

Government of the People's Republic of Bangladesh
Ministry of Local Government, Rural Development and Cooperatives
(Local Government Division)
Website: www.dwasa.org.bd

Memo No.:46.113.638.00.00.001.2023/EDWSRP/EOI-1/ 001

Date: 20/12/2023

Request for Expression of Interest (REOI)

Project Management Consultant (PMC) for Expanded Dhaka Water Supply Resilience Project (EDWSRP)

1.	Ministry/Division	:	Ministry of Local Government, Rural Development and Cooperatives (Local Government Division)
2.	Agency	:	Dhaka Water Supply and Sewerage Authority (DWASA)
3.	Name of the Procuring Entity	:	Project Director, Expanded Dhaka Water Supply Resilience Project (EDWSRP), Dhaka Water Supply and Sewerage Authority.
4.	Procuring Entity District	:	Dhaka
5.	Procuring Entity Code	:	Not Used as Present
6.	Title of Service	:	Invitation for Project Management Consultancy (PMC) Services for Expanded Dhaka Water Supply Resilience Project (EDWSRP)
7.	EOI for Selection of	:	Consultancy services to conduct project management consultancy for detailed engineering survey works, design, drawings, tender documents preparation and construction supervision.
8.	REOI Ref. No.	:	46.113.638.00.00.001.2023/EDWSRP/EOI-1
9.	REOI Publication Date	:	20 December, 2023
KEY INFORMATION			
10.	Procurement Method	:	Quality and Cost Based Selection (QCBS, 90:10), International
11.	Contract Type	:	Time Based
FUNDING INFORMATION			
12.	Budget and Sources of Fund	:	Development Budget
13.	Development Partner (If Applicable)	:	New Development Bank (NDB)
PARTICULAR INFORMATION			
14.	Project/Program Code (If applicable)	:	N/A
15.	Project/Program Name (If applicable)	:	Expanded Dhaka Water Supply Resilience Project (EDWSRP)
16.	EOI Closing Date and Time	:	25 January, 2024 at 15: 00 Hours (BST)
INFORMATION for APPLICANT			
17.	Brief Description of the Assignment	:	(i) Supporting the PMU to manage and implement the project, (ii) Delineating the method of working, procedures of project implementation and reporting, (ii) Conducting engineering surveys necessary for detailed design of project components, (iii) Conducting detailed design and review of all project components, prepare BoQ/Specification/TOR & tender/proposal documents and assist for managing the procurement process of contractors/ suppliers/ consultant, development of draft contract and oversee the contract implementation (iv) Supervision of physical works, coordination and management of project activities, and assisting the PMU's day to day works, (v) Preparation of institutional arrangement for financial modality, operational and maintenance guidelines for establishment of new zonal offices (vi) Assisting PMU to establish sustainable DMA management through supervising O&M of the DMAs, (vii) Supporting the PMU by carrying out all project works in accordance with environmental and social safeguards policies, implementation and monitoring of Environmental Management Plan by contractors, (viii) Preparing reports for NDB, including monthly and quarterly progress report, semi-annual safeguard monitoring reports and project completion report (PCR), and (ix) Supplementing and providing all other project-related reports/ works, as requested by the PMU

18.	Experience, Resource & Delivery Capacity Required	:	Applicants shall be shortlisted on the basis of the following criteria:		
	a) Applicants Legal Identity	:	The Applicants shall submit up-to-date and valid document: <ul style="list-style-type: none"> • Trade license or Document on Applicant's enrollment/Certificate of Incorporation with appropriate authority to carry out the business in applicant's country; • VAT Registration Certificate; • Income Tax Certificate with certificate of fulfilment of taxation obligation; • Joint Venture Agreement (in case of joint venture) or letter of intention to be associated with other firm as joint venture; • Memorandum of association 		
	b) Qualification and Experiences	:	<ul style="list-style-type: none"> • Minimum 20 (twenty) years' overall experience in consultancy services of the firm from the years counting backward from the date of publication of EOI; • Minimum 15 (Fifteen) years' overall experience in Project Management Consultancy services of the firm from the years counting backward from the date of publication of EOI; • At least one (1) similar nature of assignment completed by individual firm or combined JV partners during the last 5 (five) years in water distribution network & Transmission line project or DMA project; 		
	c) Administrative, Facilities and Expertise of the Firm	:	<ul style="list-style-type: none"> • Company profile: i.e. established time, management, no. of employee, no of qualified engineers, firm specialty, track record etc.; • Consulting firm should demonstrate their administrative strength and managerial capacity including organogram, capital asset, number with details of regular professional staff, list of office equipment etc.; • Availability of professionals with appropriate skills (CV will not be evaluated in this stage); • The consulting firm must have in their payroll or have agreement/arrangement with minimum 1 (one) alternative qualified experienced personnel for each category of consultant, who will be available for providing consultancy services under the project during the full project period; • Latest annual report, Company's printed brochure etc.; • Report of financial status (audited financial reports) of the firm for the last 3(three) years; • Documentary evidence of the above mentioned must be submitted with the EOI; <p>Firm failing to comply with the above requirement will not be taken into consideration.</p>		
	d) Other Details	:	<ul style="list-style-type: none"> • Consulting firms worldwide can participate, provided they maintain diplomatic relations with Bangladesh. Firms without diplomatic ties to Bangladesh are ineligible to submit an Expression of Interest (EOI) 		
19.	Contract Execution Period	:	The duration of the contract is expected to be 50 (Fifty) months.		
20.	Association with Foreign Firm	:	Encouraged		
21.	Location	:	Dhaka		
22.	Package Details	:	Package No.	Indicative Start Date	Indicative Completion Date
			ICB-03.1	01/03/2024	01/05/2028
PROCURING ENTITY DETAILS					
23.	Name and Designation of Official Inviting EOI	:	Md. Azizul Haque Project Director, Expanded Dhaka Water Supply Resilience Project (EDWSRP), Dhaka Water Supply and Sewerage Authority.		
24.	Address of the Official Inviting EOI	:	Dhaka Water Supply and Sewerage Authority WASA Bhaban, 98, Kazi Nazrul Islam Avenue (8 th Floor), Kawran Bazar, Dhaka-1215		

Handwritten mark: A stylized signature or initials.

25.	Contact Detail of the Official Inviting EOI	:	Email: pdedwsrp05@gmail.com Phone: +880-1741202017
26.	Particular Instruction	:	<ul style="list-style-type: none"> • Consultant will be selected in accordance with the procedure set in Public Procurement Act 2006 and Public Procurement Rules 2008; • Duly completed Expressions of Interest (EOI) in hard copy [(1 original+ 3 copies and one (1) soft copy in CD/DVD/Pen drive) must be delivered to the provided address, clearly mentioning the name of the assignment, in sealed envelopes at or before 15:00 Hours (Bangladesh Standard Time) of 25 January, 2023; • Any application submitted later than the specified time will not be entertained; • EOI submitted by email will be rejected. Likewise photocopy of emailed EOI will also be rejected • Further information can be obtained at the address below during office hours; 09:00 to 16:00 Hours; • This EOI notice is along with sample EOI submission format is available in DWASA website (www.dwasa.org.bd) and CPTU website (www.cptu.gov.bd) and NDB Website; • The outline of the Terms of Reference (TOR) is available at the address of the undersigned below during office hours from 09:00 to 16:00 Hours and DWASA Website and NDB Website; • In case of any unavoidable circumstances such as strike, civil commotion, Govt. Declared holiday etc. EOI submission closing date will be the following working day. • Under no circumstances will DWASA be responsible for any cost incurred in submission of the EOI • The final TOR will be provided in (Request for Proposal) RFP.
27.	The Procuring Entity reserves the right to reject all EOIs or annul the procurement proceedings		



Md. Azizul Haque
 Superintending Engineer &
 Project Director
 Expanded Dhaka Water Supply Resilience
 Project (EDWSRP)
 Dhaka WASA

Dhaka Water Supply and Sewerage Authority
Office of the Superintending Engineer and Project Director
Expanded Dhaka Water Supply Resilience Project (EDWSRP)



TERMS OF REFERENCE (TOR)

CONSULTANCY SERVICE

FOR

Project Management Consultant

December 2023

Contents

Abbreviations	4
1 Background.....	6
2 The Project.....	11
2.1 Component 1	11
2.2 Component 2	11
2.3 Component 3	11
2.4 Component 4	12
2.5 Component 5	12
3 Objective of the Assignment	12
4 Scope of Work.....	13
4.1 Review of Existing Study, Law, Policies and Relevant Documents	13
4.2 Survey and Data Collection	13
4.3 Projection, Preparation and Modelling	14
4.3.1 Submission of Hydraulic Modelling and MAPs	14
4.4 Design, Drawings and Development	14
4.4.1 Detailed Design, Drawings and Development	14
4.4.2 Design and Drawings Submission	15
4.5 Specification Preparation	15
4.6 Cost Estimation and BoQ	15
4.7 Tender Processing	15
4.8 Procuring Assistance.....	15
4.9 Supervision and Management Assistance	16
4.9.1 Supervision Processes and Documentation.....	16
4.9.2 Risk Analysis	16
4.9.3 Initial Supervision Checks	16
4.9.4 Supervision During Construction	16
4.9.5 Testing, Commissioning & Taking Over	17
4.9.6 Post Construction	18
4.10 Workshop and Training	18
4.11 GIS and Database	18
4.12 Implementation of Land Acquisition Plan & Social Safeguards	18
4.13 Regular Reporting Criteria and Scope	19
(a) Reporting and Deliverable Formats	19
4.14 Assistance in Selection of Other Consultancy Services.....	20
4.15 Strengthen Dhaka WASA Operational Capacity	20
5 Duration of the Assignment	20
6 Deliverables	20
6.1 Inception Period and Report.....	21
6.2 Interim Period 1 and Report	21
6.3 Interim Period 2 and Report	22

6.4	Interim Period 3 and Report	22
6.5	Interim Period 4 and Report	22
6.6	Interim Period 5 and Report	23
6.7	Interim Period 6 and Report	23
6.8	Interim Period 7 and Report	24
6.9	Interim Period 8 and Report	24
6.10	Interim Period 9 and Report	24
6.11	Interim Period 10 and Report	25
6.12	Interim Period 11 and Report	25
	(a) Consideration in all Interim Report.....	26
6.13	Final Project Completion Report	26
7	Deliverable Acceptance	27
8	Payment Schedule	27
9	Responsibilities of DWASA.....	27
10	Responsibilities of the consultants	27
11	Staffing (Team Composition).....	27
	11.1 Key Staff	28
	11.2 Non-Key Staff	37
12	Required Qualification of the Firm	45

Abbreviations

AMR	Automated Meter Reading
ARE	Assistant Resident Engineer
BOQ	Bill of Quantities
CAD	Computer Aided Design
CFA	Chartered Financial Analyst
CBS	Capacity Building for Sustainability
CPA	Certified Public Accountant
CMA	Certified Management Accountant
DPP	Development Project Proposal (DWASA Project Scoping & Approval Document)
DMA	District Metered Areas
DNCC	Dhaka North City Corporation
DPP	Development Project Proposal (DWASA Project Scoping & Approval Document)
DTW	Deep Tube Well
DSCC	Dhaka South City Corporation
DWASA	Dhaka Water Supply and Sewerage Authority
EIA	Environmental Impact Assessment
EMP	Environmental Mitigation Program
ESIA	Environmental And Social Impact Assessment
ERP	Enterprise Resource Planning
EPC	Engineering, Procurement and Construction
FSR	Feasibility Study Report
GPR	Ground Penetrating Radar
GIS	Geographic Information System
GPS	Global Positioning System
GoB	The Government of The People's Republic Of Bangladesh
HDPE	High Density Polyethylene (HDPE) Piping
HC	House Connection
HHs	Households
IRP	Iron Removal Plant
LAP	Land Acquisition Plan
LGD	Local Government Division
ML	Millions of Liter Per Day
MODS	Maintenance, Operations, Distribution and Services

NGO	Non-Governmental Organization
NICAR	National Implementation Committee for Administrative Reforms
NDB	New Development Bank
NRW	Non Revenue Water
PDF	Project Development Facilities
P&D	Planning And Design
PE	Professional Engineer
PIU	Project Implementation Unit
PMC	Project Management Consultant
PMU	Project Management Unit
PCR	Project Completion Report
QA	Quality Assurance
QC	Quality Control
RAP	Resettlement Action Plan
RFP	Request for Proposals
SARE	Sub-Assistant Resident Engineer
SIV	System Input Volume
SCADA	Supervisory Control and Data Acquisition
SDGs	Sustainable Development Goals
SPS	Safeguard Policy Statement
SQL	Structured Query Language
SWIP	Surface Water Injection Points
TL	Team Leader
TOR	Terms of Reference

1 Background

These ToR will be amended and annexed to the contract after approval with the successful consultancy.

Dhaka Water Supply and Sewerage Authority (DWASA) is the entrusted organization with the responsibility to supply piped potable water to dwellers of Dhaka City and its adjacent areas. DWASA has the vision to adopt more surface water to meet its demand. DWASA has taken a firm decision to meet major portion of city water demand from surface water source and thereby reduce the dependency on groundwater source to protect the environment as well as to reduce the risk of water supply in the capital.

Padma North-West Sector comprising a command area of 50.9 sq.km is one of the Sectors which includes significant part of old city, Dhanmondi, Mohammadpur, Bosila, Hazaribag, Dhaka Uddyan, part of Mirpur etc. where the treated water to be obtained from the 1st Phase of the Padma (Jashaldia) Water Treatment Plant (WTP). The first phase of Padma (Jashaldia) of 450 MLD capacity is already in operation, but the distribution network is not adequate. Furthermore, the existing water supply network under the commanding area of this WTP is aggravating day by day. A feasibility study was done in 2015 in this regard. In the feasibility study several lines were proposed in addition to the primary distribution mains to ensure connectivity with surface water injection points of District Metered Areas (DMA) in the command area. The total length of the pipeline is around 40 km. This includes more than 12 km of pipes with diameter 1000mm or higher (Figure-1). This pipeline will ensure safe, reliable surface water supply to the Padma North-West sector of Dhaka city and reduce dependency on groundwater resources. DWASA also decided to implement District Metered Area (DMA) for improved piped water supply in Nabinagor housing, Dhaka Uddan, Chandrima, Hazaribag and Bosila under Padma North-West Sector. It is anticipated that around 120 km pipeline will be required to be constructed in those DMAs (Figure-2).

In May 2016, the ministry of LGD decided to incorporate 16 more unions (Harirampur, Uttarkhan, Dakshinkhan, Badda, Beraid, Bhatara, Satarkul, Dumni, Nasirabad, Dakshingaon, Demra, Manda, Sarulia, Matuail, Dania, Shyampur) into the two city corporations of Dhaka. The decision was taken at the meeting of the National Implementation Committee for Administrative Reforms (NICAR) held at the Secretariat with Prime Minister Sheikh Hasina in the Chair. Following the NICAR's approval of inclusion of the new unions, an area of 178.75 sq. km has been added to the two city corporations; 114.58 sq. km has been added into DNCC and 64.17 sq. km has been added into DSCC. DWASA is presently providing water supply to a limited area of these unions. As per the government decision, DWASA has decided to extend its services to the entire area by implementing District Metered Area (DMA) for improved piped water supply. For this reason, DWASA conducted a feasibility study in 2018. From the feasibility study, construction of at least 71 new production tubewells have been proposed in addition to surface water supply and construction of 1455 km of pipelines using DMA concept to distribute the water conforming with the Dhaka Water Supply Master Plan (Figure-3).

Moreover, another study was conducted by DWASA (April 2023) to replace and rehabilitate existing 300 mm and above diameter AC pipeline under MODS Zone-1, 2, 3 & 6. Based on alignment of existing AC pipes and location of surface water injection points (SWIP) adjacent to the AC pipes about 60.0 km AC pipeline have been selected for replacement or rehabilitation with HDPE pipe (Figure-4).

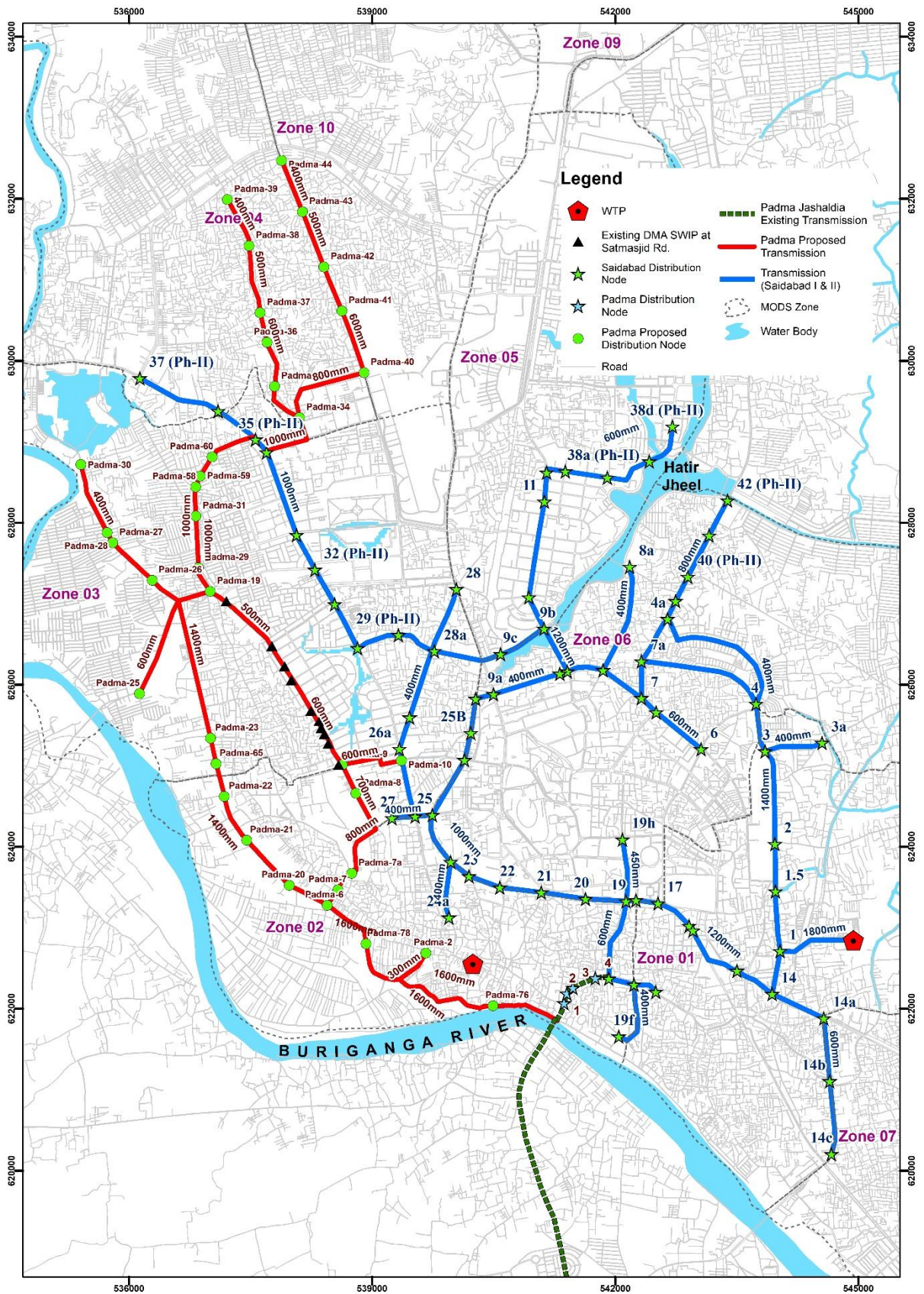


Figure-1: Proposed Padma Transmission and Distribution Network

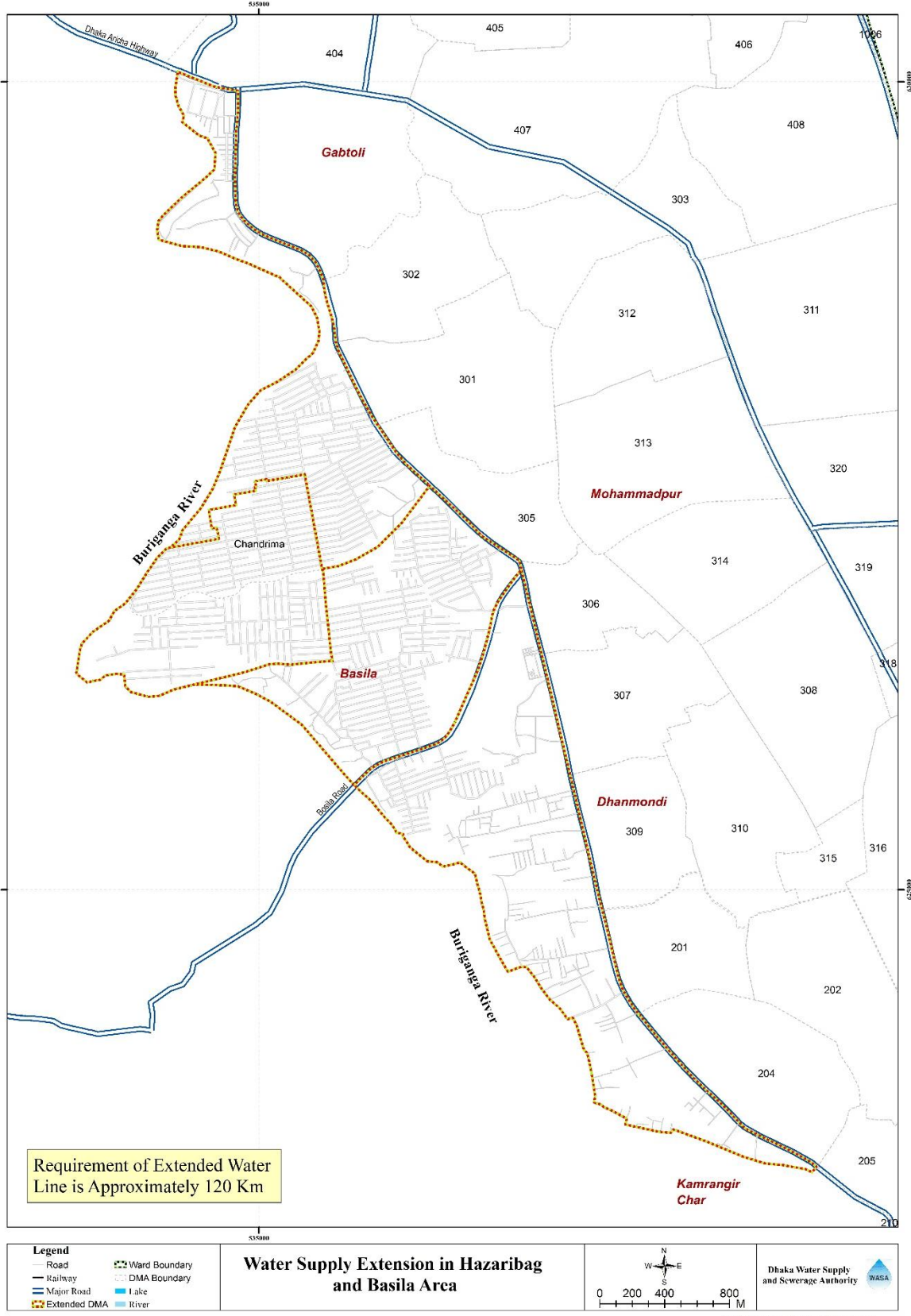


Figure-2: Proposed DMAs in Nabinagor housing, Dhaka Uddan, Chandrima, Hazaribag and Basila under Padma North-West Sector

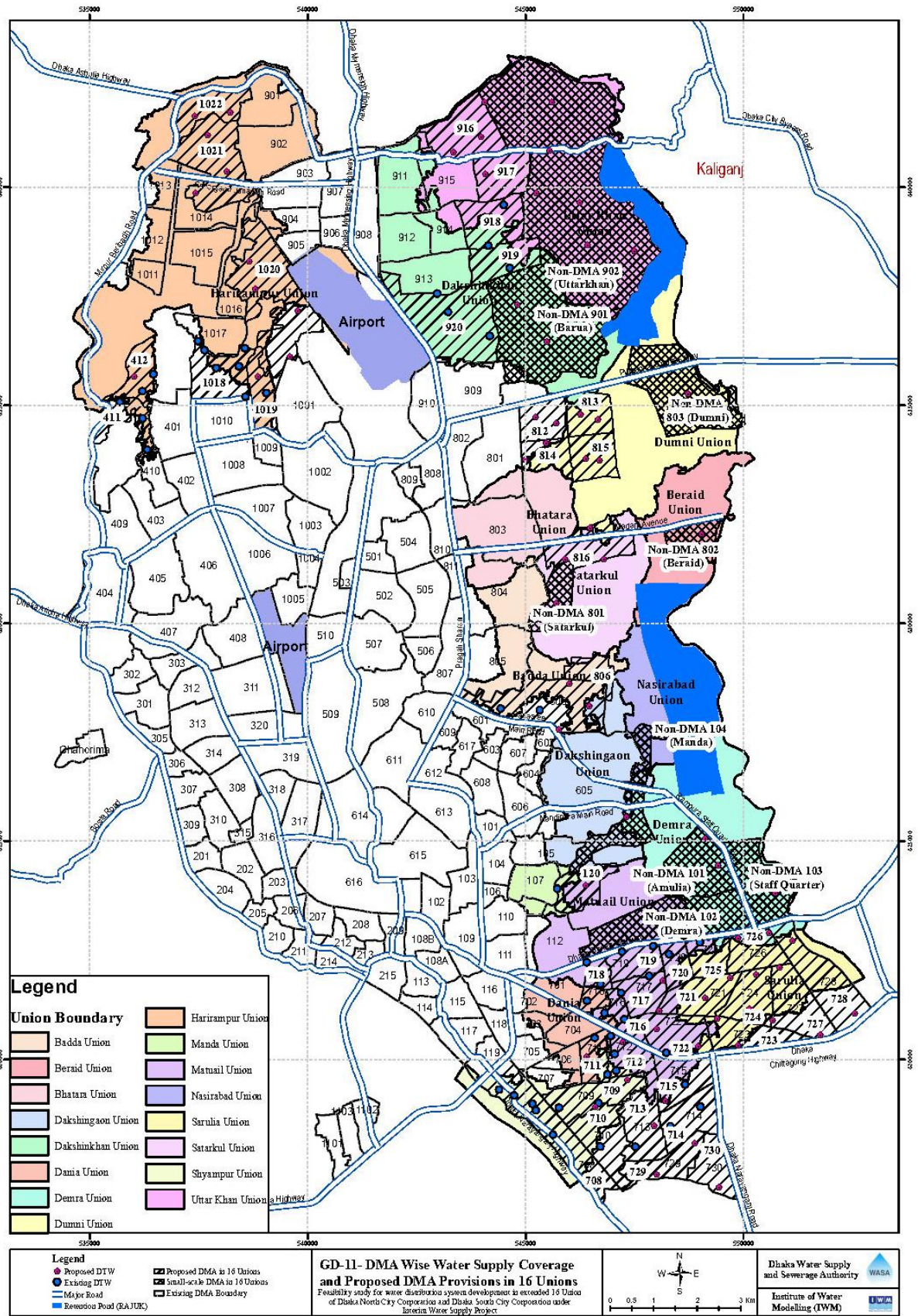


Figure-3: Water Supply Coverage and DMAs in 16 Unions area

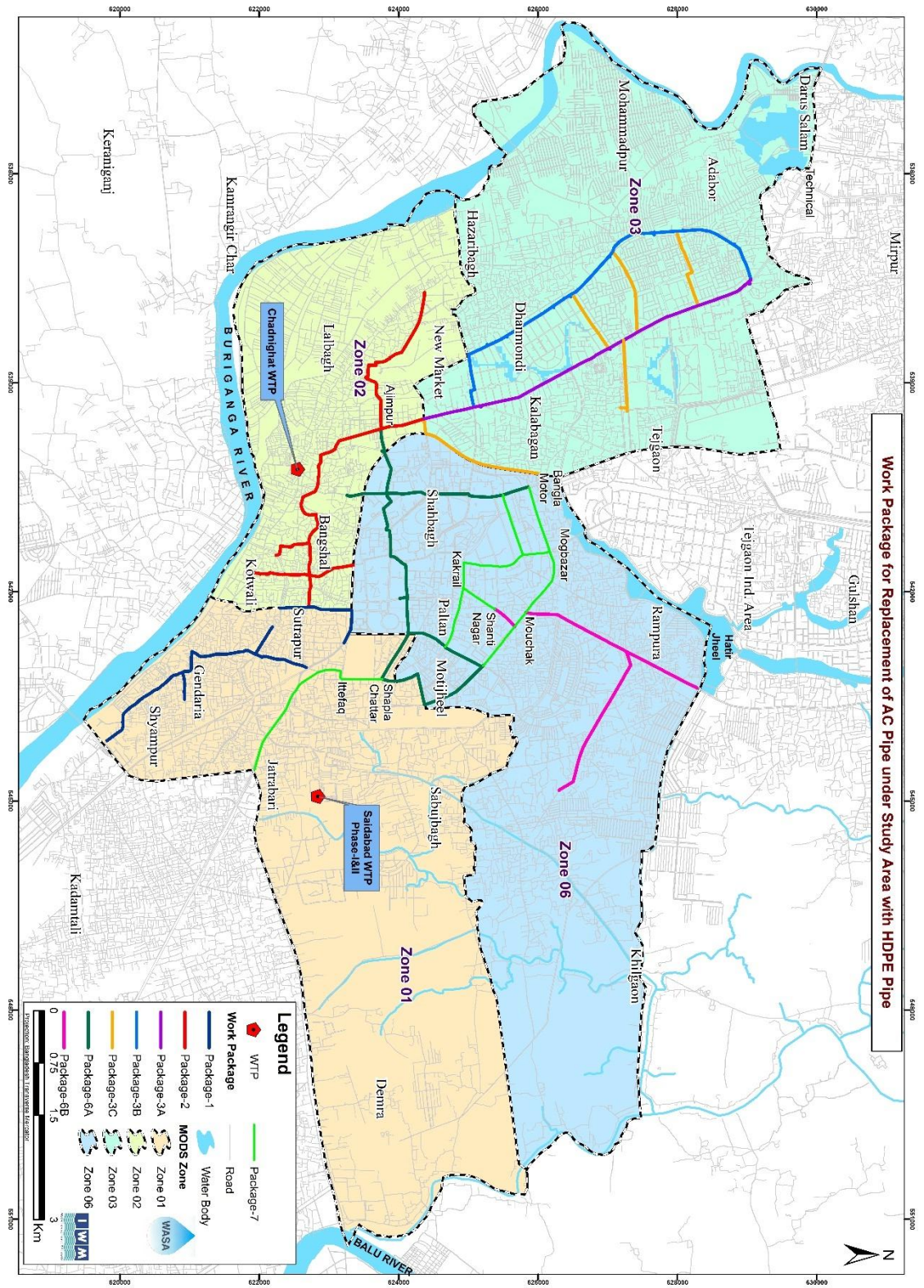


Figure-4: Proposed Pipe Alignment to Replace AC Pipe under MODS Zone 1, 2, 3 & 6

2 The Project

The Project's impact will be enhancing access to clean and reliable water, which contributes to water security and economic competitiveness of Dhaka, the Vision 2041 Plan, and the 8th FYP. The Project is expected to reduce Dhaka City's vulnerability to climate change¹, as it will enable enhanced management of leakages through the DMA approach to save water resources and will expand water supply. The Government of the People's Republic of Bangladesh ("GoB") has requested the New Development Bank ("NDB") to provide a sovereign loan of up to USD 320 million equivalent (the "Loan") for financing the Dhaka Water Supply Project (the "Project") implemented by the Dhaka Water Supply and Sewerage Authority ("DWASA").

2.1 Component 1

Water Distribution Infrastructure for 16 Unions – this component will support the construction and rehabilitation of water distribution infrastructure in the 16 unions, including setting up DMAs. Water supply to the 16 unions will be provided by Saidabad WTP (Phase III) and Gandharbapur WTP (Phase I). Both WTPs including water transmission mains to the 16 unions are planned to be operational by 2028, before completion of the Project. For O&M of this new infrastructure, DWASA plans to establish three MODS zones and will construct three campus with office buildings and other infrastructure to facilitate the Zonal activity as part of component 1. Also, to temporarily augment water supply and cover the shortfall in the 16 unions during the construction of WTPs, this component includes construction of water production tube wells.

2.2 Component 2

Water Supply Network for Padma Northwest Sector – this component will put in place a water transmission and distribution network for the currently unserved areas (including Nabinagor housing, Dhaka Uddan, Chandrima, Hazaribag and Bosila) along the embankment of the Buriganga River in Padma Northwest Sector. The water will be sourced from the Padma River to the south of Dhaka City and undergo treatment in the Padma WTP that is operational and has enough available capacity. DMAs will also be established in Padma Northwest Sector to enhance operational efficiency of the water supply network.

2.3 Component 3

Efficiency Improvement of Dhaka Water Supply Network – this component will cover the entire DWASA water supply network to reduce the rate of NRW, which is to be achieved by installing smart meters and e-PRVs along the pipelines, installing online water quality monitoring and establishing a citywide telemetry system (Supervisory Control and Data Acquisition, "SCADA") for water distribution. These technologies have been piloted by DWASA and ready for scale-up in DWASA's entire service area.

This component also includes replacement and rehabilitation of AC pipelines, which will act as secondary distribution network.

This component involves two critical tasks: crafting an effective organogram for the newly established three DWASA MODS zones and institutional arrangement of the supervisory areas of these zones concerning the former ten MODS zones. Firstly, the creation of an organogram for the three newly formed DWASA MODS zones necessitates a meticulous structure outlining the hierarchy, roles, and reporting lines within each zone. This organogram should clearly delineate positions, responsibilities, and reporting relationships to ensure efficient workflow and accountability. Secondly, institutional arrangement of the supervisory areas involves a strategic adjustment of jurisdictional boundaries within these zones. This process requires careful consideration of geographical, infrastructural, and administrative factors to optimize the allocation of resources and enhance operational effectiveness. The goal is to streamline supervision areas in alignment with the newly established zones, consolidating oversight for improved management and service delivery. These tasks collectively aim to establish a clear organizational structure for the newly formed zones and optimize the supervision areas to align with the strategic objectives of the restructured DWASA MODS Zones framework.

2.4 Component 4

Feasibility Studies and Designs for Sewerage Facilities – New included 16-Union where the Project is to be implemented have no connection to sewerage system and the population there typically utilizes septic tanks and pour-flush sanitation systems. Wastewater is often discharged into Dhaka’s surface waters resulting in water pollution, which adversely affects the environment and public health of its residents. Ideally with expanded water supply coverage, the associated sewage collection network and treatment facilities should be put in place in parallel, but preparation for development of sewerage infrastructure is still in a very early stage and it is unlikely that such infrastructure will be ready by the time of Project completion. Nevertheless, this component will support DWASA to kick start this process, by preparing feasibility study reports (“FSRs”), engineering designs and bidding documents for the sewerage facilities in the Project areas in accordance with domestic requirements.

This component will not be encompassed within this particular TOR (Terms of Reference). However, the Project Management Consultant (PMC) will play a pivotal role in aiding the Project Management Unit (PMU) in selecting the consultant for Component 4. PMC will assist the PMU to formulate comprehensive Terms of Reference (TOR) outlining the scope, objectives, and requirements, create and process of the Request for Proposals (RFP), supporting the PMU in the evaluation process of received proposals, facilitate the final stages by aiding in the negotiation and signing of the contract with the selected consultant for Component 4.

2.5 Component 5

Project Management and Capacity Building – this component comprises (i) external project management services to support DWASA in design preparation and review, contract management, supervision, environmental and social (“E&S”) management, and Project monitoring and reporting; and (ii) capacity building for the staff of DWASA, including training of DWASA personnel in O&M of transmission and distribution network, management of DMAs, as well as procurement and contract management.

The outputs to be completed by 2029 are: (i) construction of 40 km of transmission pipelines in Padma Northwest Sector; (ii) construction and rehabilitation of 1,575 km of water distribution network in the 16 unions and Padma Northwest Sector, including establishment of 55 DMAs; (iii) construction of at least 71 tube wells in the expanded Dhaka City (Included 16 unions); (iv) 3 new MODS zone campus constructed in the 16 unions; (v) SCADA system operational for city-wide water supply network; and (vi) training provided to DWASA staff members on DMA management and other relevant topics.

These outputs are expected to translate into the following outcomes in the Project areas: (i) creation of up to approximate 69,910 new water supply connections; and (ii) NRW below 10%. Upon completion, the Project is expected to benefit 4.4 million residents in Dhaka City.

3 Objective of the Assignment

The Consultant will assist the PMU and Dhaka WASA in managing and implementing the Project, supervising all works under packages of component 1, 2, 3 and 5, preparing detailed design, DMA Design, cost estimation and bid documents. Consultant will also perform procurement assistance, construction supervision and contract management including financial management as well as monitor social safeguards and environmental compliance of the Project. The Project management activities of the consultant also include:

- Strengthening the PMU’s capacity to manage and implement the Project;
- Assisting PMU by delineating its method of working, procedures, and reporting;
- Establishing criteria for supervision, coordination, and management, and assisting the PMU;
- Strengthening Dhaka WASA capacity by institutional arrangement, financial modality, operational and maintenance guidelines for establishment of new zonal offices;
- Assisting PMU to establish sustainable DMA management through supervising O&M of the DMAs;

- Ensuring and assisting the PMU for carrying out all project works in accordance with environmental and social safeguards policies in Resettlement Plan (if required), implementation and monitoring of Environmental Management Plan by contractors;
- Preparing reports for NDB, including monthly and quarterly progress report, semi-annual safeguard monitoring reports and project completion report (PCR); and
- Supplementing and providing all other project-related reports/ works, as requested by the PMU.

However, a separate consultant will be appointed for Component 4, which is not included in this TOR.

4 Scope of Work

The following activities shall be carried out to achieve the objectives of the project. The description may not be exhaustive, and the activities shall not necessarily be limited to those described.

4.1 Review of Existing Study, Law, Policies and Relevant Documents

The PMC Consultant will embark on a comprehensive review of pertinent project documentation as a primary step towards facilitating effective project implementation. This review entails an extensive examination of various documents, including but not limited to:

- Existing feasibility study
- Dhaka WASA Act outlining regulatory frameworks
- Water and Sewerage Master Plan
- Alignment of the project objectives with Sustainable Development Goals (SDGs)
- Examination of relevant research, policies, and best practices
- Existing DPP and its scope
- Review of the design and implementation of the existing DWSNIP project, Padma Water Treatment Plant project, Padma Water Treatment Plant distribution network & Emergency Water Supply Project of Dhaka WASA

The study and analysis should be conducted during the inception period, and the inception report must reflect the outcomes of this study.

Utilizing the existing feasibility study as a baseline, the consultant will pinpoint specific scopes for additional study. This involves recognizing gaps, potential opportunities, and critical areas that warrant in-depth investigation. Based on the insights derived from the feasibility study, the consultant will outline requirements for additional surveys, data collection, or research necessary to fill gaps and enhance the project's overall understanding and execution.

4.2 Survey and Data Collection

a. Collect and review of existing and future proposed water supply network, road network, concerned study reports etc.

b. Conduct following necessary survey to prepare hydraulic models and detailed design for water distribution networks in the DMAs, Padma primary and secondary distribution network and replacement/rehabilitation of AC pipe.

- Existing pipe verification survey of approx. 500 km road based on as-built information, discussion with zone officials and field investigations.
- Carryout detail road survey including road alignment, road level and width, road classification, physical features, and crossings of followings.
 - Approx. 1575 km road under different DMAs
 - About 35 km Padma transmission& distribution alignment
 - Detailed road survey in the alignment of AC pipes (about 60 km) to be replaced/rehabilitated under different MODS zone
- Carry out social and household survey of about 40,000 households (HHs) in DMAs. This includes GPS location, building footprint, type of structure, population and other social information of the HH.

- Conduct existing house connection survey of approx. 30,000 HHs in DMAs. This includes existing house connection information with account no., type, diameter of HC, length of HC pipe etc.
- Ground Penetrating Radar (GPR) survey, and Trial pit for underground utility survey in the pipeline alignment.
- Investigation of canal crossings along the western embankment and also in proposed pipeline alignment

c. Collection of Mouza maps, scanning, georeferencing & digitization;

4.3 Projection, Preparation and Modelling

In this stage the following works need to be done by the consultant but not limited to -

- Preparation of Land Acquisition Plan (LAP) if required
- Topographic MAP of the project area.
- Population projection and calculation of water demand for DMAs based on Dhaka Water Supply Master Plan.
- Assessment of connectivity with existing DMAs, Saidabad primary and secondary distribution network for Padma primary and secondary distribution network by using water supply network modeling.
- Preparation of hydraulic models for DMA pipe sizing for conjunctive water scenario (both from surface water provision and groundwater) with criticality analysis for best number of isolation valves, surge analysis, flushing analysis, sensitivity analysis and risk analysis.
- Preparation of hydraulic models for Padma primary and secondary distribution network
- Preparation of hydraulic models for replacement and rehabilitation of AC pipe (if requires)
- Prepare details for connection to existing water supply system
- Scenario analysis to recommend robust pipe network and also carry out water hammer/transient analysis of the design pipeline network.
- Preparation of Map for suitable fire hydrant location
- Conduct analysis for thrust blocks
- Preparation of all required Map for the project implementation

4.3.1 Submission of Hydraulic Modelling and MAPs

The model should be submitted along with the software. PMC will be responsible for training Dhaka WASA employees to achieve proficiency in using this hydraulic modeling software.

4.4 Design, Drawings and Development

4.4.1 Detailed Design, Drawings and Development

The consultant will prepare the detailed design of the pipeline through network analysis. The consultant will also prepare detailed design of other structural components. The detail design will be reviewed by P&D circle of Dhaka WASA and approved by the PMU. The PMC shall modify the design during the implementation if required. PMC will prepare the cost estimate and bid documents after the approval of the design by PMU. The specific scope of this activity are as follows (but not limited to):

- Detailed design of the Padma water transmission line network
- Detailed design of 16 unions DMA network
- Detailed design for the rehabilitation and replacement of the AC pipe network (if required)
- Detailed design of the fire hydrant at different location (where applicable)
- Detailed design of the three MODS Zone office compound along with all necessary landscape, infrastructure, utility management, quarter etc.
- Detailed design of the SCADA components and the automation part of the project
- Detailed design of the DTW along with Iron removal plant (where applicable)
- Detailed design of the chlorination system and other required elements under the project scope

-
- Detailed design of the DTW compound along with pump house and other infrastructure as required.
 - Detailed design of any component required along the project completion period
 - Detailed Design of House connections in 16 Unions
 - Design of fire protection component of the 3 MODS Zones, DMA etc.
 - Design of Rain Water Harvesting Plant etc.
 - Design of meter test bench
 - Design of submersible pump motor test bench
 - Develop software equipped to manage cost analysis, financial assessments, archival needs, project documentation, project asset management etc. Ensure it offers seamless integration with the existing Dhaka WASA software.
 - Development of Enterprise Resource Planning (ERP)

4.4.2 Design and Drawings Submission

- The PMC will prepare a comprehensive set of A1 sized drawings as required for the tendering and this will include location plans and all other drawings needed to clearly explain the work to be carried out. The drawings shall also be submitted as A3 reduced copies.
- Editable soft copy of all the drawings component as well as the pdf copy of the drawing
- Prepare Design Report with details of the design used and assumptions, including ground conditions and other assumptions.

4.5 Specification Preparation

The consultant will utilize survey data and conclusions drawn from the feasibility study to craft the engineering design and accompanying drawings. Subsequently, in continuation of this phase, the consultant will generate exhaustive technical specifications for works & Goods, contractor specifications essential for the construction of the design in the field, and any additional necessary specifications, all meticulously aligned with project requirements. These specifications will be explicitly derived from and tailored to the specifics outlined in the design drawings.

4.6 Cost Estimation and BoQ

In accordance with the drawings and specifications provided, the Project Management Consultant (PMC) will compile the final cost estimation. This estimation will serve as the foundation upon which the final Bill of Quantities (BOQ) will be meticulously crafted.

4.7 Tender Processing

In this stage the PMC consultant will carry out the following task (but not limited to) :

- Based on the design, drawing, specification and BoQ the PMC will prepare the full tender document for all packages according to the DPP and project scope
- Support DWASA with issue of tender documents (logistics) and response to bidder queries
- Support DWASA with evaluation of tenders (e.g. Organizing logistics and answering queries from the Evaluation Committee), including preparation of the Technical Evaluation Report and the final Evaluation Report
- Support DWASA with contract negotiations with preferred bidder(s)
- Prepare final Contract Documents

4.8 Procuring Assistance

- Assist PMU in procuring goods, works and services in accordance with Public Procurement Act 2006 and Public Procurement Rules 2008 with subsequent amendments.
- Assist PMU in efficient procurement process with minimal delays and no challenges by unsuccessful bidders, good contractor selected at a reasonable price.
- Assist PMU to prepare yearly ADP, APP, Revised DPP, Budget planning etc.
- Assist PMU to prepare audit reports etc.
- Assist PMU to prepare any financial report etc.

4.9 Supervision and Management Assistance

The supervision and management assistance will continue for the entire contract implementation period.

4.9.1 Supervision Processes and Documentation

- Organize an archiving system (digital and on paper) for the Contract. All documents and communications related to the Contract shall be archived and the archiving system shall be maintained in full compliance both with the requirements of the financing institutions and with the requirements of DWASA. At the conclusion of the assignment, the consultant shall transfer all archive materials to the Employer. Details of the archiving system must be documented in the deliverables;
- Establish a document and filing system for the project. Set up an electronic and internet-based file sharing system, which allows Dhaka WASA, as well as all other authorized parties to have access to all documents and files stored in the project document and filing system;
- Propose efficient procedures for verifying consultants and contractors' performance and reporting progress and problems in a timely manner, including critical path program management and tracking system (such as MS Project or Primavera), quality control reports, quantity survey records, requests for variation or change orders, submittals and claims and invoices, etc.
- Agreeing on formats and procedures for Variation Orders and Interim Payment Certificates;

4.9.2 Risk Analysis

The Detailed Analysis Report including an initial Risk Management Plan and the risks that have been identified as High risk (using a combined probability and impact assessment) are:

- Delayed payments to suppliers
- Slow decisions and approvals
- Implementing organizations fail to follow Contracts/Agreements
- Variations and claims
- Land access, permits & payments
- Problems with taxes, duties & permits
- Changes to consultants' key experts
- Delays due to DWASA procurement process/approvals

4.9.3 Initial Supervision Checks

- Checking of the Contractor's insurances;
- Review of the Contractors documents;
- Ensuring that the Contractor's set-up with regard to staff, equipment etc. are in accordance with his bid;
- Ensuring that the Contractor's Health and Safety plans are in accordance with those specified in the Contract;
- Ensuring that the Contractors' environmental compliance plans are in accordance with those specified in the Contract;
- Review and approve the testing plans, performance test and commissioning plans in accordance with the Particular Conditions of the contract and the Employer's Requirements.

4.9.4 Supervision During Construction

The Consultant shall provide the following routine site supervision service and shall provide an expert team to undertake them. He shall take all steps to ensure adequate site supervision when staff is on vacation or on sick-leave.

- Overall day-to-day supervision, management, project planning, cost and quality control;
- Agree on meeting and reporting schedules
- Ensure the presence of qualified staff to chair site meetings and monthly progress meetings and provide updates to PMU;

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- Prepare and issue promptly the minutes of meetings and ensure that all matters arising are dealt with expeditiously;
 - Review and (if the case) give corrective instructions to the Contractor's Program, after the particular assessment of the suitability of the resources allocated and of the proposed timing;
 - Continuously monitor the progress of the works and compare it with the program;
 - Control the Contractor's setting out of the works;
 - Carry out quantity surveying to verify the progress of the works;
 - Checking the equipment/materials brought to site;
 - Approve testing of any products and materials to be incorporated in the works are in compliance with the Employer's Requirements and national and international standards and procedures; Attend third party inspections (incl. Factory Inspection Tests) as necessary and provide certification on the quality of the supplies based on such inspections
 - Make follow-up actions whenever needed to speed up the works;
 - Make the Client aware in a timely manner of any possible problems that could arise with the potential to affect the achievement of the project objectives;
 - Instruct the Contractor to make any adjustment in the design, specifications, and work program that may become necessary or desirable during or subsequent to the execution of the construction work;
 - Advise the Employer on possible ways to reduce the project expenditures, to decrease the execution time or to improve the quality of the works;
 - Regularly monitor physical and financial progress against the milestones as per the Contract so as to ensure completion of contract on time
 - Monitor safety of the works, property, personnel, and general public and compliance with health and safety procedures;
 - Supervise and monitor the implementation of environmental mitigation measures required
 - Monitor the Contractor's quality control and safety program;
 - Monitor the Contractor's implementation of GIS and detailing of the hydraulic modelling;
 - Highlight O&M specific issues during implementation
 - Assist PMU to process and analysis of any contract variation submitted by the contractor

4.9.5 Testing, Commissioning & Taking Over

- Assistance with pressure system testing of all laid, relined and burst water mains suitable segments of relined mains with new service connections in DMAs. For testing completed works, the Consultant will ensure specific standards apply with respect to allowable pressure loss. The process is best carried out during periods of low demand, with less chance of householders opening the closed connection valves. PMC will ensure the following tasks by the contractors as per design and specifications:
 - Notifying consumers of intension to test
 - Isolating specific segment for testing
 - Having temporary supply facility available
 - Closing all house connections at property boundary
 - Carrying out test, documenting and analyzing results
 - Making repairs, if necessary, or reactivating segment and opening connections (to be carried out by the contractor)
- Undertake all site testing of the Works and commissioning tests prior to issuing Taking Over certificates
- Assistance for measurement and certification of works completed after commissioning. After commissioning, the contractor will provide complete as built information, test results and specific operational / maintenance requirements. The work will be jointly inspected, to ensure in particular that the as built information in relation to valves, valve and meter chambers, can be matched in the field.

4.9.6 Post Construction

- Review Contractors' submitted Operation Manuals;
- Monitor preparation of and approve the "as built" drawings prepare by the Contractors before submission to the Employer;
- Assist PMU to process the bill of the contractor
- Completion of the works in line with the Environmental & Social Management Plan
- A complete analysis of the completion cost of the contract
- Manage defect liability period. The PMC will review whether 12 months defects liability is enough and what O&M support, if any, should be provided to DWASA during the initial O&M period
- Final completion performance certificate
- Prepare and submit final Project Completion Reports as required.

4.10 Workshop and Training

- At the end of the inception Activity the PMC will organize a workshop with key stakeholders & DWASA to present their initial findings and workplan. Organize inception workshop with key stakeholders, prepare the Inception Presentation, facilitate the stakeholder workshop and then incorporate any findings based on feedback from the workshop.
- Control, approve and participate in the training provided by the Contractor to the staff of the Employer in accordance with the contract requirements.
- Encourage involvement and training & workshop of DWASA officers/staffs
- Assistance with training of DWASA personnel based on operation and maintenance routines to be worked out by the contractor.
- Vet training programs and material developed by the contractors for instructing the DWASA zonal staff on the operation and maintenance of the network, maintaining operational pressures, identifying sources of wastage, flushing lines, maintaining bulk and consumer meters, etc.
- Assist in conducting training sessions on service connection procedure, jointing of Tee, pipe, fittings, etc.
- Monitoring training impact and resulting performance improvements.
- Hands on training on the modeling software, GIS Database etc.
- Training/ workshop on Health and Safety
- Training on developed software equipped to manage cost analysis, financial assessments, archival needs, project documentation, project asset management etc.

4.11 GIS and Database

- Updating the GIS database by recording all existing facilities and facilities developed under the Project in collaboration with PMU
- Assisting DWASA to maintain the GIS database and providing hands-on training to utilize, maintain, and update it
- Establish a workflow to regularly update the database even after the Project Completion
- Handing over all drawing & data collected and developed, including as-built drawing under the project, in electronic and printed form to DWASA for future use.

4.12 Implementation of Land Acquisition Plan & Social Safeguards

The key activities are as follows -

- Supervise and ensure timely implementation of resettlement plans and environmental mitigation program in accordance with the EMP
- Collect baseline data and monthly update on the status of safeguard compliance.
- Monitor the implementation of safeguard compliance and prepare semiannual safeguard monitoring reports for submission to NDB
- Assist PMU in establishing a system and training staff to monitor the Project's environmental indicators, and compliance of environmental management plan

- Advise the PMU to ensure that the NDB safeguard policy statement (SPS) and loan covenants on environmental and social safeguards are met.
- Assist the PMU in establishing good governance and anti-corruption measures in all aspects of the project implementation
- Review and check the quality of data, evaluate the effectiveness with which the mitigation and monitoring measures are implemented, and recommend action to be taken.

4.13 Regular Reporting Criteria and Scope

Throughout the project duration, it's crucial to adhere to several additional general criteria to ensure its successful execution. These criteria encompass:

- Significant new survey work and new detailed design relevant to the element
- Reporting to DWASA Project Management Unit (PMU) on project progress and Environmental & Social Management Plan implementation, support to DWASA PMU for reporting to financiers
- Technical assistance to DWASA to support both implementation and long-term O&M
- Monthly reports and internal coordination with PMU. Assist PMU to organize monthly progress meetings and to prepare short monthly reports. Monthly report should cover the following format but not limited to-
 - Cover Page
 - Executive Summary
 - Project Background
 - Relevant developments in the Sector
 - Consultant's Activities, Staffing and Time Schedule (including outlook on next reporting period)
 - Progress of Design, Procurement, and Construction
 - Financial Information
 - Quality Management & Compliance
 - Deviations from Project Concept and Contracts
 - Risk Assessment and prospect of achieving the Overall Project Goals
 - Public Relations and Visibility
 - Recommendations
 - Monitoring of Achievements and Impacts
- Quarterly reports, wider progress meetings and updated project management docs. Assist PMU to organize quarterly progress meetings and to prepare more substantial quarterly reports.
- Monitor budget, program and risks by comparing actual against planned (baseline) on a regular basis (provisionally assumed to be quarterly but this is to be agreed with the PMU and the funders).
- Day to day coordination: Ensure good coordination with the contractors and with other key stakeholders, including (but not limited to) : timing of key activities ; potential alignment of common tasks (e.g. Avoid duplicating meetings and approvals from key stakeholders) ; and technical alignment
- Assist PMU to prepare report for IMED.
- Reporting in line with funders' requirements: The duties of the PMC include, but are not limited to, supporting DWASA in :
 - Reporting in line with funder's requirements
 - Technical, financial and budget reporting
 - Storage and archiving of all relevant documents in line with funder's requirements
 - Preparing, carrying out, and/or supporting audits, inspections, and evaluation missions in line with the funder's requirements.

(a) Reporting and Deliverable Formats

All reports must be submitted in the following formats:

- Printed and Electronic format
- PDF format
- MS Word format
- Project-related pictures & Documentary videos of each stage.

Additionally, all data collected must be provided in an editable soft copy format as well as printed format. This will enable Dhaka WASA to update and modify the data as needed in the future.

4.14 Assistance in Selection of Other Consultancy Services

The PMC Consultant will aid the Project Management Unit (PMU) in the selection of the following consultant within the scope of this project and as per the DPP :

- Capacity building for sustainability (CBS) consultants
- Project development facilities (PDF) consultants
- NGO for safeguard
- PMU expert/Assistance etc.

PMC consultant will assist the selection process of this consultants, prepare TOR, RFP and other relevant documents, assist in evaluation and finalization of the contracts.

4.15 Strengthen Dhaka WASA Operational Capacity

This part of the TOR will include –

- O&M structure for DMA, Padma Transmission line and newly developed 3 MODS Zone
- Propose effective organogram for successful operation of these Zones & DMA
- Institutional arrangement of the new zones and previous zones of Dhaka WASA for strengthening the supply network and operation.

5 Duration of the Assignment

The contract has a total duration of 50 (fifty) months, starting from the signing of the contract agreement. The assignment is divided into two phases: the design phase and the construction supervision phase. The design phase and construction phase will run concurrently, following the sequential submission of the design, as outlined in Section 6.

6 Deliverables

The Consultants shall complete the assignment in 50 months effective from the date of signing of the contract agreement. It is expected that the Consultant team will include experts from multidisciplinary fields required for the task. The submission of reports/deliverables is as follows.

Sl. No.	Report	No. Of Copies to the Client	Target Date
1.	Inception Report	5 copies	End of 1st month
2.	Interim Report 1	3 copies	End of 3rd month
3.	Interim Report 2	3 copies	End of 5th month
4.	Interim Report 3	3 copies	End of 8th month
5.	Interim Report 4	3 copies	End of 12th month
6.	Interim Report 5	3 copies	End of 15th month
7.	Interim Report 6	3 copies	End of 18th month
8.	Interim Report 7	3 copies	End of 24th month
9.	Interim Report 8	3 copies	End of 30th month
10.	Interim Report 9	3 copies	End of 36th month
11.	Interim Report 10	3 copies	End of 42th month
12.	Interim Report 11	3 copies	End of 45th month

SI. No.	Report	No. Of Copies to the Client	Target Date
13.	Final Project Completion Report	3 copies	End of 50th month

Inception and interim periods and all the reports will reflect the following things but not limited to:

6.1 Inception Period and Report

Inception periods and reports will reflect the following things but not limited to:

- Literature Review
 - Dhaka WASA Act outlining regulatory frameworks
 - Water and Sewerage Master Plan
 - Alignment of the project objectives with Sustainable Development Goals (SDGs)
 - Literature review of previous feasibility study and updating of the existing feasibility study
 - Existing DPP and its scope
 - Review of the design and implementation of the existing DWSNIP project of Dhaka WASA
 - Review of the design and implementation of the Padma Water Treatment Plant project of Dhaka WASA
 - Review of the design and implementation of the existing Padma Water Treatment Plant distribution network of Dhaka WASA
 - Review of the design and implementation of the Emergency Water Supply Project of Dhaka WASA
- Clear outline of the methodology and technical approach of the consultancy service for this project
- Detailed plan highlighting key milestones and stages of execution
- Assessment of available data
- Start Data collection and processing
- Documentation of the topographic survey
- Precise mapping of elevation, land features, and infrastructure
- Gathering additional information from existing sources or studies
- Strategy outlining land acquisition procedures and requirements
- Stakeholder engagement plan
- Timeline detailing stages and deadlines for land procurement
- Estimated project duration and key timelines for different phases
- Gantt chart or similar visual representation of the projected schedule
- Proper documentation, filing and archiving system
- Workshop on Inception Report

6.2 Interim Period 1 and Report

Interim periods and reports will reflect the following things but not limited to:

- Necessary survey, investigation and data collection
- Completion of data collection and processing
- Documentation of the all collected data and survey findings
- Completion of modelling of the Padma Transmission Network, AC Pipeline Replacement Network (if requires)
- Design of the Padma Water Treatment Plant Transmission Network
- Progress of DMA Network Design for 16-union of the Expanded Dhaka City.
- Progress of AC Pipe Replacement Design (if requires)
- Detailed costing of Land Acquisition and Environmental Safeguard
- Stakeholder engagement activities

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- Assessment of connectivity with existing DMAs, Saidabad primary and secondary distribution network for Padma and secondary distribution network by using water supply network modelling
 - Detailed Project Management Plan
 - Budgeting and financial projection plan of the project
 - Progress of performance matrix

6.3 Interim Period 2 and Report

Interim periods and reports will reflect the following things but not limited to:

- Stakeholder Consultation Workshop
- Training on the Hydraulic modeling software
- Completion of AC Pipeline Design if requires
- Submission of final Design, BoQ & Costing of Padma Transmission Network
- Submission of final Design, BoQ & Costing of AC Pipeline Replacement Network (if requires)
- Submission of GIS database and map pointing all existing condition of the proposed project areas for Padma Transmission Network & AC Pipeline Replacement Network (if requires)
- Review of population projection and water demand modelling
- Finalize the TOR, RFP for the NGO, CBS, PDF etc. consultant
- Procurement assistance
- Develop software equipped to manage cost analysis, financial assessments, archival needs, project documentation, project asset management etc. Ensure it offers seamless integration with the existing Dhaka WASA software

6.4 Interim Period 3 and Report

Interim periods and reports will reflect the following things but not limited to:

- Submission of bid document for Padma Transmission Network
- Submission of bid document for AC Pipeline Replacement Network if requires
- Tender processing of Padma Transmission Network & AC Pipeline Replacement Network (if requires)
- Assistance in evaluation process & contract signing of Padma Transmission Network & AC Pipeline Replacement Network (if requires)
- Completion of modelling of 25 DMA network
- Submission of Design, cost estimate & BoQ of 25 DMA's along with all SCADA component & automation facilities, DTW, IRP (where applicable), house connection, fire hydrant (where applicable) etc. under this project's jurisdiction
- Design, drawing & location map of fire hydrant.
- Procurement assistance
- Assistance in review of the ADP & APP time to time

6.5 Interim Period 4 and Report

Interim periods and reports will reflect the following things but not limited to:

- Mobilization of Padma Transmission Network & AC Pipeline Replacement Network (if required)
- Construction supervision & monitoring of Padma Transmission Network & AC Pipeline Replacement Network (if requires)
- Construction contract management
- Review of detailed design of Padma Transmission Network & AC Pipeline Replacement Network (if requires)
- Detailed Design, drawings, cost analysis, BoQ and bid Document for 3 new mods zone office compound & quarter along with required infrastructure and utility management
- Detailed Design, drawings, cost analysis, BoQ and bid Document for meter and submersible pump motor test bench
- Tender processing of 3 mods zone office compound & quarter along with required infrastructure and utility management & meter and submersible pump motor test bench

- Assistance in evaluation process & contract signing 3 mods zone office compound & quarter along with required infrastructure and utility management & meter and submersible pump motor test bench
- Submission of Bid document for the 25 nos DMA along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
- Completion of detailed design of rest of the DMA's along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc. under this project's jurisdiction
- Submission of cost estimate, BoQ for rest of the DMA's along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
- Training on the developed software equipped to manage cost analysis, financial assessments, archival needs, project documentation, project asset management etc.
- Training on Design, modeling of DMA component
- Progress of resettlement and compliance of the social safeguard
- Monitoring of environmental management plan
- Procurement assistance
- Project Management Support
- Reporting

6.6 Interim Period 5 and Report

Interim periods and reports will reflect the following things but not limited to:

- Mobilization of 3 mods zone office compound & quarter contracts along with required infrastructure and utility management & meter and submersible pump motor test bench
- Construction supervision & monitoring of Padma Transmission Network & AC Pipeline Replacement Network (if requires) & 3 mods zone office compound & quarter contracts along with required infrastructure and utility management & meter and submersible pump motor test bench
- Financial Management Support
- Tender processing of 25 DMA's along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
- Assistance in evaluation and Contract Signing of 25 DMA's
- Completion of modelling for rest of the DMA's network
- Training on Design, modeling of DMA component
- Submission of Bid Document for the rest of the DMA's along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
- Submission of location map, design, cost estimate, BoQ, bid document of Rain water harvesting Plant
- Progress reporting according to the prescribed government format
- Procurement assistance
- Project Management Support

6.7 Interim Period 6 and Report

Interim periods and reports will reflect the following things but not limited to:

- Assistance in tender processing, evaluation and contract signing of rest of the DMA's & rain water harvesting plant
- Mobilization of construction contractors of 25 DMA's along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
- Construction supervision, quality control & monitoring of all running construction works
- Construction contract management
- Review of Detailed Design of 25 DMA's (if requires)

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- Review of Detailed Design of all running construction (if requires)
 - Progress of resettlement and compliance of the social safeguard
 - Monitoring of environmental management plan
 - Progress report of Padma Transmission Network, AC Pipeline Replacement Network's construction work (if requires), 3 mods zone office compound & quarter contracts along with required infrastructure and utility management & meter and submersible pump motor test bench
 - Progress reporting according to the prescribed government format
 - Project Management Support

6.8 Interim Period 7 and Report

Interim periods and reports will reflect the following things but not limited to:

- Progress report
- Progress reporting according to the prescribed government format
- Construction supervision, quality control & monitoring of all running construction works
- Construction contract management
- Assessment of contract variation if requires.
- Mobilization of the rest of the DMA project
- Review of the Design (if requires)
- Progress of resettlement and compliance of the social safeguard
- Monitoring of environmental management plan
- Project Management Support

6.9 Interim Period 8 and Report

Interim periods and reports will reflect the following things but not limited to:

- Progress report
- Progress reporting according to the prescribed government format
- Handover of Padma Transmission Network & AC Pipeline Replacement Network (if requires)
- Submission of final as built design, drawing both in electronic and printed form
- Submission of GIS database and map for implemented project line
- Submission of final cost expenditure analysis of Padma Transmission Network & AC Pipeline Replacement Network (if requires)
- Training of Dhaka WASA employees on operation manual, maintaining GIS database and hands on training to utilize, maintain and update the GIS database and map
- Workshop of stakeholder consultation on community level
- Submission of manual for O&M plan
- Financial projection of O&M phase Padma Transmission Network & AC Pipeline Replacement Network (if requires)
- Construction supervision, quality control & monitoring of all running construction works
- Construction contract management
- Completion of resettlement and compliance of the social safeguard
- Monitoring of environmental management plan
- Review of the DMA design if requires
- Variation of 25 DMA if requires
- Project Management Support

6.10 Interim Period 9 and Report

Interim periods and reports will reflect the following things but not limited to:

- Progress report
- Progress reporting according to the prescribed government format
- DMA commissioning of 25 DMA
- Handover of 25 DMA along with all SCADA component & automation facilities, DTW, IRP (where applicable), Chlorination system, house connection, fire hydrant (where applicable) etc.
- Manual for O&M and

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- Financial projection of O&M of 25 DMA along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
 - Submission of GIS database and map for implemented project
 - Submission of final cost expenditure analysis
 - Training of Dhaka WASA employees on DMA operation
 - Workshop of stakeholder consultation on community level
 - Submission of final as built design, drawing both in print and electronic format
 - Submission of final cost expenditure analysis of 25 DMA along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
 - Financial Support and Procurement Assistance for construction contract management
 - Construction supervision, quality control & monitoring of all DMA's
 - Monitoring of environmental management plan
 - Review of the DMA design if requires
 - Project Management Support

6.11 Interim Period 10 and Report

Interim periods and reports will reflect the following things but not limited to:

- Progress report
- Progress reporting according to the prescribed government format
- DMA commissioning of 15 DMA
- Handover of 15 DMA along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
- Manual for O&M
- Financial projection of 15 DMA
- Training of Dhaka WASA employees DMA operation, SCADA, IRP etc.
- Workshop of stakeholder consultation on community level
- Submission of final as built design, drawing both in print and electronic format
- Submission of final cost expenditure analysis of 15 DMA along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
- Financial Support and Procurement Assistance for construction contract management
- Monitoring of environmental management plan
- Construction supervision, quality control & monitoring of all DMA's along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
- Review of the DMA design DMA along with all SCADA component & automation facilities, DTW, IRP (where applicable), house connection, fire hydrant (where applicable) etc.
- Project Management Support
- Review of DPP and preparation of RDPP if requires

6.12 Interim Period 11 and Report

Interim periods and reports will reflect the following things but not limited to:

- Progress report
- Progress reporting according to the prescribed government format
- DMA commissioning of rest of the DMA
- Handover of rest of the DMA along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
- Handover of 3 MODS zone Compound & quarter contracts along with required infrastructure and utility management & meter and submersible pump motor test bench
- Handover of rain water harvesting plant
- Manual for O&M

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- Financial projection of rest of the DMA along with all SCADA component & automation facilities, DTW, IRP (where applicable), chlorination system, house connection, fire hydrant (where applicable) etc.
 - Institutional arrangement for the newly developed three zone areas with previous zones of Dhaka WASA.
 - Organogram and operation plan for 3 New Zones
 - Training of Dhaka WASA employees on operation & Maintenance manual, Health and Safety
 - Workshop of stakeholder consultation on community level
 - Submission of final as built design, drawing both in hard and soft copy
 - Submission of final cost expenditure analysis of rest of the DMA
 - Handover of the ERP
 - Review of ESIA and submission of revised ESIA
 - Project Management Support

(a) Consideration in all Interim Report

All the interim report should also cover the following (but not limited to):

- A brief update on the Technical Description, explaining the reasons for significant changes vs. Initial scope;
- Update on the date of completion of each of the main project's components, explaining reasons for any possible delay;
- Update on the cost of the project, explaining reasons for any possible cost variations vs. Initial budgeted cost;
- A description of any major issue with impact on the environment;
- Update of the procurement plan if requires;
- Update on RAP;
- Update on the project's demand or usage and comments;
- Any significant issue that has occurred and any significant risk that may affect the project's operation;
- Any legal action concerning the project that may be on-going;
- Project-related pictures & Documentary Videos of each stage.

6.13 Final Project Completion Report

Project Completion Report (PCR) should cover but not limited to:

- A final technical description of the project as completed, explaining the reasons for any significant change compared to the technical description
- The date of completion of each of the main project components, explaining reasons for any possible delays
- The final cost of the project, explaining the reasons for any possible cost variations versus initial budgeted cost
- Employment effects of the project: person-days required during implementation as well as permanent new jobs created
- A description of any major issues with impact on the environment or social impacts
- Update on procurement procedures and explanation of deviations from the procurement plan
- Update on the project's demand or usage and comments
- Any significant issues that have occurred and any significant risk that might affect the project's operation
- Any legal action concerning the project that may be ongoing
- Project-related pictures & Documentary videos
- All other required reporting as per the available format and the requirement of NDB
- Project completion report as per the government prescribe format

7 Deliverable Acceptance

- Deliverable Reports will only be accepted after receiving authorization from the PMU.
- Any suggestions incorporated after the initial submission must be officially approved to validate the acceptance of the report.

8 Payment Schedule

The payment schedule shall be made according to the following schedule:

- Ten (10%) percent of the lump-sum contract price shall be paid upon submission of the Inception Report.
- Time based payment will be done after the submission of each interim reports depending on the deployment pattern of that period. Time sheet shall be submitted along with the interim report.

9 Responsibilities of DWASA

Dhaka Water Supply and Sewerage authority (DWASA) will provide support and facilities as described below.

- Providing all available data and access to the project information that may be necessary for the Consultants to carry out the assignment, and facilitate field visits, access to beneficiaries, Contractors, Consultants and Government line agencies.
- Providing all available information regarding design, drawings, as-built drawings of water supply pipeline.
- Providing all support in connection with field activities such as field survey, primary data collection, etc., to the Consultants.
- Deputing DWASA personnel who would work in collaboration with the Consultant team so as to own the project on completion of the project.
- Providing all support to the Consultants to hold interaction meeting with the stakeholders in the field so that the project could be a participatory one.
- As per the scope of work, the Consultant will have to conduct relevant survey. To conduct such survey and measurements, the Consultant needs to know the “Right of Way”. DWASA will assist in identifying the “Right of Way” for the Consultants.
- For collection of secondary data, or other relevant data from different departments or agencies, DWASA will provide assistance in seeking permission or requesting through application. Besides, during the survey and investigation period, the staffs of consultant may need ID cards or any form of legal document from DWASA to visit to the various sites. DWASA will arrange to provide such ID cards/legal documents as and when required.

10 Responsibilities of the consultants

In addition to activities mentioned in the scope of work of the consultant shall be responsible for the followings:

- The Consultants shall have regular meetings with the DWASA professional staff to discuss technical and project management issues. Any unresolved technical issues or otherwise should be taken up with Project Director of the project for his intervention and support.
- The Consultants shall carry out the services as detailed in the “Scope of Work” in the best interest of DWASA for the successful realization of the project with reasonable care, skill and diligence with sound technical, administrative and financial practices and shall be responsible to the DWASA for discharging of responsibilities.
- The Consultants shall deliver soft copies (electronics copies) of all data related to this study to DWASA.

11 Staffing (Team Composition)

This Terms of Reference (ToR) provides the following team composition. The Consultant may propose for any change or additional requirement and skill mix in order to carry out its roles and responsibilities efficiently. Key members and non-key members of the indicative staffing and person-months for the

consultant's team for both design and construction supervision phase are as follows. CV's of the non-key staffs will not be evaluated, during submission of the technical proposal. During project mobilization, all CVs (Curriculum Vitae) must be submitted to the Project Management Unit (PMU) and approved by the Project Director.

11.1 Key Staff

Qualification and responsibilities of key professional

Sl. No	Position & Staff Months	Qualification & Experience	Job Description
(A) International Key Staff			
1.	Team Leader (24)	At least Master's degree in Civil Engineering/ Water Resources Engineering/ Hydro informatics or allied discipline. S/he should have about 20 years' international management experience including minimum 15 years practical experience in the field of detailed design, construction supervision and contract management of the various water projects. S/he should have worked experience as Team Leader/Deputy Team Leader in minimum 5 projects among which at least 2 assignments of EPC/Trunkey or FIDIC RED or FIDIC Yellow book contract or similar of water sector.	<ul style="list-style-type: none"> • Full responsibility for overall implementation and management of the contracts under the project between Employer & the Contractors. • Provide advice and direction to the technical groups of the multi-disciplinary team of the Consultant. • Prepare project plan, schedules and time framework and publications of reports. • Oversee all procurement of services, equipment and materials required for the project. • Orient the work plan and necessary training program in consultation with Project Director so as to ensure maximum technology transfer and develop usable capacity in the client. • Taking part in all relevant meeting with concern stakeholders and feedback PIU on the pertinent issues. • Reporting.
2.	Network Modelling Expert (5)	At least Master's degree in Civil Engineering/ Water Resources Engineering/ Hydro informatics or allied discipline. S/he should have adequate international experience of minimum 12 years practical experience in pipeline and water network modeling and design with exposure to international projects. Hands-on experience with hydraulic modeling software. Exposure to evaluating and implementing new technologies in water network modeling will be added advantage. Previous experience in similar projects will be preferred.	<ul style="list-style-type: none"> • Analyze the constrains of DWASA in sustainable DMA operation and contextualizing good practices in DWASA. • Develop and optimize hydraulic models for pipeline systems and water distribution networks. • Collaborate with international teams to design and implement efficient water network solutions. • Analyze and interpret hydraulic data to propose enhancements for water network optimization. • Stay updated with emerging technologies and best practices in water network modeling. • Provide technical expertise and guidance to internal and external stakeholders.

Sl. No	Position & Staff Months	Qualification & Experience	Job Description
			<ul style="list-style-type: none"> • Assist in pipeline and water network modeling projects from conception to implementation. • Ensure compliance with regulatory standards and best practices in water system design. • Designing and preparing the specification
3.	SCADA/ Instrument Expert (10)	At least Master's Degree in Civil Engineering/ Water Resources Engineering/ Electrical Engineer/ Mechanical Engineer or allied discipline. S/he should have adequate international experience of minimum 12 years practical experience in detailed design & construction supervision of SCADA system in the various water related projects. Previous experience in similar projects will be preferred.	<ul style="list-style-type: none"> • Analyze the constrains of DWASA in sustainable DMA operation and contextualizing good practices in DWASA. • Analyze existing billing system with DWASA's commercial division & with international experience develop system to improve the existing billing system to reduce NRW • Study and provide systems to take accurate & timely meter readings, avoid estimated billing, setting up fast track billing system of new connections, and establish software to calculate the NRW levels of project area accurately • Designing and preparing the specification of on-line instrumentation and communication system of SCADA and Automated Meter Reading (AMR) • Prepare specifications for selection of reliable water meters • Recommend the suitable geographical information system for the objective identified and implement, formulate GIS base system and assist all the experts and PMU while trouble shooting • Create data base for maintaining necessary information and establish mechanism to update data base. • Preparing and implementing the procurement process, and negotiating and finalizing contract agreement for SCADA system and AMR, with procurement specialist • Establishing, operating, and maintaining SCADA system and AMR • Finalizing operation and maintenance manual for SCADA system and AMR with suppliers/contractor • Provide guidance/ supervise meter testing and calibrations in the field

Sl. No	Position & Staff Months	Qualification & Experience	Job Description
			and at workshops. Train DWASA's staff for large & small meter calibration & repair techniques and best practices in installation of meters
(B) National Key Staff			
1.	Deputy Team Leader (50)	Master's/ Post Graduate Diploma equivalent to Master's degree in Civil Engineering or Water Supply Engineering or Sanitary Engineering or allied discipline. S/he should have experience of minimum 15 years in projects design & supervision of large water supply projects. S/he must have experience of project management as Team Leader /Deputy Team Leader or Project Director of at least one large water supply project construction of similar capacity or in large Metropolitan cities in Bangladesh.	<ul style="list-style-type: none"> Assist the Team Leader in the overall implementation and management of the contracts under the project between Employer & the Contractors. Reviewing the work plan and construction methodology. Reviewing the flowchart of construction and suggesting necessary modification. Review of quality control and management manuals and methods of the Contractor and suggest changes or improvements where necessary including management of field testing and quality assurance lab at the site. Reporting. Assisting the TL and the team. Any other relevant duties to be required for the team. Act as the Team Leader in the absence of the Team Leader.
2.	Network Modeling Specialist (6)	<p>Bachelor's or Master's degree in Civil Engineering, Environmental Engineering, Water Resource Engineering, or a related field.</p> <p>Additional certifications in pipeline design, hydraulic modeling, or water resources management are advantageous. Minimum of 10 years of experience in pipeline and water network modeling and design on a national scale.</p> <p>Proven track record in developing and optimizing models for water distribution systems within the country.</p> <p>Proficiency in utilizing hydraulic modeling software.</p> <p>Solid understanding of hydraulic principles and local distribution system design.</p> <p>Experience collaborating within</p>	<ul style="list-style-type: none"> Develop and optimize hydraulic models for pipeline systems and water distribution networks Collaborate with international teams to design and implement efficient water network solutions Analyze and interpret hydraulic data to propose enhancements for optimizing the DWASA water network. Stay updated with emerging technologies and best practices in water network modeling applicable within the country. Provide technical expertise and guidance to local stakeholders and teams. Lead and support national pipeline and water network modeling projects from conception to implementation. Ensure compliance with national regulatory standards and best practices in water system design.

Sl. No	Position & Staff Months	Qualification & Experience	Job Description
		<p>multidisciplinary teams on national water network projects.</p> <p>Ability to analyze and interpret hydraulic data to propose optimization strategies within the country's regulatory framework.</p> <p>Familiarity with local regulations and standards related to water distribution and pipeline systems.</p> <p>Exposure to evaluating and implementing relevant technologies in national water network modeling.</p>	
3.	Survey Specialist (8)	<p>Bachelor/Master's degree in Civil Engineering. He should have at least 10 years of working experience in the planning, development and implementation of water resources projects. Should have at least 8 years' experience in organizing field survey, data collection and processing and production of survey maps by using the modern satellite-based survey equipment like RTK-GPS, DGPS, Total Station and Data logger and the related software. He must be well reputed for transfer of knowledge to the users and stakeholders. Previous experience in similar project will be preferred.</p>	<ul style="list-style-type: none"> • Supervision and quality control of the field survey and data collection activities. • Guide and monitor the preparation/ production of drawings, maps and reports. • Interaction with the client officials in the matters of survey and data collection specification and quality control. • Contribute in reporting.
4.	Design Engineer (Civil) Specialist (12)	<p>Master's degree in Civil Engineering or related field.</p> <p>Professional Engineer (PE) license or equivalent certification preferred.</p> <p>Minimum of 8 years of experience in civil engineering design and project management.</p> <p>Proven track record in structural design, site development, and infrastructure projects.</p> <p>Proficiency in design software such as AutoCAD, Civil 3D, or similar tools.</p> <p>Experience in creating detailed drawings, plans, and</p>	<ul style="list-style-type: none"> • Design and develop civil engineering projects, ensuring compliance with codes and standards. • Design and implement efficient large dia water network solution and hydraulic network analysis • Review of all existing pipe design • Conduct structural analysis and calculations to support design decisions. • Create detailed drawings, plans, and specifications using design software. • Collaborate with modellers, architects, contractors, and other stakeholders in project planning and execution.

Sl. No	Position & Staff Months	Qualification & Experience	Job Description
		<p>specifications for construction projects.</p> <p>Familiarity with local building codes, regulations, and industry standards.</p> <p>Demonstrated ability to manage design projects from conceptualization to completion.</p> <p>Previous experience collaborating with multidisciplinary teams and stakeholders.</p>	<ul style="list-style-type: none"> • Perform site inspections and evaluations to assess project feasibility and progress. • Review and approve project designs, ensuring accuracy and adherence to regulations. • Provide technical guidance and support to junior engineers, modellers and project teams. • Stay updated with advancements in civil engineering technology and best practices. • Review of designs and drawing of submitted by the Contractor, suggest modification, changes as required. • Assisting the TL and the team. • Any other relevant duties to be required for the team.
5.	<p>Procurement Specialist (PMU Office)</p> <p>(50)</p>	<p>The national procurement expert should have a B.Sc./M.Sc. in Engineering or other related field with preferably 8 years' experience in procurement of works and goods, appointment of consultants, preparation of tender/proposal and contract documents, support to evaluation of tenders/proposals, and contract management. Working experiences with NDB funded projects or any donor funded project will be added advantages. He/she should have a good knowledge on updated NDB procurement guideline. He /she will have demonstrated ability to work in a multidisciplinary team and has excellent communication (written and oral) skills</p>	<p>The national procurement expert will provide support to the Team Leader and International other key experts to:</p> <ul style="list-style-type: none"> • assist the PMU in preparing tender/proposal documents, support to evaluation, negotiating and finalizing contract agreements for procurements; • develop, and organize procurement and contract management capacity building and training covering NDB procurement guidelines and procedures for the project implementation staff of the PMU • advise Team Leader/team on the progress reporting, quality control and inspection systems to be followed during execution of rehabilitation of distribution network contracts; and • advice PMU in resolving contractual issues.
6.	<p>Geotechnical Engineer</p> <p>(4)</p>	<p>At least Bachelor's Degree in Civil Engineering or allied discipline. Preferably master's degree or equivalent in relevant fields. S/he should have adequate experience and 8 years relevant experience in projects of similar. Previous experience in similar projects will</p>	<ul style="list-style-type: none"> • Sub soil investigation (field test and laboratory test). • Designing earth retention structures. • Preparation of layout plan of foundations of the structures including column and boundaries. • Necessary direction for ground improvement works.

Sl. No	Position & Staff Months	Qualification & Experience	Job Description
		be preferred.	<ul style="list-style-type: none"> Attending meeting as and when required by the client.
7.	Environmental Management Specialist (2 no's) (48)	<p>Master's Degree in Civil Engineering/ Water Resources Engineering/ Environmental Engineering or allied discipline. Preferably master's degree or equivalent in relevant fields. S/he should have 8 years' experience in similar project on EIA/EMP and allied report preparation and monitoring.</p>	<ul style="list-style-type: none"> Oversee the implementation of the environmental management as per existing rules and regulations for the project. Suggest modification or changes of EMP and other documents as per the changed situation in the field during implementation of the project. Assisting the TL and the team. Any other relevant duties to be required for the team. Review of ESI, EIA, EMP
8.	Construction Contract Management Specialist (6 no's) (180)	<p>Bachelor's degree in Civil Engineering or a related field. Advanced degree or certifications in Contract Management are beneficial.</p> <p>Minimum of 8 years of experience in contract management, specifically within civil engineering or infrastructure projects.</p> <p>Proven track record in negotiating and managing contracts related to civil engineering, construction, or infrastructure.</p> <p>Experience in contract administration, ensuring adherence to specifications, timelines, and budgets.</p> <p>Strong knowledge of civil engineering practices, construction regulations, and industry standards.</p> <p>Demonstrated ability to manage multiple contracts and stakeholders concurrently within civil engineering projects.</p> <p>Familiarity with legal aspects of contracts in civil engineering, including risk management and dispute resolution.</p>	<ul style="list-style-type: none"> Lead contract negotiations, ensuring alignment with project objectives and regulatory requirements. Draft, review, and finalize contracts for projects, ensuring accuracy and compliance. Oversee contract administration throughout project lifecycles, monitoring performance and compliance with specifications. Collaborate with procurement, and legal teams to align contracts with project goals. Resolve contract disputes and issues, ensuring swift and effective resolution in collaboration with stakeholders. Develop and implement strategies to enhance contract management efficiency within civil engineering projects. Conduct regular contract reviews and audits to identify areas for improvement or renegotiation. Provide guidance and support to internal teams on contract-related matters specific to projects.
9.	OH&S Specialist (24)	Master's Degree in Civil Engineering/ Water Resources Engineering/ Environmental	<ul style="list-style-type: none"> Oversee the implementation of the environmental management as per

Sl. No	Position & Staff Months	Qualification & Experience	Job Description
		Engineering or allied discipline. S/he should have 10 years' experience in similar project.	<p>existing rules and regulations for the project.</p> <ul style="list-style-type: none"> • Suggest modification or changes of EMP and other documents as per the changed situation in the field during implementation of the project. • Assisting the TL and the team. • Any other relevant duties to be required for the team.
10	Social Safeguard Specialist (24)	<p>Master's Social Sciences, Education, Sociology, Anthropology, or a related field.</p> <p>Minimum of 8 years of experience in social research, education policy, or related areas.</p> <p>Proven track record in developing and implementing qualifications frameworks or programs with a strong social impact.</p> <p>Experience working with diverse communities, understanding social needs, and aligning them with educational qualifications.</p> <p>Familiarity with social policies, social inclusion initiatives, and strategies for improving access to social needs.</p> <p>Previous involvement in projects related to workforce development, skills training, or vocational programs.</p>	<ul style="list-style-type: none"> • Conduct research and assessments to identify social needs and qualifications gaps within communities or target groups. • Collaborate with educational institutions, government bodies, and community organizations to align with social requirements. • Analyze and assess the social impact and propose improvements. • Design and lead initiatives to promote social inclusion through educational qualifications and skills training. • Provide expertise and guidance to public or policymakers on social qualification strategies. • Monitor and evaluate the effectiveness of social qualification programs and make recommendations for enhancements. • Review of Social Impact Assessment (SIA), Settlement Action Plan (SAP), Land Acquisition Plan (LAP) etc.
11.	Architect (4)	Minimum of Bachelor degree in Architecture. Preferably master's degree or equivalent in relevant fields. S/he should have adequate experience and 8 years relevant experience in projects of similar nature.	<ul style="list-style-type: none"> • Work with the team in preparing the Master Plan. • Preparation of Architectural drawings, design, 3D animation of buildings and infrastructures. • Detailed drawings of sections and elevations. • Attend meetings as and when required.
12.	Structural Engineer (24)	At least Bachelor's Degree in Civil Engineering or allied discipline. Preferably master's degree or equivalent in relevant fields. S/he should have adequate experience and 10 years relevant experience in projects of similar. Previous	<ul style="list-style-type: none"> • He/she has to design of various types of buildings and infrastructures related to the proposed project. • Detailed drawings of superstructures.

Sl. No	Position & Staff Months	Qualification & Experience	Job Description
		experience in similar projects will be preferred.	<ul style="list-style-type: none"> • Layout plan of buildings, fire hydrants and other associated facilities. • Preparation of design drawings of underground water reservoirs and overhead water reservoirs. • Preparation of detailed layout of concealed electrical conduit, water lines, fire protection works, floor and roof works showing detailed reinforcements. • Preparation of detailed plan of shore piling. • Preparation of specifications of construction materials as per design needs. • Preparation of BOQ. • Attending meeting as and when required.
13.	Instrumentation/Material Specialist (12)	<p>Bachelor's or Master's degree in Materials Science, Mechanical Engineering, or a related field.</p> <p>Minimum of 5 years of professional experience in instrumentation technology and materials expertise within a specific industry.</p> <p>Experience in evaluating and selecting materials for specific applications, considering performance, durability, and safety aspects.</p> <p>Familiarity with various materials testing techniques, standards, and specifications.</p> <p>Strong knowledge of instrumentation principles and their application in materials science.</p>	<ul style="list-style-type: none"> • Design, develop, and implement instrumentation systems relevant to the industry or field. • Prepare specification • Review and receive products as per the specification • Evaluate, select, and recommend materials for specific applications based on performance requirements. • Conduct materials testing, analysis, and assessment to ensure suitability and compliance with standards. • Collaborate with engineering teams to integrate instrumentation with materials for optimized performance.. • Troubleshoot and resolve issues related to instrumentation systems or material performance. • Stay updated with advancements in instrumentation technology and materials science relevant to the industry.
14.	Water Quality Monitoring Specialist (12)	<p>Bachelor's or Master's degree in Environmental Science, Chemistry, Biology, Environmental Engineering, or a related field.</p> <p>Minimum of 8 years of professional experience in water quality monitoring, assessment,</p>	<ul style="list-style-type: none"> • Design, develop, and oversee water quality monitoring programs and protocols. • Collect, analyze, and interpret water samples to assess various quality parameters. • Implement and maintain monitoring equipment and systems for water quality assessment.

Sl. No	Position & Staff Months	Qualification & Experience	Job Description
		<p>or management.</p> <p>Proven track record in designing, implementing, and managing water quality monitoring programs.</p> <p>Experience in analyzing water samples, interpreting data, and conducting assessments on water quality parameters.</p> <p>Familiarity with environmental regulations and standards related to water quality.</p> <p>Previous involvement in water resource management projects or initiatives.</p>	<ul style="list-style-type: none"> • Ensure compliance with regulatory standards and report findings to regulatory bodies as required. • Identify sources of water contamination and recommend mitigation or remediation measures. • Collaborate with stakeholders, including government agencies, NGOs, and local communities, on water quality initiatives. • Provide technical expertise and guidance on water quality-related matters. • Stay updated with advancements in water quality monitoring technologies and methodologies.
15	IT Specialist (20)	<p>Bachelor's degree in Computer Science, Information Technology, or a related field.</p> <p>Minimum of 8 years of professional experience in IT, with expertise in at least one specialized area (e.g., systems administration, network management, cybersecurity, software development, etc.).</p> <p>Proven track record in implementing and managing IT systems, networks, or software solutions.</p> <p>Experience in troubleshooting IT issues and providing technical support to end-users.</p> <p>Familiarity with current industry best practices and emerging technologies in the IT field.</p>	<ul style="list-style-type: none"> • Manage and maintain IT systems, ensuring optimal performance and security. • Provide technical support and troubleshoot IT-related issues for end-users. • Implement and oversee network infrastructure, ensuring reliability and security. • Evaluate and recommend IT solutions to improve efficiency and productivity. • Stay updated with technological advancements and industry trends in the IT field. • Collaborate with stakeholders to understand IT needs and propose solutions. • Develop and maintain documentation related to IT systems and processes. • Asset management • Develop software for asset management • Develop software for costing; i.e.: CAPEX management • Storing of any tangible and intangible document • Link establishment with SCADA component • Integration with the central asset management of Dhaka WASA.
16.	Financial Management Specialist (PMU Office) (50)	<p>Bachelor's or Master's degree in Finance, Accounting, Business Administration, or a related field. Professional certifications (e.g., CPA, CFA, CMA) are advantageous.</p>	<ul style="list-style-type: none"> • Develop and manage project budgets, ensuring alignment with project objectives and donor requirements. • Monitor project expenditures, analyze variances, and provide financial reports to stakeholders.

Sl. No	Position & Staff Months	Qualification & Experience	Job Description
		<p>Minimum of 8 years of professional experience in financial management, preferably within infrastructure or water management projects.</p> <p>Proven track record in managing project finances, budgeting, forecasting, and financial reporting.</p> <p>Experience in financial planning, risk management, and compliance within project frameworks.</p> <p>Familiarity with financial regulations, procurement procedures, and donor funding requirements related to infrastructure projects.</p> <p>Previous involvement in pipeline water network projects or similar large-scale infrastructure projects.</p>	<ul style="list-style-type: none"> • Ensure compliance with financial regulations, procurement guidelines, and reporting standards. • Collaborate with project teams to assess financial risks and implement mitigation strategies. • Liaise with financial institutions, donors, and relevant authorities for funding and compliance matters. • Provide guidance and support to the PMU office on financial management aspects. • Conduct financial audits and evaluations to ensure transparency and accountability.

11.2 Non-Key Staff

1.	<p>Electro Mechanical Engineer</p> <p>(12)</p>	<p>Bachelor's or Master's degree in Electrical Engineering, Mechanical Engineering, or a related field.</p> <p>Minimum of 5 years of professional experience in electro-mechanical engineering or a related field.</p> <p>Proven track record in designing, developing, and maintaining electro-mechanical systems.</p> <p>Experience in integrating electrical and mechanical components within complex systems.</p> <p>Proficiency in CAD software for design and analysis purposes.</p>	<ul style="list-style-type: none"> • Design, develop, and oversee the implementation of electro-mechanical systems and components. • Collaborate with electrical and mechanical engineering teams to integrate components into complex systems. • Conduct tests, analysis, and evaluations to ensure the functionality and efficiency of electro-mechanical systems. • Troubleshoot and resolve issues related to electro-mechanical systems and components. • Develop and maintain documentation, including specifications, schematics, and technical reports. • Collaborate with manufacturing and production teams to ensure effective implementation of designs. • Ensurement of Electrical network's safety operation in in the new build infrastructure
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			<ul style="list-style-type: none"> • Ensure safe operation of the Pump, VFD, DTW etc. • Stay updated with advancements in electro-mechanical engineering and relevant technologies.
2.	Assistant Resident Engineer (ARE) (2 no's) (30)	<p>A bachelor's degree in Civil Engineering or a related field.</p> <p>Proficiency in engineering software, project management tools, and strong computer skills are essential. Excellent communication, problem-solving, and leadership abilities are also crucial.</p> <p>5 years of experience in civil engineering, construction management, or a related field is required. Experience in a similar role, preferably in overseeing construction projects, is highly valuable. Familiarity with construction techniques, materials, and relevant regulations is essential. Experience with various construction phases and site management is beneficial. Experience in project management methodologies, including scheduling, budgeting, and quality control, is necessary.</p>	<ul style="list-style-type: none"> • Support the site engineer or Team leader in overseeing all construction activities, ensuring adherence to project specifications, schedules, and budgets. • Conduct inspections, review plans and specifications, and ensure compliance with relevant codes, standards, and regulations. Address quality issues promptly. • Liaise with contractors, stakeholders, and other team members to coordinate project activities, resolve conflicts, and ensure smooth progress. • Maintain accurate project records, prepare reports, and document construction progress, issues, and resolutions. • Identify and troubleshoot technical problems that arise during construction, proposing effective solutions. • Collaborate with engineers, architects, and other professionals to ensure the successful completion of the project. • Ensure adherence to safety protocols, environmental regulations, and other legal requirements throughout the construction process.
3.	Sub Assistant Resident Engineer (SARE) (2 no's) (20)	<p>A Minimum Diploma degree in Civil Engineering or a related field is required.</p> <p>Proficiency in engineering software, project management tools, and strong computer skills are essential. Excellent communication, problem-solving, and leadership abilities are also crucial.</p> <p>Generally, 4 years of experience in civil engineering, construction management, or a related field is required. Experience in a similar role or exposure to overseeing construction projects is beneficial. Familiarity with construction techniques, materials, and relevant regulations is necessary.</p>	<ul style="list-style-type: none"> • Assist the Assistant Resident Engineer in overseeing construction activities, ensuring compliance with project specifications, schedules, and budgets. • Support inspections, review plans and specifications, and assist in ensuring compliance with relevant codes, standards, and regulations. Help address quality issues as they arise. • Assist in coordinating project activities, communicating with contractors, stakeholders, and team members to ensure smooth progress and conflict resolution. • Aid in maintaining project records, preparing reports, and documenting construction progress, issues, and resolutions.

		Exposure to various construction phases and site management is advantageous. Experience in supporting engineering or construction projects, assisting in quality control, documentation, and coordination tasks is valuable.	<ul style="list-style-type: none"> • Assist in identifying and troubleshooting technical problems during construction, aiding in proposing effective solutions. • Collaborate with engineers, architects, and other professionals to support the successful completion of the project. • Aid in ensuring adherence to safety protocols, environmental regulations, and other legal requirements throughout the construction process.
4.	Data Analyst (2 no's) (48)	<p>A bachelor's degree in fields such as statistics, mathematics, computer science, economics, or related fields is required.</p> <p>Minimum of 5-year experience in the relevant field is required.</p> <p>Strong quantitative and analytical skills are crucial, including proficiency in statistical analysis, data mining, and data visualization techniques.</p> <p>Proficiency in programming languages like Python, SQL etc. and tools like Excel or other convenient tool is required. Familiarity with databases and data querying languages is beneficial.</p> <p>Ability to collect, clean, and preprocess data for analysis. Experience with data cleaning techniques and data wrangling is essential.</p> <p>Strong understanding of statistical methods and tools to derive meaningful insights from data. Skills in regression analysis, hypothesis testing, and predictive modeling are valuable.</p> <p>Aptitude for problem-solving and critical thinking to identify trends, patterns, and correlations within complex datasets.</p>	<ul style="list-style-type: none"> • Collect and analyze large datasets to identify trends, patterns, and correlations, and extract meaningful insights. • Prepare reports and presentations summarizing findings, trends, and insights derived from the data analysis. • Create visualizations such as charts, graphs, and dashboards to present data insights in an understandable and actionable format. • Cleanse and preprocess data to ensure accuracy, completeness, and consistency for analysis. • Apply statistical techniques to interpret data, conduct hypothesis testing, and build predictive models when necessary. • Collaborate with cross-functional teams, engineers, and stakeholders, to understand the needs and provide data-driven solutions. • Stay updated with industry trends, emerging tools, and technologies to enhance data analysis techniques and methodologies.
5.	Surveyor (8 no's) (32)	<p>Minimum Diploma degree in Civil Engineering, or a related field is required. Specialized courses in hydrology or water resource management can be advantageous.</p> <p>Minimum of 3 years' Experience</p>	<ul style="list-style-type: none"> • Conduct topographic surveys, boundary surveys, and construction surveys to gather data crucial for the design and construction of civil structure & water network projects. • Collect and analyze data related to land surfaces, waterways, and

		<p>in related field.</p> <p>Proficiency in using surveying equipment such as total stations, GPS, and other tools for accurate measurements and data collection.</p> <p>Understanding of hydrological principles, especially related to water networks, drainage systems, and water resource management.</p> <p>Familiarity with Computer-Aided Design (CAD) software and Geographic Information Systems (GIS) for mapping and analysis purposes.</p> <p>High precision and attention to detail are essential for accurate surveying measurements and data recording.</p>	<p>existing infrastructure to inform the planning and design stages.</p> <ul style="list-style-type: none"> • Create detailed maps, plans, and layouts for water network systems, including pipelines, reservoirs, treatment plants, and distribution networks. • Ensure accuracy in measurements and data collection to meet project specifications and standards. • Collaborate with engineers, designers, and other project stakeholders to provide accurate survey data and assist in decision-making processes. • Ensure adherence to local regulations, land laws, and environmental regulations during the surveying process. • Maintain accurate records and documentation of survey data, reports, and related information. • Identify and address any discrepancies or challenges related to survey data or site conditions and propose solutions.
6.	Quantity Estimator (2 no's) (24)	<p>Minimum Diploma degree in Civil Engineering, or a related field is required. Additional courses in cost estimation or project management can be beneficial.</p> <p>Minimum 3 years of Experience in relevant field.</p> <p>Relevant experience in estimating for civil engineering projects, particularly in water supply systems or infrastructure, is valuable. Experience in cost analysis, quantity take-offs, and budgeting is essential.</p> <p>Proficiency in estimating costs for materials, labor, equipment, and other project expenses based on blueprints, specifications, and project requirements.</p> <p>Strong analytical skills to interpret project data, perform quantity take-offs, and assess cost implications accurately.</p> <p>Understanding of construction methods, materials, and techniques relevant to civil engineering and water supply projects.</p>	<ul style="list-style-type: none"> • Analyze project plans, specifications, and requirements to estimate costs associated with labor, materials, equipment, and subcontractors. • Perform detailed quantity take-offs from engineering drawings and specifications to determine the quantities of materials required for the project. • Assist in preparing project budgets and cost estimates, considering factors such as inflation, market rates, and project timelines. • Prepare and submit accurate and competitive bids or proposals for projects based on thorough cost estimations. • Collaborate with vendors, suppliers, and subcontractors to obtain competitive pricing and quotes for materials and services. • Assist in monitoring project expenditures and deviations from the budget, providing insight into cost-saving opportunities or areas requiring attention. • Maintain records of cost estimates, budgets, change orders, and other relevant documentation throughout the project lifecycle.

		<p>Familiarity with specialized software tools for cost estimation as well as proficiency in spreadsheet applications like Excel.</p>	<ul style="list-style-type: none"> • Work closely with project managers, engineers, and other stakeholders to ensure accurate and realistic cost estimations aligned with project goals.
7.	<p>AutoCAD Specialist (2 no's) (36)</p>	<p>A minimum diploma in Civil Engineering, Architecture or a related field is required.</p> <p>Minimum 5 years of professional experience specifically using AutoCAD in a civil engineering context is preferred.</p> <p>In-depth knowledge and proficiency in AutoCAD software, including 2D and 3D drafting, modeling, and detailing.</p> <p>Familiarity with other related software or tools used in engineering and design, such as Revit, Civil 3D, or other CAD software, could be beneficial.</p> <p>Exposure to civil engineering projects, such as infrastructure design, site plans, structural drafting, or similar projects, is valuable.</p> <p>Understanding of industry standards, codes, and practices related to civil engineering and construction projects.</p>	<ul style="list-style-type: none"> • Create detailed technical drawings, schematics, and plans using AutoCAD software, ensuring accuracy and compliance with project specifications. • Develop both 2D and 3D models as required, providing comprehensive representations of designs and structures. • Work closely with engineers, architects, and other stakeholders to understand design requirements and produce drawings accordingly. • Adhere to drafting standards, best practices, and project-specific guidelines while creating drawings and models. • Review and modify drawings as needed based on feedback, design changes, or project revisions. • Maintain organized documentation of drawings, revisions, and versions, ensuring accuracy and accessibility. • Identify and address design issues or discrepancies in collaboration with the engineering team. • Ensure the quality and accuracy of drawings and models produced, meeting project deadlines and specifications.
8.	<p>Field Inspector (Sampling) (2 no's) (60)</p>	<p>Minimum Diploma degree in Environmental Science, Civil Engineering, or a related field is required. Specialized coursework or certifications in sampling techniques will be beneficial.</p> <p>Proficiency in various sampling methodologies, including soil, water, air, or other material sampling methods, and understanding of sampling protocols and standards.</p> <p>Familiarity with relevant environmental regulations, industry standards, and compliance requirements associated with sampling procedures.</p>	<ul style="list-style-type: none"> • Conduct fieldwork to collect samples according to established protocols, ensuring proper techniques and representing the area of interest accurately. • Accurately document sample collection details, including location, time, method, and any relevant environmental conditions that might affect sample integrity. • Ensure compliance with regulatory standards and quality assurance/quality control (QA/QC) procedures throughout the sampling process. • Properly handle, label, and transport samples to the laboratory or designated testing facility while maintaining sample integrity during transit and storage.

		<p>3 years of experience in conducting field sampling, preferably in areas such as environmental monitoring, construction materials testing, or related fields.</p> <p>Practical experience in collecting and handling samples, adhering to proper sampling protocols, and maintaining sample integrity during transportation and storage. Familiarity with field instruments and equipment used for sample collection and testing, such as soil augers, water quality meters, or air sampling devices.</p>	<ul style="list-style-type: none"> • Collaborate with laboratory personnel, project managers, and other stakeholders to ensure proper sample handling, testing requirements, and reporting accuracy. • Identify and address any issues or discrepancies related to sample collection, handling, or documentation in the field. • Adhere to safety protocols and procedures during sample collection activities, ensuring personal safety and environmental compliance.
9.	Network Modeler (2 no's) (12)	<p>Bachelor's degree in Civil Engineering, Environmental Engineering, or a related field.</p> <p>Additional certifications or coursework in pipeline design, hydraulic modeling, or water resources management are advantageous.</p> <p>At least 6 years of experience in pipeline and water network modeling and design within the City landscape.</p> <p>Proficiency in utilizing hydraulic modeling software.</p> <p>Understanding of hydraulic principles, water treatment processes, and local distribution system design.</p> <p>Exposure to collaborating within multidisciplinary teams on national water network projects.</p> <p>Ability to interpret and analyze hydraulic data to propose optimization strategies within the country's regulatory framework.</p> <p>Familiarity with local regulations and standards related to water distribution and pipeline systems.</p> <p>Knowledge of relevant technologies applicable in national water network modeling</p>	<ul style="list-style-type: none"> • Develop and optimize hydraulic models for pipeline systems and water distribution networks Collaborate with international teams to design and implement efficient water network solutions • Analyze and interpret hydraulic data to propose enhancements for optimizing the DWASA water network. • Stay updated with emerging technologies and best practices in water network modeling applicable within the country. • Provide technical expertise and guidance to local stakeholders and teams. • Lead and support national pipeline and water network modeling projects from conception to implementation. • Ensure compliance with national regulatory standards and best practices in water system design. •
10.	SCADA/ Instrument Specialist (12)	<p>At least Bachelor's degree in Civil Engineering/ Water Resources Engineering/ Electrical Engineer/ Mechanical</p>	<ul style="list-style-type: none"> • Designing and preparing the specification of on-line instrumentation and communication system of SCADA

		<p>Engineer/Electro-Mechanical or allied discipline. S/he should have adequate experience of minimum 8 years practical experience in detailed design & construction supervision of SCADA system in the various water related projects. Previous experience in similar projects will be preferred.</p>	<p>and Automated Meter Reading (AMR) with the help of international expert.</p> <ul style="list-style-type: none"> • Review DMA wise System Input Volume (SIV) meter location and Check meter installation at site and commissioning & configuration to relevant computer systems. • Help in preparing and implementing the procurement process, and negotiating and finalizing contract agreement for SCADA system and AMR, with procurement specialist expert • Help in establishing, operating, and maintaining SCADA system and AMR • Help in finalizing operation and maintenance manual for SCADA system and AMR with suppliers/contractor • Help in providing guidance/ supervise meter testing and calibrations at field and at workshops. Train DWASA's staff for large & small meter calibration & repair techniques and best practices in installation of meters
11.	Hydrogeologist (12)	<p>M.Sc. in Geology/ Hydrogeology or similar discipline. S/he should have at least 12 years' total experience including 10 years specific experience in relevant field of projects. Previous experience in similar projects will be preferred.</p> <p>Proven track record in hydrological modeling, groundwater analysis, and water resource management.</p> <p>Experience in conducting hydrological and groundwater assessments for various projects.</p> <p>Familiarity with environmental regulations and best practices related to water resources.</p> <p>Previous involvement in managing hydrological or groundwater projects from planning to execution.</p> <p>Strong understanding of geology, hydrogeology, and groundwater contaminant transport.</p>	<ul style="list-style-type: none"> • Field visit and assessment of existing DTWs in the study area. • Co-ordinate relevant activities and assist the Team Leader. • Contribute in reporting. • Attend meeting as and when required. • Conduct hydrological and groundwater assessments for various projects. • Develop and implement groundwater flow models to simulate aquifer behavior. • Analyze and interpret hydrological data to provide insights for water resource management. • Assess groundwater quality, contaminant transport, and remediation strategies. • Prepare technical reports, studies, and documentation related to hydrology and groundwater. • Collaborate with multidisciplinary teams on water-related projects. • Provide technical guidance and support to internal and external stakeholders. • Stay updated with advancements in hydrological and groundwater engineering.

12.	GIS Specialist (20)	Minimum of bachelor's degree on Civil Engineering/ Water Resources Engineering/ Urban and Rural Planning/ Hydrology or Master's degree in Geography having at least 8 years' experience in working with GIS. S/he should have adequate experience in supporting mathematical modelling team in pre and post processing of data required for model application and result interpretation. Previous experience in a similar project will be preferred.	<ul style="list-style-type: none"> • Prepare geo-referenced maps of the project area. • Prepare maps and presentation materials for reporting and discussion meeting. • Data Acquisition and GIS database formation • Preparing map showing all essential elements of the network such as, PSV, PRV etc. water meter valve, DTW location etc.
13.	Fire Protection Specialist (12)	<p>Bachelor's or Master's degree in Engineering, Mechanical Engineering, or a related field. Professional certifications in fire protection are also required.</p> <p>Minimum of 5 years of professional experience in fire protection engineering or related fields.</p> <p>Proven track record in designing and implementing fire protection systems for various facilities.</p> <p>Experience conducting fire risk assessments, codes compliance checks, and hazard analysis.</p> <p>Familiarity with relevant fire codes, regulations, and standards.</p>	<ul style="list-style-type: none"> • Conduct fire risk assessments and hazard analysis for buildings and facilities. • Design and recommend fire protection systems tailored to specific facility needs and compliance requirements. • Develop detailed plans, specifications, and drawings for fire protection systems. • Collaborate with architects, engineers, and contractors to ensure the integration of fire protection systems into building designs. • Conduct inspections and tests of fire protection systems to ensure functionality and compliance. • Provide guidance and support to stakeholders on fire safety measures and emergency response protocols. • Stay updated with advancements in fire protection technology, codes, and regulations.
14	Junior Hydrologist (2 no's) (48)	B.Sc. in Geology/ Hydrogeology or similar discipline. S/he should have at least 5 years' total experience including 3 years specific experience in relevant field of projects. Previous experience in similar projects will be preferred.	<ul style="list-style-type: none"> • Field visit and assessment of existing DTWs in the study area. • Co-ordinate relevant activities and assist the Team Leader. • Contribute in reporting. • Attend meeting as and when required. • Close monitoring of DTW • Collection of underground soil sample and analysis • Stay updated with advancements in technology, codes, and regulations.

12 Required Qualification of the Firm

The consultancy firm shall have the following requirements-

- Minimum 20 (twenty) years' overall experience in consultancy services of the firm from the years counting backward from the date of publication of EOI;
- Minimum 15 (Fifteen) years' overall experience in Project Management Consultancy services of the firm from the years counting backward from the date of publication of EOI;
- At least one (1) similar nature of assignment completed by individual firm or combined JV partners during the last 5 (five) years in water distribution network & Transmission line project or DMA project

Dhaka Water Supply and Sewerage Authority



Sample Format for EOI Submission

For the project ' Expanded Dhaka Water Supply Resilience Project (EDWSRP)'

Office of the Project Director
12/20/2023

Introductory Note

- **This form is a sample for submission of information of the consultancy firms in response to the request for expression of interest of the Project Management consultancy services for the project ‘Expanded Dhaka Water Supply Resilience Project (EDWSRP)’.**
- **We highly encourage you to submit your proposal with information filled in this sample format. However, you may provide information in your own format and any other supporting document in annexure that you think relevant to this consultancy service and make you a potential candidate for providing this service.**

Form-1: Consulting firm's Information Sheet

Information	
Consulting firm's legal name	
In case of JV, legal name of each partner	
Consulting firm's country of constitution	
Consulting firm's year of constitution	
Consulting firm's legal address in country of constitution	
Consulting firm's authorized representative in employer's country (if any) (name, address, telephone numbers, fax numbers, e-mail address)	

Other relevant evidence as Annexure-1 for Form-1

Form - 2: JV Information Sheet (If applicable)

Each member of a JV must fill in this form

JV Information	
Consulting firm's legal name	
JV Partner's legal name	
JV Partner's country of constitution	
JV Partner's year of constitution	
JV Partner's legal address in country of constitution	
JV Partner's authorized representative information in employer's country (if any) (name, address, telephone numbers, fax numbers, e-mail address)	

Other relevant evidence as Annexure-2 for Form-2

Form – 3: Technical Experience of Firm

A. List of Contracts showing overall 20 years' experience of the firm:

Experience Details											
Sl. No.	Project Name	Project Period	¹ Contract Identification and Title	Name, address, email, phone, fax and web address of Employer	Total Contract Amount in USD	If partner in a JV, specify participation of total contract amount		Brief Description of the consulting services Executed by the Consulting firm / member(s) of Consulting firm	Role of Consulting firm /member(s) of Consulting firm (Lead/Non-lead)	Country of Project Implementation (in reference to country of constitution of the consultancy firm)	
						Total	Percent of Total			Home	Abroad

*Please enter as many rows as applicable

Please Attach the completion certificates as the evidence of the stated services as Annexure-3 for Form-3

Form – 4: Technical Experience of Firm

B. List of Contracts showing Minimum 15 (Fifteen) years' overall experience in Project Management Consultancy services of the firm from the years counting backward from the date of publication of EOI:

Experience Details											
Sl. No.	Project Name	Project Period	¹ Contract Identification and Title	Name, address, email, phone, fax and web address of Employer	Total Contract Amount in USD	If partner in a JV, specify participation of total contract amount		Brief Description of the consulting services Executed by the Consulting firm / member(s) of Consulting firm	Role of Consulting firm /member(s) of Consulting firm (Lead/Non-lead)	Country of Project Implementation (in reference to country of constitution of the consultancy firm)	
						Total	Percent of Total			Home	Abroad

*Please enter as many rows as applicable

Please Attach the completion certificates as the evidence of the stated services as Annexure-4 for Form-4

Form – 5: Technical Experience of Firm

C. List of Contracts showing similar nature of assignment completed by individual firm or combined JV partners during the last 5 (five) years in water distribution network & Transmission line project or DMA project:

Experience Details											
Sl. No.	Project Name	Project Period	¹ Contract Identification and Title	Name, address, email, phone, fax and web address of Employer	Total Contract Amount in USD	If partner in a JV, specify participation of total contract amount		Brief Description of the consulting services Executed by the Consulting firm / member(s) of Consulting firm	Role of Consulting firm /member(s) of Consulting firm (Lead/Non-lead)	Country of Project Implementation (in reference to country of constitution of the consultancy firm)	
						Total	Percent of Total			Home	Abroad

***Please enter as many rows as applicable**

Please Attach the completion certificates as the evidence of the stated services as Annexure-5 for Form-5

Note: Consultancy firm must submit the completion certificate as evidence of the stated services. Such evidence shall be in client’s letterhead pad indicating address, telephone, email, web address and fax numbers of the clients and shall include the name of the project, name of the employers, description of work, duration of project and contract amount.

Form - 6 : Work Experience in Similar conditions *

List down the name of project /contract where your firm has worked in similar conditions (i.e Similar scope, government/semi government/ government autonomous body as employer, tropical weather etc.)

Sl. No.	Name of Project	¹ Contract identification & Title	² Short scope of the assignment/ TOR	Type of Employer/ Client (Govt./ semi Govt./ Autonomous body)	Country of implementation of service

*Please enter as many rows as applicable

1. Please attach the completion certificate as evidence of the stated services as Annexure-6 for similar conditions contract.

Form - 7: Financial Competence of Firm

7.1 Financial Strength

Each Consulting firm or member of a JV must fill in this form

	Financial Data for Previous 3 Years [US\$ Equivalent]		
	Year 1:	Year 2:	Year 3:
1. Total Assets			
2. Current Assets			
3. Total Liabilities			
4. Current Liabilities			
5. Profits Before Taxes			
6. Profits After Taxes			

7. Net Worth [= 1 - 3]			
8. Working Capital [= 2 - 4]			

Please attach the documents listed below in Annexure-7 (a) under the title 'Financial Competence of Firm'

- Attached are copies of the audited balance sheets, including all related notes, and income statements for the last three years, as indicated above, complying with the following conditions.
- All such documents reflect the financial situation of the consulting firm or partner to a JV, and not sister or parent companies.
 - Historic financial statements must be audited by a certified accountant.
 - Historic financial statements must be complete, including all notes to the financial statements.
 - Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Form – 7.2: Average Annual Turnover (Calculated as certified payments received for contract in progress or completed) for last 3 years

Each consulting firm or member of a JV must fill in this form

Annual Turnover Data for the Last 3 Years				
Sl. No.	Year	¹Certified Payment (in Currency of contract)	Exchange Rate	US\$ Equivalent
Average Annual Turnover:				

1. Please attached the payment certificate as Annexure-7 (b)

Form-8: Available professionals

The consulting firm should provide the list of suitably qualified professionals to meet the requirements specified in EOI. The data on their experience should be supplied using the Form below.

Brief Description of the professionals of the consultancy firm:

Sl.No.	Description	Total Nos.	¹ Educational Qualification		² Professional Experience: No of professionals having experience in related field	
			No. of Postgraduate Degree holders (PhD, MS or equivalent)	No. of graduate degree holders (Bachelor or equivalent)	Less than 5 years	5 years and above
1.	Total number of professionals :					
	Regular:					
	Part-time:					
2.	Number of Civil engineers					
3.						
4.						
5.						
6.						
7.						

***Please enter as many rows as applicable**

1. Please attach CV (Sample can be found at the last page of this form) with photograph and educational certificates (Bachelor and higher degrees) of each key professional [As Annexure-8 (a)].
2. Please attach experience certificates or letters from previous and current employers as evidence of professional experience [As Annexure-8 (b)].
3. The consulting firm must have in their payroll or have agreement/arrangement with minimum 1 (one) alternative qualified experienced personnel for each category of consultant mentioned in the TOR, who will be available for providing consultancy services under the project during the full project period. Please attach CV (Sample can be found at the last page of this

form) with photograph and educational certificates (Bachelor and higher degrees) of each key professional [As Annexure-8 (c).

Form-9: Management Competence

Please answer each question in one paragraph of 3-5 sentences

1. Describe standard policies, procedures and practices that your entity has to assure quality interaction with clients and outputs. Please state if your company is ISO certified.

2. How will your firm/ consortium handle complaints concerning the performance of experts or quality of the reports submitted for this assignment? What internal controls are in place to address and resolve complaints?

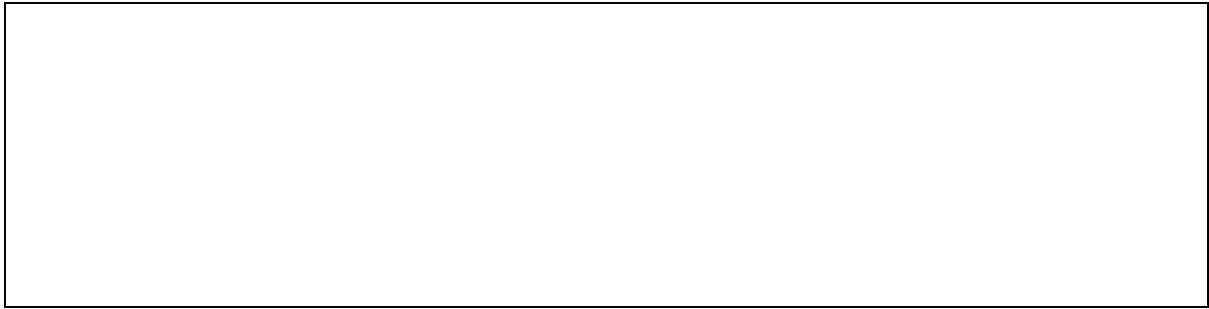
3. How will you ensure the quality of your firm's/ consortium's performance over the life of this assignment?

4. Describe standard policies, procedures and practices that your firm has put in place to avoid changes/ replacements of personnel and to ensure the continuity of professional services once contracted.

5. Describe what social protection practices you have in place to safeguard the well-being of your proposed experts? Specifically describe arrangements you have in place for medical, accident and life insurance coverage during the assignment.

Form-10: Comment/Suggestion on Scope of Service (Maximum 1500 characters)

**Form-11: Key Considerations in approaching this assignment (not more than
10,000 characters summarizing approach and methodology)**

A large, empty rectangular box with a thin black border, intended for the user to write their response to the prompt above. The box is currently blank.

List of Annexure

- 1. Form-1: Consulting firm's Information Sheet**
 - **Annexure- 1: relevant evidence**
- 2. Form-2: JV Information Sheet (If applicable)**
 - **Annexure- 2: relevant evidence**
- 3. Form-3: Experience of Firm (Overall Experience)**
 - **Annexure- 3 completion certificate**
- 4. Form-4: Experience of Firm (PMC Consultant Experience)**
 - **Annexure- 4 completion certificate**
- 5. Form-5: Experience of Firm (Similar Assignment)**
 - **Annexure- 5 completion certificate**
- 6. Form-6: Work Experience in similar condition**
 - **Annexure- 6 completion certificate for similar condition contract**
- 7. Form-7: Financial Competence of Firm**
 - **Annexure- 7(a) Audited balance sheets & income statements for last 3 years.**
 - **Annexure- 7(b) Payment Certificate.**
- 8. Form-8: Available Professionals**
 - **Annexure- 8(a) CV with photographs & educational Certificates.**
 - **Annexure- 8(b) Experience Certificate of professionals from previous & current employer.**
 - **Annexure- 8(c) alternative qualified experienced personnel CV with photographs & educational Certificates, Experience Certificate of**

professionals from previous & current employer.

9. Annexure -9: scope of service/TOR of assignment issued by client/employer.

10. Annexure-10: Company Brochures

11. Annexure-11: any other supporting document in this annexure that you think relevant to this consultancy service and make you a potential candidate for providing this service.

