

**REQUEST FOR EXPRESSIONS OF INTEREST (REOI)  
(CONSULTING SERVICES FOR SUPERVISION OF CIVIL WORKS)**

**Country:** PAKISTAN  
**Name of Project:** Modernization of Hydromet Services of PMD in Pakistan/  
Strengthening of Hydromet and Climate Services  
**Loan No.:** IDA-73330  
**Implementation Agency:** Pakistan Meteorological Department (PMD)  
**Assignment Title:** Consulting Services for Supervision of works under  
Institutional Strengthening and Capacity Building Component  
**Reference No.:** PK-PMD-417964-CS-CQS

1. The Government of Pakistan has received financing from the World Bank toward the cost of the project '**Modernization of Hydromet Services of PMD in Pakistan under Integrated Flood Resilience and Adaptation Project**' and intends to apply part of the proceeds for consulting services.
2. In view of the emerging issues related to climate change, the situation direly requires that PMD should strengthen its existing conventional EWS (Early Warning System) by modernizing, digitizing and upgrading its existing hydro-met observatories network to meet the demand of the time and to mobilize the function and responsibility as a national meteorological organization in Pakistan to support development of social-economy of the country. The project will be financed through credit available to the Government of Pakistan from the World Bank worth US\$ 50.00 million.
3. The purpose of the project is to strengthen the delivery of reliable and timely climate change and hydrometeorological services und enhance community resilience to shocks, including socio-economic disruptions caused to communities by climate risks, health, emergencies, food security and natural disasters. The meteorological and hydrological services enable the pub1ic and economic sectors to make appropriate decisions when faced with weather, climate, and hydrological hazards.
4. Considering above, PMD now invites eligible consulting firms/Joint ventures ("Consultants") with specific and proven competence and experience to indicate their interest in providing the services. Eligible firm(s) should submit Expression of Interest (EOI) in English Language along with relevant complete details of the qualifications and experience requested.
5. Interested consulting firms / joint ventures must provide information indicating that they are qualified to perform above services (e.g. brochures, incorporation/registration of firms with the respective legal bodies, registration with taxation department, details of general experience, description of similar assignments, values of previous assignments along with contact detail of past clients for each assignment, experience under similar conditions, Management capacity, availability of appropriate professionals etc.)

6. The short-listing criteria is as under:

Criteria	Marks									
<p><b>General Experience</b> for offering consultancy services by National management consultancy from or an international management consultancy from incorporated for at least five (05) years.</p> <p><b>Sub-Criteria:</b></p> <ul style="list-style-type: none"> <li>- National management consultancy firm or an international management consultancy firm incorporated for offering consultancy services in similar nature project for five (05) years or more (10 marks).</li> <li>- Proportionate / pro rate score will be given to the competing firm for manifesting general experience of offering consultancy services of similar nature (10 Marks).</li> </ul>	20									
<p><b>Specific Experience</b> (the consultant should have completed at least two (02) No. specific projects of the same scale and / or complexity and in comparable organizations.</p> <p><b>Sub-Criteria:</b></p> <p>02 No. relevant projects will be evaluated and irrelevant projects will not be evaluated. Maximum number will be given to the firm having 02 projects of same scale and complexity.</p> <p>Each of two projects will be evaluated for following:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">a. Relevance of projects</td> <td style="width: 20%; text-align: right;">50%</td> <td style="width: 20%; text-align: right;"><b>(20 Marks)</b></td> </tr> <tr> <td>b. Service cost (US\$ 150,000)</td> <td style="text-align: right;">25%</td> <td style="text-align: right;"><b>(10 Marks)</b></td> </tr> <tr> <td>c. Duration of Assignment (12 months)</td> <td style="text-align: right;">25%</td> <td style="text-align: right;"><b>(10 Marks)</b></td> </tr> </table> <p>For Relevance of Projects: Excellent (90%-100%). Very Good (80%-89%). Good (70%-79%) and Average (65%-69%)</p> <p>Proportionate / pro rate score will be given sub-criteria b (Service Cost) and c (Duration of Assignment).</p>	a. Relevance of projects	50%	<b>(20 Marks)</b>	b. Service cost (US\$ 150,000)	25%	<b>(10 Marks)</b>	c. Duration of Assignment (12 months)	25%	<b>(10 Marks)</b>	40
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b. Service cost (US\$ 150,000)	25%	<b>(10 Marks)</b>								
c. Duration of Assignment (12 months)	25%	<b>(10 Marks)</b>								
<p><b>Management Capacity</b> (Volume of consultant's services in terms of total number of staff months, as their specific input should be sufficient to indicate that the firm would be able to handle the requirements of this assignment and will also ensure availability of appropriate professionals.)</p>	40									
<b>Total</b>	<b>100</b>									

- Consultants scoring 70 marks will be shortlisted for further processing.
- Duration: The duration of said Consultancy Services has been estimated to be seven (7) months.

7. The Consultants while submitting their Expression of Interest in association should clearly mention whether their association is a Joint Venture or Sub-Consultancy. Moreover, under JV, each partner has to be qualified to take over the responsibilities and roles of any of the partners in case one of them fails to perform or withdraws.

8. A consulting firms / joint venture will be selected in accordance with the procedures set out in the World Bank's guidelines, Selection and Employment of Consultants by the World Bank Borrowers. The selection of the Consultants will be made following "**Consultant Qualification Based Selection (CQS) method**". The attention of interested Consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations for IPF Borrowers" July 2016 ("Procurement Regulations"), setting forth the World Bank's policy on conflict of interest.

9. Further information can be obtained at the address given below during office hours from 0900 to 1700 hours.

10. Detailed Terms of Reference (ToRs) for the Consultancy can be downloaded from the website of Pakistan Meteorological Department (PMD) <https://tender.pmd.gov.pk/>

11. Expression of Interest (EOI) must be delivered in a written form to the address below (in person or by mail or by email) by **12<sup>th</sup> of November, 2024** up to 1400 hours (2:00 PM) Pakistan Local Time.

**Name:** Ijaz ul Hassan Kashif

**Position:** Deputy Project Director

**Address:** Project Implementation Unit - Pakistan Meteorological Department (PIU-PMD), Met. Headquarters, Pitras Bukhari Road H-8/2 Islamabad

**Telephone:** 051-9250594

**E-mail address:** [ijazkashif@msn.com](mailto:ijazkashif@msn.com)

**Web address:** <https://tender.pmd.gov.pk/>

**TERMS OF REFERENCE (TORs)**  
**(CONSULTING SERVICES FOR SUPERVISION OF CIVIL WORKS)**

**A. BACKGROUND**

1. The Government of Pakistan has received financing from the World Bank towards the cost of the project 'Modernization of Hydromet Services of PMD in Pakistan under Integrated Flood Resilience and Adaptation Project' and intends to apply part of the proceeds for consulting services.

2. In view of the emerging issues related to climate change, the situation direly requires that PMD should strengthen its existing conventional EWS (Early Warning System) by modernizing, digitizing and up-grading its existing hydro-met observatories network to meet the demand of the time and to mobilize the function and responsibility as a national meteorological organization in Pakistan to support development of social-economy of the country. The project will be financed through credit available to the Government of Pakistan from the World Bank worth US\$ 50.00 million.

3. The purpose of the project is to strengthen the delivery of reliable and timely climate change and hydro-meteorological services und enhance community resilience to shocks, including socio-economic disruptions caused to communities by climate risks, health, emergencies, food security and natural disasters. The meteorological and hydrological services enable the public and economic sectors to make appropriate decisions when faced with weather, climate, and hydrological hazards.

4. A dedicated Project Implementation Unit (PIU) has been established at the Pakistan Metrological Department (PMD), which is responsible for project implementation including, but not limited to, reporting, monitoring and evaluation, social and environmental safeguards compliance, procurement, financial management, audit and disbursements as well coordination with FPMU under MoPD&SI and the World Bank. In this regard, the Department is looking to hire the services of Project Management and Implementation Consultants (PMIC) for tasks mentioned in the Component-A (Institutional Strengthening and Capacity Building).

**B. SCOPE OF CONSULTANCY SERVICES**

**B-I General Responsibilities:**

5. The principal purpose of acquiring the consultancy services is to ensure that the project is implemented/constructed with a high standard of workmanship and high quality of materials within the scheduled contract times and in conformity with the approved drawings and specifications, acceptable environmental standards and in accordance with the client's requirements and scope of work. The estimated duration of consultancy services is 14 months with stipulated Component closing date of 30-06-2025.

6. The consultants shall be required to provide the consultancy services under the control of Deputy Project Director, PIU, by providing technical guidance in the form of Engineer's Representative. "The Engineer's" role will rest with Project Management & Implementation Consultants (PMIC). The Consultants would be required to produce

designs for the new construction / rehabilitation / repair of various buildings at scattered places and help in procurement of IT & Mechanical equipment. They will also be responsible for resident supervision of civil/Electrical/IT/Mechanical works to ensure correct specification of materials and execution of works as per design. The consultants will be responsible for conducting weekly / biweekly meetings with the client to review the progress and to discuss any outstanding issues. In discharge of these duties the consultants will exercise care and diligence, accuracy and completeness, economy, and professional skill.

**B-II Scope of Work:**

7. The table below shows list of sub-projects involved in scope of work for which consulting services are required:

Sr. No.	Name of Sub-Projects	Location	Tentative Cost (Million PKR)	Detailed Scope
1	Up-Gradation of Met Institute (IMG)	Karachi	623.250	
2	Up-Gradation of Meteorological Workshop	Karachi	128.000	
3	Up-Gradation of Meteorological Observatories	Pakistan level	400.000	
4	Up-Gradation of Climate Data Processing Centers (CDPCs)	Pakistan level	164.000	
5	Up-Gradation of Regional Climate Data Processing Centers (RCDPCs)	Pakistan level		

8. The Consultants participating for the subjected services should note that estimates for above (05) sub-projects have already been prepared by Pak PWD respective offices. Data with respect to project scope, geophysical spread and cost estimates, design and environment & social conditions of the already existing sub-projects is available with the Client and the Consultants/firms are encouraged to acquire such data to help them better understand the project scope, conditions and accordingly propose their approach, methodology and expertise required by the Client.

**B-III Detailed Responsibilities for New Sub-projects:**

**Condition Survey and Design Phase (Lump-Sum)**

**a) Surveys and Investigations:**

Under this item of work, the consultant will be required to carry out followings activities and furnish reports for new sub-projects:

- i. Condition survey of all buildings and other infrastructure
- ii. Architectural data of existing buildings
- iii. Technical scrutiny of survey data
- iv. Detailed Geo-Technical Surveys and Soil Investigation

- The Consultant shall carry out sub soil investigations and laboratory analysis of the soil samples from approved laboratories to assess the ground conditions and its suitability for construction of flood embankments/flood infrastructure systems. Geo technical investigation of the site shall also be carried out to obtain information about engineering characteristics of sub soil and to establish appropriate design parameters for the proposed structures.
- Deliverables of geo-technical surveys and soil investigation will be as following:
  - ✓ Sub Soil investigations report:
  - ✓ Sub soil water table and water quality report:
  - ✓ Compilation of data relevant for design and other components of the project.

**b) Need Assessment of IT equipment/instruments:**

The Consultants shall carry out need assessment of IT equipment / Instruments required for upgradation of IMG, Workshop, CDPCs, RCDPCs and Met Observatories and proposed fit for purpose IT Equipment/Instruments acceptable to stakeholders.

**c) Need Assessment of Workshop Equipment:**

The Consultants shall carry out need assessment of Workshop equipment / Instruments required for upgradation of IMG, Workshop, CDPCs, RCDPCs and Met Observatories and proposed fit for purpose Equipment/Instruments acceptable to stakeholders.

**d) Environment and Social Safeguards Management**

Under this item of work, the consultant will be requiring performing the following functions:

- i. Carry out social and environmental due diligence and screening (initial environmental examination) of the sub subproject.
- ii. Prepare ESMP/ IEE / EIA / EMMP in accordance with the environment and social framework of the project and its Environment and Social Standards (ESSs).
- iii. Prepare environmental and social instruments as per requirements under ESF
- iv. Monitoring and evaluation of implementation of Environment and Social Management Plan.
- v. Prepare Environmental, Social and (Resettlement Plans if required) implementation monitoring reports for submission to the World Bank.
- vi. Assist PIU and field staff in the implementation of Environmental and Social Management Plan.

**e) Design Review/Development and Tender Documentation**

Under the items of work, the consultant will be required to perform the following functions:

- i. Review of architectural Design of existing Buildings & infrastructure and proposed improvements
- ii. Detailed Architectural Design of new Buildings
- iii. Detailed Structural Design / Design Review of the sub-projects
- iv. Detailed proposal for IT Equipment / Instruments identified under need assessment process

- v. Detailed proposal for Workshop Equipment / Instruments identified under need assessment process
- vi. Prepare detailed design and tender drawings for structural and other infrastructure
- vii. Prepare detailed cost estimates based on prevailing Market Rates System (MRS) duly supported with rate analysis for each item of work.
- viii. Prepare Tender Documents complete in all respects including:
  - Conditions of Contract
    - ✓ General Conditions of Contract (GCC)
    - ✓ Conditions of Particular Application (COPA) & specifications
    - ✓ Special Provisions
  - Drawings
  - B.O.Q.
  - Technical Specifications for materials & work
  - Work out list of machinery & equipment required for execution of civil works under each sub-project.

**Deliverables of Design Phase activities will be as follows:**

- i. 06 numbers of hard copies with soft copy of each design report/Document;
- ii. 06 numbers of hard copies with soft copy of each Detailed Engineer's;
- iii. Estimate;
- iv. Set of Tender drawings;
- v. Number of hard copies required (varies depending upon the participation of the bidders) along with soft copy of complete bidding documents (including conditions of contract, drawings, BOQ, Technical Specifications for material and works) duly stamped for issuance to the bidders;
- vi. Preparation of ESMP/ IEE / EIA / EMMP.

Tender Invitation and Award of Contract:

Under the item of work the Consultant will be required to perform the following functions:

- i. Assist client in pre-qualification (if applicable) of suitable contracting firms including preparation of pre-qualification (PQ) Documents
- ii. Assist client in issuing of tender to invite bids on the basis of National competitive bidding (NCB), conduct job explanation and pre-bid meetings with pre-qualified contractors
- iii. Bid evaluation and prepare recommendations for award of contract to the bidder as per Bank guidelines
- iv. Legal and contractual assistance for litigation.

**Deliverables of activities will be as below:**

- i. Develop the Pre-qualification/Bidding Documents and assist the client in evaluation of offers for pre-qualification/Bidding
- ii. Arrange Pre-bid meetings, issuance of addendums to the Tender Documents
- iii. Bid Evaluation Reports with recommendations

**Detailed Design and Construction Drawings**

Under this item the Consultant will be required to prepare and submit detailed design and construction drawings for all components of civil and mechanical works of the project. Such construction drawings / documents may inter-alia comprise:

- i. Review the existing design
- ii. Prepare Detailed design and drawings
- iii. Detailed design and drawings for infrastructure work
- iv. Prepare any amended/modified designs and drawings as may be necessary during execution of works at the site
- v. Review and recommend all designs, drawings sketches, proposed by the contractors, if any, under the terms of the Contract Agreement.
- vi. The consultants shall during the construction period maintain a record of changes/amendments to the Construction Drawings Also review "As-Built Drawings" prepared by the contractor to be included in the completion report of the project.
- vii. Prepare activity wise Work Break down Schedules (WBS) for Consultancy scope of work and each package of civil works in consultation with contractors and Client on Primavera Software and update modify them as and when required.

Deliverables of this item of work will comprise complete set of working drawings and details for above items.

#### **B-IV: Construction Supervision Phase (Time-Based):**

##### **Resident Supervision of Construction Works as Engineer's Representative**

Consultant's staff will carry out the following activities:

- i. The consultants shall be responsible to check all surveys and benchmarks established by the contractors at each site of work and ensure accuracy of surveys and benchmarks before start of work. ,
- ii. Check the quality of material brought by the contractors at the site of works to ensure that it corresponds to the required specifications/quality.
- iii. Supervise the works under execution by contractor with respect to quality and quantity as per specifications laid down in contracts and point out defects/deficiencies if any for their timely correction.
- iv. Review contractor's day to day progress of work, prepare and submit to the Project Director, the weekly progress reports (physical and financial), ensure implementation of site safety standards.
- v. Payments to the Consultants for Consultancy services shall be linked with deliverables including Design work, overall Physical progress and certification of works at site by the contractors. In case of delays in completion of Design work by the Consultants and implementation of works by the contractors as compared to the agreed schedules, the payments to the Consultants shall be withheld proportionately.
- vi. Monitoring and ensure the implementation of Environmental and social Management plan as provided in the contract and preparing regular reports.
- vii. Coordinate and assist in the implementation of Land use Plans and prepare monitoring reports.
- viii. Coordinate in addressing the grievances and complaints of the affected peoples and others.



- ix. Advise, manage and supervise, required tests and surveys including joint inspections with the client, of under construction works and maintain systematic record of these activities/tests.
- x. The Consultants shall prepare Quality Assurance Plan including a detailed description of the Contractor's organization, procedures and facilities proposed to ensure that the construction is carried out in accordance with the Contract, Specifications and Drawings.
- xi. The Consultant will assist the client to administer the contractors' contracts, in order to make engineering decisions and watch that all clauses of the Contract Agreement between the client and the contractor are respected.
- xii. The Consultants will prepare a "Construction Management Manual" in first two months of the construction phase outlining routines & standard operating procedures to be applied on Contract Management, Construction Management and Administration.
- xiii. The Consultant will evaluate and finalize contractor's work programs, method statements, material sources, working / shop drawings, setting out of works, etc. and recommend approval thereof from client.
- xiv. The Consultants will regularly evaluate the contractor's resource requirements regarding construction machinery, manpower, materials, office/site staff establishment and laboratory facilities to ensure their compliance with respect to the approved construction schedule.
- xv. The Consultants shall provide general guidance, furnish timely assistance to the contractor in all matters relating to the execution of works and facilitate the contractor by providing necessary details of minor design changes as and when required during construction of the project.
- xvi. The Certificates & certify the quantities of work done for progressive payments based on approved / tendered rates and final payment to the contractor.
- xvii. Prepare Variation Orders, if necessitated, under the provisions of Construction Contracts and submit to the Project Director.
- xviii. Assist the client in processing the claims of the contractors, if any, as per procedures laid down in the Contract Documents.
- xix. Update cost of contract work on quarterly basis.
- xx. The Consultant will, with the approval of client, give notice to the contractor of any defects and deficiencies, and if required, other suspension of the work(s), and ensure removal and substitution of the improper works, and recommends any additional appropriate actions against the contractor to client.
- xxi. The Consultant will assist client in settling disputes (if any) with the contractor and make recommendations to client for resolving the contractor's claims regarding time extensions and additional cost.
- xxii. The Consultant will set up a computerized project control system for monitoring the progress of implementation for each package of civil works as per planned schedules on Primavera Software and update/modify these as and when required.
- xxiii. The Consultant will provide the client with complete records, reports and review "As built" drawings & plans prepared by the contractor and provide a final completion report testifying to the satisfactory completion of the works including the measurement of final quantities and certification final payment due to the contractor.

- xxiv. Inspect the completed works periodically during the defect liability period, prepare list of deficiencies (if any), design and plan remedial works and carry out their supervision and recommend to issue the defect liability certificates after the rectification of defects by the contractor.
- xxv. The Consultant shall assist the client for taking any of the following actions pursuant to the construction contract.
  - Consenting Sub-contracting of any part of the works
  - Determining / certifying additional cost
  - Suspension of works
  - Determining an extension of time claim
  - Issuing a substantial completion certificate
  - Issuing a variation order
  - Revision / fixing rates or prices.

### **C. PROJECT PERFORMANCE MONITORING**

The Consultant shall:

- i. Establish a baseline reporting format including Earned Value Management System for progress measurement and forecasting of the project in consultation with the client for monitoring the project performance, including its safeguards performance.
- ii. Prepare baseline schedule and provide bi-weekly update to the client for schedule control.
- iii. Establish systems for recording data and statistics for such monitoring
- iv. Co-ordinate with the contractor in preparing a comprehensive document which clearly and accurately describes the total verified work done and payment due to the contractor, in order to process interim certificates for payment to the contractor on the basis of measured / verified work items and certify the completion of the works or parts thereof.
- v. Make presentations on digitized / multimedia systems and progress reports on computer-based techniques to be displayed in meetings & conferences.
- vi. Prepare the following reports and distribute the client each in ten copies along with soft records.

### **D. REPORTING REQUIREMENTS:**

- i. Inception Report: The consultants shall submit an Inception Report to client within 02 weeks of commencement of the respective services. The Report will include the consultants detailed work program, baseline schedule, baseline cash flow chart, procurement plan, key experts deployment plan etc.
- ii. Bi-Weekly Update: Bi-Weekly update of schedule for design / survey phase and execution phase
- iii. Monthly Report: Monthly reports are to include works accomplished, status of payment made, claims for cost or time extensions, changes in scope, variation orders, updated progress schedule for design and execution phase against the dateline schedule on Primavera (P6) along with XER (soft copy) , graphical representation of progress against approved program, charts of physical progress for major items, progress on the basis of earned value management system, progress performance indexes (CPI, SPI), and schedule and cost wise forecast on the basis of these indexes, relevant photographs, detail of impediments to the works, actions required by client and give recommendations on how these

problems may be overcome. At the initial instance, draft contents of such report are prepared and got approved from the client.

- iv. Quarterly Reports: The consultant will prepare a comprehensive report summarizing all activities under the services at the end of each quarter or when considered warranted by either party. Such reports shall summarize not only the activities of the "Engineer in charge" but also the progress of the contract including all variations and change orders, the status and brief description of the contractor's claims (if any), technical & contractual problems being encountered and other relevant information. At the initial instance, draft contents of such report are prepared and got approved from the client.
- v. Technical Reports: The Consultant will produce technical reports and position papers, as necessary, dealing with technical matters arising during the life cycle of the project.
- vi. Final Completion Report: The Consultant will prepare a comprehensive Final Completion Report (PCR) once the project reaches the stage of substantial completion. The report must be submitted immediately (10 Nos. copies along with soft copy) after the "taking over" of the completed works and shall include the key information, but not limited to the following:
  - Summarize the method of construction
  - "As-built" record showing the location & details of all works carried out
  - The construction management performed.
  - Recommendations for future projects of similar nature to be undertaken by the client
  - project Archives;
  - Lessons learned;
  - Inventory of Works: The consultants will provide the Client a complete inventory of works / structures completed / T&P used in the projectg

#### **E. FACILITIES FROM THE CLIENT**

- i. The Client through the Project Director will facilitate the Consultants to obtain all reports, maps, data, or any other information, available with PMD which are needed by the Consultants to carry out the Tasks. The client will also provide the Consultants with all permissions, approvals or other things needed by the Consultants to obtain (if available) maps, aerial photographs, remote sensing data and images, or to import into Pakistan equipment and supplies needed to enable the consultants to carry out the Tasks. The client will assist the Consultants and each of its personnel with work permits and such other documents as shall be necessary to enable them to perform their services; and also assist in issuance of entry and exit visas, residence permits, and other necessary documents for the expatriate employees of the Consultants and their eligible dependents, required for their stay in Pakistan. Any duties, fees or other port charges on staff or equipment shall not be reimbursable by client (PMD). Facility to stay in Rest Houses will be provided to the Consultants as per availability on payment of the prescribed charges.
- ii. PMD will provide soft copies of all the available documents / data for left-over works along with RFP to ensure availability of all the information available with PIU to all participating consulting firms for providing them level playing field. Details of left-over works is given at BII Scope of Work. Documents to be provided are given below:
  - Engineer's Estimates if prepared;

- ESMPs if already approved.

### **Offices, Equipment and Supplies**

Equipment, vehicles, computers, instruments and furniture etc required by the Consultants under the Consultancy Services will be arranged by PMIC as per World Bank guidelines with prior approval of the employer out of the consultancy cost and on completion of the project, all these equipment and vehicles shall be returned to the PIU/PMD.

### **F. MONITORING OF CONSULTANTS PERFORMANCE BY WORLD BANK**

- i. The client is responsible for supervising the consultant's performance and ensuring that the consultant carries out the assignment in accordance with the contract, however, the World Bank may also monitor the Consultant's performance as necessary to satisfy itself that it is being carried out in accordance with the appropriate standards and is based on acceptable data. As appropriate, the World Bank may take part in discussions between the client and the consultants.
- ii. In the case of a difference of opinion between the client and the consultant on any important matters involving professional judgment that might affect the proper evaluation or execution of the project, the client shall allow the consultant to submit promptly to the client a written report and, simultaneously, to submit a copy to World Bank. The client shall forward the report to World Bank with its comments in time to allow World Bank to study it and communicate with the client before any irreversible steps are taken in the matter. In case of urgency, a Consultant shall have the right to request the client and/or World Bank that the matter be discussed immediately between the client and World Bank.

## **G. TEAM COMPOSITION AND QUALIFICATION REQUIREMENTS FOR KEY EXPERTS**

The Consultant will maintain one (01) main office at Karachi for their team members with temporary arrangements for site staff in Lahore, Peshawar and Quetta.

### **Indicative Staffing Requirements for Design Consultants**

Following matrix represents the client's reflection on the consultant's team composition and indicative estimation of person-months for its team staffing for design review, improvement in design, procurement documents, tender and construction drawings and construction supervision. The prospective consultants should, however, propose their own breakdown of staffing and level of effort / staff work based on their own experience and evaluation of the proposed services. The consultants should propose a realistic deployment schedule for all positions depending on the work requirements as all positions listed below would have inputs for different durations. Indicative inputs are 26 person-months of key experts (national input) and 85 person-months of non-key experts as shown in the table below.

Person-months of the Key experts and the composition of the Non key experts and their person-months and assignment schedule will be evaluated as part of work plan and methodology of the services and consultants' ability to provide all required professionals. The assignment further envisages an additional pool of 10 unallocated person months of experts under "Non-Key" to support the implementation of assignment components as and when required. The estimated duration of the consulting services is fifteen (15) months. The consultants shall follow and deploy the professionals as per the implementation schedule given.

<b>Sr #</b>	<b>Position</b>	<b>Qualification</b>	<b>Job Specific Experience (Years)</b>	<b>Indicative Input (Months)</b>
<b>KEY EXPERTS (NATIONAL)</b>				
1	Project Manager / Chief Resident Engineer	Master's degree in Civil Engineering / Construction Management / Project Management	20 years or more experience in planning, design, construction supervision, implementation and management for mix use infrastructures; and team leadership of preferably two Multilateral Development Banks financed projects. The Project manager / CRE must have demonstrated ability to lead teams composed of national consultants and create a strong working relationship with the EA/IA.	10 m within 15 m
2	Senior Architect	Bachelor's degree in Architect	10 years or more experience in design of Mix use buildings and other civil works; including experience working with international consultants preferably in donor funded projects including at least one World Bank financed	2 m within 15 m

Sr #	Position	Qualification	Job Specific Experience (Years)	Indicative Input (Months)
			project. He /she will have demonstrated ability to work in a multidisciplinary team.	
3	Senior Design Engineer (Structures)	Bachelor's degree in Civil Engineering and preferably Master's degree in Structural Engineering.	10 years or more experience in design of civil works ; cost estimation, preparation of BOQs, including experience working with international consultants preferably in donor funded projects including at least one World Bank financed project. He /she will have demonstrated ability to work in a multidisciplinary team.	2 m within 15 m
4	Procurement / Contract Management Specialist	Bachelor's degree in Civil Engineering and preferably Master's degree in Construction Management / Engineering Management / Civil Engineering / Contract Management or Procurement.	10 years or more experience in procurement of goods and civil works, preparation of tender and contract documents, evaluation of bids, and contracts managements of projects, selection of contractors and contracts administration / construction law related to infrastructure projects including at least one World Bank financed project. The specialist should have demonstrated experience with developing and managing FIDIC contracts for mega projects and procurement experience under World Bank guidelines using national and international competitive bidding with proven credentials in contract administration and dispute resolution.	4 m within 15 m
	Environment Specialist	Master's degree in environmental sciences or environmental engineering	10 years or more professional experience in conducting environmental screening and assessment of major infrastructure projects. He /she will have experience of working on World Bank financed projects as an environmental safeguards specialist and will be fully familiar with the relevant national and provincial legislation and World Bank's environmental safeguards policies, and demonstrated ability to work in	5

Sr #	Position	Qualification	Job Specific Experience (Years)	Indicative Input (Months)
			a multidisciplinary team.	
6	Social Safeguar Specialist	Master's degree Social sciences or environmental engineering	10 years or more professional experience in conducting environmental and social screening and assessment of major infrastructure projects. He /she will have experience of working on World Bank financed projects as an environmental safeguards specialist and will be fully familiar with the relevant national and provincial legislation and World Bank's environmental safeguards policies, and demonstrated ability to work in a multidisciplinary team.	5 m within 15 m
6	Senior Mechanical Engineer	Bachelor's degree in Mechanical Engineering and preferably Master's degree in Manufacturing Engineering.	10 years or more experience in development of workshops equipment's; cost estimation, preparation of BOQs, including experience working with international consultants preferably in donor funded projects including at least one World Bank financed project. He /she will have demonstrated ability to work in a multidisciplinary team.	2 m within 15 m
7	Senior IT / Instrumentation Expert	Bachelor's degree in IT Hardware /Instrumentation Engineering / Electrical Engineering and preferably Master's degree in relevant field.	10 years or more experience in design/selection/installation of IT equipment; cost estimation, preparation of BOQs, including experience working with international consultants preferably in donor funded projects including at least one World Bank financed project. He /she will have demonstrated ability to work in a multidisciplinary team.	4 m within 15 m
<b>NON-KEY EXPERTS (NATIONAL)</b>				
1	Planning & Scheduling Engineer	Bachelor's degree in Civil Engineering	7 years or more experience in planning, scheduling, monitoring and controlling projects. He / she will have working experience with international consultants preferably in donor funded projects including at least one World Bank	3 m within 15 m

Sr #	Position	Qualification	Job Specific Experience (Years)	Indicative Input (Months)
			financed project. He/she will have demonstrated ability to work in a multidisciplinary team	
2	Assistant Resident Engineer Buildings	Bachelors' degree in Civil Engineering and preferably Master's degree in Construction Management / Civil Engineering	7 years or more experience in design and construction supervision of Building and other infrastructure works. He / she will have working experience with international consultants preferably in donor funded projects, including at least one World Bank financed project and should not be more than 60 years of age. He /she will have demonstrated ability to work in a multidisciplinary team.	4 x 6 m within 15 m
3	Junior Engineer Quality Control	Bachelor's degree in Civil Engineering	Preferably 2 years of experience in quality control of construction works preferably building and other infrastructure.	4 x 6 m within 15 m
4	Junior Engineer/Inspector Measurement	Qualified Engineer with Bachelor's degree in Civil Engineering	Preferably 2 years of experience or Diploma in Associate Engineering in Civil with 12 years of experience in site supervision of construction works preferably building and other infrastructure.	4 x 6 m within 15 m

### **Job Description for Key Experts:**

#### **1. PROJECT MANAGER / CHIEF RESIDENT ENGINEER:**

The responsibilities of the Project Manager/ CRE will include but not limited to the following:

- i. overall responsibility of consultant's performance and as authorize representative of the firm under the contract to the Client;
- ii. Act as Project Manager in Project Management and Implementation;
- iii. ensure the availability of requisite human resource to undertake design review, construction supervision and contract administration of the subprojects;
- iv. responsible for overall quality of the consulting services and advise the Client wherever necessary;
- v. supervise preparation of all necessary reports under the contract and assist the Client in fulfillment of all reporting obligations under the loan agreement;
- vi. prepare Project Completion Reports;
- vii. act as representative from Consultant's side for any disputes between the Client and the Consultant during the currency of the contract;
- viii. works as "the Engineer" for management of project contracts and carries out all duties and responsibilities assigned under the contract;
- ix. ensure that the Consulting team undertakes comprehensive detailed design and specifications;



- x. review & determine Contractor Claims;
- xi. keep the Employer informed of technical issues and progress of all works both by informal and formal meetings and correspondence and assist in any project issue which the Employer may require;
- xii. provide overall responsibility for technical support during implementation, including preparation and implementation of work plans;
- xiii. assists the Employer in any project issue whenever required;
- xiv. participates in Dispute Review Board (DRB) meetings to explain and discuss issues raised by the Contractor / Employer / DRB;
- xv. assists the Employer in preparing the response to Audit Objections and queries of the financiers or other Government Authorities;
- xvi. assists the Employer in preparing response to financiers or other authority'' queries, observations, requirements etc;
- xvii. coordinates with all concerned / involved / related organizations for project issues;
- xviii. monitor progress against project implementation schedule and coordinate preparation and submission of periodic progress reports and technical reports;
- xix. works closely with Project Implementation Unit and advise the Project Director;
- xx. maintain good coordination among World Bank, PIU and others stakeholders and assure links with key institutions;
- xxi. provide guidance to Team to ensure that the quality of works meet a required standard;
- xxii. monitor the Civil/Electrical/Mechanical/IT Works of Contractors;
- xxiii. assist PIU in procurement and contracts management;
- xxiv. monitor financial performance of the Project; and
- xxv. monitor the environment, health and safety, quality assurance & control, resettlement and social safeguards aspects. Ensure implementation of environment and social safeguards requirements to bring minimum delays to the project work.

## **2. SENIOR ARCHITECT:**

The Architect will assist the Project Manager in his concerned field and his responsibilities will be but not limited to the following:

- i. prepare and review all relevant design reports and documents;
- ii. assists the Project Manager and PIU in preparing, reviewing & giving approval of all proposals and design options submitted by the Contractors for temporary works as well as permanent works if needed;
- iii. responsible for design review regarding any query from site or any other position, preparation and issuance of construction drawing reviews;
- iv. responsible for checking of shop drawings prepared by the Contractor;
- v. responsible for checking of as-built drawings prepared by the Contractor and any
- vi. other duty assigned by the Project Manager and Client;
- vii. prepare, review and update of Architectural design options and calculation for works;
- viii. detailed design of structures for all sub-projects including preparation of relevant additional construction drawings and specifications which may be required; and
- ix. prepare report and work for any other job assigned by the Consultant and Client related to sub-projects under scope.

## **3. SENIOR DESIGN ENGINEER (STRUCTURES)**

The Structural Design Engineer will assist the Project Manager in his concerned field and his responsibilities will be but not limited to the following:

- i. prepare and review all relevant design reports and documents;
- ii. assists the Project Manager and PIU in preparing, reviewing & giving approval of all proposals and design options submitted by the Contractors for temporary works as well as permanent works if needed;
- iii. responsible for design review regarding any query from site or any other position, preparation and issuance of construction drawing reviews;
- iv. responsible for checking of shop drawings prepared by the Contractor;
- v. responsible for checking of as-built drawings prepared by the Contractor and any
- vi. other duty assigned by the Project Manager and Client;
- vii. prepare, review and update of structural design options and calculation for works;
- viii. organize and supervise topographic surveys or any other investigations required to provide necessary input for design;
- ix. detailed structural design of structures for all sub-projects including preparation of relevant additional construction drawings and specifications which may be required; and
- x. prepare report and work for any other job assigned by the Consultant and Client related to sub-projects under scope.

#### **4. PROCUREMENT / CONTRACT MANAGEMENT SPECIALIST:**

The responsibilities of the Procurement / Contract Specialist will include but not limited to the following:

- i. prepare and develop the prequalification criteria, notices of pre-qualification & prequalification documents and conduct the prequalification of national / international contractors in accordance WB guidelines;
- ii. prepare and assist in preparing bidding documents in a format agreeable to both IAs and WB;
- iii. Advise on the conducting of required pre-bid consultations;
- iv. prepare and assist in the evaluation of bids / proposal, prepare bid evaluation reports and recommendation for contract award;
- v. renders necessary advice and help to the Project Manager and PIU in Contract administration and procurement issues / assignments;
- vi. prepare and assist in negotiations and finalizing contract agreements for civil works, goods and services;
- vii. assists the Project Manager in keeping the Employer informed of contractual issues both by direct contacts and through discussions or correspondence;
- viii. assists the Project Manager and PIU in reviewing and determining Contractors claims;
- ix. provide overall assistance in contract administration of all the civil works prepare and assist PIU in preparation and review of contract documents;
- x. develop, and organize contract management capacity building and training covering FIDIC, and World Bank procurement guidelines and procedures for the project implementation staff of the EA and PIU;
- xi. advise Team Leader and PIU on the progress reporting, quality control and inspection systems to be followed during execution of civil work contracts;
- xii. advise and take timely contractual actions related to cost, time, quality controls & completion of contracts, referral to the adjudication and arbitration in case of dispute;

- xiii. responsible for early warning of key contractual actions, schedule and document contract management meetings and evaluating / resolving contractor' claims;
- xiv. manage the contractual correspondence related to the contracts and prepare appropriate draft responses for Consultant and PIU on their behalf;
- xv. assists the Project Manager in keeping the Client informed of contractual issues both by direct contacts and through discussions or correspondence; and
- xvi. prepare report and work for any other job assigned by the Consultant and Client related to procurement and contract management of sub-projects.

## **5. ENVIRONMENTAL SAFEGUARD SPECIALIST**

Tasks include:

- i. Prepare ESMP/EMP/EMMP and revise or update if required;
- ii. Ensure compliance with World Bank's 'environmental safeguards and continuing improvement of the project' environmental safeguards performance;
- iii. Implementation of ESMP/EMP/EMMP and prepare monitoring reports for submission to the World Bank;
- iv. Carry out screening of subprojects by using the Environmental Assessment and Review Procedures (EARF) as described in the Environment and Social Management Framework (ESMF) of the Project;
- v. Coordinate concurrence of the IEEs /EIAs from relevant Government agencies and ensure public disclosure;
- vi. Assist the Chief Resident Engineer and Project Manager in all socio-environmental issues and any other relevant matter referred by Project Manager, Chief Resident Engineer or Employer;
- vii. Provide training for PIU staff involved in the project implementation to strengthen their capacity to manage and monitor environmental safeguard; and
- viii. Prepare report and work for any other job assigned by the Consultant and Client related to environmental aspects of sub-projects.

## **6. SOCIAL SAFEGUARD SPECIALIST**

Tasks include:

- i. Prepare ESMP/EMP/EMMP and revise or update if required;
- ii. Ensure compliance with World Bank's 'environmental safeguards and continuing improvement of the project' environmental safeguards performance;
- iii. Implementation of ESMP/EMP/EMMP and prepare monitoring reports for submission to the World Bank;
- iv. Carry out screening of subprojects by using the Environmental Assessment and Review Procedures (EARF) as described in the Environment and Social Management Framework (ESMF) of the Project;
- v. Coordinate concurrence of the social aspects like Grievance Redressal Mechanism (GRM) from relevant stakeholders and ensure public disclosure;
- vi. Assist the Chief Resident Engineer and Project Manager in all socio-environmental issues and any other relevant matter referred by Project Manager, Chief Resident Engineer or Employer;
- vii. Provide training for PIU staff involved in the project implementation to strengthen their capacity to manage and monitor social safeguard; and
- viii. Prepare report and work for any other job assigned by the Consultant and Client related to social aspects of sub-projects.

## **7. SENIOR MECHANICAL ENGINEER**

The Mechanical Engineer will assist the Project Manager in his concerned field and his responsibilities will be but not limited to the following:

- i. prepare and review all relevant design reports and documents;
- ii. assists the Project Manager and PIU in preparing, reviewing & giving approval of all proposals and design options submitted by the Contractors for workshop equipment and its erection/installation, if needed;
- iii. responsible for design review regarding any query from site or any other position, preparation and issuance of construction drawing reviews;
- iv. responsible for checking of shop drawings prepared by the Contractor;
- v. responsible for checking of as-built drawings prepared by the Contractor and any
- vi. other duty assigned by the Project Manager and Client;
- vii. prepare, review and update of Mechanical design options and calculation for works,
- viii. organize and supervise development of foundry shop/platforms etc.;
- ix. prepare report and work for any other job assigned by the Consultant and Client related to sub-projects under scope.

## **8. SENIOR IT EXPERT/INSTRUMENTATION ENGINEER/ELECTRICAL ENGINEER**

The expert will assist the Project Manager in his concerned field and his responsibilities will be but not limited to the following:

- i. Based on the need assessment Draft technical specifications of IT Equipment;
- ii. prepare and review all relevant design reports and documents;
- iii. assists the Project Manager and PIU in preparing, reviewing & giving approval of all proposals and design options submitted by the Contractors;
- iv. Responsible for design review regarding any query from site or any other position, preparation and issuance of construction drawing reviews;
- v. Responsible for checking of shop drawings prepared by the Contractor;
- vi. Responsible for checking of as-built drawings prepared by the Contractor and any other duty assigned by the Project Manager and Client;
- vii. Prepare, review and update of design options; and
- viii. Prepare report and work for any other job assigned by the Consultant and Client related to sub-projects under scope.

### **Job Description for Non-Key Experts:**

#### **1. ASSISTANT RESIDENT ENGINEER(S)**

The responsibilities of Assistant Resident Engineer(s) will be but not limited to the following:

- i. construction supervision of sub-projects, review and approve contractor's bill;
- ii. responsible for quality, cost, scope, time, safety, and environmental control of the sub-projects;
- iii. prepare proper check lists and field as well as lab tests for construction activities and maintain field record at site, ensure construction progress adheres to the schedules;
- iv. take measures to minimize contract variations;
- v. assess and report for adequacy of contractor's input in terms of materials, equipment, construction machinery, workers, and construction approach and methodologies;

- vi. monitor and report physical and financial progress against the milestones, for timely completion of sub-projects;
- vii. report progress, disputes and all the other matters to consultant and Client;
- viii. review and assist in approval of contractor's work program, method statements, material source, preparing and issuing reports as defined subsequently, approve and/or issue work drawings and instructions to contractor;
- ix. take necessary steps to permit the contractors to carry out construction work effectively and efficiently and to the highest standards of quality; oversee quality control methodology put in place, confirming its adequacy and ensuring that its employment is satisfactorily carried out;
- x. check & review measurements for completed works, certify work volume, and verify bills for payments, maintain consolidated project accounts and prepare financial statements and ensure minimum disruption/damage to the environment by approving contractor's work statement/methodology;
- xi. at the end. of the construction activities, guide and ensure that the team prepares a comprehensive construction completion report, inclusive of As-built drawings as appropriate;
- xii. monitor the impact of construction works on the environment and local settlements. Provide information to Consultant and Client regarding these issues in monthly progress reports; and
- xiii. prepare report and work for any other job assigned by the Consultant and Client related to structural aspects of sub-projects.

## **2. PLANNING AND SCHEDULING ENGINEER**

The responsibilities of the Planning and Scheduling Engineer will include but not limited to the following:

- i. take the overall responsibility for project planning, scheduling, reporting and project costing including preparation of Engineer's Estimate;
- ii. prepare baseline for Consultant's Procurement Plan as well as Overall Procurement Plan for sub-projects;
- iii. Monitor, update and report it to Consultant & Client and revise it if needed;
- iv. analysis and approval of tender schedule, baseline schedule, revised baseline schedule and recovery schedule submitted by the contractor prepared on Primavera Enterprise (P6) Software for Engineering and Construction;
- v. assist and recommend the Project Manager and PIU in determining the extension of time for completion of sub-projects from analysis of Consultant's Procurement Plan, Overall Procurement Plan and Contractor's Work Schedule;
- vi. monitor and report that the Contractor adheres to the Contractual requirements of Construction Schedule mentioned in the Special Provisions;
- vii. prepare and monitor various activities shown on the baseline schedules;
- viii. furnish progress schedules and Earned Value Reports to the Project Manager and Client or any other concerned report / document as and when desired by the Consultant, Client and WB; and
- ix. prepare report and work for any other job assigned by the Consultant and Client related to planning & scheduling of sub-projects.

## **3. JUNIOR ENGINEER QUALITY CONTROL**

Job Description of Junior Engineer(s) includes but not limited to the following:

- i. reporting to the Assistant Resident Engineer(s);
- ii. Prepare / Review quality control document;

- iii. prepare proper check lists and field as well as lab tests for construction activities and maintain field record at site;
- iv. supervise and monitor quality of construction of works;
- v. certify contractors' bills;
- vi. report weekly and monthly construction progress and issues report to the Resident Engineer(s);
- vii. ensure quality of construction as per design specifications; and
- viii. prepare report and work for any other job assigned by the Consultant and Client related to construction & supervision of sub-projects.

#### **4. JUNIOR ENGINEER(S) / SENIOR INSPECTOR(S)**

Job Description of Junior Engineer(s) includes but not limited to the following:

- i. reporting to the Assistant Resident Engineer(s);
- ii. supervise and monitor the construction of works, prepare measurements for works completed and in progress;
- iii. certify contractors' bills;
- iv. check the construction schedule submitted by contractor, and assist contractor's site manager to make detailed construction plan;
- v. report weekly and monthly construction progress and issues report to the Resident Engineer(s);
- vi. report field variations to the Resident Engineer(s) and regularly monitor physical and financial progress against the milestones, according to the contracts to ensure the completion of the sub-projects on time;
- vii. examine contractor's claims for time extension, variations, and additional compensation, etc., and recommend appropriate decisions to the Resident Engineer(s);
- viii. ensure quality of construction as per design specifications; and
- ix. prepare report and work for any other job assigned by the Consultant and Client related to construction & supervision of sub-projects.