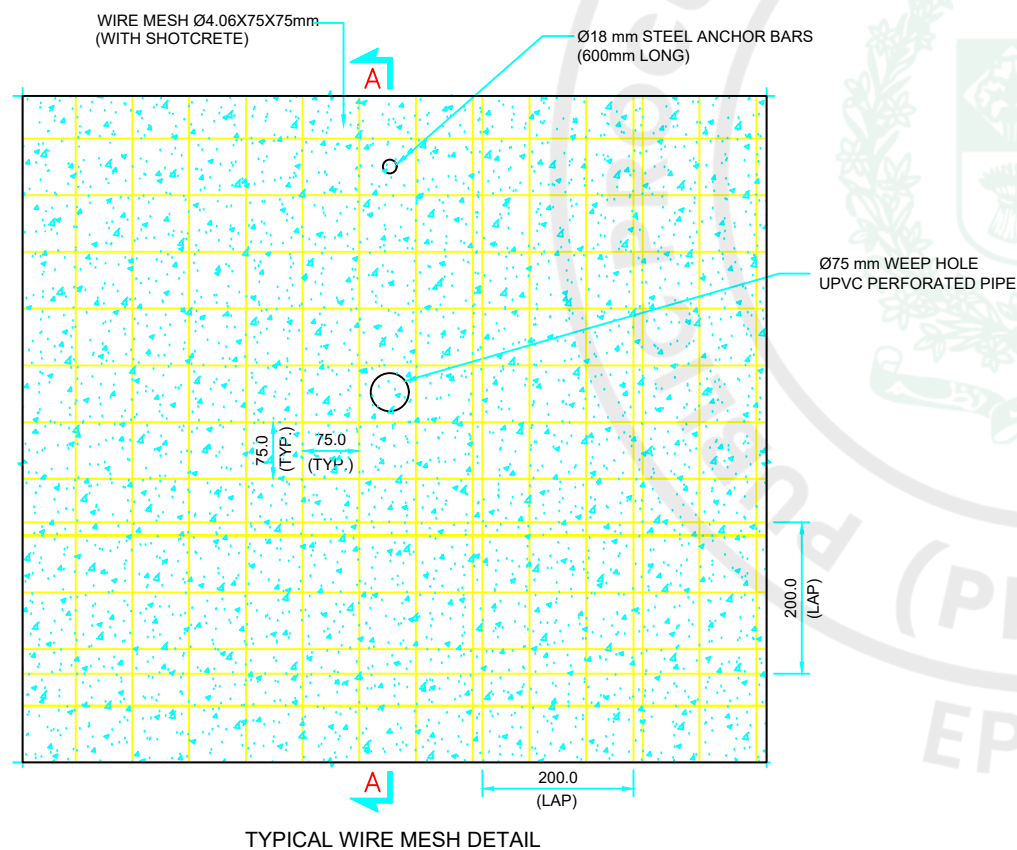
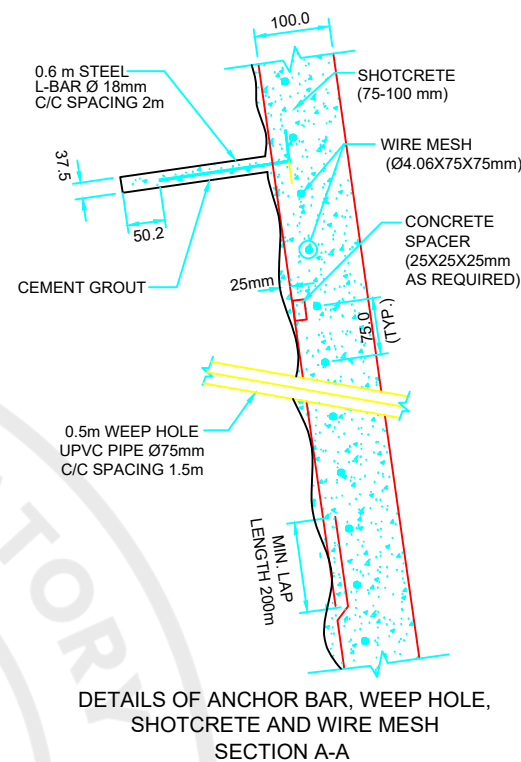
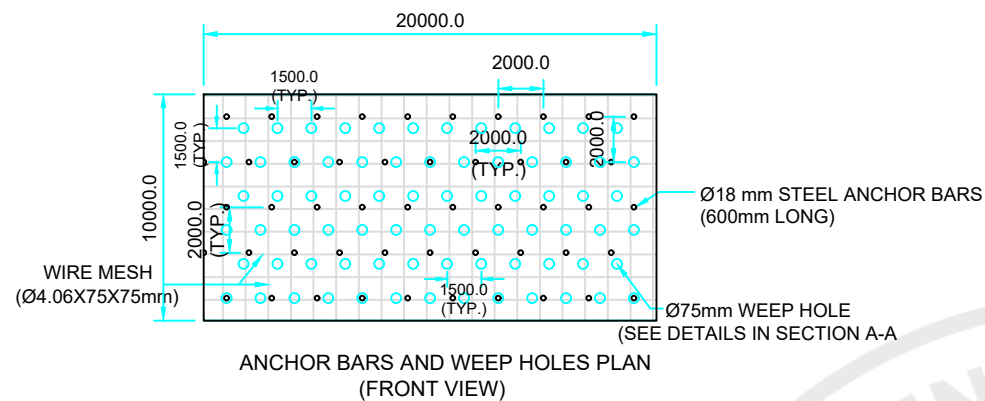
Address for submission of Original Bid Security:
**Room No. 325, Dasu HPP WAPDA Camp office,
WAPDA House, Lahore (Phone: 042-99202676)**



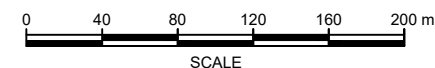
CHANGES INCORPORATED IN THE BIDDING DOCUMENTS THROUGH CORRIGENDUM

1. Bid Security Form has been attached.
2. The address for submission of Original Bid Security has been revised to Room No. 325, Dasu HPP WAPDA Camp office, WAPDA House, Lahore (Phone: 042-99202676).
3. The typical drawings & details of anchor bars shotcrete & wire mesh have been added.





- NOTES:
- ANCHOR BAR:**
1. THE LENGTH OF THE ANCHOR BAR IS 0.6 m WITH Ø18 mm.
 2. DRILL HOLE WILL BE Ø 37.5 mm & HOLES SHALL BE CLEANED THOROUGHLY PRIOR TO ANCHOR BAR INSTALLATION AND ANCHOR SPACING WILL BE 2mX2m(STAGGERED).
 3. WEEP HOLES OF Ø75mm WITH UPVC PERFORATED PIPE(LONGITUDINAL SLOT SHALL BE PROVIDED @ 3 m C/C ON FULL FACE HEIGHT OF SLOPE.
 4. THE NUMBER, LOCATION, LENGTH, SPACING, INCLINATION AND ORIENTATION OF ANCHOR BARS AND WEEP HOLES MAY VARY DEPENDING ON ACTUAL GEOLOGICAL CONDITIONS ENCOUNTERED, OR AS DIRECTED BY THE ENGINEER.
 5. HOLE DIAMETER & BOLT/ANCHOR DIAMETER MAY VARY ACCORDING TO MANUFACTURERS RECOMMENDATIONS ON THE SPECIFIC BAR & GROUT USED FOR CONSTRUCTION.
- SHOTCRETE AND WIRE MESH**
6. AFTER COMPLETION OF EXCAVATION OF CUT SLOPES IN SOIL/BEDROCK SHOULD BE PHYSICALLY EXAMINED BY A COMPETENT ENGINEERING GEOLOGIST TO ASSESS THE REQUIREMENT OF SHOTCRETE.
 7. ENSURE THAT THE SURFACE AREA IS PROPERLY CLEANED AND PREPARED TO RECEIVE THE WIRE MESH AND SHOTCRETE. ANY LOOSE MATERIAL OR CONTAMINANTS SHOULD BE REMOVED.
 8. 75-100 mm THICK SHOTCRETE WITH WIRE MESH WILL BE APPLIED.
 9. WIRE MESH WILL BE Ø 4.06 mm WITH 75X75 mm SPACING.
 10. ALL NUTS, PLATES, COUPLES ETC. SHALL BE FULLY COMPATIBLE WITH THE ANCHOR BAR IN TERMS OF GEOMETRIC CONFIGURATION, STRENGTH AND CORROSION RESISTANCE.
 11. CLEANING OF THE SLOPE EITHER COMPRESSED AIR OR BY WATER JET PRIOR TO THE APPLICATION OF THE SHOTCRETE.
 12. ALL DIMENSIONS IN MM UNLESS OTHERWISE NOTED.



CLIENT :- WATER AND POWER DEVELOPMENT AUTHORITY	 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LTD. HEAD OFFICE:- NESPAK HOUSE, I-C, BLOCK-N, MODEL TOWN EXTENSION, LAHORE, PAKISTAN.	04				DRAWN	SALEEM	PROJECT TITLE :- DETAILED DESIGN AND CONSTRUCTION SUPERVISION / IMPLEMENTATION OF LOCAL AREA DEVELOPMENT PROGRAM (LADP) PUBLIC HEALTH, LIVELIHOOD DEVELOPMENT AND DOWNSTREAM FISHERIES PLAN NAMELY LADP IMPLEMENTATION CONSULTANTS(LADP-ICS)	DRAWING TITLE :- TYPICAL DRAWINGS & DETAILS OF ANCHOR BARS SHOTCRETE & WIRE MESH	ORIENTATION	SCALE
		03				SUBMITTED					
		02				RECOMMENDED					
		01	00-00-00	---		CHD./VER.					
		REV.	DATE	DESCRIPTION	APPROVED	APPROVED					
					DATE		August, 2026		DWG. NO.		
									REV 0		

CONSTRUCTION EXPERIENCE

Form EXP - 4.1 General Construction Experience

Bidder's Name: _____

Date: _____

JV Member's Name _____

Bid Reference No. (if any) 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 _____

Bid Reference No. (if any) 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	PKR equivalent			
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 Name (if any): _____

Bid Reference No. (if any) and title: _____

Page _____ of _____ pages

All Sub-contractors for key activities must complete the information and Qualification Criteria and Requirements, Sub-Factor 4.2.

1. Key Activity No One: _____

Information				
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount	PKR equivalent			
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:				
Address:				
Telephone/fax number				

	Information
E-mail:	

2. Activity No. Two

3.

	Information
Description of the key activities in accordance with Section III:	

Form EXP - 4.2 (c)
Specific Experience in Managing ES aspects

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

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

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

Joint Venture Member Name: *[insert full name]*

Bid Reference No. (if any) and title: *[insert ICB/NCB number and title]*

Page *[insert page number]* of *[insert total number]* 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 ☐	Subcontractor ☐
Total Contract Amount			PKR	
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): _____
4. [PA define key requirements]

Contractor's Representative and Key Personnel Schedule

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

Contractor' Representative and Key Personnel

1.	Title of position:	
	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:	
	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:	
	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:	
	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:	
	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: <i>[insert title]</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
Contractor's Representative and 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 [insert either “Contractor’s Representative” or “Key Personnel” as applicable] , certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

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

Commitment	Details
Commitment to duration of contract:	[insert period (start and end dates) for which this Contractor’s Representative or Key Personnel is available to work on this contract]
Time commitment:	[insert period (start and end dates) for which this Contractor’s Representative or Key Personnel is available to work on this contract]

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 Contractor’s Representative or Key Personnel: [insert name]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Bidder:

Signature: _____

Date: (day/month/year): _____

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 Eligibility and Qualification Criteria.

No.	Source of financing	Amount (Eq. PKR)
1		
2		
3		

Past Experience / Contracts

Contracts over <i>[insert amount]</i> during the last three years:				
Procuring Agency	Value	Year	Goods/Services Supplied	Country of Destination



Historical Contract Non-Performance, and Pending Litigation and Litigation History

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

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

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

Joint Venture Member Name: *[insert full name]*

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

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

☐ Not debarred due to deviation from commitment of Bid Securing Declaration- ☐ Not debarred due to non-performance			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and PKR 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 Procuring Agency: <i>[insert full name]</i> Address of Procuring Agency: <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, Qualification Criteria and Requirements			
☐ Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.3 as indicated below.			
Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), US\$ PKR Equivalent (exchange rate)

<i>[insert year]</i>	<i>[insert amount]</i>	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Agency: <i>[insert full name]</i> Address of Procuring Agency: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate "Procuring Agency" or "Supplier"]</i> Status of dispute: <i>[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]</i>	<i>[insert amount]</i>
☐ No consistent history of court/arbitral award decisions in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.4. ☐ Consistent history of court/arbitral award decisions in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.4 as indicated below.			
Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (currency), PKR Equivalent (exchange rate)
<i>[insert year]</i>	<i>[insert percentage]</i>	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Agency: <i>[insert full name]</i> Address of Procuring Agency: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate "Procuring Agency" or "Supplier"]</i> Court/ arbitral award decision: <i>[Indicate if the award decision was against the Applicant or any member of a joint venture.]y]</i>	<i>[insert amount]</i>

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 Eq. PKR]	Estimated Completion Date	Average Monthly Invoicing Over Last Six Months [Eq. PKR/month]
1					
2					
3					
4					
5					

Financial Situation and Performance

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: [insert full name]

Date: [insert day, month, year]

Joint Venture Member Name: [insert full name]

IFP No. and title: [insert IFP number and title]

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

1. Financial data

Type of Financial information in (currency)	Historic information for previous [insert number] years, [insert in words] (amount in currency, currency, exchange rate*, PKR equivalent)				
	Year 1	Year 2	Year 3		
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 ITA 14 for the exchange rate

3. Financial documents

The Applicant and in case of JV, members of JV shall provide copies of financial statements for [number] years pursuant Section III, Qualifications Criteria and Requirements. The financial statements shall:

- (a) reflect the financial situation of the Applicant 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 statements¹ for the [number] years required above; and complying with the requirements.

¹ If the most recent set of financial statements is for a period earlier than 12 months from the date of Application, the reason for this should be justified.

Average Annual Turnover (Annual Sales Value)

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

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

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

Joint Venture Member Name: *[insert full name]*

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

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

Annual Turnover Data			
Year	Amount Currency	Exchange rate* (If applicable)	PKR equivalent
<i>[indicate calendar year]</i>	<i>[insert amount and indicate currency]</i>		
		Average Annual Turnover **	

* Refer ITA for date and source of exchange rate.

** Total PKR equivalent for all years divided by the total number of years. See Section III, Qualification Criteria and Requirements, ITA.