INTEGRATED FLOOD RESILIENCE ADAPTATION PROJECT – IFRAP

GOVERNMENT OF BALOCHISTAN, PAKISTAN

Rehabilitation of Dera Allah Yar to Hairdeen road via Sohbatpur, Balochistan

BIDDING DOCUMENTS

FOR SUBMISSION OF TECHNICAL AND FINANCIAL PROPOSALS

VOLUME – II
WORKS REQUIREMENTS

July 2026

BIDDING DOCUMENTS

FOR SUBMISSION OF TECHNICAL AND FINANCIAL PROPOSALS RELATED TO

Contract Scheme: "Rehabilitation of Dera Allah Yar to Hairdeen road via Sohbatpur, Balochistan"

Reference No:	**PK-PIU-IFRAP-CIR-551865-CW-RFB**
Project:	**Rehabilitation of Dera Allah Yar to Hairdeen road via Sohbatpur, Balochistan**
Employer:	**Project Implementation Unit** **Integrated Flood Resilience Adaptation Project (IFRAP)**
Country:	**Pakistan**
Issued on:	**July 2026**

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SCOPE OF WORKS

INTRODUCTION

1. GENERAL

Pakistan has endured a succession of economic and environmental challenges in recent years, culminating in the catastrophic floods of 2022 that devastated large parts of the country, particularly Sindh and Balochistan. The floods displaced millions of people, destroyed infrastructure, including over 13,000 kilometres of roads and severely affected agriculture, housing, and livelihoods. These compounding shocks have deepened poverty and disrupted access to essential services such as health, education, and transportation. The Federal Government of Pakistan (GoP), through Ministry of Planning, Development and Special Initiatives (MoPDSI) at federal level and Planning and Development Department (P&DD), Government of Balochistan, at provincial level is planning to undertake Integrated Flood Resilience and Adaptation Project (IFRAP). The Project Implementation Unit (PIU) of IFRAP intends for reconstruction/rehabilitation of the damaged roads caused by floods in 2022 Within this context, the Integrated Flood Resilience and Adaptation Project (IFRAP) emerges as a timely and transformative intervention aimed at supporting immediate recovery while laying the foundation for long-term climate resilience and sustainable development. The IFRAP is an initiative funded by the World Bank and implemented by the Government of Balochistan, Pakistan. It aims to enhance flood resilience and support recovery in flood-affected regions.

2. LOCATION OF PROJECTS

The damaged road requiring reconstruction and rehabilitation under this contract is located in Balochistan Province, as identified in the Post-Disaster Needs Assessment (PDNA). Under the phased implementation approach, Phase-I of the project covers a road length of approximately 21.45 km, starting from RD 16+550 and ending at RD 38+000.

3. PROJECT OBJECTIVES

The IFRAP Project aims to support, finance, and incentivize post-flood reconstruction, resilience building, and livelihood diversification initiatives of the Federal and Balochistan Governments, with a special focus on the flood-ravaged and resource-constrained areas of Balochistan. Specifically, the assignment focuses on rehabilitating damaged road infrastructure under the Post-Flood 2022 Reconstruction Plan, Resilience Enhancement and Livelihood Diversification in Balochistan, following World Bank operational policies and relevant national and provincial laws. Roads and associated infrastructure meeting the selection criteria will be designed in detail and supervised during construction to ensure timely and quality completion.

The project emphasizes collaboration between the Fedral Government of Pakistan, the Provincial Government of Balochistan, and international partners, including the World Bank, to ensure sustainable and resilient rebuilding. The core objective is the urgent restoration of road connectivity to villages, schools, hospitals, and agricultural areas, thereby reviving livelihoods and strengthening community resilience across flood-affected regions.

4. SCOPE OF WORKS UNDER THE CONTRACT

The Contract comprises execution and completion of the Works and remedying of any defects therein and, except in so far as the Contract otherwise provides, the provision of all labour, materials, equipment, plant, Temporary Works and everything whether of a temporary or permanent nature required in and for such execution, completion and remedying so far as the necessity for providing the same is specified in or can reasonably be inferred from the Contract.

4.1 Permanent Works

Permanent Works of are as follows:

4.2 Contract Scheme-3: Rehabilitation of Dera Allah Yar to Hairdeen road via Sohbatpur (Phase-I) from RD (16+550 to RD 38+00), District Sohbatpur. (Length 21.45 Km)"

4.3 Temporary Works

Temporary works are as follows:

- Dewatering system, Cofferdams, Traffic Diversions and their maintenance for smooth movement of commuters, etc, if required during construction of works. Furthermore, the Contractor shall procure, furnish, provide and arrange for all necessary electric power, water and services; be responsible for construction and maintenance of the necessary access roads, construction camps and colonies, offices, warehouses, and perform all other work necessary for completion of the Works described herein in strict conformance with these Specifications.

PART A

GENERAL SPECIFICATIONS

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1. DRAWINGS OF WORKS

1.1 DRAWINGS TO BE FURNISHED BY THE ENGINEER

1.1.1 Tender Drawings

The drawings, numbered as listed in the List of Tender Drawings, and hereinafter referred to as Tender Drawings; show the scope of the work to be performed by the Contractor. The Tender Drawings are marked "FOR BIDDING PURPOSES ONLY" and shall not be used as a basis for fabrication or construction but may be used as a basis for placing preliminary orders for materials, subject to corrections based on the future issue of Drawings as provided hereof. Any other Drawings if issued through Addenda before opening of Tenders, shall become part of the Tender Drawings. In general, the structural drawings for the work are general design drawings that are expected to be modified and supplemented by additional details.

1.1.2 Drawings Issued for Construction

After award of the Contract, the Tender Drawings will be replaced by Drawings Issued for Construction including supplementary specifications if necessary. Such Drawings and specifications shall be deemed to be included in the expression Supplementary Drawings and Instructions in Conditions of Contract. The Drawings Issued for Construction will include Tender Drawings reissued, Tender Drawings modified, and additional drawings as required to develop the work in greater detail, and to make modifications as necessary to further detail the construction required. The Drawings Issued for Construction that show changes from the Tender Drawings and Specifications will be reviewed by the Engineer for his determination of adjustments (if any) of the Contract Price in accordance with the provisions Clauses related Variations and adjustments, of the Conditions of Contract. The Drawings Issued for Construction will be drawings from which shop drawings, reinforcing detailing, reinforcing bar schedule, erection, concrete placing, formwork, or other construction detail drawings shall be prepared by the Contractor.

The work shall be executed in conformity with the Drawings Issued for Construction. The Engineer and Contractor shall jointly prepare a schedule for issuance to the Contractor of Drawings Issued for Construction of the various parts of the Works based on a list of drawings prepared by the Engineer.

1.2 DEFINITION OF CONSTRUCTION DRAWINGS

The term Construction Drawings as used in the Specifications means Drawings Issued for Construction as described in Sub-Clause 1.1.2 hereof.

1.3 CHECKING OF DRAWINGS

The Contractor shall check all Construction Drawings carefully as soon as practicable after receipt thereof and shall promptly advise the Engineer of any errors or omissions discovered.

1.4 COPIES OF DRAWINGS AND CONTRACT DOCUMENTS

Drawings and Contract Documents will be issued to the Contractor as described below.

1.4.1 Tender Drawings

One set of the Tender Drawings will be issued to the Contractor free of charge. Additional sets will be provided at cost of reproduction upon written request of the Contractor.

1.4.2 Construction Drawings

One soft copy (AutoCAD files of construction drawings on CD) and one print of each Construction Drawing will be issued to the Contractor free of charge. Additional sets will be provided at cost of reproduction upon written request of the Contractor.

1.4.3 Contract Documents

One set of Contract Documents will be issued to the Contractor free of charge. Additional sets will be provided at cost of reproduction upon written request of the Contractor.

1.5 DRAWINGS TO BE FURNISHED BY THE CONTRACTOR

1.5.1 Shop and Reinforcement Drawings

All shop drawings required for the Works including reinforcing steel detailing, reinforcing bar bending schedules, fabrication, field erection and layout and construction detail drawings shall be furnished by the Contractor for approval by the Engineer. Written drawing matter shall be in English. If more detailed drawings are necessary to complete any part of the work, such detailed drawings shall be prepared by the Contractor and submitted to the Engineer for approval. All drawings shall be complete and shall be submitted in the due time and in logical order to facilitate proper coordination.

The Contractor will submit Shop Drawings Submission and Approval Schedule within 28 days of the Notice to Commence. The shop drawings schedule will cover issuance of construction drawings, submission of shop drawings and approval of shop drawings. The Contractor will work out backward path from the relevant construction activity to calculate the date of issuance of construction drawings.

1.5.2 Lift and Placement Drawings

At least 28 days prior to starting construction of any concrete lift or other placement, the Contractor shall submit lift or other placement drawings to the Engineer for approval. Lift or other placement drawings shall be to such scale as to show clearly all recesses, grooves, block-outs, openings and embedded work, including embedded structural, mechanical and electrical items, in each lift in sufficient detail for proper installation and prosecution of the work.

1.5.3 Contractor's Facilities Drawings

Three prints of drawings showing the layout of the facilities the Contractor proposes to use on the work shall be submitted by the Contractor to the Engineer for approval. The drawings shall be submitted sufficiently in advance of purchase or delivery to permit adequate approval by the Engineer. The drawings shall show the locations of the principal components of the construction facilities; offices; shops and storage buildings; housing facilities and storage areas and yards which the Contractor proposes to construct at the Site of the Works and elsewhere.

The Contractor shall furnish for review by the Engineer drawings showing the general features of his aggregate processing plant; aggregate transporting, storage and reclaiming facilities; aggregate rinsing and excess water drainage plant; coarse aggregate re-screening plant; concrete batching and mixing plant; concrete conveying and placing plant and cooling facilities for concrete etc. The drawings shall show appropriately the capacity of each major feature of the facilities, including the rated capacity of the aggregate processing, transporting, storage and reclaiming facilities; volume of aggregate storage; capacity of cement storage; rated capacity of the concrete batching and mixing plant; rated capacity of the concrete transporting and placing plant and rated capacity of plant for pre-cooling of concrete.

Drawings showing any changes in the facilities made during design and erection or after the facilities are put in operation shall be submitted to the Engineer for review. Two sets of the drawings will be retained by the Engineer and one set will be returned to the Contractor with comments.

1.6 OTHER DRAWINGS

Drawings showing proposed methods of construction and other drawings required by the Specifications shall also be submitted to the Engineer for prior review.

1.6.1 Submissions and Approvals

Except as otherwise specified, four black and white copies of each drawing for approval or review shall be furnished as herein required. Transmittals shall be made to the person(s) and at the address(es) in accordance with written instructions to be furnished by the Engineer within 28 days after award of Contract.

Within 28 days after receipt, the Engineer will send one copy to the Contractor marked either Approved, or Approved Except as Noted, or Returned for Correction. The notations Approved and Approved Except as Noted will authorize the Contractor to proceed with the fabrication of the materials and equipment covered by such drawings subject to the corrections, if any, indicated thereon. When prints of drawings have been Returned for Correction, the Contractor shall make the necessary revisions on the drawings and shall resubmit prints for approval in the same manner as for new drawings.

Every revision made during the implementation of the Contract, shall be shown by number, date and subject in a revision block. The Contractor will be billed by the Engineer for the review of these revised drawings at a rate of Rs. 1,500 per man-hour if the drawings were returned for non-conformance with the Contract Documents. Each subsequent review because of non-conformance will be billed to the Contractor at the same rate. Payment by the Contractor shall be made to the Employer.

Upon receipt of prints which have been Approved or Approved Except as Noted, the Contractor (after duly incorporating the indicated changes in case of drawings marked Approved Except as Noted) shall furnish four prints plus one soft copy (AutoCAD files on CD) of each drawing to the address as instructed above unless otherwise directed. If revisions are made after a drawing has been approved, the Contractor shall furnish eight additional prints and one soft copy (AutoCAD files on CD) subsequent to each approved revision.

All of the applicable requirements of this Clause with reference to drawings to be prepared by the Contractor shall apply equally to catalogues, illustrations, printed specifications or other data submitted for approval.

Any work done prior to the approval of drawings shall be at the Contractor's risk. The Engineer will have the right to request any additional details and to require the Contractor to make any changes in the design which are necessary to conform to the provisions and intent of these Specifications without additional cost to the Employer. The approval of the drawings by the Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory. Approval by the Engineer of the Contractor's drawings shall not be held to relieve the Contractor of his obligation to meet all the requirements of these Specifications or of his responsibility for the correctness of the Contractor's drawings or of his responsibility for correct fit of assembled parts in their final positions or of his responsibility for the adequacy of the method of construction.

For submission and approval of gate equipment modification drawings of Technical Provisions will apply.

1.6.2 As-Built Drawings/ Record Drawings

The Contractor shall, during the progress of the work, keep a record of all changes in and corrections to the designs and layouts shown on the Drawings. In addition to prints marked with the changes to the original construction drawings, the Contractor will submit soft copy (AutoCAD files on CD with changes made on separate layer) to the Engineer. The Contractor will prepare the As-Built/Record Drawings. The price of such Drawings, including the requirements of GCC shall be deemed to be included in the Contract Price.

The Contractor will submit six (6) copies of approved As Built Drawings to the Engineer. Out of these six (6) sets, two (2) copies will be on A1 size while four (4) will be on A3 size.

1.7 GENERAL AS TO DRAWINGS

Except as otherwise specifically approved all drawings shall be of standard size (A3).

All drawings shall be on durable paper with dark lines on a white background. All legend on drawings shall be in English. All dimensions shall be shown in British units of measurement except for gate equipment modification drawings where the dimensions shall be shown in British and/or metric units of measurement system.

Where metric units may be used in connection with detail the British equivalent shall be marked alongside in brackets. For metric conversions B.S. 350 “Conversion Factors and Tables” shall be used.

Each drawing shall have following particulars in the lower right-hand corner in addition to the Contractor’s name, date, scale, number and title of the drawing:

- Employer’s Name:
- Project Name:

The drawings should be in a form approved by the Engineer. When the print of a drawing is folded to A4 size, its number and revision suffix shall be visible.

1.8 REVISION CONTROL OF SHOP DRAWINGS

There will be also a Controlled Copy of latest revision of shop drawings available in site office. If there is change in Revision of shop drawings all copies of previous revisions of drawings will be stamped as "SUPERSEDED" and will be immediately removed from Site Office, Engineer & Employer Office and Notified to the Engineer.

2. DESIGN (IN CASE CARRIED OUT BY THE CONTRACTOR FOR ANY PERMANENT WORKS)

The Contractor shall carry out, and be responsible for, the design of the Mechanical Works and Electrical/ Instrumentation Works in accordance with the Employer's Requirements. Design shall be prepared by qualified designers who are engineers or other professionals who comply with the criteria [if any] stated in the Employer's Requirements. Unless otherwise stated in the Contract, the Contractor shall submit to the Engineer for consent the name and particulars of each proposed designer and design Subcontractor.

The Contractor will provide the details of design office facility and organization chart of design for the Consent & Approval of the Engineer before the commencement of design activities.

The Contractor warrants that he, his designers and design subcontractors have the experience and capability, necessary for the design. The Contractor undertakes that the designers shall be available to attend discussions with the Engineer at all reasonable times, until the expiry date of the relevant Defects Notification Period.

Upon receiving the notice, the Contractor shall scrutinize the Employer's Requirements (including design criteria and calculations, if any), Within the period stated in the Appendix to Tender, calculated from the Commencement Date, the Contractor shall give notice to the Engineer of any error, fault for other defect found in the Employer's Requirements or these items of reference.

After receiving this notice, the Engineer shall determine whether Variations and Adjustment shall be applied, and shall give notice to the Contractor accordingly. If and to the extent that (taking account of cost and time) an experienced contractor exercising due care would have discovered the error, fault or other defect when examining the Site and the Employer's Requirements before submitting the Tender, the Time for Completion shall not be extended and the Contract Price shall not be adjusted.

3. CONTRACTOR'S DOCUMENTS

The Contractor's Documents shall comprise the technical documents required to be produced by the Contractor including documents specified in the Employer's Requirements, documents required to satisfy all regulatory approvals, documents defining the Contractor's design, method statements and the documents described in GCC.

The Contractor shall prepare all Contractors' Documents, and shall also prepare any other documents necessary to instruct the Contractor's Personnel. The Employer's

Personnel shall have the right to inspect the preparation of all these documents, wherever they are being prepared.

Contractor's Documents which are to be submitted to the Engineer for review and/or for approval, shall be submitted accordingly, together with a request for review. In the following provisions of this Sub-Clause, "review period" means the period required by the Engineer for review and/or for approval. The review period shall be twenty-eight (28) days. In case the Engineer fails to review the contractor's documents with 28 days of submission, the same shall be considered as approved.

The Engineer may, within the review period, give notice to the Contractor that a Contactor's Document fails (to the extent stated) to comply with the Contract. If a Contractor's Document so fails to comply, it shall be rectified, resubmitted and reviewed (and, if specified, approved) in accordance with this sub-Clause, at the Contractor's cost.

For each part of the Works, and except to the extent that the prior approval or consent of the Engineer shall have been obtained:

(a) in the case of a Contractor's Document which has (as specified) been submitted for the Engineer's approval:
    (i) the Engineer shall give notice to the Contractor that the Contractor's Document is approved, with or without comments, or that it fails (to the extent stated) to comply with the Contract
    (ii) execution of such part of the Works shall not commence until the Engineer has approved the Contractor's Document; and:
    (iii) the Engineer shall be deemed to have approved the Contractor's Documents upon the expiry of the review periods for all the Contractor's Documents which are relevant to the design and execution of such part, unless the Engineer has previously notified otherwise in accordance with sub-paragraph(i)

(b) execution of such part of the works shall not commence prior to the expiry of the review periods for all the Contractor's Documents which are relevant to its design and execution;

(c) execution of such part of the Works shall be in accordance with these reviewed (and, if specified, approved) Contractor's Documents; and

(d) if the Contractor wishes to modify any design or document which has previously been submitted for review (and, if specified, approval), the Contractor shall immediately give notice to the Engineer. Thereafter, the Contractor shall submit revised documents to the Engineer in accordance with the above procedure.

If the Engineer instructs that further Contractor's Documents are required, the Contactor shall prepare these promptly.

Any such approval or consent, or any review (under this Sub-Clause or otherwise), shall not relieve the Contractor from any obligation or responsibility.

If errors, omissions, ambiguities, inconsistencies, inadequacies or other defects are found in the Contractor's Documents, they and the Works shall be corrected at the Contractor's cost, notwithstanding any consent or approval under this Clause.

4. LAYOUT OF WORK AND SURVEYS

4.1 REFERENCE POINTS, LINES AND LEVELS

The Engineer shall provide reference survey control stations in the field to enable the Contractor to establish there from his own survey control stations for construction. Slope stakes, reference lines and points shall be set out by the Contractor before the commencement of excavation and layout of structures and shall be re-established as required during the progress of Works.

4.2 ESTABLISHMENT OF BASELINE FOR CALIBRATION OF EDM EQUIPMENT

The Contractor shall be responsible for establishment and maintenance of a baseline to calibrate EDM (Electronic Distance Measuring) equipment at an appropriate location. The baseline shall be established to conform to the Royal Institution of Chartered Surveyors London publication "Guide for the Calibration and Testing of EDM Instruments". It will also take into account the US Army Corps of Engineer's respective Publication.

4.3 VERIFICATION

The Engineer may make checks as the work progresses to verify lines and grades established by the Contractor and to determine the conformance of the work as it progresses with the requirements of the Drawings and Specifications. Such checking by the Engineer shall not relieve the Contractor of his responsibility to perform all work in accordance with the Drawings and Specifications and the lines and grades given therein.

The American Concrete Institute (ACI) Publication 347R-94 "Guide to Formwork for Concrete" and "Standard Specifications for Tolerances for Concrete Construction and Materials (ACI 117-90)" shall be used as reference where tolerances are not given on the Drawings.

- Based upon the Engineer's basic control, the Contractor shall provide his own primary control points, as needed for the Works, and shall preserve and maintain them until otherwise authorized.
- The Contractor shall be responsible for maintaining all survey markers/monuments, and property corners. If any markers/monuments are destroyed or damaged, the Contractor shall arrange, at his own cost, to retrace and replace them to the entire satisfaction of the Engineer. If a monument cannot be replaced in its original position, the Contractor shall install a witness corner. The Contractor shall complete and file monument reference cards on all monuments as instructed by the Engineer.
- The Contractor shall employ experienced construction surveyors with adequate experience in the construction surveys similar in nature to that required by this Contract.
- Based upon the Engineer's established control monuments, the Contractor shall establish all lines and grades necessary to control the Works, and shall be

responsible for all measurements that may be required for execution of the Works to the tolerance acceptable by the Eningeer.

- The Contractor shall provide all materials, equipment and labour required for surveying work, including, but not limited to, instruments, stakes, spikes, steel pins, templates, platforms, and tools, and except as required to be incorporated in the work or left in place, all such materials and equipment, shall remain the property of the Contractor. Surveying instruments shall be in perfect working condition and shall be subject to rigid inspection for proper operation at least after every two weeks of use. Defective instruments shall be promptly replaced or repaired.
- Survey data shall be recorded in accordance with recognized professional surveying standards. Original field notes, computations, and other surveying data shall be recorded in the Contractor furnished field books. Notes or data not in accordance with standard formats will be rejected. Illegible notes or data or use of erasures on any page of a field book will be considered sufficient cause for rejection of part or all of the field book. Copied notes or data will not be permitted; therefore, rejection of part or all of a field book may necessitate re-surveying. Corrections by ruling or lining out errors will be satisfactory.
- The cost of all materials, equipment, surveyors and labour required for surveys for the Works and quantity surveys required by this clause shall be deemed to have been included in the rates and prices of the various items in the Bill of Quantities and no separate measurement and payment in their respect shall be made.

5. APPROVALS OF MATERIALS AND EQUIPMENT

5.1 QUALITY OF MATERIALS

All materials, fixtures, fittings and supplies furnished under the Contract shall be new and unused and in compliance with the requirements of the Contract. No inferior or low-grade materials, supplies or articles will be either approved or accepted, and all work of assembly and construction shall be done in a first-class and workmanlike manner. In asking for prices for materials intended for delivery to the Site and incorporation in the Works under any portion of these Specifications, the Contractor shall provide the manufacturer or supplier with complete information as may be necessary to secure compliance to this Clause and, in every case, he shall quote this Clause in full to each such manufacturer or supplier.

5.2 SUBMISSION OF SAMPLES AND DATA

As soon as practicable after award of Contract, the Contractor shall submit for the approval of the Engineer, drawings, catalogues, diagrams and other descriptive data for all mechanical, electrical, architectural and such other materials and equipment designated by the Engineer, which the Contractor proposes for use under this Contract. For certain materials and equipment, data may be required to be submitted in accordance with a detail form furnished by the Engineer. Samples of materials

shall be submitted to the Engineer for approval when so directed. Items submitted shall be properly labelled to indicate the Contract number, Contractor, source of supply, manufacturer and other data required by these Specifications. All items shall be submitted in sufficient time, but not later than 56 days prior to purchase, to permit proper consideration and action thereon without delaying the approved construction schedule. Items sent to the Engineer for approval shall be shipped prepaid by the Contractor and the Engineer shall be given advance notice in writing of all items shipped.

5.3 TESTING

The Engineer will make such tests on concrete, concrete aggregates, embankment materials, filter materials and other materials as he may from time to time elect, and the Contractor shall provide such samples or assistance in sampling materials at the Site as the Engineer may reasonably require. Testing by the Engineer shall in no way relieve the Contractor of his responsibility to test materials to ensure that they meet all the specified requirements and to control their quality.

The Engineer may accept that items manufactured away from the Site meet the specified requirements without further testing subject to the Contractor furnishing satisfactory proof of compliance with these Specifications in one or more of the ways described below.

5.4 MANUFACTURER'S CERTIFICATE OF COMPLIANCE

In the case of standard labelled stock products of standard manufacture which have a record of satisfactory performance in similar work over a period of not less than two years, the Engineer may accept a notarized statement from the manufacturer certifying that the product conforms to the applicable specifications.

5.5 MILL CERTIFICATES

Regarding materials for which such practice is usual, the Engineer may accept the manufacturer's certified mill and laboratory certificates.

5.6 TESTING LABORATORY CERTIFICATES

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 these Specifications.

5.7 SERVICE RECORD

If a demonstrable satisfactory service record is available for a material, certain specified tests may be waived by the Engineer.

5.8 COST

The cost of any additional laboratory, field and shop tests required through the resubmission of samples because of failure of compliance with Specifications shall be borne by the Contractor.

5.9 INSPECTION

All material and equipment furnished and all work performed under this Contract will be subject to inspection by the Engineer at all times and in all states of completion both off-Site and on-Site. The Contractor shall furnish promptly without additional charge, all facilities, labour and materials reasonably needed for performing such inspection and testing as may be required by the Engineer. Inspection at the source, e.g. borrow area, manufacturer's plant, etc, will be made of selected materials and equipment in addition to inspection at the Site. The Contractor shall arrange access and permission and shall give adequate notice to the Engineer when materials and equipment are available for inspection. Acceptance of materials and equipment or the waiving of inspection thereof shall in no way relieve the Contractor of his responsibility for furnishing materials and equipment meeting the requirements of the Contract Documents.

6. CONTRACTOR'S QUALITY ASSURANCE PLAN

6.1 QUALITY ASSURANCE PLAN

The materials produced and the workmanship provided in fulfilling the requirements of the Specifications shall be in accordance with the Contractor's Quality Assurance Plan. This Plan shall be documented in sufficient detail to demonstrate that the requirements of the Specifications will be met.

The Quality Assurance Plan shall be prepared by the Contractor with reference to his Quality Assurance Manual and in accordance with the applicable ISO Standard. This Plan will also be applicable to work performed by any of his sub-contractors. The Plan shall include, but not limited to, detailed procedures, instructions or statements covering the items defined hereunder.

6.2 ORGANIZATION

The Quality Assurance Plan shall describe the Contractor's Quality Assurance organization and delineate the responsibility and authority of various personnel and groups involved. The Quality Assurance Department's internal structure and relationships with other departments shall be defined. An organizational chart shall be included with lines of authority and communication shown thereon.

6.3 TRAINING OF PERSONNEL

The Quality Assurance Plan shall contain provisions for the development, implementation and maintenance of training and certification programs. The programs shall comply with such codes and standards as are required in the Specifications or in accordance with common industry usage.

6.4 DESIGN AND DOCUMENT CONTROL

The Quality Assurance Plan shall assure that the Specification requirements are correctly translated into and included in the Contractor's procedures, documents and drawings. The Program shall further assure that the latest approved documents (including changes) are available to and used by the required manufacturing, inspection and test personnel. The review shall be performed by individuals other than those involved in the original design.

6.5 PROCUREMENT CONTROL

The Contractor's procurement process shall assure that purchased items comply with the requirements of the Specifications. This assurance shall be provided by the inclusion of the appropriate quality assurance requirements into the Contractor's procurement documents and by adequate inspection of the material at its source and upon receipt.

6.6 PROCESSED MATERIAL CONTROL

The Quality Assurance Plan shall provide assurance that procured and subsequently processed material meets the Specifications. Material identification shall be provided and maintained throughout the manufacturing cycle. Control shall be provided for the documentation and disposal of nonconforming material, and their subsequent rework or repair and re-inspection.

6.7 SPECIAL PROCESSES

Special Processes such as welding, cleaning, non-destructive examination, etc, shall be performed in accordance with documented procedures and by qualified personnel. The procedure shall describe the process sequence and methods, process prerequisites, equipment, qualification of personnel and equipment, and acceptance criteria. The procedures shall also describe the preparation and retention of documents used to record the results of Special Processes.

6.8 INSPECTION

The Quality Assurance Plan shall provide for the in-process and final inspection of items and activities to assure compliance with the Specifications. Examination or measurements shall be performed at each applicable work operation. Inspection activities shall be performed by qualified individuals other than those who performed the activities being inspected.

6.9 CALIBRATION

Procedures shall be established to assure that test and measuring devices used to test, inspect, or accept material or components are calibrated at specified intervals to maintain proper accuracy. Devices used shall be of proper range, type and sensitivity to reliably measure the parameters being evaluated. The calibration of such devices shall be documented and performed using certified measurement standards.

6.10 TEST PROGRAM

The Contractor's test program shall be suitably documented to assure that the required materials and components testing are properly performed. The test program shall address pertinent test pre-requisites, such as test instrumentation selection and calibration, acceptance criteria, documentation of test results, and evaluation of test results by qualified personnel.

6.11 INSPECTION TESTING PROGRAM (ITP)

Within 28 days of the Engineer's Instruction to commence the work, the Contractor will submit to the Engineer for approval, ITP for all the process and works being

executed, and works will be inspected and testing according to this ITP of all disciplines like Civil, M&E, Fabrication Instrumentation etc.

6.12 LEVEL OF CRITICALITY AND CONTROL

The level of quality control applied by the Contractor and the Engineer shall be adjusted to the importance of the item in terms of impact on reliability, schedule and costs.

6.13 AUDIT

The Quality Assurance Plan shall provide for audits of the Contractor's and his sub-contractors' operations during the course of the Works. The audits shall be used to determine the organization's compliance with the Specifications and the Quality Assurance Plan procedures. The audits shall be arranged by the Contractor's Quality Assurance Manager and conducted by suitably qualified staff not directly involved in the quality assurance activities.

6.14 DOCUMENTATION

The Quality Assurance Plan shall include a system to ensure that the documentation necessary to attest the completion of any phase of the work; use of correct materials; completion of required inspections and tests; and acceptability of results are generated, reviewed, maintained and submitted to the Engineer at the required time. The system shall ensure that such documentation is reviewed by the Contractor for legibility, completeness, validity of data, traceability of document to activity or equipment and acceptability of results.

The documentation to be issued and maintained shall include but not limited to:

- Test reports for raw material (cement, steel, bentonite, aggregates, etc.).
- Test reports on the main items of the Works (dewatering, excavation, concrete, embankments, etc.)
- Survey and layout procedures
- Inspection and test procedures
- Inspection and test reports
- Certificates of compliance

6.15 SUBMITTAL OF CONTRACTOR'S DOCUMENTS

The following documents shall be submitted by the Contractor;

- The Contractor's Quality Assurance Manual, within 28 days of the Commencement Date.
- A draft of the Contractor's Quality Assurance Plan for approval by the Engineer, within 56 days of the Commencement Date.
- The Contractor's Quality Assurance Plan, within 28 days of the receipt of the Engineer's comments.
- The Quality Assurance Plan, where applicable, shall also ensure the compliance of GCC.

The Contractor's Quality Assurance Plan will be periodically reviewed and revised as the work proceeds.

6.16 NON-CONFORMITY

During construction, after each assessment or measurement of quality, cases of non-conformity identified by the Engineer or by the Contractor's quality control supervisors or by the personnel in charge of execution will be divided into the following four categories:

NC.1 This category covers minor defects which will be repaired immediately, then recorded on standard follow-up documents.

NC.2 This category covers defects which can be repaired according to a pre-established procedure. The repairs will be carried out immediately and recorded on special documents.

NC.3 This category covers defects which cannot be repaired according to a pre-established procedure. The decision to repair, modify or rebuild or remanufacture the item shall be proposed by the Contractor for the Engineer's approval.

NC.4 This category covers major defects on critical items. The Contractor shall propose a solution for the Engineer's approval.

6.17 NON-COMPLIANCE REPORT (NCR)

The QA/QC department of the Contractor will perform quality inspection prior to the Engineer's Inspection. Any noncompliance will be reported as internal NCR and will be logged as record for the Engineer. After the rectification of internal NCR, the Engineer shall perform inspection. No payment will be made to the Contractor for any work or part thereof whose NCR found not been rectified and closed by the Contractor.

7. CONSTRUCTION SCHEDULE

7.1 GENERAL

The program of work submitted by the Contractor in accordance with Sub-Clause "Programme" of the General Conditions of the Contract shall be supplemented by submittal of a detailed schedule based on a computerized system, Primavera Enterprise for Engineering & Construction (P6) software, covering all construction activities and furnished to the Engineer on paper and a soft copy on the following dates:

- **Tender Schedule:** Tentative Resource/cost/duration loaded Tender Schedule will be submitted along with Bid Documents and will be prepared in accordance with Special provisions hereof.
- **Baseline Schedule**: Comprehensive Resource/cost/duration loaded Schedule within 28 days after receipt of Letter of Acceptance.
- **Revised Baseline Schedule**: after 3 months, with possible levelling if needed, of the approval of Baseline Schedule and thereafter quarterly.
- **Recovery Schedule**: as and when required by the Engineer or whenever some levelling is required.

The Baseline Schedule, as approved by the Engineer in consultation with the Employer, will form an integral part of the Contract and will establish Contract completion date(s) for whole of the Project, inter alia, for various activities as mentioned in the Contract.

All schedules, project plans, progress updates and reports shall be in the form of readable computer printouts as well as in soft data format.

7.2 REQUIREMENTS & PROCEDURE

The narrative report accompanying the submittal shall describe the construction methods; plant and equipment proposed to be used and shall explain the expected production rates that are the basis of the scheduled durations of different activities.

i. Start Date of the Project.
ii. Dates on which different site possession will be required
iii. General administrative items like, Performance guarantee, Mobilization Advance Guarantee, Insurance etc.
iv. Unique Activity ID, description and duration
v. Activities' earliest start and finish dates, latest start and finish dates.
vi. All activities with zero float.
vii. Critical path with listing of all activities on the path
viii. Dates for Employer furnished material or equipment if any.
ix. Required dates of Drawings from the Engineer;
x. Dates for submittals like Method Statements etc
xi. Work Breakdown Structure (WBS) and activity codes.
xii. Definition of calendars with non-working days or periods i.e. planned closures, flood seasons etc.
xiii. Loading of key resources.
xiv. Milestone dates.
xv. Network logic Diagram.
xvi. List of constraints i.e. reason and type of constraint.
xvii. Full S – Curve and Critical S – Curve (for critical activities only).
xviii. Cost/ Resource Histograms.
xix. Planning assumptions and any external relationships
xx. Explain any discretionary dependencies.
xxi. Contractor Mobilization Plan conveying establishment of Contract Office, Mobilization of personal and manpower, equipment.
xxii. Material procurement and manufacturing schedule.
xxiii. Shop drawing submission schedule.
xxiv. Key quantities of work distribution time scale.

Tender Schedule: Tentative Resource/cost/duration loaded Tender Schedule will be submitted along with Bid Documents and will be prepared in accordance with SP provisions hereof.

Baseline Schedule: Comprehensive resource/cost/duration loaded Baseline Schedule, with possible levelling if needed, to be submitted within 28 days after letter of acceptance and will be prepared in accordance with the General Requirements

mentioned under Sub-Clause SP provisions hereof. Start date will be the date of Notice to Commence.

Revised Baseline Schedule: Besides, the General Requirements mentioned above, following will be the additional requirements for or quarterly Baseline Schedule:

a) The revised narrative report depicting the actual situation and submittal describing the construction methods, plant and equipment proposed to be used and shall explain the expected production rates that are the basis of the revision of scheduled durations of different activities, i.e., adequate levelling shall be carried out by the Contractor.
b) Start Date will be taken as Notice to Proceed.
c) Change in strategy to achieve the target Completion Date describing the additional resources if required, change in sequence of activities etc.
d) Actual start and finish dates.
e) Incorporation of effects of all approved changes that have occurred during last three months i.e. any change order which will affect the Completion Date of the Project. Any change in Completion Date for milestones shall be on the basis of prior extension if any granted by the Engineer.
f) Comparison with the target Baseline Schedule. The narrative of any deviation from the Baseline.

Recovery Schedule: The Recovery schedule will be submitted to the Engineer as and when required by the Engineer and/or whenever some levelling is required. If in the opinion of the Engineer any project milestone is likely to be missed, mitigation strategy for recovering the project will be submitted in the form of Recovery Schedule.

7.3 Explanation & Definitions of Different Terms

7.3.1 Activity Codes

Activity codes will include the following details:

- Types of structure
- Types of sub-structures
- Zone/ Area
- Work Restrictions (Closure etc.)
- Sub-contractor
- Responsibility if identified, in the Contract to be shared with an agency other than the Contractor
- Different phase/stages of work
- Bills of the work

7.3.2 Work Breakdown Structure

The Work Breakdown Structure (WBS) shall divide the project scope into hierarchical, manageable, definable packages of work that will clearly indicate the scope and budget for the element. The WBS elements shall clearly reflect project's purpose and objectives, functional/ performance design criteria, project scope, technical performance requirements, and other technical attributes.

The WBS to be submitted by the contractor will be based on the following parameters:

- The WBS submitted by the contractor will include and be a part of the high level WBS provided by the Engineer.
- Each WBS element will represent a single tangible deliverable.
- Each WBS element will represent an aggregation of all subordinate WBS elements listed immediately below it.
- Each subordinate WBS element must belong to only one single parent (or superior) WBS element
- The deliverables should be logically decomposed to the level that represents how they will be produced (designed, purchased, sub-contracted, fabricated). The partitioning of the deliverables from higher levels within the WBS to lower levels must be logically related
- Deliverables must be unique and distinct peers and should be decomposed to the level of detail needed to plan and manage the work to obtain or create them.
- Deliverables should be clearly defined to eliminate duplication of effort within WBS elements, across organizations, or between individuals responsible for completing the work
- Deliverables should be limited in size and definition for effective control – but not so small as to make cost of control excessive and not so large as to make the item unmanageable or the risk unacceptable.
- A coding scheme for WBS elements that clearly represents the hierarchical structure when viewed in text format will be used.

7.4 PROGRESS MEASURING SYSTEM

The Contractor shall develop the Progress Measurement System (PMS) and submit the same, for approval of the Engineer before submission of the "Programme".

7.5 ACTIVITY DEFINITION

Activity definition will involve identifying and documenting the specific activities that must be performed to produce the deliverables and sub deliverables identified in the Work Breakdown Structure (WBS).

Within the context of the process of Activity Definition, decomposition will include identifying and documenting a list of activities that will be performed on the project. It will be organized as an extension to the WBS and will not include any activities that are not required as part of the project scope.

The adequate level of detail must be carefully planned for the intent of the schedule based on the following parameters:

- The list of activities should lead to the identification and achievement of major deliverables of the project, including project management
- Cost, resource and duration estimates will be loaded for the activities
- Progress Measurement Criteria and Activity Weights Definition will be devised for progress reporting.

- Each Activity will be assigned a unique Activity ID based on a coding structure. The coding structure logic will also be indicated and communicated to the Engineer.

7.6 Activity Sequencing

Activity sequencing will involve identifying and documenting interactivity logical relationships. Activities will be sequenced accurately to support development of a realistic and achievable schedule. A project network diagram using Precedence Diagramming Method (PDM) will be utilized for showing dependencies between the activities.

7.7 Activity Duration Estimation

Activity durations will be estimated based on the work quantity, productivity and resources applied to the activity. Calendar dates will be utilized for all duration estimation with a minimum time unit of days.

7.8 Schedule Development

The schedule will be developed to indicate the start and finish dates for project activities. The schedule developed will be iterated during the project according to the frequency of progress reporting. Critical Path Method (CPM) will be used for mathematical analysis of the schedule for calculation of Early and Late dates. The following inputs to the schedule will be identified, documented and reported as part of the project schedule:

- Project Network Diagram
- Activity Duration Estimates
- Resource pool for the project and resource requirement to achieve each activity
- Calendars specific to activities and resources
- Activity notebook items describing the reason for following activity attributes
- Productivity and man-hour requirements
- Constraints: Imposed dates, Key events or major milestones, statutory requirements (limits and restrictions or other obligations placed on the project by federal, state or local regulations)
- Discretionary dependencies
- Assumptions
- Leads and Lags
- Risks

Submittal of construction schedules as per requirements of this Clause shall be a condition precedent to payment to the Contractor under any Interim Payment Certificate.

As-Built construction schedules submitted by the Contractor periodically shall form the basis of evaluation of claim for Extension of Time, if any.

8. SITE FACILITIES

8.1 ELECTRICITY SUPPLY

The Contractor shall furnish, install, operate and maintain an electrical system as required for the various parts of the Works. Interruptions in power supply can be expected at any time. The Contractor shall arrange such standby generation arrangement of a suitable capacity for his needs in the construction of the works as he deems necessary to meet all eventualities resulting from power failures.

8.2 CONSTRUCTION CAMPS AND COLONIES

8.2.1 General

The Contractor shall construct and operate all offices, workshops, warehouses, residential colonies, dispensary, shopping, recreational, religious and other camp and sub-camp facilities required for his personnel for proper performance of the Contract. For the purpose, the Contractor has to arrange the required land on rental basis for which the Employer may assist if required by the Contractor. The work to be performed by the Contractor will include but not necessarily limited to the construction of:

- Buildings for various uses;
- site grading, drainage, landscaping and other area improvements;
- water and electric power supply and distribution systems;
- waste disposal and sewage collection and treatment systems
- garbage collection and disposal systems; and
- fire protection facilities

The facilities to be provided in camps and temporary sub-camps, to the extent to which such are required shall be provided as specified hereinafter.

Unless otherwise specifically provided, all buildings and other facilities required to be constructed by the Contractor for use, whether sole or communal, of the registered persons shall be provided free of charge to such persons.

8.2.2 Location of Construction Camps and Colonies

The construction camps and colonies shall be located within the areas on land owned or controlled by the Employer. Other camp and sub-camp facilities, if required, shall be constructed at locations within the limits of Employer-owned property approved by the Engineer. If, for any reason approved by the Engineer, the Contractor requires the use of land not owned or controlled by the Employer for his camps, he shall make all necessary arrangements with the owner(s) thereof and shall bear all rentals and other costs connected therewith.

8.2.3 Drawings and Specifications for Approval

The Contractor shall submit, for the approval of the Engineer, drawings and specifications of the proposed construction camps, colonies, facilities and each major building specified herein, required to be provided by him.

The drawings for the construction camp and colonies facilities shall show the complete camp layout, including site work, utilities, drainage, landscaping, building locations, details of utilities and pavements, location of security fencing and all other required work. The Contractor shall also provide drawings and specifications, in

accordance with the requirements of relevant Sub-Clauses hereof, for such facilities as are not covered by specifications and drawings issued by the Engineer and of agencies of the Pakistani Government having jurisdiction; it shall be the Contractor's responsibility to obtain all necessary approvals. The drawings shall be in sufficient detail to demonstrate compliance with these Specifications.

No work shall proceed nor shall any material be ordered until the required approvals have been obtained except at the Contractor's own risk. Approval of the Contractor's drawings and specifications shall not relieve the Contractor of full responsibility for constructing the construction camps, colonies and facilities in complete accordance with the requirements of national and local laws, regulations, rules and codes. Ceiling heights shall be at least 3.1 meters in all buildings which shall have adequate ventilation and air circulation. Ceiling fans of adequate size and capacity commensurate with the size of the room with an electrical power outlet located adjacent thereto shall be provided in all rooms of all buildings whether air conditioned or not, except as otherwise approved by the Engineer.

8.2.4 Buildings and Camps

All buildings constructed by the Contractor for residential colonies, camps, workshops and warehouses shall be designed and constructed as temporary structures, unless otherwise approved by the Engineer.

Housing for the Contractor's personnel shall be constructed in accordance with his own requirements and certain Pakistani standards as specified herein so as to be suitable for continued use when the works have been completed. Materials, design and construction of the housing shall be subject to the Engineer's approval for conformity with Pakistani standards.

The Contractor shall furnish and equip buildings and other facilities in accordance with the laws and regulations of the Government of Pakistan and its official agencies, and as required for the proper functioning of each facility. All equipment shall be of a type normally used in similar construction and of a grade suitable for the required service. Equipment shall be durable, of non-combustible construction where possible and suitable for easy maintenance. All electric equipment, fixtures and wiring shall be suitable for operation on 220 V, 50 Hz alternating current.

Each toilet room shall be provided with hand basins and chromium-Plated fittings, except sinks for the dispensary and laboratory which shall have an acid-resistant finish; European type vitreous china, or approved equal, siphon jet water closets and urinals or Asian-type water closets; electric water heaters; wiring and electrical fixtures; and hot and cold water and waste water piping systems.

The construction, operation and maintenance of the Contractor’s labour camp shall conform to the requirements of Pakistan Labour Camps Rules, 1960, as published in the Gazette of Pakistan, dated June 3, 1960 and to amendments to the Rules which may be officially promulgated from time to time and to all applicable provisions of the Pakistan Labour Laws and specifically to the following requirements.

- Camp areas shall be kept dry and free from dense vegetation.

- Any collection of water within one kilometer of a camp shall be sprayed weekly with oil or other anti-malaria liquid.
- Covered rubbish receptacles shall be provided at suitable places in the camps and cleaned daily.

The interior walls and ceilings of buildings shall be lime washed each year or shall be varnished or painted once every three years. The whole of the open space around the buildings shall be swept daily and all rubbish removed.

Adequate sanitary conveniences, including washing and bathing places, shall be maintained at each of the camps. All sanitary fixtures, receptacles, toilet rooms, lavatories and wash rooms shall be cleaned and disinfected at least once-a-day.

8.3 SITE WORK

8.3.1 Grading, Drainage and Pavements

All camp and colony areas constructed by the Contractor shall be graded and provided with proper drainage works to protect the facilities from surface run-off and flooding. Low areas shall be filled with excavated material and the entire area laid out and provided with facilities for adequate collection, conveyance and removal of storm water. Streets and roadways shall be at least 25 feet in width exclusive of shoulders and shall be graded and with surface treatment (T.S.T) as approved by the Engineer. Roadway dust control measures shall be instituted as necessary. Sidewalks shall be not less than one meter wide and of concrete except as otherwise approved by the Engineer

8.4 AREA ADJACENT TO BUILDINGS

Building sites shall be stripped of all debris and organic material to the satisfaction of the Engineer. Existing trees shall be protected from damage as far as is reasonably practical.

The ground around the buildings shall be graded to slope away from building perimeters so as to provide adequate drainage and shall be thoroughly compacted. Excavated material shall be disposed of by filling in low areas or as otherwise directed by the Engineer.

8.5 UTILITIES

8.5.1 General

The utility systems shall be of sufficient size and capacity to serve all normal requirements of the camp facilities, including the Engineer's and Employer's offices where applicable.

8.5.2 Water Supply

The Contractor shall construct, operate and maintain his own water supply and distribution networks for serving his camps, colonies, offices, yards and construction sites. Such networks shall include supply mains, pumping stations, storage tanks, etc. Details of the design and layout of the Contractor's water supply and distribution systems, treatment facilities including sterilization, etc shall be submitted to the Engineer for approval prior to construction. Adequate storage shall be provided to meet peak demands, standby and fire-fighting requirements. The water so supplied shall meet the requirement of drinking water as per WHO standards.

8.5.3 Sanitary System

All buildings and facilities with sanitary conveniences shall be provided with sewer connections to a common underground collection system at each camp site, and each separate sub-camp shall be provided with a complete sewage collection, treatment and disposal system unless otherwise authorized. The design and capacity of each collection, treatment and disposal system shall be adequate to provide effective, safe and unobjectionable disposal of sewage for the camp and shall be approved by the Engineer prior to construction of such facilities.

8.5.4 Garbage Collection and Disposal

The Contractor shall provide garbage collection and disposal services for the Employer's and Engineer's offices as well as for all construction camps, colonies and facilities constructed by him. All buildings and facilities shall be provided with sufficient adequately covered garbage cans. Garbage shall be collected daily and transported to disposal areas by means of covered vehicles designed for that purpose. Disposal shall be by burial (landfill) and/or incineration. The disposal area shall be located at sufficient distance away and downwind from camp facilities, living quarters and offices so as not to create objectionable odors or health hazards. Equipment, methods of collection and disposal and locations of disposal area shall be submitted to the Engineer for approval.

8.5.5 Electric Power and Distribution

The Contractor shall furnish or make arrangements to have electric power provided at each of the camp and colony facilities constructed by him and each of his sub-camps, either by installation of his own generating plant or from the electricity supply provided in accordance with relevant provisions of General Specifications hereof.

The layout and design of the electric power supply and distribution system submitted to the Engineer prior to construction shall include adequate area and street lighting and standby units to provide essential requirements in the event of main power outage.

8.6 LANDSCAPING

The Contractor shall landscape all areas in the vicinity of the offices, colonies and facilities constructed by him and in the vicinity of his camps and sub camps with grass, shrubs and trees as appropriate to provide an attractive and pleasant area and to control erosion and local dust. Existing trees shall be protected from damage. Landscaped areas shall be irrigated and fertilized as required to maintain plants in an attractive and healthy condition at all times.

8.7 FENCES

All offices, construction camps and colonies constructed by the Contractor and all work areas of the Contractor shall be completely enclosed with a 8-feet high chain link fence of the type shown on the Drawings or as approved by the Engineer. All fences, gates, braces, concrete and other items required for a complete installation shall be furnished and installed by the Contractor.

8.8 MAINTENANCE OF FACILITIES

The Contractor shall furnish, make arrangements for and carry out proper and adequate maintenance of the facilities required to be constructed by him so as to provide neat, well-kept, pleasant, healthful surroundings and conditions for all occupants. All areas shall be kept clean, well graded, free from undergrowth and bush and adequately drained. All landscaping shall be properly trimmed and cut. Roads and streets shall be kept in good repair, patched and sprinkled if and as necessary to keep down dust or a palliative may be employed as approved by the Engineer. Qualified operators and repairmen shall be provided for the operation and maintenance of all utilities. Utilities shall be properly operated and maintained to provide service and conditions meeting the requirements of these Special Provisions and accepted good practice. Buildings shall be adequately and properly maintained. Janitorial services for public buildings shall be regularly provided. Equipment shall be checked periodically in accordance with the manufacturers' instructions and defective equipment shall be replaced at the Contractor's expense.

9. EMPLOYER'S AND ENGINEER'S PERSONNEL TO BE PROVIDED CONTRACTOR-FURNISHED FACILITIES

The estimated numbers and types of Employer's and Engineer's personnel expected to use selected Contractor-furnished facilities specified hereinafter are listed below.

NUMBERS AND TYPES OF EMPLOYER'S AND ENGINEER'S PERSONNEL EXPECTED TO USE SELECTED CONTRACTOR-FURNISHED FACILITIES

FACILITIES	EMPLOYER'S PERSONNEL	ENGINEER'S PERSONNEL
Dispensary	10 persons	30 person
Mess Hall	10 persons	30 persons
Commissary: Local	10 persons	30 persons
Recreation	10 persons	30 persons

9.1 MEDICAL AND RELIGIOUS FACILITIES

9.1.1 General

All medical and religious facilities specified herein and the community facilities shall be located so as to be convenient for all intended users. The Contractor shall provide, adequately operate and maintain these facilities, starting not later than six months following the date of the Engineer's notice to commence work.

9.1.2 Medical Facilities

Commencing 91 days following the date of the Engineer's notice to commence work and continuing until such time as the dispensary is completed to the Engineer's satisfaction and placed in operation, the Contractor shall make arrangements for and

provide basic medical services and treatment free of charge to his employees and the personnel.

The Contractor shall design, construct, operate and maintain (including reequip as necessary) proper dispensary and other medical facilities for the Contractor's, the Engineer and the Employer employees and the personnel for emergency treatment at reasonable cost to non-registered persons other than the Contractor's, the Engineer and the Employer employees. The dispensary and maintenance thereof shall meet the requirements of the Health Service of the Government of Pakistan and Section III of the Manual "Safety Requirements for Construction by Contract", published by the Employer. The dispensary shall be equipped properly to at least meet the requirements of basic health unit of Government of the Punjab and as directed by the Engineer.

The Contractor shall make provisions for and take suitable measures for control of contagious diseases in camps, colonies, Project offices and other Project areas. The medical services shall, if required, include inoculation against typhoid, tetanus, cholera, typhus, hepatitis (gamma globulin) and in addition in the case of children, polio, tuberculosis and diphtheria. The Contractor will not be required to provide for the treatment of mental cases, chronic or long-standing illnesses; furnishing of eye-glasses, false teeth or hearing aids; and the services of specialist practitioners.

The Contractor shall provide adequately equipped and properly staffed portable first aid stations or at strategic locations, to administer first aid treatment at any time required and free of charge to all persons on the Site, including personnel of the Engineer and the Employer. The nature, number and location of facilities furnished and the Contractor's staff for administering first-aid treatment shall meet the requirements of the Health Service of the Government of Pakistan, and shall be subject to approval by the Engineer.

The Contractor shall make necessary arrangements for prevention of COVID-19 to his as well as Employer’s/Engineer’s staff.

The Contractor will provide one (01) Ambulance for use at site during construction phase of the Project, equipped properly for emergency.

9.1.3 Religious

The Contractor shall construct, operate and maintain religious facilities for the Contractor's personnel and the Engineer's/ Employer’s personnel, not later than four (04) months following the date of the Engineer’s notice to commence work.

9.2 COMMUNITY FACILITIES

9.2.1 General

Certain community facilities are specified hereinafter. The Contractor may construct others as he deems necessary. The community buildings and other facilities shall be constructed and provided with all utilities, fully equipped, ready for use and complete in every respect within six months following the date of receipt of the Engineer's notice to commence work. All community facilities shall be available to the personnel specified in Sub-Clause SP-11 hereof on the same basis as to the Contractor's personnel.

9.2.2 Mess Halls

The Contractor shall design, construct, equip, operate and maintain (including reequip as necessary) mess hall facilities for the use of the Contractor's employee and the personnel. The mess halls shall be of sufficient size, number and at suitable locations to accommodate all required personnel not otherwise provided for with regard to meals, within reasonable time limits and without prolonged waiting. The mess halls shall be provided with all equipment necessary for the hygienic preparation, handling, storage and serving of foods. All windows shall be glazed, and windows and doors shall be screened.

The Contractor shall staff the mess hall facilities with stewards, waiters, cooks and other personnel in sufficient numbers to provide adequate, expeditious and sanitary service of food at all reasonable hours of the day and night, consideration being given to shifts and hours of operation.

Foods shall be of first quality providing an acceptably balanced diet of not less than three thousand calories per day per adult and served attractively in quantity and variety and shall conform to the types of food normally eaten by Pakistani or expatriate staff, if any.

The mess will be run by a committee constituted by the Contractor but at least one member from the Engineer’s side to check the mess facilities.

9.2.3 Commissaries

The Contractor shall design, construct, equip, operate and maintain (including reequip as necessary) separate commissary facilities for imported and local foods and other commodities. The local commissaries shall be for utilization by the Contractor's Pakistani employees and the personnel. The imported commissary shall be for expatriate personnel of the Contractor, if any.

Commissaries shall be provided with all equipment necessary for the hygienic handling, storage and sale of foodstuffs and commodities for normal living at the Site. The commissaries shall provide space for employee rest rooms and for administrative personnel.

The Contractor shall staff the commissaries with management and sales personnel sufficient to serve the customers expeditiously on weekdays during reasonable hours, as determined by the Engineer. Commissaries shall be stocked with foods in sufficient variety, quantity and quality to satisfy all reasonable requirements of the Project personnel.

Foodstuffs records, accounts and rationing supervision shall be maintained by the Commissary and shall be available for examination by the Employer.

9.2.4 Recreation Facilities

The Contractor shall design, construct, equip, operate and maintain (including reequip as necessary) such indoor and outdoor recreation facilities as in his opinion are necessary for the use of Project personnel and the personnel specified in Sub Clause SP-11 hereof. The facilities to be provided may include recreation halls like TV room, table-tennis room, gym and open playing fields.

9.3 FIRE PROTECTION FACILITIES

The Contractor shall design, provide, operate and maintain fire protection facilities for the Project offices, the construction camps, colonies, work areas and for sub-camps, including the Employer and Engineer colony areas and Employer-furnished facilities as necessary to establish fire protection in accordance with the highest standards.

9.3.1 Fire Station

The fire station shall provide closed-in shelter and maintenance space for the fire engines or fire trucks as approved by the Engineer. Space shall also be provided for storage of chemicals and for storage and maintenance of extinguishers, pumps, hoses and other fire-fighting equipment, a fire warden and a duty staff of six men at all times.

9.3.2 Emergency Facilities

The Contractor shall provide emergency fire-fighting facilities at all his sub-camps including hose, fire extinguishers, pails, shovels and other emergency fire-fighting tools as may be necessary including equipment for emergency on-the-spot treatment of fire and smoke cases.

Approved extinguishers in sufficient quantities shall be installed, maintained and replaced or recharged as necessary in all offices and public buildings including those of the Employer and the Engineer. Carbon dioxide extinguishers or approved equivalents shall be provided where electrical fires may occur.

9.3.3 Staff and Service

The Contractor shall provide a fire-warden and a fire-fighting stand-by staff adequate for the protection of the Project facilities at all hours of each day of the year. All firemen and fire wardens shall have been trained by a competent authority. An emergency staff trained in firefighting, amongst the Contractor's foremen and supervisors, shall also be provided. The fire protection staff and services shall be subject to approval of the Engineer.

9.3.4 Equipment

Fire-fighting equipment and vehicles of the kinds and quantities approved by the Engineer shall be provided and shall be maintained to a standard approved by the Engineer. The equipment to be provided shall be of the most modern type and include sufficient fire trucks of adequate weight and capacity.

The minimum components of each fire truck shall include a baffled water tank; a pump and booster lines; pre-connected outlets: a pressure relief valve discharging into the water tank; overhead, manually operated hose reels, each containing hose, booster nozzles, partitioned, hose body with hose, adjustable spray hose nozzles, gated suction inlet, suction hose, and fender compartments.

Accessories shall include dry chemical extinguishers; carbon dioxide extinguishers or approved equivalents; pick-head axes, flat-head axes, each with mounting bracket; pike poles with wood handles; electric hand lanterns; spanners each for fire hose and suction hose, and gas masks in containers.

The cabs shall be mounted with sirens and flashers. The electrical system shall include batteries, headlights, taillights, parking lights, stop lights, directional lights, search lights, cab and instrument panel lights and portable two-way radios.

Detailed specifications of all fire-fighting equipment shall be submitted to the Engineer for approval. Fire-fighting vehicles shall be employed for the exclusive use of the fire-fighting staff and no other use of fire-fighting vehicles or equipment shall be allowed without permission of the Engineer. The Contractor shall provide, operate, service and maintain fire-fighting vehicle during performance of the Contract. He will also be responsible to ensure that capable, licensed motor vehicle operator shall be provided, keep at all times the fire-fighting vehicle exempt from the claims of third parties and from legal attachment of any sort. Further, at the same time as the procurement of fire-fighting vehicle, the Contractor shall also purchase, provide and supply for the fire-fighting vehicle spare parts and supplies necessary to ensure that at all times the fire-fighting vehicle is available, serviceable and road worthy.

9.3.5 Fire Prevention Service

Fire-fighting staff members shall make a weekly inspection of all parts of the Site using an assigned fire-truck, when those staff members are not on standby duty. They shall report all conditions tending to promote fire hazards to the foreman on duty and to the fire warden.

9.3.6 Fencing of Work and Security

All work areas, storage areas and such other areas where construction activity by the Contractor is proceeding shall be suitably fenced and guarded. The Contractor shall provide security guards and watchmen, and other personnel and facilities required for security and public safety.

9.4 PUBLIC TELEPHONE SYSTEM AND FAX

The Contractor shall be responsible for arranging the telephone and fax connections installed as per his requirements. The Contractor shall inform the Employer through the Engineer about such connections. The Employer, if requested by the Contractor, shall assist him in obtaining the connections. All charges, fees and expenses for these connections shall be borne by the Contractor.

9.4.1 Charges for Services and Facilities

9.4.2 Charges to Employer's and Engineer's Personal – General

The Contractor shall provide, operate and maintain all services and facilities furnished for the registered persons under the Special Provisions, free of charge to such personnel except for the services and facilities covered in this Clause hereof.

9.4.3 Charges for Meals, Food and Commodities

Rates charged to all personnel connected with the Project for meals, food and commodities shall be subject to approval by the Engineer. The originally approved rates may be revised if justified by changing economic conditions but only as approved by the Engineer. The commissary and mess facilities shall be operated in the same manner as other similar services are operated in Pakistan; no concessions or reimbursements will be made to the Contractor by the Employer for any sales taxes,

duties or similar charges paid by the Contractor incidental to the operation of the facilities.

9.4.4 Utility Buildings

Buildings of a utility or temporary nature such as storage sheds, temporary offices and temporary shops and laboratories for the Contractor's own use may be erected only with the prior approval of the Engineer. Types of construction of such buildings shall be subject to the Engineer's approval. Temporary buildings which are not required to remain the property of the Employer in accordance with this Clause hereof shall be removed immediately after they have served their purpose.

9.4.5 Concessions and Leases

The Contractor will be permitted to lease space in buildings erected and owned by the Contractor on lands owned or controlled by the Employer for conducting such businesses or services as, in the opinion of the Engineer, may be required for the convenience of the residents of the camp site, but patronage of such businesses or the employment of such services shall be optional.

Commissaries and mess halls shall not be let to concessionaires. All leases covering business and other concessions in the camp sites shall be subject to approval of the Engineer and all such leases shall contain provisions making them subject to termination if, in the opinion of the Engineer, the lessee is guilty of misconduct or infraction of the law, or of the regulations governing the operation of the camp. All leases shall also be made subject to termination upon completion or termination of the Contract. No concessions or leases shall be granted for the sale of liquor, for the operation of gambling in any form or for any other activity prohibited by law.

9.4.6 Works Done After Completion Date

The Contractor's obligation to provide facilities and services to the personnel and offices of the Employer and Engineer under this Clause will terminate only after the issue of Performance Certificate.

9.4.7 Vacating Camp

At such time when portions of the facilities provided by the Contractor under General Conditions of Contract and Special Provisions hereof are no longer required for the prosecution of the work, and in accordance with a schedule of time and the instructions furnished by the Engineer, the Contractor shall remove all camps/facilities and shall clean and clean up the Site at his own cost.

9.5 OTHER FACILITIES FOR ENGINEER'S AND EMPLOYER'S PERSONNEL

9.5.1 General

The Contractor shall provide several facilities for staff related to Employer and Engineer. These facilities include but not limited to the following:

- Construction of offices and residential accommodations;
- Furnishing of offices and residential accommodations;
- Provision of staff;
- Maintenance of these buildings; and
- Maintenance of vehicles deployed for the project by Employer or Engineer.

9.5.2 Construction & Furnishing of offices and residential Buildings

In addition to the facilities required to be provided by the Contractor for Engineer's and Employer's personnel under the provisions of General Specifications, the Contractor shall also provide the following facilities and services for the Engineer and the Employer:

The Contractor shall construct, furnish and equip the offices and residential buildings in colony for the staff of the Consultants deployed at the project. Construction of building will be in accordance with the specifications of buildings as provided under Technical Provisions. There shall be one conference room of minimum area 350 ft^2 and two executive office rooms, two adequate wash rooms on each floor and two wash rooms attached with the two executive offices in each office for Engineer and Employer. The wash rooms will be provided with the facility of hot water availability. The total covered area of the offices and residential buildings shall be decided by the Engineer at site. The Contractor will then design the buildings according to the requirements and will submit the drawings for approval of the Engineer.

The Contractor shall furnish the field offices, providing each room with two desks, two revolving chairs and five office chairs, two four drawer filing cabinets and two 4'x9' storage racks, reception desk, conference table for twenty persons and 30 chairs for the conference room, executive furniture and small conference table and chairs for each of the two executive office rooms etc. and as directed by the Engineer.

The Contractor shall also provide and install the multimedia projector including screen with cables and all accessories in the conference room for use of the Employer.

Each room in residential building will be furnished with Beds (single or doubled as advised by the Engineer), two sitting chairs, one small table, one almirrah either embedded in wall or separate and others as required by the Engineer/Employer.

Split DC Inverter air conditioner shall be provided in each room and foyer. Good quality lighting fixtures using energy saver lamps and ceiling fans shall also be provided. Unless otherwise specified all basic utility installations including telephone connection, gas, electricity, generators of suitable size, water and sewage installations shall be provided. In the event that utility supplies are unreliable or intermittent, the houses shall be provided with generator, elevated water storage tanks, and bottled gas supplies which shall be maintained by the Contractor.

The Contractor shall furnish and maintain premier quality kitchen accessories, dinner set, pressure cooker, mixer and all kinds of utensils etc. along with washing machine, microwave oven, refrigerator, LED 60" flat screen. A full time cook, sweeper, washing man for washing clothes and armed security guard shall also be provided. The Contractor shall be fully responsible for security of these buildings. The Contractor shall provide office boys for 24 hours duty and sufficient quantity of material for tea etc.

The Contractor shall be responsible for maintenance of Engineer's/ Employer's office and facilities including related services. The Contractor shall maintain equipment for Engineer's/ Employer's office and residential accommodations. The field office operationalization and other facilities to be provided by the Contractor shall be fully equipped and ready for operation within four (04) months following the date of the

Engineer's notice to commencement of works. After completion of the Contract, all facilities, equipment and supplies shall remain the property of the Employer and shall be left at the Site.

9.5.3 Utilities

Unless otherwise specified, all basic utility installations including telephone connection, gas, electricity, generators of suitable size, water and sewage installations shall be provided. In the event that utility supplies are unreliable or intermittent, the buildings shall be provided with elevated water storage tanks and maintained by the Contractor. The capacity of the O/H water tank shall meet the per capita requirement and the water demand of fire-fighting system and other services.

9.5.4 Maintaining Building and Providing Services

The Contractor shall provide service and maintain the office, residential accommodation and related facilities for the Engineer's/ Employer's field office in accordance with good standards as approved by the Engineer. In addition, the Contractor shall provide necessary personal for the maintenance of the field offices. The Contractor shall furnish and replenish, as necessary, all expendable supplies necessary for the operation of these facilities, for the rearrangement of partitioning in the permanent field office as may be required from time to time. Expendable supplies shall not include stationery supplies The services to be provided by the Contractor shall include but not limited to janitorial, painting, utility and daily cleaning.

9.6 SECURITY

The Contractor shall be aware of the prevailing security situation and the potential threat to foreign and national personnel. He shall appoint a suitably qualified security advisor who shall be responsible for liaising with the security authorities and establishing, and ensuring compliance with, project security procedures. The security situation, the state of risk and the procedures and actions shall be kept under constant review and disseminated to the foreign personnel, if any, of the Contractor.

The Contractor shall be fully responsible for arranging, from the appropriate authorities or agencies, security cover at the Site for his foreign personnel, if any, as well as for any foreign personnel travelling to and from the Site. The Engineer shall also be kept apprised of regular movement schedules of all such personnel, in sufficient time as shall be agreed with the Engineer. The Contractor shall observe any Government restrictions on movement of his expatriate staff. All cost for making special security arrangement and those arising from need to control movement of expatriate staff shall be deemed to be included in the rates and prices stated in the BoQ. Reference is also made to GCC/PCC.

9.7 COOPERATION WITH OTHER CONTRACTORS

Work at the Site will be performed by others as may be found necessary from time to time. At such times, the Contractor will not have exclusive occupancy of the affected localities at the Site. The Contractor shall cooperate with the other contractors or other agencies doing the work in the interest of the entire Project. Any conflict between the Contractor and other contractor or agency shall immediately be brought to the notice

of the Engineer, who shall, at his sole discretion, resolve the conflict in the best interest of the Project as a whole.

9.8 HEALTH AND SAFETY

9.8.1 General

In performing the work of this Contract, the Contractor shall provide working conditions on each operation that shall be as safe and not injurious to health as the nature of that operation permits. All the work shall be performed in accordance with applicable local and national laws, codes, requirements and regulations including safety, health, welfare of persons and others. The Contractor shall in general be fully conversant and comply with the relevant sections of all construction regulations enforceable by the law. In all rock excavation operations, the Contractor shall install, maintain and effectively operate appliances and use methods approved by the Engineer which will effectively reduce the amount of harmful dust and he shall exercise good practice in the control of silica dust in rock drilling. The crushing of rock, the dumping of stone, the mixing of concrete and the handling of cement, steel and other materials shall be so conducted that these operations will not cause any injury fatal or otherwise, nor be detrimental to health. The Contractor shall employ a full-time safety engineer to help accomplish the purposes of this Clause.

The Contractor shall periodically arrange awareness campaign for the labour and other employees, to make people aware of the causes, mode of transmission and consequences of HIV/AIDS and COVID-19 including its all variants.

The Contractor will maintain and make it available Safety Violation Register to Log and Record the safety violation as observed/noticed by the Engineer during Site Inspection. These violations will be discussed in Progress Review Meeting and the Contractor will suggest and do necessary arrangement follow the HSE plan strictly, the nonconformance will leads to the withholding of partial payment being made to the Contractor.

9.8.2 Accident and Fire Protection

The Contractor shall enforce all necessary rules and regulations for the safe prosecution of the work in order to avoid preventable accidents and to minimize injuries to his employees and those of other concerned entities. Work areas shall be adequately posted with safety signs and posters. Machinery and equipment shall be guarded and all hazards eliminated in accordance the latest "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, Inc. USA. He shall maintain a satisfactory system of inspection and scaling in all open cut excavations. All reasonable precautions shall be taken against fire, and provisions shall be made for the expeditious extinguishing thereof.

In addition to the reports which the Contractor may be required to file under the law, he shall file with the Engineer on or before the seventh day of each month a report giving the total force employed on this Contract in man-days during the previous calendar month, the number and character of all accidents resulting in loss of time,

and any other information on classification of employees injuries received on the work and disabilities arising there from that may be required by the Engineer.

The Contractor shall, during the entire period of his operations at the Site, provide emergency facilities with adequate medical and surgical equipment for first aid treatment and approved qualified personnel to administer such treatment to all injured persons, including the Employer's and Engineer's personnel. The Contractor shall designate two or more approved competent licensed physicians, one of whom shall at all times be in readiness to answer calls to supply medical and surgical services. The Contractor shall submit for the approval of the Engineer and, upon such approval, install a means of rapidly summoning the physicians to the site of an accident or fire. Ambulance service to the dispensary at the Contractor's camp shall be available at all times.

No payment will be made for the services required in this Sub-Clause other than that made under the Contract Items applicable to the first aid and fire protection facilities required to be provided by the Contractor.

9.9 Safety Devices

Safety devices shall be used as required and shall include but not be limited to those described hereinafter. Efficient safety helmets, and safety harnesses where required, shall be provided for all personnel including all authorized visitors to the Site. Excavated areas shall be properly guarded from the beginning of excavation until the status of the work removes all possible element of danger. Full precautions shall be taken to ensure maximum safety. The Contractor shall provide all PPEs to Employer’s/Engineer’s staff

9.10 Storage and Use of Explosives

Blasting will be permitted only when proper precautions are taken for the protection of persons, the Works and property.

Explosives shall be stored, transported, handled and used in accordance with the recommendations of BS 5607: Code of Practice for safe use of explosive in the construction industry. The Contractor shall comply with all special rules and regulations that may be made by the authorities having jurisdiction and by the Engineer regarding construction of and storage in magazines, blasting precautions, etc. The Contractor will be held responsible to the Employer for all claims for damage caused by blasting.

Before starting any drilling and blasting of rock, the Contractor shall submit his proposed plan in writing for such operations to the Engineer for approval and, upon approval, shall not deviate there from without the written permission of the Engineer. The Contractor’s plan shall include statements of minimum safe distances; means of protection of concrete and other work, and structures. Approval by the Engineer of the Contractor’s plan of operation shall in no case relieve the Contractor of full responsibility for the entire drilling and blasting operation, including the safety of persons and the Works.

Accurate daily records shall be kept by the magazine keepers and shall account for each piece of explosive, detonator and equipment from the time of delivery at the

magazine until its discharge in use. No explosive shall be stored or used until it has been plainly labeled for identification and accepted by the Engineer as new stock in sound condition. The Contractor shall also maintain a record for each blasting operation showing the blasting pattern including the location, number and depth of holes, inclination of wedge cut holes, amount and strength of explosives per hole and per round, sequence in firing and time delays for relay firing, actual length of pull per blast and other relevant information.

10. CONSTRUCTION UTILITIES

10.1 GENERAL

In addition to the utilities for the camp specified in Sub-Clause 8 and 9 hereof, the Contractor shall provide such water, electricity, telephone, power, lighting, compressed air and other utilities as required for construction and other uses in connection with work under this Contract. Before final acceptance, all temporary utilities shall be removed or suitably abandoned and disposed of adequately unless otherwise specified or directed.

10.2 POWER AND LIGHTING

Satisfactory electric lighting shall be provided in spaces through which men must pass in the customary discharge of their duties and in any other locations where work is being done or machinery is in operation during other than daylight hours. The general lighting of uncompleted portions of such spaces and of completed portions through which materials or men must pass, shall have a minimum level of illumination of 40 Lux.

At headings, places where forms are being erected, concrete or packing is being placed or grouting is being done, and at all other locations where work or inspection is being performed and the general illumination is not sufficient, a minimum illumination intensity of 100 Lux shall be provided.

All wiring for electric light and power shall be installed, securely fastened in place and maintained in a first-class manner to the approval of the Engineer. Unless otherwise permitted, circuits separate from lighting circuits shall be used for all power purposes. Electric light and power wires shall be kept as far as practicable from telephone or signal wires or from wires used for firing blasts. Special precautions shall be taken to avoid short circuits in any part of the wiring systems. All temporary wiring and accessories shall be removed when directed by the Engineer and before the completion of the Contract.

11. TRAFFIC - ROADS, BRIDGES

11.1 GENERAL

The Contractor shall provide and maintain traffic facilities in the construction area as indicated on the Drawings and as otherwise covered in these Special Provisions, and in areas adjacent thereto, as is necessary for safe and adequate pedestrian, road, and bridge traffic. The Contractor shall submit a plan of traffic operation, maintenance and protection for approval by the Engineer. At the completion of the Contract, all roads

and bridges, if any, provided by the Contractor shall become the property of the Employer.

11.2 HAUL AND CONSTRUCTION ROADS

The Contractor shall provide and maintain such haul and construction roads as are necessary for the conduct of the work.

No separate payment will be made to the Contractor for the construction and maintenance of such roads and the costs thereof shall be deemed to be included in the rates and prices quoted in the BoQ for other items of Work.

11.3 HAUL ROADS FROM QUARRIES

The Contractor may obtain riprap and material for stone pitching for use in the construction of the Works from quarry site that the Contractor may propose.

The Contractor shall develop adequate haul roads for haulage of the required construction materials from the quarry sites or make suitable arrangements for obtaining materials from any other quarries and transporting them to the Site to meet his construction program.

Subject to the provisions for Avoidance of interference and Access route, of the General Conditions of Contract, the Contractor shall be responsible for the construction, upkeep and maintenance of the haul roads including shoulders, ditches and drainage structures through their entire lengths during the currency of the Contract plus authorized extensions thereof.

No separate payment will be made to the Contractor for the work done in respect of development, upkeep, construction and maintenance of the haul roads.

11.4 MAINTENANCE OF EXISTING ACCESS ROUTES, ROADS AND OTHER SERVICES

The Contractor shall take over and maintain in suitable condition, as required by the Engineer, existing public access routes, roads and other services encountered within the construction area until such time as these public access routes and roads are diverted or alternative arrangements made by the Contractor to the satisfaction of the Engineer.

The Contractor shall arrange for the permanent diversion of all traffic (other than site traffic) onto the permanent road across the head regulator bridge and the permanent approach road thereto, within a period till the completion of project and all public routes and road become functional for routine traffic plan after the Engineer's notice to commence.

The Contractor shall furnish and maintain signs, traffic barricades, torches, flagmen and other facilities as necessary for safe and efficient directing and handling of traffic and shall be responsible for ensuring that all roads and temporary facilities provided are sufficient to divert public traffic adequately and safely. The Contractor shall observe all relevant rules and regulations of the Highway Department and other local authorities.

12. UTILITY LINES

The Contractor shall conduct his operations, make necessary arrangements, take suitable precautions and perform all required work incidental to the protection of and avoidance of interference with power, telegraph, telephone and natural gas lines and other utilities within the areas of his operations in connection with the Contract and the cost thereof shall be. borne by the Contractor and the Contractor shall save harmless and indemnify the Employer in respect of all claims, demands, proceedings, damages, costs, charges and expenses whatsoever arising out of or in relation to any such interference.

13. ROCK QUARRIES

The Contractor shall be responsible for developing quarries of his choice to obtain the riprap and material for stone pitching, as specified in the Technical Specifications, for use in connection with the Works. The Contractor may, at his option, and at no additional cost to the Employer, explore, locate, investigate and develop quarry sites that he may require to meet his requirements under the Contract. Such development of quarries shall include, where applicable, construction, operation and maintenance of the required haul/access roads and haulage arrangements, all at no additional cost to the Employer.

14. FLOOD WARNING SYSTEM

Hydrological and hydrographic information is provided in Volume IV of the Bidding Documents and further, as part of his flood warning system, the Employer is making arrangements to obtain rainfall and river stage data during the construction period from rainfall and river gauges located at upstream of the Site. Readings are expected to be transmitted by radio or other means and will be made available to the Contractor. Readings will be transmitted at intervals mutually agreed by the Contractor and Employer.

The Employer will use his best efforts to ensure that data is received as scheduled. He cannot, however, guarantee against failure of communication facilities and other features of the reporting system. Failure on the part of the Employer to furnish data in accordance with schedules shall not be considered as the basis for a claim against the Employer by the Contractor.

The responsibility for interpretation of the flood warning data supplied by the Employer shall rest with the Contractor, and all adjustments of operations in anticipation of flooding shall be at the discretion of the Contractor, except as otherwise specifically provided in the Contract.

15. ENVIRONMENTAL PROTECTION

15.1 GENERAL

Further to the provisions for the Protection of Environment specified in provisions of the General Conditions of Contract, the Contractor shall exercise care to protect the natural landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring or defacing of the natural surroundings in the vicinity of the Works. Except where clearing is required for Permanent Works,

approved construction roads and Temporary Works, and for excavation operations, all trees and native vegetation shall be preserved and shall be protected from damage which may be caused by the Contractor's construction operations and equipment. On completion of the Works, all work areas shall be smoothed and graded in a manner to conform to the natural appearance of the landscape. Where unnecessary destruction, scarring, damage or defacing may occur as a result of the Contractor's operations, it shall be repaired, replanted, or otherwise corrected as directed by the Engineer at the Contractor's expense.

15.2 BORROW AREAS

Material sources to be utilized shall be located and operated so as not to detract from the future usefulness or value of the sites. Rejected materials, including overburden, disturbed in site operations shall be disposed of in an approved manner and the site maintained at all times in a safe, workmanlike and lightly condition. All borrow areas shall be effectively drained and kept free of standing water, to the satisfaction of the Engineer.

Upon completion of operations, material sources or portions thereof shall be left in a safe and slightly condition. Loose rock shall be scaled from the face of the excavation, hazardous areas backfilled or other adequate safety precautions taken. Rejected materials, including overburden and waste materials from construction activities, shall be leveled and sloped to conform to the surrounding terrain, or buried as directed. Work shall be done to the satisfaction of the Engineer.

15.3 PREVENTION OF WATER AND LAND POLLUTION

The Contractor's construction activities shall be performed in a manner that will prevent entrance of solid matter, contaminants, debris and other objectionable pollutants and wastes into flowing or dry water courses and underground water sources. Such pollutants and wastes include, but are not limited to, refuse, garbage, cement, concrete, sanitary waste, oil and other petroleum products. Discharge of washings from aggregate processing plants into the river will be permitted.

The Contractor shall take all possible measures to prevent entrance of any leakage or accidental spill of oil and lubricants from penetrating deep in the soil especially agricultural lands. Any leakage or spill of such pollutants shall be rectified to the satisfaction of the Engineer.

15.4 DUST ABATEMENT

During the performance of the work required under the Contract, the Contractor shall carry out proper and efficient measures as often as necessary to reduce the dust nuisance, and to prevent dust originating from his operations. The Contractor shall at all times keep his construction machinery in good order/maintained to prevent emission of smoke beyond permissible limits. The Contractor shall arrange alternate methods for burning in labor camps so as to prevent the labour from burning waste material or wood causing smoke.

15.5 NOISE ABATEMENT

The Contractor's operations shall be conducted in a manner that will minimize excessive noise. In planning his operations, the Contractor shall comply with the recommendations of the Health and Safety Execution, UK, Publication EH 40: Occupational Exposure Limits. Night time blasting, the use of jack hammers, pile driving or other operations producing high intensity impact noise may be performed only upon approval of the Engineer.

15.6 PRESERVATION OF HISTORICAL AND ARCHAEOLOGICAL DATA

Should the Contractor or any of his employees in the performance of this Contract discover evidence of possible historical or archaeological data, he shall notify the Engineer in writing giving the location and nature of the findings. Where appropriate by reason of a discovery, the Engineer may order delays in the time of performance and/or changes in the work.

15.7 PROTECTING OF BIOLOGICAL RESOURCES

The Contractor during his construction activities shall take all measure to prevent any disturbance to the Forest and Fisheries Laws. Contractor shall affix necessary sign boards to make Labour, visitors and all concerned aware of their obligations towards protection of Biological resources.

15.8 EMPLOYMENT OF LOCAL LABOUR

The Contractor while recruiting Pakistani workforce for the purposes of or in connection with the Contract shall to the extent practicable and reasonable give first priority to such persons who are directly affected by the Project, whether by loss of land or occupation. A system of work permits will be introduced at the Site, whereby one work permit per affected household will be issued by the Employer. The work permit would serve to identify a labour pool of potential employees to whom the Contractor shall give preference when recruiting skilled, semi-skilled and unskilled categories of staff.

15.9 PERSONNEL PROTECTIVE EQUIPMENT (PPE)

The Contractor will provide Personnel Protective Equipment (PPE) to every person who intends to visit or works on work place as designated by HSE department. All PPE will meet the standard requirement and will be approved by the Engineer.

16. STANDARDS OF COUNTRIES OTHER THAN THOSE SPECIFIED

16.1 GENERAL

Where the Contract Documents provide requirements for material or equipment by specifying a standard which has its origin in one country, it is not the intention to restrict the requirements solely to that standard and that country. Other standards, including standards of other countries, will be accepted provided the requirements thereof, in the opinion of the Engineer, are equal in the requirements of the standard specified. The Contractor may propose to the Engineer a standard other than that specified, in which case he shall submit an English translation of 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. Dates of specified standards are not, generally provided in the Specifications or indicated on the Drawings. Where dates are not shown or specified or indicated, standards will be those in effect 28 days prior to the Tender Date.

16.2 STANARDS AND THE ABBREVIATIONS OF THE STANDARDS

Structural design of all hydraulic structures, selection of materials, designing/mixing/placing/curing and construction etc., of all structural concrete, with the approval of the Engineer, in all repair Works and new Works, if any, shall be carried out in conformance with ACI 350 -06 and/or ACI 318-08 and latest editions, if available. Standard specifications and codes of the following listed authorities wherever cited herein are referred to by use of the abbreviations shown below.

AUTHORITY	ABBREVIATION
American Concrete Institute P. O. Box 19150, Redford Station Detroit, Michigan 48219, USA	ACI
American National Standards Institute. Inc. 1430 Broadway, New York, NY 10018, USA	ANSI
American Society for Testing and Materials 916 Race Street Philadelphia, Pennsylvania 19103, USA	ASTM
American Welding Society 2501 N. W. Le Jeune Road Miami, FL 33125. USA	AWS
United States Bureau of Reclamation (Department of the Interior) Engineering and Research Center Code 922, P.O. Box 25007, Denver Federal Center Denver, Colorado 80225, USA	USBR
British Standards Institution 2-Park Street, London W1A 2BS, UK	BS
American Association of State Highway and Transportation Officials 444 North Capitol St., N.W. Suite 225, Washington, D.C. 20001, USA	AASHTO
Construction Industry Research and Information Association 6 Storey's Gate London SW 1 P3 AU, UK	CIRIA
Federation Europeenne de la Manutention 10, Avenue Hoche 75382 Paris Cedex 08, France	FEM

Copies of specifications, codes or standards of the above organizations may be obtained at the addresses shown.

17. PROGRESS REPORTS, PHOTOGRAPHS AND DIGITAL VIDEO FILM

17.1 PROGRESS REPORTS AND PHOTOGRAPHS

The Contractor shall, in accordance with Sub Clause 4.2 of the General Conditions of Contract, submit six copies of a detailed written report in a form acceptable to the Engineer of the progress of the Works during the preceding month. The report shall show, among other data the Engineer may request, the percentage of each type of work completed for each structure during the month and the total percentages of completion as of the date of the report. The progress report shall also include charts with 'S' curves showing scheduled cumulative progress versus time for each structure and for excavation, fill and concrete. The actual completion up to the period reported and forecast for the remaining period will also be shown on these charts. The contents and the format of this Monthly Progress Report have to be consented by the Engineer with 28 days from Notice to Commence. However, it should contain Executive Summary, Project Dash Board periodically updated baseline schedule in Primavera P6. Earned Value Reports, progress on design and material procurement and construction. Resource Profile Plan vs Actual Progress. The progress report should also include progress s-curve showing comparison and variance of plan vs actual progress overtime scale of overall works, design, material procurement and construction.

The Contractor shall also furnish to the Engineer ten (10) 6" x 5" colour photographs of the work in progress throughout the Contract period. The photographs shall be taken with a digital camera, capable of operating at different resolution modes, at the start and completion of each major component of the work and at other times as directed by the Engineer to show the progress of the Project and each feature thereof. The Contractor shall furnish CD containing at least ten (10) high resolution digital images and six glossy colour prints of each image per month. The glossy paper to be used for colour prints shall be subject to approval by the Engineer. Only clear, sharply defined photographs will be accepted. Each print shall be marked on the back side with the date, time and serial number. There shall be no writing, lettering or marking on the face of the photograph except the date. Caption of the activity represented in the photograph shall be printed at bottom of each colour print, outside the area of the photograph.

17.2 DIGITAL COLOUR VIDEO FILM

The Contractor shall prepare a colour digital video film as the work progresses. The film shall be of 60-minute duration fully edited and with commentary in English language. The video shall clearly show the progressive construction stages and completion of important phases of the Works. Five DVD disks of the film shall be submitted to the Engineer on completion of the Works.

At agreed intervals during the progress of the Works, the Contractor shall arrange to show the video film to the Engineer for his approval. The Contractor shall affect any improvement in preparation of the digital video film that the Engineer may direct.

No separate Payment for the work under Sub-Clause 17.1 and 17.2 will be made.

17.3 QUARTERLY PROGRESS PRESENTATION

The Contractor shall arrange a detailed quarterly project progress presentation in a form acceptable to the Engineer of the progress of the Works during the quarter. The presentation shall display, among other data, the percentage of each type of work completed for each structure during the quarter and the total percentages of completion as of the date of the presentation. The progress presentation shall also include scheduled cumulative progress versus time for each structure and for excavation, fill and concrete. The actual completion up to the period of progress presentation and forecast for the remaining period will also be displayed.

No separate Payment for this work will be made.

17.4 MEETINGS

From time to time during the execution of the Contract, the Engineer shall call meetings at the Site or elsewhere, as he deems necessary for reviewing the progress of the Works, discussion of any impediments to progress and consideration of other important matters. The meetings may be held at regular intervals to be fixed by the Engineer. Special meetings may also be called by the Engineers to discuss any emergent matters. Responsible representatives of the Contractor shall attend such meetings at no additional cost to the Employer.

18. UNIT PRICE BREAKDOWN

Within 56 days after receipt of the Engineer's Notice to Commence, the Contractor shall submit to the Engineer the Contractor's breakdown of unit prices for three selected excavation items, three selected fill material items and three selected concrete items in accordance with a prescribed form and instructions furnished by the Engineer. The breakdown shall include the elements of the Contractor’s overheads costs, other indirect costs, and equipment costs.

The Contractor shall also submit to the Engineer the Contractor's breakdown of such other unit prices as the Engineer may from time to time reasonably require pursuant to the provisions of Clauses in Conditions of Contract.

The submission of the breakdown of each lump sum item as well as “job/lot” items shall be a condition precedent to payment to the Contractor under any Interim Payment Certificate.

19. TRANSPORT AND HANDLING OF CARGO

19.1 GENERAL

The Contractor shall be solely responsible for the shipment of materials, plant, equipment and all other things necessary for the completion of the Works including the selection of routes and carriers to ensure that all shipments are expeditiously and safely transported. It may, however, be noted that carriers of certain nationalities

may from time to time be prohibited from delivery to Pakistani ports. The Contractor shall not consign any shipment to any prohibited carriers and shall be responsible for complying with any such regulation of the Government of Pakistan.

19.2 TRANSPORTATION ROUTE

The Contractor shall make his own enquiries to ensure that adequate unloading and other facilities are available at the Port of Gawadar, Karachi and Port Qasim. He is warned that for heavier loads it may be necessary to use ship's tackle and he may, therefore, wish to impose limits on his loads.

The Contractor shall be solely responsible for satisfying himself at the time of shipment as to the railway restrictions, clearance gauges, suitability and availability of wagons, availability of railway cranes and costs and charges for railway freight.

The Contractor shall be responsible for making enquiries and obtaining information from and having coordination with Pakistan Railways regarding transportation of materials, Plant and the Contractor's Equipment through railway routes.

Alternative road transportation is available between Gawadar Port, Karachi Port and Port Qasim and the Site on which in general there are no such limitations. Improvements and modifications to both railway and road conditions are continually in progress and the best route will depend on the size and weight of any shipment.

19.3 PORT CHARGES AND PORT CONGESTION

The Contractor shall be deemed to have obtained all information as to port clearance facilities and charges, loading and unloading facilities and costs, storage facilities and charges, transportation facilities and costs and congestion at Gawadar, Karachi Port and Port Qasim and shall be deemed to have confirmed the requirements thereof. The Contractor shall be deemed to have included all clearing, forwarding and any other incidental costs in this regard in his Tender. The Contractor has the option to use either the Gawadar Port, Karachi Port or Port Qasim or all of them at his own risk. No extension of time will be allowed on account of the Contractor's failure to inform himself of the situation.

20. DIRECTED AND REQUIRED

Unless otherwise stated, wherever in the Specifications, or upon the Drawings, the words "directed" , "required", "permitted", "ordered", "designated", "prescribed" or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation or prescription of the Engineer is intended, and similarly the words "approved", "acceptable", "satisfactory" or words of like import shall mean approved by or acceptable or satisfactory to the Engineer.

21. MEASUREMENT AND PAYMENT – GENERAL

21.1 PAYMENTS – GENERAL

Payments will be made as provided in Clause 14, payment, of the General Conditions of Contract and as specified hereinafter.

No separate payment will be made for any work required to be performed under these General Specifications except as specified in BOQ. Where maintenance, repair, operation or other work in connection with a particular facility is not specifically included under an item, the cost thereof shall be considered to be included in 'the prices for the various items' of the Contract.

Except as stated herein or specifically stated elsewhere in the Contract, the Items given in the Bill of Quantities are the only Items under which measurement and payment will be made for work performed under the Contract. If some work required by these Specifications or by the Drawings is not included in the payment items in the Bill of Quantities, no separate payment will be made for that work.

The payment clauses in the last part of each Section of the Technical Specifications include lists of items to which the various payment clauses apply. These lists are included for guidance and convenience, and if they should differ in any respect from the items listed in the Bill of Quantities, the Bill of Quantities shall take precedence.

21.2 MEASUREMENTS - GENERAL

The Engineer will measure the actual quantities of work acceptably performed or items acceptably furnished in accordance with the specified methods of measurement. In all cases where a quantity under one Item measured for payment is contiguous to the quantity under another Item measured for payment, the division lines marking the beginning and end of the quantity under each Item shall be as indicated on the Drawings or as defined in the Specifications. If any question arises as to the location of any such line, it shall be determined by the Engineer. Unless otherwise specified, measurement for payment will be made only' of material removed or placed, accepted and required as part of the Permanent Works. Excavations for construction plant and other purposes of the Contractor's choosing will not be measured for payment unless such excavations are required for the Permanent Works.

21.3 MEASUREMENT BY WEIGHT

The weights of materials and equipment, the installing, handling or placing of which is to be paid for on the basis of weight, will be determined by the Engineer from information furnished by the Contractor. The weights shall be determined as defined in the relevant measurement and payment clauses. Unless otherwise specified, the Contractor will not be required to provide scales for actually weighing these materials and equipment; the Engineer will determine the weight of each part or item involved in the most practicable manner and he may use for that purpose railroad shipping weights, manufacturer's weights, catalogue weights, scale weights if available, or computed theoretical weights at the Engineer's discretion. Net weights only will be paid for and the weight of all tares, packing and blocking will be deducted. No extra allowance will be made for paint coatings.

21.4 COMPENSATION INCLUDED

Payment to the Contractor of the amounts based on the actual quantities of work as measured by the Engineer in accordance with the specified methods of measurement and the prices stipulated in the accepted Tender, will constitute complete compensation for all work shown on the Drawings, provided in the Specifications or

other Contract Documents, or reasonably inferable from any of the Contract Documents, and all expenses incidental thereto; and all costs of accepting the general risks, liabilities and obligations set forth or implied in the Contract Documents. The Contractor will be required to perform such work for such payment whether the work is specifically referred to or otherwise included in a specific item in the Bill of Quantities or not. Payment under all items shall include, but not necessarily be limited to, compensation for furnishing all plant, supervision, labour, equipment, overhead, profit, materials and services, and performing all work required to accomplish and complete the work specified under each item and all other work required by the Contract Documents.

No payments will be made on account of anticipated profits for work covered by the Contract which is not performed. The Contractor shall have no claim for further payment in respect of any work or method of execution described in the Contract for which apparently no corresponding item is given in the Bill of Quantities and the cost of any such work or method of execution shall be deemed to be included in and covered by the Contract Rates.

21.5 UNITS OF WEIGHTS AND MEASUREMENTS

MKS units will be used for measurement and payment in this Contract. All the items in the BOQ and measurement and payment clauses have therefore been provided accordingly. Conversion factors wherever required for conversion of quantities from one system to another shall be as per the ACI code. Some of the conversion factors are as follows:

- One linear foot = 0.3048 linear meter
- One square foot = 0.0929 square meter
- One cubic foot = 0.02832 cubic meter
- One gallon (Imp) = 4.5461itres
- One US gallon = 3.785 liters
- One pound = 0.4536 kilogram

Unless otherwise specified, gallon means an Imperial gallon.

PART – B
ENVIRONMENTAL AND SOCIAL (ES) REQUIREMENTS

Environmental and Social (ES) requirements

1. General

The successful implementation of the Integrated Flood Resilience and Adaptation Project (IFRAP) requires strict adherence to environmental and social safeguards to ensure that all project activities are carried out responsibly, sustainably, and in alignment with both national regulations and the World Bank's Environmental and Social Framework

As a minimum, the policy is set out to the commitments as under:

1. Apply good international industry practice to protect and conserve the natural environment and to minimize unavoidable impacts;
2. Provide and maintain a healthy and safe work environment and safe systems of work;
3. Protect the health and safety of local communities and users, with particular concern for those who are disabled, elderly, or otherwise vulnerable;
4. Be intolerant of, and enforce disciplinary measures for illegal activities. To be intolerant of, and enforce disciplinary measures for gender-based violence, inhumane treatment, sexual exploitation, rape, sexual abuse, sexual activity with children, and sexual harassment;
5. Incorporate a gender perspective and provide an enabling environment where women and men have equal opportunity to participate in, and benefit from, planning and development of the Works;
6. Work co-operatively, including with end users of the Works, relevant authorities contractors and local communities;
7. Engage with and listen to affected persons and organizations and be responsive to their concerns, with special regard for vulnerable, disabled, and elderly people;
8. Provide an environment that fosters the exchange of information, views, and ideas that is free of any fear of retaliation, and protects whistleblowers;
9. Minimize the risk of communicable diseases and to mitigate the effects of communicable diseases associated with the execution of the Works.

2. Bidding Stage

Approved Environment and Social Management Plan (ESMP) of each section of road and bridges (IFRAP) are made mandatory as part of bidding documents (attached). The bidder should comply with the E&S requirements as per the approved ESMP in bid submission. Moreover, the approved ESMP are made part of the contract documents (between the Employer and Contractor).

3. After the Project Award

The Construction Contractor (CC) shall comply with the submission of Construction-ESMP (C-ESMP) to Construction Supervision Consultant (CSC)/ the Engineer for review and approval. The C-ESMP shall be subjected to approval by the Employer and the World Bank. The contractor will submit to and gain approval of C-ESMP before mobilization to the Project site. The terms of reference (ToRs) for the preparation of C-ESMP to be followed are provided in Table 1 hereunder:

Sr. No.	Sections of C-ESMP	TORs	Contents
1	Introduction	Purpose of the C-ESMP	Outline the objective, scope and legal requirement for preparing the C-ESMP in line with the approved project ESMP, national laws and WB Ops and ESF.
2	Project Overview	Project location and activities	Summarize road alignment, construction activities, work sites, labour camps and any sensitive areas along the route
3	Legal and Policy Framework	Applicable laws and standards	Identify relevant Pakistani environmental and labour laws, Balochistan EIA rules, and applicable international safeguards (WB, IFC).
4	Environmental Management Plan	Mitigation of environmental impacts	Detail site-specific actions to manage air quality, noise, dust, vegetation loss, soil erosion and water contamination.
5	Social Management Plan	Mitigation of social impacts	Address community safety, land access, local employment, stakeholder engagement, labour influx and potential social conflicts.
6	Occupational Health & Safety Plan	Worker protection and safety	Include PPE protocols, training, emergency procedures, sanitation and communicable disease control if relevant.
7	Waste Management Plan	Solid, liquid and hazardous waste	Describe methods for collection, storage, transportation and disposal of construction waste.
8	Water & Resource Use Plan	Sustainable resource use	Outline use and sourcing of water, fuel, construction materials and efforts to reduce over-extraction or depletion.
9	Biodiversity Protection Plan	Flora and fauna protection	Include mitigation for habitat loss, protection of endangered species and restoration post-construction.
10	Erosion & Sediment Control Plan	Slope and soil management	Prevent sediment runoff into canals or water channel, stabilize slopes and embankments.
11	Traffic Management Plan	Movement and road safety	Plan for safe movement of construction vehicles, public safety signage and temporary diversions.
12	Chance Find Procedure	Cultural heritage protection	Define steps to take in case of discovery of archaeological, religious, or historical objects during excavation.
13	Labor Management Plan	Worker welfare and code compliance	Address recruitment, contracts, non-discrimination, grievance redress and labour camp conditions.
14	Gender and SEA/SH Risk Mitigation	Gender-sensitive measures	Prevent gender-based violence, ensure gender-sensitive facilities, and raise awareness among workers and communities.
15	Stakeholder Engagement Plan (ESS-10)	Community engagement	Outline how the contractor will inform, consult and involve local communities throughout the construction period.
16	Resettlement Action Plan (RAP)	Land acquisition and resettlement compliance (ESS-5)	In case of land acquisition, the contractor will furnish a RAP to comply with the ESS-5 at any stage of the Project.
17	Grievance Redress Mechanism	Complaint handling system	Develop a simple, confidential, and transparent process for receiving and resolving grievances from workers or communities.

18	Environmental Monitoring Plan	Monitoring and indicators	Define parameters (dust, noise, waste, water), monitoring frequency, methods and responsibilities.
19	Roles and Responsibilities	Implementation team	Identify the contractor's environmental and social staff. For example, HSE Officer/Engineer, Social mobilizer), their roles and reporting lines.
20	Training and Awareness Plan	Capacity building	Plan for induction training, toolbox talks, environmental and social awareness for all site staff and workers.
21	Emergency Response Plan	Preparedness and response	Procedures for fire, chemical spills, floods and other environmental and safety incidents.
22	Reporting and Documentation	Compliance and communication	Outline internal and external reporting formats. For example, daily logs, monthly reports, incident reports to the implementing body.
23	Schedule of Implementation	Timeline	Provide a timeline aligned with construction phases for rolling out all sub-plans and monitoring activities.

4. Monitoring and Reporting

Monthly progress reports of the Project shall contain E&S considerations**,** maintain records of accidents, training, grievances, facilitate audits by the Engineer. The Employer and the Engineer will verify compliance as per ESMP and C-ESMP before running payments in the for if IPCs to the Contractor.

5. PAYMENT FOR ES REQUIREMENTS

The costs for implementing the Environmental and Social Management Plan (ESMP) and the Contractor's ESMP (C-ESMP) are included in the Bill of Quantities as a Provisional Sum (Bill No. 8). Payment of this Provisional Sum shall be made against the Contractor's actual, verifiable costs incurred and resources deployed for ESMP implementation, as measured against the approved C-ESMP and certified by the Engineer. No separate payment will be made for ES requirements outside of Bill No. 8 or the relevant BoQ items for specific mitigation (e.g., dust suppression, PPE).

PART - C
TECHNICAL PROVISIONS

Technical Specifications

Technical Specifications Vol-3 issued by P&D Department Govt of Balochistan 2018 shall be used as "Technical Specifications" for this Contract, apart from the above mentioned general specifications in part A of this document.

Technical Specifications Vol-3 (issued by P&D Department, Govt of Balochistan, 2018) applies to this Contract. A copy of this document is attached as an annex to these Bidding Documents (see Annex A). The Bidder is required to review these specifications prior to submitting a Bid.