

# TERMS OF REFERENCE

## MANAGER TECHNICAL & ENGINEERING

### KARACHI WATER & SEWERAGE SERVICES IMPROVEMENT PROJECT

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#### **1. Introduction**

Karachi is Pakistan's largest city, main seaport and international trade hub. It encounters numerous challenges among which water supply and sewerage are the worst affected services, falling far short of the city's expanding needs. To mitigate this gap, develop these services for Karachi and strengthen the Karachi Water and Sewerage Corporation (KWSC) to become a financially viable and technically well performing water utility that ensures clean, safe drinking water and sewerage services to public, the Government of Sindh GoS / KWSC partnered with the World Bank Group through the Karachi Water and Sewerage Services Improvement Project (KWSSIP). The Karachi Water and Sewerage Services Improvement Project (KWSSIP) encompass a USD 1.6 billion reform-led investment program, to be implemented in four phases over a period of 12 years. Phase 1, with an investment portfolio of USD 100 million, is currently under implementation, and a Project Implementation Unit (PIU) has been established for this purpose. The Project Proposal Form (PC-1) for the Second Phase of KWSSIP amounting to US\$600 Million (PKR167.10 billion) has been approved by the Executive Committee of the National Economic Council (ECNEC). The project was been approved by the World Bank Board on 12<sup>th</sup> December 2024. The project is being implemented by the Government of Sindh (GoS) and the Karachi Water and Sewerage Corporation (KWSC) through multiple procurement processes, expected to occur within a short timeframe. The project activities aim to achieve key milestones, including addressing environmental aspects associated with the proposed project components.

#### **Project Components**

KWSSIP-2 has been developed for institutional and governance reforms in KWSC along with strategic investments for the improvement of water and sewerage infrastructure and services in Karachi.

The following are the project components:

#### **Component 1 – Operational & Enabling Environment Reform**

- a. Institutional Reforms and Capacity Building in Human Resource (HR)
- b. Implementation of Communication Program & Capacity Development of Customer Relations Management (CRM)
- c. Implementation of Gender Action Plan
- d. Capacity Building in Asset Management, GIS and Data Collection Strategy
- e. Preparation and Implementation of Water Safety Plans
- f. Outsourcing of Metering & O&M
- g. Advance Studies for the adaptation of Trenchless technology of Infrastructure development in Karachi Water and Sewerage Program
- h. Financial Management improvement

#### **Component 2 – Infrastructure Investments**

- a. Rehabilitating Water Supply and Sewerage in Selected Low-Income Communities
- b. Priority Sewer Network Rehabilitation and Extension:

- c. Priority Water Network Rehabilitation including O&M equipment, meters & District Metered Areas (DMAs) to reduce NRW
- d. Priority Works for Reducing Energy Consumption:
- e. K-IV Augmentation and Downstream Allied Works:
- f. Rehabilitation of Existing Filtration Plants (NEK K-II, 100 MGD, Pipri JBIC 50 MGD)
- g. Viability Gap Funding (VGF) to support PPP Interventions

### **Component 3 – Project Management and Studies**

- a. Design Review and Construction Supervision of the Proposed Sub-Projects of Phase-2:
- b. Follow-up studies on energy audits:
- c. Preparation of KWSSIP -3, feasibility, E&S study, designing & PC-1, follow up study from the Master Plan Study

### **2. Key duties, functions and responsibilities:**

The Manager Technical & Engineering will lead the Project Planning & Coordination, Engineering & Technical, Environmental & Social (E&S), and GIS Monitoring & Evaluation (M&E) teams. The Manager will also support the procurement and contract management teams of the Project Implementation Unit (PIU).

### **3. Scope of Work:**

#### **A. Technical Oversight & Coordination**

- Provide strategic leadership and technical oversight to cross-functional teams, including Engineering, Communication, Environment & Social (E&S), M&E and GIS.
- Ensure alignment of all technical activities with the Project Development Objectives (PDOs), the Project Operational Manual (POM), World Bank guidelines, and Government of Sindh (GoS) regulations.
- Coordinate and lead the preparation of procurement documents to hire service providers. These among others will include Terms of References (ToRs), Expressions of Interest (EoIs), Requests for Proposals (RFPs), Requests for Quotations (RFQs), Requests for Bids (RFBs), specifications and other procurement documents.
- Provide support in the evaluation of bids and proposals and preparation of evaluation reports, pre-contract negotiations and technical discussions and drafting contracts.
- Coordinate and lead preparation and review of technical studies, designs, plans, and reports to ensure quality, compliance, and timely delivery.
- Facilitate integration of cross-cutting themes (gender, climate resilience, citizen engagement, stakeholder consultation) across technical teams.
- Provide guidance for developing and implementing technical work plans, performance targets, and milestones.
- Facilitate consultations and clearances from other utilities and authorities during the design stage.
- Monitor and address shortcomings in the client's or consultant's daily inspections and checks to ensure compliance with technical specifications, safety standards, and contract provisions.
- Lead and coordinate the review and finalize all technical deliverables and reports submitted by consultants before submission to the Project Director for approval.
- Support the Director ICP to prepare and deliver progress presentations and technical briefs for the Project Director and World Bank missions.
- Coordinate and provide technical guidance to consultants to ensure smooth execution of project components.

- Manage consultants and other service providers hired under the project to implement technical and engineering assignments including designs, bidding packages, and studies.
- Review and recommend clearance or payment of claims or payment certificates submitted by consultants and contractors and other service providers hired under the project to implement technical and engineering assignments.
- Support the Project Director in decision-making by providing technical inputs during meetings with stakeholders, consultants, and World Bank representatives.
- Ensure systematic documentation, verification, and archiving of technical drawings, reports, and records to meet compliance and audit requirements.
- Provide recommendations for improving work processes, resolving site-level bottlenecks, and ensuring timely delivery of project outputs.

**B. Governance, Compliance & Reporting**

- Ensure technical outputs comply with World Bank Environmental & Social Framework (ESF) and GoS technical standards.
- Oversee integration of Environmental and Social (E&S) safeguards, including Environmental Management Plans (EMPs), Resettlement Action Plans (RAPs), and Health & Safety measures, into engineering, works and implementation activities.
- Supervise M&E and GIS functions to ensure accurate, real-time data collection, analysis, and reporting on project progress.
- Ensure proper documentation and archiving of technical studies, engineering designs, safeguard reports, and progress monitoring outputs.
- Prepare and submit periodic technical coordination reports to the Project Director and donor agencies.

**C. Leadership & Capacity Building**

- Lead, mentor, and supervise technical staff (Engineering, E&S, M&E/GIS teams), fostering a collaborative, professional, and high-performing work environment.
- Identify capacity-building needs of technical staff and design training/coaching plans in collaboration with HR.
- Promote knowledge sharing, lessons learned, and adoption of innovative tools/approaches across teams.
- Facilitate cross-unit collaboration with Finance, Procurement, and HR/Admin teams to ensure integrated project implementation.

**D. Other Responsibilities**

- Provide strategic technical advice to the Project Director for decision-making on project design, implementation, and risk management.
- Ensure effective grievance redressal and citizen feedback mechanisms are embedded within technical operations.
- Contribute to project audits, mid-term reviews, and evaluations by ensuring technical data and reports are accurate and accessible.
- Undertake any other assignment related to technical management, as directed by the Project Director.

**4. Qualifications and Experience**

Bachelor’s degree with a major in Civil/ Mechanical /Environmental Engineering or equivalent plus a Master’s degree in Civil/Water and Wastewater Engineering/Sanitary Engineering/Hydraulic/Environmental Engineering or equivalent from The Higher Education

Commission (HEC)-recognized university is required. The candidate should have a minimum of 20 years' experience and at least 5 years' experience as a manager or on a senior position on major civil and mechanical works projects based on The International Federation of Consulting Engineers (FIDIC) form of contract and funded or supported by Multilateral Development Banks (MDBs). The candidate should have strong technical and engineering skills and experience including planning, design, preparation of specifications and bidding packages, construction supervision and contract management. The candidate should have a good appreciation and knowledge of World Bank safeguards policies and practices, procurement guidelines and regulations, monitoring and evaluation(M&E) and GIS. Prior exposure to the technical management practices of the World Bank or other multilateral development partners will be considered a strong advantage. Experience working in Pakistan or other countries in Central or South Asia is required. Membership and/or registration with a recognized professional engineering body is a requirement. Good English language communication and writing skills. Knowledge of local language (Urdu) is an added advantage.

## **5. Reporting Line**

The Manager Technical & Engineering will report to the Project Director (PD). She/He will be required to submit monthly activity/progress reports, highlighting key tasks undertaken

## **6. Contract Duration**

The Manager Technical & Engineering is initially required to work for the period of four (04) years with an annual review on performance which will form the basis of renewal. The Probation Period will be for 3 months during/up to which the contract may be terminated owing to unsatisfactory performance. The contract can be terminated with one month notice period by either party. The position is based in Karachi with travel requirements to the site as and when required. The Manager Technical & Engineering may also be required to travel to other places or areas within or outside Pakistan on duty carrying out project related tasks including but not limited to meetings, workshops, training, due diligence for procurement, witnessing factory acceptance tests (FAT) etc.

## **7. Salary, Benefits and Conditions of Service**

Market competitive salary based on qualification and experience will be offered. The salary, benefits will be discussed and agreed with the successful candidate. These will also be discussed and agreed with the successful candidate.

## **8. Selection Process**

An individual will be selected in accordance with process stipulated in Section VII of "Approved Selection Methods: Consulting Services, Clause 7.34, Approved Selection Methods for Individual Consultants under The World Bank Procurement Regulations for IPF Borrowers (Fifth Edition September 2023) available on <https://thedocs.worldbank.org/en/doc/6c0602876d68949e80820507d90a14ed-0290012023/original/Procurement-Regulations-September-2023.pdf>