

Terms of Reference (ToR)

For

**Transaction Advisory Service for “Supply of
Treated Water from Meghna River to Bangabandhu
Sheikh Mujib Shilpa Nagar”**

Terms of Reference (ToR)

1. Background of the project:

1.1 Chattogram is the second largest city of Bangladesh. A part from being the main center of trade, commerce and industrial activities, it is the life line of the economy because of its Sea Port. The country's first Export Processing Zone was established in this City. Over the last 3 decades, Chattogram has grown at a great pace due to the growth of the economy of the country. There has been rapid industrial development, and especially an unprecedented growth in the garment industry. These developments have resulted into rapid increase of the population of the city mainly due to migration from the country-side. Chattogram Water and Sewerage Authority (CWASA) are striving to keep pace with the city development.

1.2 Chattogram Water Supply and Sewerage Authority (CWASA) was first established in 1963, by ordinance No.19 of the erstwhile government of East Pakistan, to have overall responsibility of operation and management of the water supply and sanitation services to the City of Chattogram and its designated suburban areas. It was re-established in 1996 through the enactment of the WASA Act 1996 and gazette as a water and sewerage Authority in 2008. The Authority is charged with the responsibility of not only providing water supply but also sewerage and drainage services to the City of Chattogram.

1.3 CWASA have four surface water treatment plants i.e. the Mohara WTP (90 MLD), Sheikh Hasina WTP-1 (143 MLD), Sheikh Hasina WTP-2 (143 MLD), Sheikh Russel WTP (90 MLD). The present water demand for Chattogram has been estimated to be about 500 MLD. The water transmission and distribution pipelines consist of different pipe materials such as ductile iron, asbestos cement, PVC and HDPE, with a total length of 756 km.

1.4 CWASA with assistance from the Government of Bangladesh (GoB) and development partners (The World Bank, JICA and EDCF, South Korea), have implemented a number of projects to rehabilitate and expand the water supply systems both in the city and southern part of Karnaphuli River to facilitate Korean EPZ.

1.5 To expand the water supply network northern part of Chattogram and or facilitate the industrial belt of that part especially Mirarsarai and Sitakunda is CWASA's aim thereof.

1.6 BEZA is providing the overall framework for establishing Economic Zones (EZs) throughout Bangladesh under BEZA Act- 2010. BEZA aims to establish economic zones in all potential areas in Bangladesh including backward and under developed regions with a view to encouraging rapid economic development through increases and diversification of industry, employed, production and export.

1.7 One of the biggest EPZs, being implemented by BEZA is the Bangabandhu Sheikh Mujib Shilpa Nagar (BSMSN) project comprising Mirarsarai Upazilla in Chattogram and Sonagazi in Feni District. It is 60km north of Chattogram, which accommodate large-scale, multi-zone development containing public, private and Foreign Direct Investment. The current site of Bangabandhu Sheikh Mujib Shilpa Nagar (BSMSN) is about 30,000 acres in size. There are ten Mouzas in the Mirsarai Upazilla of Chattogram District and six Mouzas in Sonagazi Upazilla of Feni District.

2. Project Description:

2.1 CWASA, as a Contracting Authority of the project, seek services to prepare a comprehensive feasibility study for water supply transmission in Bangabandhu Sheikh Mujib Shilpa Nagar (BSMSN) from proposed Chandpur Point (Meghna River) to supply 500 MLD water.

2.2 The major activities related to the implementation of project would be:

- A complete surface water treatment plant consisting of all units of a treatment plants such as pre-treatment, clarification (coagulation & flocculation), rapid sand filter, and treated water reservoir, high lift pump station etc.
- Treated water transmission main from proposed Chandpur Point (Meghna River) to BSMSN.
- Primary and secondary distribution networks to distribute water to the project area.

2.3 According to the Beza Master Plan, the water demand in Bangabandhu Sheikh Mujib Shilpanagar will increase to 98.1 crore liters (981 MLD) by the year 2040. In order to meet the water demand, a Concept Note was sent from Chattogram WASA to the local government department on May 05, 2021 as a source of water supply to "Bangabandhu Sheikh Mujib Shilpanagar" through a transmission line after extracting and purifying water from the Meghna River. A review of the said Concept Paper shows that after extraction and purification of 95 crore liters (950 MLD) water from Meghna River in Chandpur it is possible to supply water to Bangabandhu Sheikh Mujib Shilpa Nagar through 132 km long transmission lines (Chandpur-Hajiganj-Laksam-Nangalkot-Feni-Mirsarai-BSMSN).

2.4 In this regard, the South Korean construction company "Taeyoung Engineering & Construction Co. Ltd." submitted to CWASA Letter of Interest and Concept Proposal in January, 2022 for the implementation of the project "Supply of Treated Water from Meghna River to Bangabandhu Sheikh Mujib Shilpanagar through Public Private Partnership (PPP)- G2G Process". According to the Concept Proposal, 50 crore (500 MLD) intake points, 50 crore (500 MLD) water treatment plants, 2 Boosting Stations and 132 km pipeline will be established under the project. The probable construction cost of the project is about 13,200.00 crore taka (1.5 billion USD), the construction period of the project is from 2024 to 2027 (4 years) and the period of operation and maintenance is 34 years (1st stage) and 30 years (2nd stage). The project is mentioned as Feasible as the investment will be returned within that period.

2.5 Description of project land (pre-preliminary concept)

Description	Upazila	District	Land Amount	Ownership
Intake Station	Chandpur Sadar	Chandpur	20 Acres	Private
1st Pump Station	Laksam	Cumilla	20 Acres	Private
2nd Pump Station	Feni Sadar	Feni	20 Acres	Private
Water Treatment Plant	BSMSN	Chattogram	80 Acres	Private/ BEZA
Transmission Pipeline		Chandpur, Cumilla, Feni, Chattogram	215.0 acres	Chattogram WASAs

* 140 acres of land will be required to be acquired.

** Acquisition of 215 acres or signing of bilateral MoU with Chattogram WASA will be required.

*** Location, quantity and total probable cost of intake station, boosting pump station, and water treatment plant and transmission pipeline will be finalized subject to final survey report.

2.6 The project was presented at the 4th Korea-Bangladesh Joint Platform Meeting organized by the Public Private Partnership (PPP) Authority on 2 March 2022. The local government division has requested in memorandum no 224 dated 07 April 2022 to send the project proposal in the prescribed form for the project 'Supply of Treated Water from Meghna River to Bangabandhu Sheikh Mujib Shilpanagar through Public Private Partnership (PPP)- G2G Process'. In this regard, Chattogram WASA prepared the project proposal of the discussed project in the PPP Authority's prescribed form and sent to the local government department in memorandum No.71 dated 25 April 2022. The PPP authorities informed in Memorandum No. 689 dated 22 May 2022 that the project proposal has been verified by the Screening Committee and has been found suitable for implementation under PPP. It has also been informed that it is necessary to obtain legal mandate approval of Chattogram WASA as

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the implementing organization of the project from the government. As the project is suitable for implementation, it has been recommended to present the project proposal to the Cabinet Committee on Economic Affairs (CCEA) for obtaining in-principle approval from CCEA with the approval of the Honorable Prime Minister. A legal mandate was notified by memorandum no 492 dated 24 July 2022 from the Local Government Division to declare Bangabandhu Sheikh Mujib Shilpanagar area as a working area of Chattogram WASA in order to implement the project 'Supply of Treated Water from Meghna River to Bangabandhu Sheikh Mujib Shilpanagar through Public Private Partnership (PPP)-G2G Process'.

2.7 In the Local Government Division letter no 631 the project 'Supply of Treated Water from Meghna River to Bangabandhu Sheikh Mujib Shilpanagar through Public Private Partnership (PPP)-G2G Process' is unanimously recommended to be approved in principle as per Procurement Guidelines for PPP Projects, Guideline 10.1 of 2018 for implementation under Public Private Partnership (PPP) mode.

3 Taeyoung and its Consultant(s) already initiated feasibility study from 8th August 2022 of their own.

3.1 The Terms of reference of their F/S are provided below

3.2 Taeyoung and its Consultant(s) Scope of Work | commenced from 08 August 2022|

1) Basic Data Collection

Project Background Analysis

- An overall analysis of the background of project implementation, project outline (scale, location, period, etc.), business environment (major economic index, industrial policy, population, city, culture, geology, etc.)
- Investigation on Infrastructure and Planning of BSMSN Economic Zone
- Investigation of the operation and management system of water supply facilities of the Bangladesh government
- A Case Study on the Success/Failure of Foreign Investment Projects such as Public-Private Partnerships (PPPs)
- Investigation on status of payment of government budgets (government subsidies), unpaid cases, payment standards related to foreign investment projects such as PPPs
- Current status of debts such as foreign debts of the target country, and risks

Current Status Survey

- General Survey on project area and surrounding area
- Investigation on national plan, urban planning and regional development plan
- Survey on natural environment, society, economic, culture, and environment

2) Field Surveys

Basic Information

- In order to secure the expected performance in the next field survey, consult with CWASA regarding the survey items, locations etc. is needed in advance.

Topographic Survey

- Conducting a regional survey on water intake facility, pumping stations, and scheduled sites for water treatment plant
 - Conducting water supply route topographic survey
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Geotechnical Investigation

- Geotechnical Investigations will be conducted as per Bangladesh regulations
- Drilling investigation and indoor testing
- The location of the survey is water intake facility, water treatment plant, scheduled sites for pump stations, and the pipeline route

Water Quality Survey

- Conducting water quality surveys at water intake points
- The survey items are carried out as per the Bangladesh regulations.

3) Technical Feasibility Analysis

Review of Water Demand and Water Quality Standards

- (Water Demand) Comparing review on higher level plans such as the previously implemented economic zone master plan and water supply plan
- (Water Quality Standards) Review on drinking water quality standards of Bangladesh and the water quality standards of industrial water

Review and selection of water intake method and water treatment method

- (Water intake method) Comprehensively review the location and topographical status of the water intake point, annual water level change, water quality, etc. and present a comparison plan, and selected the optimal intake method
- (Water treatment method) Present a technical and economical method that can produce purified water that meets the drinking water quality standards of Bangladesh and the industrial water quality standards of economic zones. The expected strengthening of water quality standards, various comparisons shall be presented. The optimal treatment method shall be selected and proposed accordingly.

Preparation of a sludge treatment and disposal plan

- Investigate laws related to Bangladesh and cases of other water treatment plants to present reasonable treatment and disposal plans for sludge generated in the water treatment process

Review and selection of water supply pipeline routes

- Examining the adequacy of water supply pipe routes and selecting the optimal route
- Examine the need for a pumping station by drawing up a hydraulic gradient diagram for the water supply pipeline
- Calculation of type (absorption well or in-line) and capacity if pumping station installation is necessary, facility planning

Examination of water hammer in water supply pipeline

- Using an appropriate program, examine whether or not water hammer is generated in the water pipe, and proposal of reasonable water hammer equipment

Water supply facility technical review (including repair and capacity review)

- Conducting technical review on the finalized water supply facility optimization plan
- Hydraulic review of water intake, water pipe, and water treatment plant
- Capacity review of water intake and water treatment plant unit structures

Estimation of project cost and operation cost

- The project cost must be classified by project content and the calculation standard must be presented. Including overall expenses necessary for project implementation, such as design cost, survey cost, construction cost, etc.

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- Operating costs are classified by facility and type of work, and calculation standards are presented for efficient operation.
- Establish plans for management organization, operation method, required equipment and facilities for management
- Calculated including labor cost, electricity cost, chemical cost, sludge treatment cost, major repair cost, etc.

Project execution plan

- Establishment of construction execution plan and preparation of schedule
- Proposal of total construction cost
 - : Including rough calculation of main material quantity and review of price adequacy
 - : Including construction-related cost items and calculation criteria such as taxes, public charges, guarantees, insurance, and expenses

4) Financial and economic feasibility analysis

Research related data

- Investigation of macroeconomic data for financial analysis (interest rate on government bonds, socio-economic discounts rate, exchange rate, inflation rate, etc.)
- Investigation of tax/accounting-related processing regulations and all data necessary for project implementation such as depreciation, corporate tax, VAT, etc.)

Total investment cost and financing plan

- Estimate the total investment cost by calculating the price fluctuation cost and construction interest in the project cost
- Optimal financial resources by reviewing government subsidies, investment funds, financial market procurement plans, etc.

Establishment of procurement plan

Financial feasibility analysis

- Proposal of business model for this project (proposal of investment recovery structure)
- Estimation of business balance and cash flow by period
- Review of cash flow stability and investment profitability (DSCR, IRR, NPV, etc.)
- Effects of tax and accounting-related laws on profitability
- Review of tax-related support and regulations related to investment and construction from the perspective of SPC and investors of this project (Corporate tax, VAT, withholding tax, loss carried forward, stamp tax, etc.)
- Calculation of target rate of return
- Sensitivity analysis and scenario analysis (based on changes in project cost, demand, operating cost, interest rate, etc. analysis of other government payments, order method, etc.)
- Final business structure and business model proposal

Financial risk analysis and response plan establishment

- Review of procedures and restrictions related to foreign exchange transactions
- Exchange rate fluctuations and exchange risk hedging plan review and presentation of foreign cases
- Other necessary matters in addition to the above, such as case analysis of financing for similar projects

Economic Feasibility Analysis

- Review of expected net benefits and sustainability of project impact throughout the life cycle period of the project
- Social benefit analysis
- Review of preconditions for economic feasibility analysis (construction period, project life cycle, discount rate, etc.)

- Cost estimation (construction cost, maintenance cost, operating cost, etc.)
- Economic analysis (cost/benefit analysis, B/C)
- Net present value (NPV), internal rate of return (IRR), sensitivity analysis, etc.
- Presentation of economic analysis results
- Other considerations (analysis of alternative investment cost and residual value, analysis of transfer expenditure such as tax, etc.)

5) Legal Feasibility Analysis

Review all laws and systems for business promotion

- Analysis of current status data on ordering method
- Legislative and institutional review of the PPP bidding process
- Review of laws related to land compensation and migration
- Laws related to the operation of water supply facilities and division of duties between the central government, local governments, and CWASA
- Determination and receipt of water supply costs, review of concession agreement
- Review of laws and systems related to environmental and social impact assessment
- Review of labor-related laws and systems (labor-management culture, issues related to local employment, etc.)
- Review of the transparency and fairness of Bangladesh's legal system and efficiency of law enforcement (in case of disputes) Possibility of settlement through Bangladeshi courts, foreign arbitral awards, enforceability within Bangladesh, etc.)

Review of laws and systems for foreign investment

- Restriction on foreign investment, focusing on PPP laws related to water supply facilities in Bangladesh; Review of issues related to foreign exchange transactions, investment recovery, and taxation, such as rights and restrictions (Negative List), etc.
- Legality of foreign investment in construction, operation and maintenance of water supply facilities
- Nationality requirement
- Foreign investment preferential and/or regulatory and restrictive policies (investment sector, investment ratio, investment method etc.)
- Restrictions and procedures related to foreign exchange transactions, including those related to payment upon termination and compensation for judgment/arbitration (Availability, convertibility and portability; reporting of foreign exchange transactions, etc.)
- Tax and financial benefits and restrictions, double taxation, dividends, local debt use, employment restrictions, etc.
- Investor protection devices such as debt capital payment guarantee
- Payment receipt procedure and calculation method upon cancellation
- Framework for project transfer
- Other investment incentives

Review of PPP system/legal status

- Review of PPP Law to be considered in promoting PPP projects
- Review of laws related to private investment projects for water supply facilities in the AP method
- Analysis of investor or project sponsor risk through review of PPP concession agreement cases in Bangladesh
- Review of tax benefits and other benefits for PPP projects
- Investigation and review of local laws related to this project
- Review of the application of AP related to water supply facilities
- Measures to protect the rights of private business operators within the AP method for water supply facilities
- Preparation of proposals related to the project implementer selection procedure and selection criteria
- Review private proposal methods or additional points for PPP projects using AP for water supply facilities

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- Analyzing and suggesting ways to improve the private sector project guarantee or support system of the Bangladesh government/public corporation

- Review of termination payment related regulations and similar cases
- Review of dispute mediation cases with competent authorities
- Review foreign investment restrictions (investment type, investment ratio, investment method, etc.)

Review of regulations, procedures and preparations related to the establishment of SPC

- Foreign-invested company establishment form and establishment procedure
- Plans to establish local corporations or branches for PPP projects
- Minimum capital regulations, employment restrictions, corporate income tax rates, loans and capital ratios, etc.
- Authorization/permission-related institutions and expected period and procedures

Review of various permits and regulations

- Review of environmental regulations in business areas
- Review of licensure requirements for water supply projects of EPC and O&M, either directly or by subcontractors
- Review of construction and equipment supply
- Water supply facility construction and operation necessary permits and permits

Legal risk analysis and response plan establishment

- Prior analysis of major risk factors through the above review and establishment of countermeasures (hedge)

※ Legally, it is recommended for local companies to cooperate with experienced global firms.

6) Preliminary environmental and social impact assessment

Preliminary environmental impact assessment

- Survey of areas designated by local laws and regulations for the purpose of environmental preservation (natural environment conservation areas, natural parks, wildlife sanctuaries, etc.)
- Bangladesh's environmental standards, environmental regulations, and environmental preservation matters
- Analysis of Bangladesh Environmental Impact Assessment System and Procedure
- Environmental impact review according to project implementation
- Prediction of environmental impact and establishment of conservation/reduction plan

Preliminary social impact assessment

- Basic research, data analysis and analysis of cadastral and survey results, review of land ownership and compensation criteria, budget review, etc.

4. Modality of Engagement of Investor

The Transaction Advisor should note that this project will be implemented on a PPP basis with the support of the Government of Korea.

5. Objective of the Consulting Assignment

The main objective of the advisory service is to help CWASA engaging an Investor through public private partnership to implement the project and to support CWASA in securing requisite internal approvals, as well as approvals from PPP Authority, CCEA, line ministries and other relevant government institutions as per this TOR.

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6. Project Delivery Role

The PPP Authority is procuring the Transaction Advisor to support the Contracting Authority (CWASA) and Line Ministry (Ministry of LGRD, hereafter "MoLGRD"), to successfully deliver the Project based on the outcome of a series of discussions and agreements with the investor. Therefore, the Transaction Advisor will be requested to provide a set of required technical services, carry out commercial feasibility, prepare PPP contract documents and provide support negotiation with the investor to finalize the PPP contract. PPP Authority shall maintain an oversight role throughout the various phases of the project development. Payment shall be based on successful delivery of deliverables set out in the Scope of the Services subject to approval from CWASA.

6.1 Work Schedule

Work Schedule for Transaction Advisory Service for “Supply of Treated Water from Meghna River to Bangabandhu Sheikh Mujib Shilpa Nagar”																			
Sl. No.	Work Description	Total Time Duration	Jan-23				Feb-23				Mar-23				Apr-23				
			1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
A	Phase 1:																		
A1	Component-1: Technical Study	1.5 month																	
A2	Component-2: Detailed Feasibility Study	2 months																	
A3	Component-3: Term Sheet for PPP Agreement shared with Investor	3 months																	
B	Phase 2:																		
B1	Component-1: Commercial Terms and Conditions	1 month																	
B2	Component-2: Final PPP Agreement	2 months																	
B3	Component-3: Support during Financial Close	3 months																	
B4	Model or CG Modeling:	2 weeks																	
ABC	Final Output & Report Submission:																		
ABC1	Inception Report	1 month																	
ABC2	Interim Report	2 months																	
ABC3	Draft Final Report	3 months																	
ABC4	Final Report	4 months																	

7. Scope of Work

The major areas of the scope of work are summarized in Table below.

Table 1: Summary of Major Outputs and Activities

Phase	Component	Tasks	Major Output
Phase I:	Component 1: Technical Study	<p>Tasks 1: Support CWASA to finalize the detailed technical study based on the para 3.2</p> <p>Tasks 2: Support CWASA to finalize the required level of design in the feasibility study, organization and O&M plan based on the para 3.2</p> <p>Tasks 3: A Competitiveness Analysis, water assessment industry/market assessment and demand forecast.</p>	Technical Feasibility Report
Phase I	Component 2: Preparation of the detailed feasibility	<p>Task 4: Based on the above mentioned Technical Assessment Study, prepare a detailed feasibility report on WTP project which includes but not limited to: a) technical issues, including site specific due diligence,; b) economic and financial analysis, value for money (vfm) and a financial model; c) environmental and social issues including climate risk assessment and recommendations; d)</p>	Comprehensive Feasibility Report Prepared and Bankable PPP WTP Project Structured and

	report and recommend a suitable PPP contract structure	<p>linked projects, particularly transmission facility for water transmission and off-take, and address issues related to interconnection/reliability of the systems with regards to the proposed WTP project in the longer run.; e) legal & regulatory assessment with recommendations of best suited option for reforms; and f) PPP modality options and recommendation and optimum risk sharing methods, given level of financing available with CWASA and Government of Bangladesh for the project</p> <p>Task 5: Support CWASA in preparing reports and presentations that may be required to be made for seeking approvals from PPP Authority, CCEA and any other Government of Bangladesh institution and in addressing any issues raised / clarifications sought or revisions in the feasibility report required by the PPP Authority or the CCEA prior to approving the project for implementation under the PPP Act.</p>	Submitted for Approval of CCEA
Phase I	Component 3	<p>Task 6: Project Structure & Term Sheet for PPP Agreement: Discuss and prepare the project structure and term sheet with investor by utilizing the DFS.</p> <p>Tasks 7: Prepare a comprehensive management plan for CWASA, in accordance with the provisions of the PPP Concession agreement, to help CWASA in the management of the Project and its risks, rights and obligations.</p>	Term Sheet for PPP Agreement shared with Investor
Phase II	Component 1: Commercial Terms and Conditions	<p>Task 8: Review and finalise the draft PPP agreement including Implementation Agreement with investor adhere to and comply with the provisions regarding Forced Labor. (https://thedocs.worldbank.org/en/doc/a5d4a4a88227973aecdbab19dd58258e-0290032021/original/Forced-Labor-Solar-Declarations-and-provisions-for-Procurement-Documents-ext.docx)</p> <p>Task 9: Prepare the draft Viability Gap Financing (the "VGF") Agreement as recommended on DFS and discuss with Investor to finalize draft VGF Agreement</p> <p>Task 10: Prepare the draft Agreement for the Government Guarantee of Minimum Revenue and/or Capacity Payment, if recommended in DFS and discuss with Investor to finalize the draft agreement.</p> <p>Task 11: Several presentations of key contractual terms and conditions of PPP Agreements to CWASA, Investor, Government Authority and Public Private Partnership Authority ("PPPA") for their concurrence and acceptance.</p> <p>Task 12: Any other support that may be required through the management of bid process, negotiation and signing of the PPP concession agreement and financial close.</p>	Commercial Terms and Conditions Accepted by all the parties and all required Agreements are drafted and finalised
Phase II	Component 2: Final PPP	Tasks 13 : Negotiation and Finalization of PPP Agreement including commercial and technical documents Conducting	PPP Agreement

630

	Agreement	negotiations with Investor to finalise the PPP Agreements after preparing minutes of negotiation meetings for approval of CWASA and Investor and updating the PPP agreement based on final negotiation, proposals and vetting comments of the Ministry of Law, Justice & Parliamentary Affairs and other government department/ division/ministry including any comments by CCEA. Task 14: Any other support that may be required through the negotiation and signing of the PPP concession agreement and financial close.	Signed
Phase II	Component 3: Support during Financial Close	Tasks 15: Supporting CWASA during financial closing Tasks 16: Supporting CWASA in preparing various technical, commercial and legal reports between contract signing and financial closing. Tasks 17: Preparing the assignment closing report including lessons learned from the project	Financial Closure

8. Detailed Task: Phase I:

8.1 Technical Study

Tasks 1: Support CWASA to finalize the detailed technical study based on the para 3.2

Tasks 2: Support CWASA to finalize the design, organization and O&M plan based on the para 3.2

Tasks 3: A Competitiveness Analysis, water assessment industry/market assessment and demand forecast for at least 50 years.

8.2 Phase I: Detailed Feasibility Study

8.2.1 The Transaction Advisor of this project will carry out the detailed feasibility study for "Supply of Treated Water from Meghna River to Bangabandhu Sheikh Mujib Shilpa Nagar" on PPP basis taking into account the issues relating to the technical, financial, commercial, social, economic, legal, environmental and other relevant factors.

8.2.2 Phase I shall also be carried out taking into account local and national issues, applicable laws, regulations, standards, specifications and other relevant considerations. Prior to completion and final submission of the deliverables under Phase I, the Transaction Advisor shall present the draft findings and recommendations to the key stakeholders in a presentation format and take into account feedback (if any) in the final Detailed Feasibility Study.

8.2.3 The Detailed Feasibility Study report will specifically include (but not be limited to) the following:

A. Confirmation of General Rules and Regulations for Development

- i] Zoning for land use control
- ii] Floor Area Ratio (FAR)
- iii] Height Control

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- iv] Others

B. Analyses of Urban Context of Chandpur, Cumilla, Feni to Mirsharai from following perspectives:

- i] Culture
- ii] History
- iii] Economics

C. Detailed data collection:

- i] Water line
- ii] Sewerage line
- iii] Gas line
- iv] Electricity line
- v] Telecommunications and Internet line
- vi] Others

D. Linked Project Assessment

- i] Identify key Linked Projects and supporting facilities that are required to enable the delivery of the Project and the relevant government agencies that will have responsibilities for implementing the Linked Projects.
- ii] Identify and highlight critical issues with resolving suggestions for implementing Linked Projects.
- iii] Carry out detailed financial analysis for implementing Linked Projects.
- iv] Identify key 'Linked/Shifting Projects and supporting facilities with cost estimation' are required to implement prior to this Project. The future development possibility has to be considered and proposed.

E. Project Scoping

- i] Identify Project Requirements / services for the government as well as the private developer along with phasing – with list of activities, along with area coverage for each activity.
- ii] Prepare output specification and define key performance indicators (KPIs) (as applicable) for the private developer. Identify responsibilities of / services to be provided by CWASA.
- iii] Review and Support CWASA in Finalizing the Feasibility Study
 - Review of all available relevant reports, documents and studies especially the reports related to Water Supply Project all over the world.
 - Consult with relevant officials of different departments, organizations and relevant stake holders.
 - Prepare output specification of the infrastructure to be constructed by the Sub-Working Group (SWG)/probable PPP partner under the proposed project.

F. Environmental and Social Impact Assessment and Preparation of ESMP. The Feasibility study needs to include a section on ES Impact Assessment (ESIA) addressing the following aspects and prepare ESMP:

Baseline Assessment. Conducting a baseline assessment on environmental and social aspects including data and analysis

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ES Laws, Policy and Procedure. Analysis of national legislation, laws, policy and regulations on environmental and social issues and WB ESF, find gaps and provide recommendations on reducing the gaps

Screening and ES Risks and Impacts. Screening for ES risks and impacts due to project activities and interventions

Labor. Type of labor used, impact of labor influx, labor related risks and impacts, labor camp siting, OHS issues, labor GRM etc, in line with the project Labor Management Procedure (LMP).

Waste Management and Resource Efficiency. How waste will be generated and waste management plans/ strategy as well as use of resources optimally.

Community Health and Safety. How project interventions impact community health and safety including traffic, noise, waste generation, SEA/SH, use of security personnel if any, safety and security etc, development of community health and safety plan

Land. Issues relating to land acquisition and requisition, impact on livelihood and living, compensation payment etc

Biodiversity and Living Natural Resources. How biodiversity and habitats will be impacted by the project and mitigations measures.

Ethnic Community. If ethnic communities are present in the project areas and impacts on them, including need for Free, Prior, Informed Consent (FPIC)

Cultural Heritage. If cultural heritages are present in project area and ways to mitigate risks on them including provision of chance find procedures.

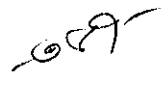
Stakeholder Engagement including Grievance Redress Mechanism (GRM). Identification of stakeholders and beneficiaries, ways to communicate with them and completion of feedback loop, inclusion of the vulnerable and the disadvantage. (Project SEP and GRM need to be followed during preparation of ESA).

Gender (WB Corporate Requirement). Identification of impact on gender, how to close the gender gap in terms of four gender pillar of WB Gender Strategy

G. Climate risk assessment. To achieve the impact and outputs of the proposed investments, a climate risk and vulnerability assessment (CRVA) is required to provide a detailed and focused risk and vulnerability assessment that will identify and, to the extent possible quantify risks to the project from climate change and variability, and provide corresponding adaptation measures. Outputs of the CRVA will be used to finalize detailed design, ensuring that the proposed investment is climate-proofed to the extend feasible.

- (i) **Scope of work.** conduct a climate change vulnerability and risk assessment for the project area to identify vulnerability of the planned infrastructure, and adaptation measures to be incorporated into the project design;
- (ii) review existing studies, data and information on current and projected climate change risks and vulnerability for the proposed specific geographic areas and sectors covered by the project;

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- (iii) identify climate risks and vulnerabilities and potential adaptation options and practices as inputs to modelling and/or assessment of climate change impacts on relevant aspects of the project;
 - (iv) conduct technical and economic assessments of potential climate risk and vulnerability adaptation options and practices relevant to the project;
 - v) within the context of the project, assess existing policies, laws and regulations and/or institutional framework for adaptation and identify ways to enhance the enabling environment (if necessary);

H. Social Impact Assessment

The TA will conduct social assessment and analysis according to GOB's Guideline & international best practices.

The objective of the Social Impact Assessment (SIA) study is to develop a Resettlement Plan (RP) for the Project Affected People (PAP) (if any). RP should be based on 100% census which covers a complete enumeration of all Project Affected People (PAPs), their affected assets and income restoration program etc. The study will reflect the existing socioeconomic profiles of the PAPs through identification of the baseline social dimensions of the people and formulate plans to restore the quality of life after implementation of the project. The study will develop database for current situation and record of the probable impacts of the intervention as perceived by the people themselves. The study will also identify all the possible impacts of a proposed project in advance so that the required actions could be started well before the implementation begins. The following items of work will be included in the SIA:

- Census
- Baseline socio-economic survey
- Propose compensation and budget for implementation of this project.

The following documents need to be attached in the SIA report:


- **Socio-economic survey:**

The baseline socio-economic survey is to be designed to capture information on the PAPs' (Person Affected People) resources, employment, and vulnerability (if exists). Define categories for impact and eligibility of affected people for compensation and prepare a matrix of entitlements covering compensation and other assistance for all types of impacts to fully replace lost assets, income, and livelihood. Assess whether the compensation standards for all types of assets, crops, and trees are based on replacement value and discuss in detail the valuation methodology used. Identify specific measures for severely affected poor people, ethnic minorities, or other vulnerable households. The survey data will lead to the development of management information system (MIS) that will help consultation process and assist in planning and implementation.

The output of SIA will include followings among others:

- Assessment of the existing socio-economic profiles of the people of the area.
- Assessment of the adverse socio-economic impacts for the project
- Assessment of the social dimensions needed to formulate plans to restore the quality of life of the Project Affected Persons (PAPs).

The cost of resettlement plan (RP) has to be included in the cost estimate.



- 683 -

I. Demand assessment and market study

- i] Conduct a market analysis to understand sector structure, demand drivers and dynamics, expected growth and level of competition, assess the extent to which there is a supply gap, and prepare a pricing analysis based on a market survey to identify, the output will feed into the Project Scope above;
- ii] Identify critical market risks, and possible mitigation strategies;
- iii] Assessment of local and international market capability (including developer, contractors, sub-contractors and financiers) to deliver this Project.
- iv] Prepare a tariff analysis and other charges alongside different facilities offered by similar WTP based on benchmarking (both international and local) and market survey to identify willingness and ability to pay
- v] Determine a tariff band for various categories (that realistically captures the value proposition and optimizes the net returns from the project.
- vi] Taking into account market feedback in relation to the Project scope and preliminary design of the concession contract with the private sector.

J. Financial analysis

- i] Detailing the capital and operational costs of delivering the Project, including direct and indirect costs, that will be incurred over the whole of the Project.
 - ii] Conduct socio-economic analysis and determine economic returns from the Project.
 - iii] Detail the revenue stream and possible alternatives for revenue maximization and preparation of revenue model for the Project.
 - iv] Development of a Financial Model (including all assumptions made) with functionality to carry out sensitivity analysis on variables such as lease rent/sell rate, provision of viability gap funding etc.
 - v] Listing of all assumptions made in relation to assessing the cost and revenue of the Project, including inflation rate, discount rate, depreciation, forecast demand etc.
 - vi] Advising on tax –related issues arising out of structuring the Project.
 - vii] prepare capex, operating and maintenance cost estimates over the likely tenure of the concession period, which are based on verifiable data and are sufficient to support project implementation and operation and which include step-ups and indexation where relevant, and indexation mechanism for various cost items;
 - viii] evolve a financing plan based on (a) evaluation of financing structures of recently financially closed PPP projects in Bangladesh; (b) interacting with all potential sources of debt, sub-debt and equity and the corresponding terms and conditions of the same; (c) securing inputs from CWASA regarding the funds available to CWASA/Government of Bangladesh and or availability of VGF for supporting this project; (d) interactions with potential private sector partners to understand their preferred or likely financing structure for this / similar projects
 - ix] prepare revenue estimates of based on existing tariff policies for both probable models (a) CWASA being the off-taker and (b) water treated is sold to industrial units located within BSMSN directly;
 - x] Prepare a detailed financial model in Microsoft Excel for the entire project and also for each sub-project independently, including, but not limited to:
 - a. assessing which of the assigned projects are bankable under a PPP structure, and the associated tariff for each;
- ✓

- 622 -
- b. quantifying if and how much government support (which may come in the form of grant, debt, VGF, or equity) may be required for each project under base and low case;
 - c. determining value for money (VFM) for government under PPP structure; and
 - d. evaluating other commercial structures as may be required;
- xi] The financial model should include appropriate accounting, depreciation and tax treatments relevant for the project. With respect to financing, drawdowns and repayment, the financial model should accommodate:
 - (i) currencies: dual currency financing, in US Dollar ("USD") and BDT;
 - (ii) drawdown: Flexibility to permit different drawdown options (e.g. prorated and sequential) for various funding tranches, including but not limited to, senior debt and shareholder contributions;
 - (iii) repayment: Defined repayment types (e.g. sculpted, straight line, equal amounts etc.) for individual funding tranches; and
 - (iv) Reflecting important covenants such as DSCR, DSRA, LLCR, etc.;
 - xii] The financial model should allow for the input of an array of assumptions and outputs typical for water supply projects including cost recovery tariffs, , pretax project IRR, project IRR, WACC, NPV, equity IRR, DSCR and LLCR. Model should be well organized by tabs as per international project finance modeling best practices. The financial model should provide outputs including projected financial statements (cash flow, balance sheet, profit and loss, etc.), feasibility metrics, project returns (e.g. NPV, NPV to government, IRR, RoE, etc.), and provide outputs in tabular and chart forms.
 - xiii] The financial model should include sensitivity analysis: it should be capable of carrying out various "what-if" scenarios and sensitivity analysis related to currency depreciation, funding assumptions, solar assumptions, cost increases, timing delays, etc.
 - xiv] The financial model should be provided to CWASA and Investor in an unlocked form, i.e. formulas visible and editable in cells and, as a minimum, the models should include the following for at least [35]-year PPP concession period.
 - xv] Conduct walk-through of model for BEZA as may be required; make and deliver presentations to other agencies of the Government of Bangladesh, like the PPP Authority and other parties as requested on the financial analysis and other aspects of the project and respond to any queries or clarifications sought.

K. Economic Analysis and Assessment. The Transaction Advisor will carry out an economic analysis of the project in accordance with the guidelines of the Government of Bangladesh including:

- (i) review the macroeconomic context of the project to provide an understanding of the economy's overall performance and outlook, and of how specific macroeconomic factors may affect project performance;
 - (ii) undertake demand analysis for the project; demand analysis provides the basis for estimating the scale of, and economic benefits from, the investment project;
 - (iii) identify the project rationale for public intervention which can be based on the failure of (a) markets to adequately provide what society wants, or (b) public institutions to deliver public goods or services;
 - (iv) help identify demands/problems to be solved by the project, the project intervention, outputs, expected outcomes and impacts;
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- 088 -
- (v) identify project alternatives; least-cost analysis to be undertaken to identify the preferred alternative; the basis for selecting the preferred alternative should be clearly explained, particularly if it is not the least-cost alternative in economic terms;
 - (vi) undertake and compare project benefits and costs in economic terms using with-project and without-project scenarios for each major project component; the basic criteria for assessing the project economic viability will be economic net present value and economic internal rate of return for subprojects/linked projects and total project; border parity pricing should be applied for major tradable cost and revenue items, along with other appropriate conversion factors;
 - (vii) undertake distributional analysis of project benefits to project beneficiary and stakeholder groups, and the extent to which they gain from benefits or bear costs associated with the project; undertake poverty impact assessment where necessary;
 - (viii) undertake sensitivity and risk analysis; where possible undertake a quantitative risk analysis and explicitly include probability distributions of key uncertain variables;
 - (ix) Undertake a value for money analysis to assess whether the project is beneficial economically and financially

L. Legal Review and Stakeholder Consultations

- i] Conduct a legal review to confirm that the private sector can provide the proposed outputs, and use the associated assets, identify potential regulatory restrictions, identify permits and licensing requirements, determine the status of land ownership and any potential that may restrict usage by the private sector, identify costs and time required to resolve these issues, and prepare an implementation plan;
- ii] Conduct public consultation with the close stakeholders including government agencies, potential sponsors etc.
- iii] Consult with key stakeholders to confirm the findings of the market and technical analyses and identify critical risks.

M. PPP Transaction Structuring

- i] Assessing the commercial viability of the Project if structured with or without any direct additional government support.
 - ii] Options assessment of alternative ways of structuring the Project to be delivered as a PPP or a non-PPP model
 - iii] Recommendations on the proposed structuring option for delivering the Project as a PPP.
 - iv] Advising on any Fiscal or Special Incentives (permissible within Bangladesh PPP policy) that can be considered for the Project and assessing the financial implications of these incentives on the Project.
 - v] Assessing what additional options exist to make the commercial viability of the Project more attractive while taking into account the additional financial impact and burden that may fall to the public sector.
 - vi] Recommendation on the optimum structuring approach for delivering this Project as PPP.
 - vii] Generate options for investor parameter and recommend optimal investor parameter
 - viii] Advising on tax –related issues arising out of structuring the Project.
 - ix] Conduct Value for Money (VfM) analysis and prepare Public Sector Comparator with showing detail methodology of conducting VfM.
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- 020
- x] Conduct debt sustainability analysis and competitiveness analysis with showing detailed methodology of conducting those analyses.
 - xi] Deliver on CWASA's objectives from this project;
 - i. Optimal risk sharing between CWASA and the Private Sector Partner, with each partner bearing the risks that they are best equipped to address / mitigate
 - ii. Attractiveness to potential private sector investor and ensure bankability of the project
 - iii. Ensure Financial returns to the private sector partner
 - iv. Bankability, i.e., levels of comfort to potential lenders to the project
 - v. Maximizes CWASA's and the Government of Bangladesh's Value-for-money;

The Transaction Advisor should detail out the recommended PPP option across all its dimensions, including the roles and responsibilities of CWASA and the private sector partner. The Transaction Advisor should also outline the pros and cons of the recommended PPP option and also its risks and potential risk mitigation measures.

N. Project Risk Assessment

- i] Development of risk matrix to identify and assess scale of potential Projects development and implementation risk and allocation of risk against stakeholders.
- ii] Propose mitigation measures to address risk.
- iii] Preparation of a consolidated list of approvals/consents/clearances required from government instrumentalities.

O. Heads of Terms for Concession Agreement

- i] Set out the key commercial terms and conditions that need to be reflected in the Concession Agreement
- ii] Roles and responsibilities of the private sector partner
- iii] Roles and responsibilities of the Contracting Authority and other government bodies (where applicable)

P. Model Making and/or CG Modeling

Making of model(s) and/or CG(s) to explain basic idea of the proposed project to the Honorable Prime Minister and other high officials. CG modeling is to show the block plan of Intake Station, Water Treatment Plant, Transmission Pipeline, Intermediate Booster Station and Distribution Pipeline up to user end (including size, location of each building and facility), and moving lines of water flow as per CWASA's instruction. Employment of designated specialist for CG modeling is to be considered.

Annex 2 sets out the detailed specifications of model making.

8.3 Phase 1 Deliverables:

1] Inception Report under Phase 1:

On commencement of Phase 1, the Transaction Advisor shall prepare and submit an Inception Report. The Inception Report shall be a further elaboration of the Transaction Advisor's submission towards understanding of the feasibility study, the methodology to be followed, the proposed work plan, the

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- 662 -

key interim and final delivery milestones, the schedule of delivery of the various components of the Detailed Feasibility Study etc.

2/ Draft Detailed Feasibility Report under Phase 1:

The Transaction Advisor shall submit the draft Phase 1 Report, which covers all the items listed in Phase 1 above.

3/ Final Detailed Feasibility Report under Phase 1:

The Transaction Advisor shall submit the final Feasibility Report with incorporating comments from the relevant authority and investor.

4/ Model or CG Modeling:

The Transaction Advisor shall submit the 3-D Model by the end of Phase 1.

Note: After completion of Phase 1, further contributions including consultations and provisions of advices and additional data are expected to successfully deliver the project.

9. Phase 2: Preparation of Contract documents, Project management structure and support to negotiation with investor and PPP Agreement Signed

9.1 Once Phase 2 has been launched, the Transaction Advisor is required to work together with the Contracting Authority to develop, manage and support the procurement process for securing contracts with the investor under a PPP arrangement in accordance with the standards set out for PPPs in relevant laws, regulations, rules and policy.

9.2 The Transaction Advisor must prepare a complete set of procurement documents including PPP Contract complying with relevant procurement law, policies and/or guidelines. The documentation must be consistent with the results of the feasibility study. The Transaction Advisor must provide full support to the Contracting Authority in carrying out drafting, communications, project management and administrative support necessary for the procurement process to be conducted in accordance with law and policy and to the highest standards of transparency, efficiency, quality and integrity.

9.3 The scope of work under Phase 2 (please refer to Table Scope of Work) includes (but is not limited to the following):

9.3.1 Procurement Plan

- Developing a detailed plan for developing and executing the finalization process of engaging private partner.
 - Setting out a detailed timeline for delivery of the Project.
 - Propose the structure in the Contracting Authority for a project implementation monitoring unit to deliver the project and propose a governance arrangement for ensuring Project oversight and delivery.
 - Development of an outline structure for the Project Information Memorandum.
 - Develop Proposals on how transfer of knowledge can be embedded through tour and training under Phase 2.
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9.3.2 Preparation of negotiation documents:

- Prepare a Project Information Memorandum about the project.
- Prepare a draft PPP contract and other agreements in accordance with applicable Bangladeshi laws, taking in to account the PPP policies, guidelines and the available draft PPP model contracts.
- Prepare a strategy paper on the proposed payment mechanism and the calibration of the performance deduction regime that embeds the risk allocation proposal set out in the Detailed Feasibility Studies and demonstrates the impact of different risk scenarios including the impact of performance deductions.
- Prepare a Service Requirements document that sets out the output specifications incorporating the key performance indicators and the thresholds that apply to each.
- Liaise and co-ordinate with other advisors, such as the legal advisor, appointed by the Contracting Authority/PPP Authority to support the implementation of the project.
- Prepare the environmental and social elements of the Information Memorandum, answer questions related to environmental and social issue raised by investors/financing intuitions during their due diligence.

Phase 2 Item-1 and 2 Deliverables:

- ✓ Project Information Memorandum
- ✓ Commercial Heads of Terms
- ✓ Provision of input into the Draft PPP contract
- ✓ Payment Mechanism Strategy
- ✓ Service Requirements and Performance Standards Specification
- ✓ Procurement Plan
- ✓ Proposed PPP contract document.

9.3.3 Support the negotiation with investor

To assist the Contracting Authority in carrying out the following activities:

- Provision of commercial, financial and technical input in drafting the contract and schedules, drawing upon the deliverables of Phase 1 of the Project and including all specific requirements of the project to be provided by the concessionaire.
- Finalize the PPP contract with G-G PPP partner to enable signing of the contract.

Phase-2 Item 3 Deliverables:

- ✓ Completion of the commercial, financial and technical parts and providing input into other aspects of the PPP Contract and Schedules as may be required.

9.3.4 Commercial and Financial Support

To assist the Line Ministry/Contracting Authority in the development and implementation of the project and the PPP Contract by providing the following support:

- Assess and advise on optimizing financing and funding strategies and identifying flexibility, opportunities and risks.

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- 660 -
- Updates the Project Financial Model developed as part of the Detailed Feasibility Study and review and scrutinize financial models submitted by PPP Partner (as applicable). This will include:
 - Review and refinement of the key financial inputs, project capital cost, operation and maintenance costs, and other costs that were identified in the Detailed Feasibility Study;
 - Identification of the potential sources and cost of capital and terms and conditions of loans to determine the debt payment schedule;
 - Determination of the revenue projection, income statement projection, balance sheets, and cash flow statements over the life of the project;
 - Prepare projections of working capital requirement;
 - Calculation of various metrics used for assessment of feasibility, including NPV, IRR, debt service coverage ratio, cash and discounted break-even, financial ratios etc;
 - Conduct sensitivity analysis on the major parameters including capital cost, O&M cost, inflation rate revenue to explore its sustainability under different scenario.
 - Financial assessment of the project
 - need for any additional support (e.g. Viability Gap Financing) that may be required to make the project commercially viable;
 - the commercial implications of the linked projects;
 - the fiscal incentives and waivers as may be required for the project.
 - Value for money analysis, debt sustainability analysis and competitiveness analysis
 - Development of a Project Risk Report to identify the risks in relation to the project, advise on the balance of risk transfer and evaluate the commercial and financial implications of the risk allocation.
 - Provide expert commercial and financial advice and input in the development of the procurement documents and during the procurement process.

Phase-2 Item-4 Deliverables:

- ✓ Development of a Financial Model
- ✓ Appraisal Report of PPP partner's Financial Model
- ✓ Development of a Project Risk Report
- ✓ Financial Assessment Report

9.3.5 *Project Management and Governance Arrangements*

- Support the Contracting Authority in putting together proposals for a governance structure to monitor and implement the project.
- Provide project management and administrative support to the Contracting Authority for delivering the project.
- Provision of support to the Contracting Authority in the preparation of presentations and documents to report on project progress and issues.
- Working together with other advisors and managing other advisory inputs to support the Authority in developing a consolidated view in delivering the project.

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- 682 -
- Monitoring and providing advice on performance of bidder against any conditions precedent to financial close.
 - Prepare governance and operational report for contracting authority to be followed during the implementation period of the PPP project.
 - Prepare project management, relationship management and risk management reports including risk mitigations measures for the contracting authority to be useful during the implementation period of the PPP project.

Phase-2 Item-5 Deliverables:

- ✓ **Project Governance Strategy and Operational Plan** detailing the governance, monitoring and reporting arrangements that will apply from the financial close and launch of operations.
- ✓ **Project Management, relationship management and Risk management report**

9.3.6 Training and Transfer of Knowledge

- The Transaction Advisor shall arrange a short offshore Study Tour for up to 2 week for 7 (seven) government officials, 3 for CWASA & each from line Ministry/PPP Authority/BEZA/Finance Division) to showcase similar Projects that have been delivered in other countries or regions;
- Throughout the period of the assignment the Transaction Advisor shall on request deliver periodic seminars/training sessions on the delivery of PPP Projects to relevant stakeholders from the contracting, Line Ministry and linked public sector authorities.

Phase-2 Item-6 Deliverables:

- ✓ Project Related Off-shore Study Tour for seven (7) government officials;
- ✓ Periodic seminars/training session on the delivery of PPP Projects.

9.3.7 Early Operations Support

Support the Line Ministry/Contracting Authority:

- in operationalizing the contract.
- Prepare a presentation to identify the roles and responsibilities of the public sector in managing the contract.
- Prepare a presentation to highlight the key commercial issues and risk that need to be managed during the period of operations of the contract.

Phase-2 Item-7 Deliverables:

- ✓ Presentation on Governance strategy and Operational Plan
- ✓ Presentation on Roles and Responsibility based governance and operational plan
- ✓ Presentation on relationship management and Risks management

In carrying out the activities and deliverables set out above the Transaction Advisor shall take particular care in ensuring that the following conditions and criteria are met:

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- 686
- The transaction structures proposed are suitable taking into account the particular legal, regulatory and financial conditions that exist in Bangladesh.
 - The process is structured to ensure that it meets the requirements for openness, transparency and accountability.
 - The service provision standards and targets are well defined.
 - (Where applicable) There is a structured plan for smooth transition of the labor force.
 - The project is structured so as to ensure appropriate risk distribution between the private and public sectors, facilitating the future mobilization of financing and ensuring that the relevant contractual provisions are attractive to potential investors while optimizing sustainable long-term benefits to the consumers and economy.
 - Relevant data available with the PPP Authority and the Contracting Authority will be given to the Transaction Advisor. However, the Transaction Advisor will need to carry out their own due diligence on this data and obtain any additional data that they may need at their own responsibility and cost.

10. Other tasks of the Transaction Advisor

10.1 The Transaction Advisor (TA) is required to understand the uniqueness of this project (e.g.: large size, long time period required for design + construction executions + operations, multi-stage development, PPP consisting of public infrastructures and commercial developments, a large number of stakeholders etc.)

10.2 The TA will submit all reports according to this TOR initially to the Contracting Authority.. After reviewing by Contracting Authority and following steps as per PPP regulations and guidelines each shall be finalized and approved by the Competent Authority.

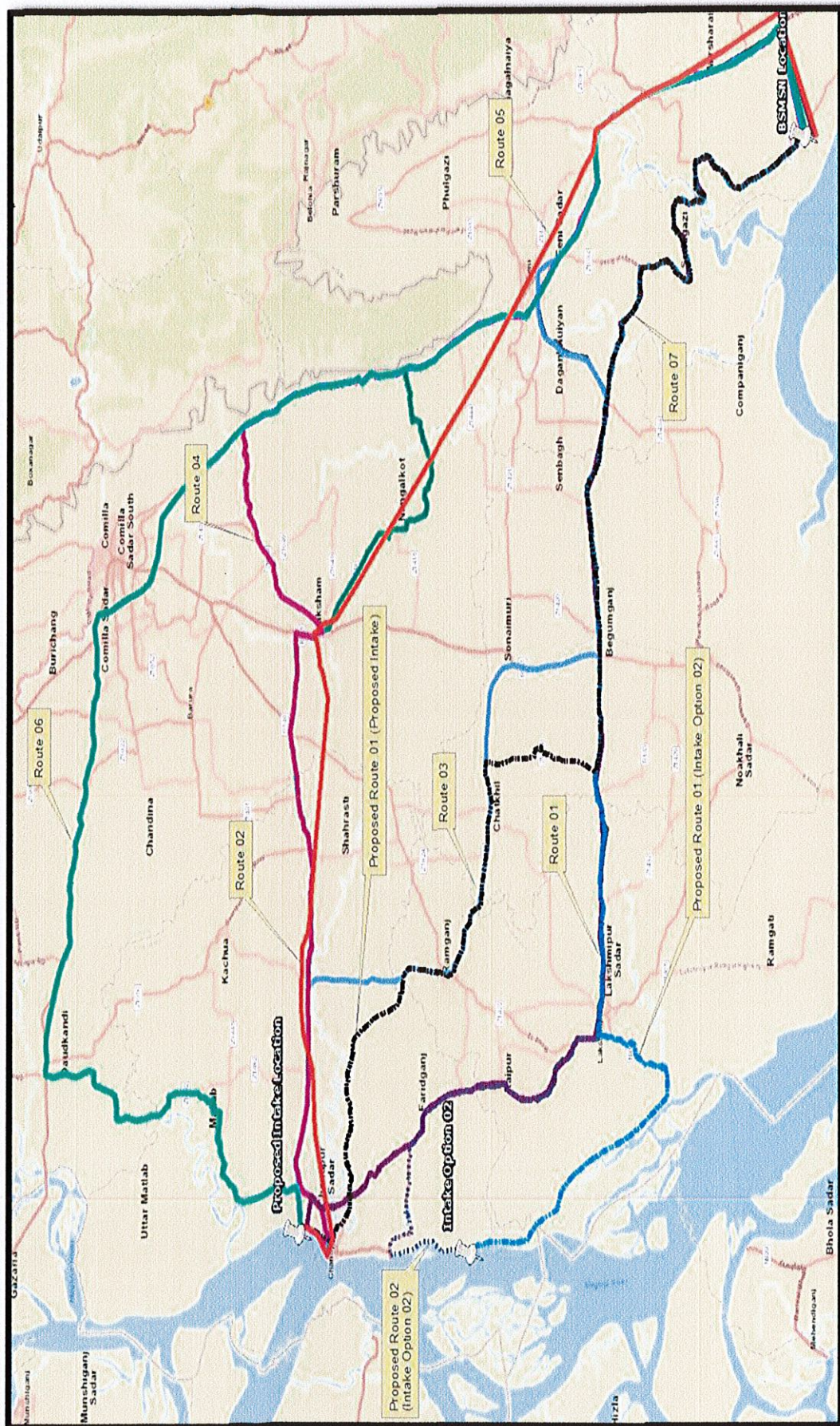
10.3 The TA shall communicate/coordinate all the stakeholders' i.e. relevant government, semi-government, autonomous departments and relevant private organizations to perform detail feasibility study as per the requirements.

10.4 The TA shall have to be cooperative with Sub-Working Group ("SWG"), which was selected in the framework of Memorandum of Cooperation (MoC) between Korea and Bangladesh governments and to build up the good-listener-relationship with the SWG based on the mutual respect to the professionalism of each other under joint supervision and coordination of PPPA as the employer of TA and of CWASA as the line agency.

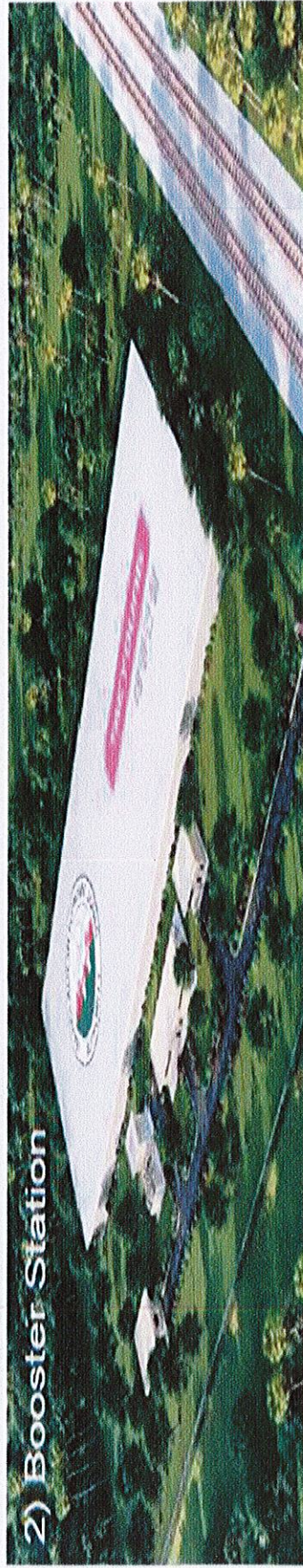
- In order to secure the quality of topographic and land use surveys as well as of other technical studies and/or surveys, which should be professionally conducted precisely to meet the technical requirements in the designated specifications,
- PPPA and CWASA may
 - a) Let SWG technically evaluate the periodical progress and final outcome of the surveys as well as other technical studies and/or surveys conducted.
 - b) Allow SWG to give technical advice to Transaction Advisor to let them do their services in accordance with the agreed specifications, if both SWG and PPPA + CWASA find it necessary.

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ANNEX 2: Model Making Specifications (Tentative)



Annex 3: Details of Transaction Advisor's Team Composition and Requirements

Team Composition, Level of Effort, Task Assignment and Experience Requirement

The assignment shall be implemented by a consulting firm or a joint venture of consulting firms with one or more sub-consultants (either firm or individual). It is anticipated that about 39 staff-months of input by international Key Expert, 16 staff-months by national Key personnel and 72 staff-months by national non key staff. The Consultant will have the following key experts to carry out the assignment.

The PPPA intends to engage a consultancy firm with experience in feasibility studies, engineering design of large water treatment infrastructure of similar nature and complexity, including experience in managing projects that utilize a variety of construction technologies and methods for pipeline construction. The Consultant also needs to hold expertise in design and management of Intake, WTP, Transmission, Boosting Station and Distribution of water.

The consultant shall ensure that a team of experts and professional staff with necessary education, skill and experience would be deployed for all tasks in the field of design of large scale WTP projects. Furthermore, the consultant must provide specific professionals on Intake, WTP, Transmission, Boosting Station and Distribution of water.

An indicative list of the positions of the key professional staff/experts who will be evaluated for this assignment is given in Table below. The estimated staff-months are indicative but minimum for field input. The consultant is free to propose their own estimate of professional input required to deliver the services in line with the Terms of Reference.

Team Composition and Estimated Man-Months are as follows:

Sl. No.	Position	Number of Expert	Staff-month
International Key Staff			
1	Team Leader/ Water Management Specialist/ Contract Management Specialist	1	4
2	Water Treatment Process Engineer	1	3
3	Pipe Network Specialist	1	3
4	PPP Transaction Advisor	1	4
5	PPP Analyst (Economic, Financial, Business)	1	3
6	Civil Engineer (WTP)	2	6
7	Electrical Engineer	1	3
8	Mechanical Engineer	1	3
9	Procurement Specialist	1	3

686

10	Legal Expert	1	2
11	Operation and Maintenance Specialist	1	2
42	Architect cum Urban Planner	4	3
Sub-total- 1 =		13	39
National Key Staff			
12	Deputy Team Leader (DTL)	1	4
13	Civil Engineer (Plant Design)	2	6
14	Senior Pipeline Engineer	2	6
Sub-total- 2 =		5	16
National non Key Staff			
15	Quantity Surveyor	1	4
16	Civil Engineer	4	12
17	Electrical Engineer	3	9
18	Mechanical Engineer	3	9
19	Environmental Management Specialist/ Climate Change Expert	1	3
20	Financial Management Specialist/Economist	1	3
21	Social Expert	1	3
22	GIS/CAD Expert	2	6
23	Network Modeler	1	3
24	Office Manager	2	4
25	Office Assistant	4	16
Sub-total- 3 =		23	72
Grand Total =		41	127

The total number of anticipated staff-months for internationally and nationally experienced experts for this contract is estimated at about 127 staff-months, without support staff.

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N.B: Apart from the above-mentioned input, the consultant shall take into account the following functions:

1. A cautious planning of input schedule for providing such services is expected.
2. A pool of key staffs consisting of 2 Staff-Month for International experts and 2 Staff-Month for national experts in the field of Process Engineer/ pipe network specialist/ Civil Engineer/ Mechanical Engineer/ Electrical Engineer shall be considered. This shall be considered as a provision and the required expert/s shall be made available in the field as per field requirement with a short notice.
3. The Home Input for the international professionals shall be taken into consideration to deliver the services in a comprehensive manner. However the consultant should take prior approval of the client to consume such home input.
4. The consultant may take the payment to the home with the permission of the relevant authority following the existing rules of the People's Republic of Bangladesh. In such case, the consultant will be responsible to take permission for the relevant authority/ies and all concerned expenditure shall be borne by the consultant. The PPPA will provide necessary assistance issuing letter to the different authority/ies. It may be mentioned that the Consultant should be acquainted fully with the rules and regulation of transferring money from Bangladesh to home of the consultant and for any ambiguity in this connection likely to be arisen afterword shall not be the responsibility of the client.
5. The estimated staff-months are indicative and the consultant may propose their own estimate of professional input in order to deliver the service in conformity with the scope of services. Professional input may be staggered over the contract period, considering the project tenure as 9 calendar months.
6. The Consultant shall assure the presence of any one of TL and or DTL at field during the execution of this assignment.
7. The consultant shall assure sufficient support staffs including office manager, office assistant, logistics, office equipment and other necessary support on their own cost to deliver the services in an effective manner.

The qualification, experience and competency of the key staffs, whose CV's will be considered for evaluation to be required for the proposed services are as follow:

A. Required Qualification & Experiences of the Key Staffs					
Sl. No.	Type of Staff	Minimum Educational Qualification	Background	Overall Experience	Specific Experience & Responsibilities
International Key Staff					
I.	Team Leader/ Water Management Specialist/	Graduate	Civil Engineering with a master's or post-graduate	Working experience about 20 years	Overall organization and management of the feasibility study team and shall ensure the quality of all outputs including all relevant aspects e.g. technical, financial, legal/statuary, health. Social etc. The TL will be the focal point for all communications between the

Contract Management Specialist		degree specializing in water resource engineering or similar.		<p>consulting team, CWASA and PPPA. The TL will lead the initial scheme design and option comparison process, the selection of the preferred scheme and the preparation of the feasibility study together with the preparation of the project implementation plan. Furthermore, the TL shall prepare the key project reports.</p> <p>Preferred qualifications include:</p> <ul style="list-style-type: none">• Minimum 12 years solid experience as a TL for Water Treatment projects in similar cities of Chattogram, ideally with government agencies and on donor funded projects in the region. Experience of working in Bangladesh, in the urban sector, will be considered an advantage;• Working experience as Team Leader in minimum 4 projects among which at least 2 assignments of similar project• Significant experience in planning and feasibility studies and the preparation of preliminary designs in the water sector;• Excellent skills in project team and time management;• Excellent inter-personal, communication and presentation skills as well as reporting and presenting; and fluency in English (written and spoken). <p>The Team Leader (TL) shall be responsible for overall activities of the consulting team for the following but not limited to :</p> <ul style="list-style-type: none">• Provide advice and direction to the multi-disciplinary team of the Consultant to perform the duties of the team in a comprehensive manner to protect the interest of the Client.• Prepare project plan, schedules and time frame work and publications of reports.• Oversee all procurement of services including EPC contractor selection process, equipment and materials required for the project.• Maintaining liaison with client to achieve the ultimate goal of the assignment.• Participating in site meetings and preparing minutes of the meetings.
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					<ul style="list-style-type: none"> • Reviewing of previous relevant studies and data's and FS report developed of its kind and/or its consultant. • Taking part to all relevant meetings with concerned stakeholders and feedback to the Client on pertinent issues. • Reporting.
2.	Water Treatment Process Engineer	Graduate	Civil Engineering/ Water Treatment Process Engineering	Working experience about 15 years	<p>This professional staff should have minimum 8 years' experience in water treatment process selection and design with modern technologies. He/she must be experienced in designing at least 4 water treatment plants out of which at least 2 treatment plants are of 100 MLD capacities. This key staff shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Collect relevant studies reports and data's available with CWASA • Reviewing the relevant reports to be prepared of its kind and/or its consultant to finalize technical concept. • Assisting the employer in selection of treatment process to optimize the benefit of CWASA in terms of quality of treatment and best practice, ease of least cost operation and maintenance etc. • Assisting the TL and the team • Any other relevant duties to be required for the team.
3.	Pipe Network Specialist	Graduate	Degree in civil engineering with a post graduate qualification in civil, environmental or Water resource engineering;	Working experience about 15 years	<p>He/She will review the CWASA previous Water project, assess water quantities and conduct the initial service level and pipeline route assessments. The consultant will review the outline scheme designs developed of its kind and/or its consultant and support the option comparison process. He/She will review the preliminary design of the water Transmission/Distribution system developed of its kind and/or its consultant to finalize technical concept. Preferred qualifications include:</p> <ul style="list-style-type: none"> • Minimum 8 years' experience in pipe network selection and design with modern technologies in similar cities like Chattogram, ideally with government agencies and on donor funded projects. Experience of working in Bangladesh will be considered an advantage; • Significant experience in feasibility studies and preliminary designs in the water sector; and

					<ul style="list-style-type: none"> • Excellent skills in English (written and spoken) plus good report writing skills. • Must be experienced in designing at least 3 water/pipe network out of which at least 2 pipe network of 100 MLD capacity. <p>Furthermore, this key staff shall be responsible for reviewing the following technical aspects developed of its kind and/or its consultant to finalize technical concept but not limited to :</p> <ul style="list-style-type: none"> • Collection and analysis of all relevant reports and data regarding the project area; • Recommend design flows and pressure for trunk main and inlet flow of WTP • Recommend final routing of trunk main, pipe networks and select pipe/conduit materials with specifications; • Hydraulic design criteria for trunk main and calculation of diameter etc.; • Designs of details of trunk main & distribution pipe network etc., and interface with other infrastructure;
4	PPP Transaction Advisor	Master in Science or commerce or Economics or B.Sc in Engineering	Master in Science or commerce or Economics or B.Sc in Engineering	15 years of experience in PPP projects	Responsibility includes but not limited to: Review Project structuring, preparing PPP agreements etc. Oversee Market analysis, demand assessment and benchmarks studies developed of its kind and/or its consultant and provide necessary suggestion to modify the same to protect interest of the client.
5	PPP analyst (economic, financial, business)	Master in Science or commerce or Economics or B.Sc in Engineering	Master in Science or commerce or Economics or B.Sc in Engineering	15 years of experience in PPP projects	Responsibility includes but not limited to : Review the financial structuring of the project including development of a robust financial model, risk analysis, discuss with lenders, prepare term sheet, develop financial model of the project, identify financial costs and benefits, lead financial analysis of the project, demand assessment etc developed of its kind and/or its consultant and provide necessary suggestion to modify the same to protect interest of the client.
6.	Civil Engineer (WTP Design)	Graduate	Civil Engineering	Working experience about 15 year	He/She will support the team in reviewing the outline/preliminary design of all engineering components of the project including Intake, Water Treatment Process & Pumping stations. Preferred qualifications include:

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					<ul style="list-style-type: none"> • Minimum 8 years experience on relevant projects in similar cities like Chattogram , ideally with government agencies and on donor funded projects; • He/she must be experienced in designing civil structures at least 4 water treatment plants out of which at least 2 treatment plants are of 100 MLD capacities. • Significant experience in feasibility studies and outline/preliminary designs in the urban sector in Bangladesh; and • Excellent skills in English (written and spoken) plus good report writing skills. <p>This key staff shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Reviewing the Design of civil structures of the project developed of its kind and/or its consultant. • Collect and review the relevant documents, reports and data's available with CWASA • Reviewing the relevant reports to be prepared of its kind and/or its consultant. • Assisting the TL and the team • Any other relevant duties to be required for the team.
7.	Electrical Engineer	Graduate	Electrical Engineering	Working experience about 15 years	<p>He/She will support the team in reviewing the outline/preliminary design of all engineering components of the project including intake, pipeline, pumping stations and WTP. Preferred qualifications include:</p> <ul style="list-style-type: none"> • Minimum 8 years experience on relevant projects in similar cities like Chattogram , ideally with government agencies and on donor funded projects; • He/she must be experienced in designing electrical facilities at least 4 water treatment plants out of which at least 1 treatment plants are of 100 MLD capacities. • Significant experience in feasibility studies and outline/preliminary designs in the urban sector in Bangladesh; and • Excellent skills in English (written and spoken) plus good report writing skills. <p>This key staff shall be responsible for but not</p>

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					<p>limited to:</p> <ul style="list-style-type: none"> • Reviewing the design of electrical structures of the project developed of its kind and/or its consultant. • Collect and review the relevant documents, reports and data's available with CWASA • Reviewing the relevant reports to be prepared of its kind and/or its consultant. • Assisting the TL and the team • Any other relevant duties to be required for the team.
8.	Mechanical Engineer	Graduate	Mechanical Engineering	Working experience about 15 yrs	<p>He/She will support the team in reviewing the outline/preliminary design of all engineering components of the project including Intake, Pipeline, pumping stations and WTP. Preferred qualifications include:</p> <ul style="list-style-type: none"> • Minimum 8 years experience on relevant projects in similar cities like Chattogram , ideally with government agencies and on donor funded projects; • He/she must be experienced in designing mechanical facilities at least 4 water treatment plants out of which at least 1 treatment plants are of 100 MLD capacity. • Significant experience in feasibility studies and outline/preliminary designs in the urban sector in Bangladesh; and • Excellent skills in English (written and spoken) plus good report writing skills. <p>This key staff shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Reviewing the Design of mechanical facilities of the project developed of its kind and/or its consultant . • Collect and review the relevant documents, reports and data's available with CWASA • Reviewing the relevant reports to be prepared of its kind and/or its consultant . • Assisting the TL and the team • Any other relevant duties to be required for the team.
9.	Procurement Specialist	Graduate	B.Sc engineering or masters in Supply chain/	Working experience about 15	<p>Extensive experience in relevant projects in similar cities (Chattogram City), ideally with government agencies and on international financed projects. Significant experience of the</p>

			Procurement Management	years	preparation of tender documents particularly in the water supply and water treatment sectors. Particular experience of procurement under international rules and guidelines is preferred; In-depth knowledge of preparation of tender documents and processes. Experience in Bangladesh and the region is preferred; and Excellent skills in English (written and spoken)
10	Legal Expert	Masters in Law or L.L.B with Barrister at Law	Masters in Law or L.L.B with Barrister at Law	10 years of experience in law profession	Responsibility includes but not limited to : Provide legal review from local perspective including preparation of PPP contract documents, land status and other legal requirements and provide necessary suggestion to modify the same to protect interest of the client.
11	Operation and Maintenance Specialist	Graduate	Mechanical/Electrical Engineering	Working experience about 15 years	This professional staff should have minimum 8 years experience in operation & maintenance of relevant WTP and pipeline system of such infrastructure (similar water treatment plant/ FSTP). He/she must be experienced in O&M of electro-mechanical components at least 2 waste water treatment Treatment Plant/Power Station. This key staff shall be responsible for but not limited to: <ul style="list-style-type: none"> • Assisting the international relevant staff in reviewing the O&M aspects of electro-mechanical components developed of its kind and/or its consultant and suggest modification, changes as required. • Collect and review the relevant documents, reports and data available with CWASA. • Assisting the TL and the team. • Any other relevant duties to be required for the team.
12	Architect cum Urban Planner	Graduate	B.Sc in Architecture/ URP	10 Years of experience in Architectural or Urban & Regional planning works	Responsibility includes but not limited to: <ul style="list-style-type: none"> - Prepare broad layout design and master plan. - Prepare Architectural design and drawings of all buildings and other structures related to Intake, WTP and Boosting Station etc. - Prepare & built 3-D drawings and CG model.

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National Key Staff					
13	Deputy Team Leader (DTL)	Graduate	Civil Engineering or similar field with Masters/ MBA	Working experience about 15 years	<p>The DTL will assist the TL in all aspects of the project. The DTL will hold particular responsibility for data collection, ensuring that the team is fully aware of all relevant sector strategies, plans and project reports. Furthermore he/she will support the TL in the preparation of the key project outputs.</p> <p>Preferred qualifications include :</p> <p>Minimum 12 years managerial experience including planning, studying and designing experience of water supply management infrastructure for the city having minimum 3.5 million dwellers and working in a team leader or deputy team leader capacity on similar projects with government agencies and on donor funded projects;</p> <p>At least 2 experiences ideally in the water supply, water treatment sectors; He/she will pay the role of Team Leader in absence of the Team Leader and:</p> <p>Excellent skills in English (written and spoken) plus good report writing skills.</p> <p>This key staff shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Reviewing of previous relevant studies and data's available in CWASA • Assist to project team for reviewing the documents developed of its kind and/or its consultant. • Assisting the TL and the team for preparation of PPP agreement. • Any other relevant duties.
14	Civil Engineer (Plant Design)	Graduate	Civil/Sanitary Engineering	Working experience about 15 years	<p>He/She will support the team in reviewing the outline/preliminary design of all engineering components of the project including pipeline, pumping stations and WTP. Preferred qualifications include:</p> <ul style="list-style-type: none"> • Minimum 8 years experience on relevant projects in similar cities like Chattogram , ideally with government agencies and on donor funded projects; • He/she must be experienced in designing civil structures at least 2 water supply treatment plants out of which at least 1 treatment plants are of 100 MLD capacity. • Significant experience in feasibility studies and outline/preliminary designs

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					<p>in the urban sector in Bangladesh; and</p> <ul style="list-style-type: none"> • Excellent skills in English (written and spoken) plus good report writing skills. <p>This key staff shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assisting the relevant international staff in reviewing of design and drawing of civil structures of the project developed of its kind and/or its consultant • Collect and review the relevant documents, reports and data's available with CWASA • Reviewing the relevant reports to be prepared of its kind and/or its consultant. • Assisting the TL and the team • Any other relevant duties to be required for the team.
15	Senior Pipeline Engineer	Graduate	Civil Engineering	Working experience about 15 yrs.	<p>He/She will review the CWASA previous projects, assess water quantities and conduct the initial service level and pipeline route assessments of the said project. The consultant will review the outline scheme designs developed of its kind and/or its consultant and support the option comparison process. He/She will review the preliminary design of the network system developed of its kind and/or its consultant to finalize technical concept.</p> <p>Preferred qualifications include:</p> <ul style="list-style-type: none"> • Minimum 8 years experience in pipe network selection and design with modern technologies in similar cities like Chattogram, ideally with government agencies and on donor funded projects. Experience of working in Bangladesh will be considered an advantage; • Significant experience in feasibility studies and preliminary designs in the water sector; and • Excellent skills in English (written and spoken) plus good report writing skills. • Must be experienced in designing at least 2 water pipe network out of which at least 1 pipe network of 100 MLD capacity. <p>Furthermore, this key staff shall be responsible for reviewing the following technical aspects developed of its kind and/or its consultant to finalize technical concept but not limited to :</p> <ul style="list-style-type: none"> • Collection and analysis of all relevant reports and data regarding the project area;

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					<ul style="list-style-type: none"> • Recommend design flows and pressure for trunk main and inlet flow of WTP • Recommend final routing of trunk main, pipe networks and select pipe/conduit materials with specifications; • Hydraulic design criteria for trunk main and calculation of diameter etc.; • Designs of details of trunk main & distribution pipe network etc., and interface with other infrastructure;
National Non-Key Staff					
16	Quantity Surveyor	Graduate	Engineering	Working experience about 15 years	<p>This professional will review the cost estimates, at for all components of the project including pipeline, pumping stations and treatment structures and effluent discharge facilities developed of its kind and/or its consultant. Preferred qualifications include:</p> <p>Substantial experience in relevant projects in similar cities, ideally with government agencies and on donor funded projects;</p> <p>Minimum 8 years experience of quantity surveying particularly in the water supply and treatment sector for a large development project; and Excellent skills in English (written and spoken).</p> <p>This key staff shall be responsible for but not limited to :</p> <ul style="list-style-type: none"> • Assist TL in collecting local and international cost data and information and estimating components of works.
17	Civil Engineer	Graduate	Civil Engineering	Working experience about 15 years	<p>He/She will support the team in reviewing the outline/preliminary design of all engineering components of the project including pipeline, pumping stations and WTP. Preferred qualifications include:</p> <ul style="list-style-type: none"> • Minimum 8 years experience on relevant projects in similar cities like Chattogram , ideally with government agencies and on donor funded projects; • He/she must be experienced in designing electrical facilities at least 2 water supply/ treatment plants out of which at least 1 treatment plants are of 100 MLD capacity. • Significant experience in feasibility studies and outline/preliminary designs in the urban sector in Bangladesh; and • Excellent skills in English (written and spoken) plus good report writing skills.

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					<p>This key staff shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assisting the relevant international staff in reviewing of design and drawing of civil facilities of the project developed of its kind and/or its consultant • Collect and review the relevant documents, reports and data's available with CWASA • Reviewing the relevant reports to be prepared of its kind and/or its consultant. • Assisting the TL and the team • Any other relevant duties to be required for the team.
18	Electrical Engineer (Design)	Graduate	Electrical Engineering	Working experience about 15 years	<p>He/She will support the team in reviewing the outline/preliminary design of all engineering components of the project including pipeline, pumping stations and WTP. Preferred qualifications include:</p> <ul style="list-style-type: none"> • Minimum 8 years experience on relevant projects in similar cities like Chattogram , ideally with government agencies and on donor funded projects; • He/she must be experienced in designing electrical facilities at least 2 water supply/ treatment plants out of which at least 1 treatment plants are of 100 MLD capacity. • Significant experience in feasibility studies and outline/preliminary designs in the urban sector in Bangladesh; and • Excellent skills in English (written and spoken) plus good report writing skills. <p>This key staff shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assisting the relevant international staff in reviewing of design and drawing of electrical facilities of the project developed of its kind and/or its consultant • Collect and review the relevant documents, reports and data's available with CWASA • Reviewing the relevant reports to be prepared of its kind and/or its consultant. • Assisting the TL and the team • Any other relevant duties to be required for the team.

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- 662 -

19	Mechanical Engineer (Design)	Graduate	Mechanical Engineering	Working experience about 15 years	<p>He/She will support the team in reviewing the outline/preliminary design of all engineering components of the project including pipeline, pumping stations and WTP.</p> <p>Preferred qualifications include:</p> <ul style="list-style-type: none"> • Minimum 8 years experience on relevant projects in similar cities like Chattogram, ideally with government agencies and on donor funded projects; • He/she must be experienced in designing electrical facilities at least 2 water supply/ treatment plants out of which at least 1 treatment plants are of 100 MLD capacity. • Significant experience in feasibility studies and outline/preliminary designs in the urban sector in Bangladesh; and • Excellent skills in English (written and spoken) plus good report writing skills. <p>This key staff shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Assisting the relevant international staff in reviewing of design and drawing of mechanical facilities of the project developed of its kind and/or its consultant • Collect and review the relevant documents, reports and data's available with CWASA • Reviewing the relevant reports to be prepared of its kind and/or its consultant. • Assisting the TL and the team • Any other relevant duties to be required for the team.
20	Environmental Management Specialist/ Climate Change Expert	Masters	Environmental Science or Engineering/ Civil Engineering/ Chemistry	Working experience about 15 years	<p>This professional staff should have sufficient working experience in preparation of EIA/EMP for similar project and shall have adequate knowledge on the Environmental law of Bangladesh. He/She should be experienced in preparing environmental management framework. This key staff shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> • Collect and review the relevant reports on the environment/climate change, health and safety developed of its kind and/or its consultant and provide necessary suggestion to modify the same to meet the minimum requirement in this regard. • Assisting the TL and the team.

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					<ul style="list-style-type: none"> Any other relevant duties to be required for the team.
21	Financial Management Specialist	Masters	Financial management or economics or Commerce	Working experience about 15 yrs	<p>This professional will review the preliminary financial/ economic viability analysis (cost benefit/ FIRR/ EIRR) of the proposed infrastructure investments to be prepared of its kind and/or its consultant as part of the option comparison process and provide necessary suggestion to modify the same to meet the minimum requirement in this regard. The specialist will recommend the financial and economic analysis suitable for this project.</p> <p>Minimum 8 years of experience in relevant projects in similar cities, ideally with government agencies and on donor funded projects. Experience of working in Bangladesh will be considered an advantage;</p> <p>Extensive experience in municipal finance, infrastructure economics, and finance and project analysis;</p> <p>Significant experience in the preparation of PPPA related loan documentation and</p> <p>Excellent skills in English (written and spoken) plus good report writing skills.</p> <p>This key staff shall be responsible for but not limited to:</p> <ul style="list-style-type: none"> Review the contracts signed between CWASA/GoB and private partner Prepare a financial management framework for the project. Forecasting of fund flow for smooth implementation of the project. Assessing the requirement of fund flow. Assisting the TL and the team in preparation of different reports. Assisting the TL on any project related financial issue that may require his attention. Any other relevant duties to be required for the team.
22	Social expert	Graduate	Masters or equivalent in Social science/ social welfare/ Sociology or Relevant subject	10 years of experience in resettlement plan/ social safeguard issues	<p>Responsibility includes but not limited to</p> <ul style="list-style-type: none"> Undertake social survey. Assess social issues related to the Project and suggest mitigation measures. Prepare social impact assessment report.
23	CAD/GIS	Graduate	Relevant	10 years	The national CAD/GIS expert will work under



	expert		discipline		the direction of the TL and Engineer and will prepare all outline and preliminary drawings for the project. Preferred qualifications include: <ul style="list-style-type: none"> • An appropriate qualification; and • Significant experience in relevant projects in similar cities.
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7.0 Reporting Requirements

All reports in English will have to be submitted in both softcopy and hard copy. A CD-ROM or flash drive containing the electronic version of the report must be submitted with every paper copy of all required reports. The hard copy of the draft reports is to be submitted in 5 copies and the final report in 10 copies. Reports shall be prepared using commonly used software. All reports shall be prepared in DIN A4 format. Separate volumes in DIN A3 format may be used to contain plans, drawings, schedules, photographs, etc. The consultants shall provide the following reports as outlined in Table below:

Schedule of Deliverables

Deliverables	Delivery Schedule/Frequency
Inception report- shall cover all phases and the aspects but not limited to- revised work plan, Revised methodology (if any), Description on logistics and office facility as per contract etc.	Within 1 month after signing the contract
Interim Report – shall cover all phase.	Within 2 months after signing the contract
Draft Final report – shall cover comments on interim report of all phases.	Within 3 months after signing the contract
Final report- consolidating all above deliverables and providing a complete set of document for CCEA approval.	Within 4 months after signing the contract

8.0 Payments Schedule

The payment shall be made according to the following schedule:

- Ten (10) percent of the Contract Price shall be paid upon submission of the Inception report which shall cover the aspects but not limited to- Revised work plan, Revised methodology (if any), Description on logistics and office facility as described in the ToR subject to acceptance of completion report by the client.
- Thirty (30) percent of the Contract Price shall be paid upon submission of the Interim Report and completion of activities as described above paragraph in the ToR subject to acceptance of completion report by the client.

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- (c) Twenty (20) percent of the Contract Price shall be paid upon submission of the draft final report and completion of activities as described above paragraph in the ToR subject to acceptance of completion report by the client.
 - (d) Forty (40) percent of the Contract Price shall be paid upon submission of the Final Report and completion of activities as described above paragraph in the ToR subject to acceptance of completion report by the client.

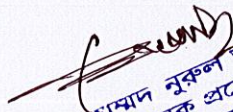
9.0 Facilities to be provided by the Client

9.1 Data, Maps and References:

The Consultant shall have access to all available data, information, maps, drawings and internal documents relevant to the consulting services. All reference materials will be loaned to the Consultant and shall be returned on completion of the consultancy, or as may be requested, exceptions to this principle may be granted on special request.

9.2 Services:

PPPA and CWASA will provide necessary support to the consulting team for access to all water supply facilities and records available with CWASA to be studied, and also to key officials in the government agencies concerned with subjects related to the consultancy, if required


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কম্পিউটার প্রকৌশলী, চট্টগ্রাম।