Water Supply Sector

Sl. No.	Project Name	Country	Period of Execution	Total value of the services	Client	Funding Agency	Firms Responsibility
1.	ADB LOAN 42173-013 BAN: Management, Design & Supervision Consultancy (MDSC) Services under Dhaka Environmentally Sustainable Water Supply Project (DESWSP)	Bangladesh	Start Date: Apr. 2016 - Completion Date: Jun. 2020	US$ 17.535 million	Dhaka WASA	ADB, EIB, AFD, and GOB	**Narrative description of Project:** The project will provide more reliable and improved security of water supply in Dhaka by developing a new surface water supply scheme for supply augmentation, which includes the development of a water intake at Meghna River, a raw water transmission pipeline, a water treatment plant (WTP) at Gandharbpur with capacity of 500 million liters per day (MLD), a treated water transmission pipeline to the existing water supply network, and distribution reinforcements. The project will also include distribution network improvements to reduce nonrevenue water (NRW); and will improve the quality of water supply services, including support to low-income communities. The MDSC team will be responsible for design review and construction supervision of a new river water intake, an approximately 24km raw water pipeline and a water treatment plant which will be capable of delivering 500 million liters a day (MLD), with a future provision of an additional 500 MLD. The consultancy will also provide the detailed design, assist with procurement, and supervise construction of a second 15km transmission pipeline to transfer treated water, as well as a 21km new pipe network of 1.8m diameter under Dhaka's streets to distribute it. Once complete, the DESWSP will provide a 24-hour, reliable and sustainable supply of drinking water to three million people in the city by developing a new surface water source to strengthen existing surface water sources and replace failing groundwater supplies. **Description of actual services provided in the assignment:** • 500 MLD Gandharbpur Water Treatment Plant • 24km Raw Water Pipeline

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							• 15km Transmission Pipeline • 21km New Pipe Network. • Monitor Contractor's work. • Conduct checks on quality control. • Conduct checks on quantities of completed works. • Report any deviation from specification or procedures to deputy resident engineer. • Intake PS, WTP and raw water pipeline. • Prepare monthly summaries of onsite findings and any deviation or changes to the EMP.
2.	50MGD Water Supply Project under Crash Programme for Dhaka City.	Bangladesh	Start Date: Mar 1989 - Completion Date: Sep 1990	US$ 0.25 Million	Dhaka WASA	GOB	**Narrative Description of Project:** The project executed for Dhaka WASA aims at supplying 50 Million gallon per day of ground water to meet the water crisis in Dhaka Metropolis under Crash Programme of the Govt. of Bangladesh. Major components of the project include: a) Installation of 50 Nos. of new deep tube-wells, water abstracted with DTW installed outside the city will be transmitted to different areas within the city; b) Construction of 10.58 km of primary water mains (18" dia) to connect the DTW with the existing water mains of DWASA; c) Construction of 89.42 km. of secondary water mains (4" to 12" dia); d) Replacement of 10 existing DTWs where yield has gone much below economic production level and **Detailed Description of Actual Services Provided by your Staff :** The work has been executed by The Milnars Tube-wells Ltd. as turnkey project where SARM was responsible for conducting necessary site survey for laying water mains, detailed engineering design of different components of the project and preparation of technical specifications only. Construction of 6 Nos. R.C.C. overhead water tank of 1 lac gallon capacity each.

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							Site Surveys, detailed engineering design and preparation of technical specifications
3.	IDA financed 40 MGD Second Chittagong Water Supply Project.	Bangladesh	Start Date: May 1981 - Completion Date: Dec 1988	May 1981 - Dec 1988	Chittagong Water Supply and Sewerage Authority	IDA	It is an IDA Aided Project and aims at supplying 40 mgd of treated water to Chittagong Metropolitan Area. The raw water is drawn from the Halda River, treated at Treatment Works Components located at Mohara and supplied to the Metropolitan Area through distribution mains. The Project comprise of the following main components: a. Intake and Raw Water Pump Station on Halda River (40 mgd capacity). b. Mohara Treatment Works Plant (20 mgd capacity) which include: c. desilating basin, rapid mixer, clarifier, filter, clear well and high lift pumping station, sludge tank, chemical building and administrative building. d. Extension to Kalurghat Iron Removal Plant (5 mgd). e. Trunk pipelines (97,000 lin. ft.) of ductile iron pipe of diameter varying from 48" to 18" dia. f. Storage Reservoir at ADC Hill (1 million gallon capacity). g. Two booster pump stations. **Detailed Description of Actual Services Provided by your Staff :** Upon broad design criteria given by the Expatriate Consultants (MMP & CDM), the Structural & Hydraulic Design Engineers of SARM completed the detailed engineering design and drawings based upon site surveys and investigations, technical specification for works, tender documents, and tender evaluation of the different components of the Project. SARM's qualified and experienced engineers and supervisory staff were also responsible for contract administration, project management and full time supervision of construction works including quality and cost control, project component scheduling, work measurement, variation orders, bill certification etc.

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4.	Feasibility Study for Fresh Water Supply to Chalna Permanent Port.	Bangladesh	Start Date: Apr. 1982 - Completion Date: May. 1984	US$ 0.091 Million	Port of Chalna Authority	IDA	**Narrative Description of Project:** Typical problem of the Chalna Port is that no sweet water is available in and around the Chalna Port Area. This feasibility report was done to find out a probable water supply scheme for the Port. The Consultants main task was to find out probable water supply scheme for the Port. Technical, financial and economic evaluations of 3 schemes were conducted in detail, out of which the scheme based on an impounding reservoir in the borrowpit canal with treatment works was found to be economic and technically feasible. Main components of the of the project included the construction of an impounding reservoir with closures, dykes and impervious beds; river intake (20 mgd capacity); Mongla Port Treatment Plant (0.5 mgd capacity) and Mongla Township Water Treatment Plant (0.12 mgd capacity); River Intake for township overhead storage tanks; trunk and distribution pipelines; street hydrants and other allied works. **Detailed Description of Actual Services Provided by your Staff :** The Consultant provided consultancy services for undertaking necessary surveys, field investigations and data collection required for the preparation of Feasibility Report for supply of fresh water to Chalna Port. TOR for detailed engineering design was also prepared by the Consultant.
5.	Engineering and Financial Management Study.	Bangladesh	Start Date: Jun 1975 - Completion Date: Mar 1977	Jun 1975 - Mar 1977	Dhaka WASA	IDA	**Narrative Description of Project:** SARM along with M/s National Consultant, completed an Engineering and Financial Management Study on Dhaka WASA covering the existing water supply and sewerage system, present water production and use, water demand projection, future increase projection, availability of water, revenue income and benefit, economics of metering and future connection demand, tariff study etc.

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							Detailed Description of Actual Services Provided by your Staff : The consultants were responsible for survey, study and preparation of a Project Report reflecting present and future development potential revenue income and benefit.
6.	Mathematical Modeling and Detail Survey for safe drinking water source under project of Ground water management and TPP for Survey investigation and feasibility study in Upazila and Growth center level pourashava having piped water supply system.	Bangladesh	Start Date: Jan 2010 - Completion Date: Jul 2013	US$ 5.88 million	DPHE	ADB	• Development of master plan for water supply, drainage, sanitation and solid waste management in pourashavas in collaboration with Component 2 Consultants. • Collection of secondary data and information from the Pourashavas selected for the study. • Carry out detail survey & investigation on water resources (SW & GW) available in the project area. • Lithological characterization, aquifer system delineation and groundwater mapping • Surface water and Groundwater resource assessment and safe yield quantification • Groundwater monitoring system design and implementation • Development of various groundwater resource monitoring and management guideline • Carry out topographic survey in the Pourashavas • Collect hydrometric and hydro-meteorological data from the Pourashavas. • Prepare GIS database using GPS for water supply, environmental sanitation. • Predict population for future years & water demand along with requirements for drainage & sanitation. • Provide technical supervision and guidance to the team carrying out hydro-geological investigations. • Develop various mathematical models essential (SW / GW / conjunctive-use models etc.) • Develop option scenarios from findings in the field and application of scenario through model testing.

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							• Detail hydraulic design of Water distribution network and drainage network • Recommend measures in details and specific for maintenance and rehabilitation of natural water courses. • Provide training to DPHE personnel through formal/ in-formal training program & technology transfer. • Establish computerized management information system (MIS) in six (6) selected Pourashava. • Preparation of training modules and manuals for DPHE staffs
7.	Consultancy Services for Updating/ Preparation of the Storm Water Drainage Master Plan for Dhaka City (Package S-3), IDA Credit No. 4506-BD.	Bangladesh	Start Date: Jul 2012 - Completion Date: Dec 2013	US$ 7.23 million	DWASA	WB (World Bank)	**Narrative Description of the Project:** The objective of this project is to have a detailed and comprehensive master plan for the storm water drainage system of Greater Dhaka that will meet the demand of year 2040 and beyond. While this will be a planning guide and an implementation tool that will be used for development of drainage system and other infrastructures. Considering all the factors the consultant may divide the study area into two categories i.e. the core city area of about 350 sq. km. and the city fringe areas of about 1178 sq. km. The core city area is mostly developed but there is a lack of effective drainage system. Some of the specific objectives of the Drainage Master Plan are but not limited to: 1. Develop an accurate inventory of all drainage structures and assess their capacity existed into the study area. 2. Develop accurate drainage basin maps with detail feature affecting drainage for the study area. 3. Develop a practical and cost-effective drainage improvement plan to meet demand for year 2040 for the project area. 4. Prepare an investment plan to be required for developing an effective drainage system into the project area. 5. Provide guidance and design criteria for storm water management in new development area.

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							6. Identify institutional and regulatory factors that impact drainage and recommend possible changes or modifications. **Description of Actual Services Provided by your staff in the assignment:** • Collection and Review of Data • Survey & Mapping • Drainage Improvement Projects • Data Analyses & Recommendations • Complimentary Projects and Programs • Legislative and Institutional Arrangement • EIA and Stakeholder Input
8.	Shifting & Re-construction of the Service Jetty located near Dock Office to the Up-stream of Jetty No.1 within Chittagong Port Restricted Area.	Bangladesh	Start Date: Jun. 2005 - Completion Date: Nov. 2009	US$ 0.008 Million	Chittagong Port Authority	GOB	i) The Consultancy Services to be rendered by the Consultant include : **ii) 1. Design Phase :** a) Preparation of Preliminary plan report and necessary drawing layout plan, architectural and structural plan etc. after discussion with the CPA and site survey. b) Sub-soil Investigation for foundation design of the proposed Jetty including all laboratory tests. ***c) Preparation of complete working drawings, specifications for architectural, structural, sanitary, water supply, electrical and all other utilities.*** d) Preparation of final drawings, specifications, detail estimate, construction schedule, BOQ, rate analysis etc. **iii)** **iv) 2. Construction Phase :** On site top supervision of construction work which includes professional advice to perform construction properly and

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							inform the Executive Engineer for any modification and change in drawing and specification if necessary.
9.	Planning and design of Water Supply and Sewerage Line in Purbachal New Town Project under RAJUK (Planning and Designing of Various Infrastructure and Utility Plans and Components with Ancillary Works for Purbachal New Town Project).	Dhaka Bangladesh	Start Date: Jun. 2006 - Completion Date: Nov. 2007	US$ 0.205 Million	RAJUK	GOB	The Consultancy Services to be rendered by the Consultant include: • Review of transportation network plan based on traffic demand assessment and traffic flow model providing with all structures and facilities for safe and uninterrupted traffic movement. • Planning and designing and cost estimating of the proposed transportation network structure including intersection, underpass, overpass, interchanges, road geometry, pavement design, etc. Carrying out topographical survey and geo-technical investigation, and analytical framework as required. • Preparation of base map showing proposed transportation network with all ancillary components. • Preparation of all working drawings, cost estimates, Bill of Quantities, Schedule of Contract and Technical Specification for the construction of the proposed structures and other civil construction works. • Top supervision of construction works of bridge, culvert, underpass, tunnel, overpass, sluice gate, overhead reservoir, etc. • Study of Land use Plan of the Purbachal New Town Project with respect to transportation network, utility facilities and ancillary components, and suggestion on effective transportation network, utility facilities as required for functional modem township in all respects, • Planning, designing and cost estimating of cross drainage system with structures including bridge & culvert, drainage sluice based on the hydrological and hydraulic analysis, topographical survey and geo-technical investigations, and analytical framework.

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							• Design necessary protective works and measures to protect the bank of the Sitalakhya and Balu adjacent to the project area from erosion. • Planning and designing and cost estimating of water supply with all functional facilities based on the assessment of sweet water and sewerage demand, availability of dependable water sources (ground and surface) with treatment processing, mode of exploitation, reservations, and distribution network, etc. Carrying out topographical survey and geo-technical investigations, and analytical framework as required, • Planning, designing and cost estimating of sewerage system with all functional facilities including collection, transportation and treated discharge based on the demand assessment, topographical survey and geo-technical investigation, and analytical framework as required, • Suggestion on installation and sustainable operation and maintenance of water supply and sewerage system with the prospect and procedure of involving private sector participation, • Preparation of base map showing proposed water supply facilities including distribution network, overhead reservoirs and other components. • Preparation of base map showing sewerage system and sewerage treatment plant. • Preparation of reports at different stages of activities including Project Completion Report.
10.	Construction Supervision Consulting Services for (i) Janjira Approach Road and Selected Bridge End Facilities, (ii) Mawa Approach Road and Selected Bridge End Facilities, and (iii) Service Area-2 at Janjira end of the Padma Multipurpose Bridge Project.	Mawa-Janjira, Bangladesh	Start Date: Apr. 2014 - Completion Date: Mar. 2017	US$ 0.176 Million	Bangladesh Army	GOB	• Review the tender stage designs of the works completed earlier for adequacy and standards and provide comments thereon, if any; • Obtain Client's approval, as necessary, for any major changes required in the designs already completed for bidding stage before finalization of Construction Drawings; • Incorporate all changes in design/drawings as agreed with the Client;

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							• Carry out review of data and site investigations already carried out for all elements of the works; • Based on the review of the data and investigations mentioned above, the Consultants shall formulate nature and quantum of such further surveys, additional field investigations, required for purpose of preparation of designs and construction drawings for approval of the Client. The Consultants shall coordinate between the Client and such other agencies responsible for carrying out the aforesaid surveys, investigations, model studies, etc. • Prepare a supplementary design report by way of updating the tender level design report of the Project giving in sufficient details, additional investigations carried out, additional design analyses, applied results of significant additional computation besides basic points; • With the approval of the Client, carry out all additional designs/modifications of designs that may emerge during project implementation. • The consultant shall review Planning and designing and cost estimating of water supply with all functional facilities based on the assessment of sweet water and sewerage demand, availability of dependable water sources (ground and surface) with treatment processing, mode of exploitation, reservations, and distribution network in service area. Carrying out topographical survey and geo technical investigations, and analytical framework as required. • Planning, designing and cost estimating of sewerage system with all functional facilities including collection, transportation and treated discharge based on the demand assessment, topographical survey and geo technical investigation, and analytical framework as required. • The consultant shall review and satisfy themselves as to the nature and scope of the construction works, technical specifications, Geometric Design, Road Safety issues, Utilities relocations and other activities designed and

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							prepared by the Design Consultant as part of the day-to-day affairs for cross checking the engineering adequacy of the design/plans/measures or to modify them to meet the present 57 requirement or to reduce the cost where possible without compromising the quality of the work with due approval of competent authority. For major changes Value Engineering shall be carried out to get efficient and effective results. • The consultant shall prepare design of works which may be identified by the Client during project implementation for which designs have not been prepared before. For that purpose consultant would carry out needed surveys, investigations, and prepare design and bidding documents.
11.	Consultancy Services for the Project "Modernization and Beautification of Shahid Captain Monsur Ali Park and Development of Parijat Lake" under Rajshahi Development Authority (RDA).	Bangladesh	Start Date: Nov. 2021 - Completion Date: June 2024	US$ 0.138 Million	Rajshahi Development Authority (RDA)	GOB	• Preparation of Detailed Architectural Drawing (Plan, Elevation etc.), Detailed Structural Design & Construction Supervision of all components of Shahid Captain Monsur Ali Park such as Entry Gate, Parking, Food Court, Walkway, pedestrian bridge, Children's Playground, Amphitheater, Toy trains, Train station, Train line, Boat Club, Picnic spot, Wash block, Water Supply system, Sanitation, Drainage System with development of Parijat Lake. • Conduct subsoil investigation to get geological information and geotechnical parameters. • Conduct detailed topographical survey. • Furnish for use of contractor all necessary design, documents and to approve contractor's working drawings. • Review and recommend for approval of RDA the Contractor's Working Schedule. • Assess the adequacy of all inputs such as materials and labors provided by the contractor and his methods of work in relation to the required rate of works in order to expedite progress. • Verify contractor's takeout survey for the center line of alignment of the works.

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							• Inspect and evaluate contractors all installation, site office, yards, warehouses, and other temporary works at the site or elsewhere to ensure compliance with terms and conditions of the contract documents. • Provide effective and regular supervision of the work and supervise the quality test to assure that the works are executed in accordance with established standard, criteria, specifications, and procedures. • Control and to apprise the progress of work. • Inspect the safety aspects of the construction and improvement work method and procedures to ensure that every reasonable measure has been taken to protect life and property. • The establishment of a documented quality system and procedure including a quality plan, in order to implement Quality Assurance on the contract supervision services and auditing of the Contractor's Quality Systems. • To perform any other items not specifically mentioned above out which are necessary and essential for successful supervision and control of the construction activities in accordance with plans specification and Terms of Contract.
12.	Consultancy Services for "Detailed Landscaping Design, Estimate & Feasibility Study for the Preparation of Beautification and Modernization of Shahid Captain Monsur Ali Park at Rajshahi."	Bangladesh	Start Date: Feb. 2018 - Completion Date: Mar. 2018	US$ 0.004 Million	Rajshahi Development Authority (RDA)	GOB	**Detailed Narrative Description of Project:** The Rajshahi Development authority has decided to conduct Detailed Landscaping Design, Estimate, Feasibility Study, Economic Analysis and 3D Animation for the project "Detailed Landscaping Design, Estimate & Feasibility Study for the Preparation of Beautification and Modernization of Shahid Captain Monsur Ali Park at Rajshahi" by its own resources and intends to engage firms of local consultants (the Consultants) to carry out the Detailed Landscaping Design, Estimate, Feasibility Study, Economic Analysis and 3D Animation for the project. The Rajshahi Development Authority (RDA) is the Executing Agency (the Employer). The Consultant will also coordinate

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							with the concerned local authorities, with the assistance of RDA, for data collection, site visits, and other appropriate consultations. **Detailed Description of Actual Services provided by your staff :** The Scope of Consultancy Services includes: • Detailed Landscaping Design of all components of Shahid Captain Monsur Ali Park such as Entry Gate, Parking, Food Court, Walkway, pedestrian bridge, Children's Playground, Amphitheater, Toy trains, Train station, Train line, Boat Club, Picnic spot, Wash block, Water Supply system, Sanitation, Drainage System with development of Parijat Lake. • Estimate • Feasibility Study • Economic Analysis • 3D Animation
13.	Consultancy Services for Management, Design & Supervision (MDS) under ADB, KFW & GTZ assisted Second Urban Governance and Infrastructure Improvement (Sector) Project (UGIIP-II), Loan No. 2462 BAN (SF)	Bangladesh	Start Date: May 2010 - Completion Date: May 2015	US$ 6.288 Million	Local Government Engineering Department (LGED)	ADB, KfW, GIZ & GOB.	The Scope of services included management design and supervision for developing infrastructure facilities implement of municipal services, urban governance, accountability and improvement of the urban environment and quality of life. Infrastructure subprojects proposed under UGIIP-II encompass a variety type of urban infrastructure and services including Water Supply, Sanitation, Solid Waste Management, Urban Drainage, Urban Transport and Communication (Road and Bridges) and municipal facilities which component aims to enhance economic and commercial development in the Pourashavas. This component provides construction, extension and rehabilitation of i) bus terminals; ii) parking areas; iii) kitchen markets; iv) slaughter houses; v) truck terminals; vi) municipal parks; and vi) street lighting. The project aims to improve pourashava management and efficiency and improved productivity as a result of health improvement, time savings due to improved physical infrastructure, improvement in basic

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							services and generation of employment. Significant benefits of the subprojects will be: Improvement of basic services; Increase of trade and business; access to markets and services; spoilage savings; employment generation; better environment; increased participation and stakeholders' involvement.
14.	Preparation of Master Plan for Pourashavas Under Upazila Towns Infrastructure Development Project (Package-3)	Bangladesh	Start Date: Mar 2008 - Completion Date: Jan 2010	US$ 0.29 Million	LGED	GOB	**Narrative Description of Project:** The Project works comprised of preparation and updating of the total Master Plan Package consisting of land use Master Plan, Environmental **Drainage Master Plan.** The Traffic Management Plan and the Detailed Area Plan. In order to facilitate timely preparation of Master Plan the 223 pourshavas and Kuakata Tourism center are brought under 12 packages according as the suitable geographical locations of the pourashava. The Master Plan exercise will also suggest construction of roads and bridges/culverts, drainage facilities, streetlight, markets, bus stands, **solid waste management, sanitation, water supply** and Socio Economic House Hold Survey and other such infrastructure facilities. **Description of Actual Services Provided by SARM's Staff:** Consultant's assignment included preparation of Plan Books, Training Programme & Feasibility Study.
15.	Urban Area Development and Environmental Improvement Project	Bangladesh	Start Date: Apr 1986 - Completion Date: Jul 1988	US$ 0.032 Million	Urban Development Directorate	GOB	**Narrative Description of Project:** It is Low-Cost Housing Sub-project under Urban Area Development & Environmental Chittagong Project. The work includes **detailed architectural and structural design, water supply system, drainage facilities, detailed cost estimate and documentation for Low-Cost Housing Units.** **Description of Actual Services provided by your Staff:** The job undertaken by the Consultant included preparation of complete architectural and engineering design, drawings including water supply system, drainage facilities, cost estimates and documentation for low cost housing units.
16.	Construction of Intake & Pipeline between Intake Connecting & Raw	Bangladesh	Start Date: Dec 1996	US$ 0.007 Million	Dhaka WASA	GOB	**Narrative Description of Project:**

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	Water Pumping Station under BMRE of Chandnighat Water Treatment Plant at Dhaka.		- Completion Date: May 1998				The Project costing about Tk. 3.69 crores of Dhaka Water Supply & Sewerage Authority aims at Construction of intake and connecting pipeline between intake and the existing raw water pump stations under BMRE of Chandnighat Water Treatment Plant at Dhaka in order to get adequate quantity of raw water with least possible quality. Major components of the works include: **a.** Design and construction of Intake Structure in the River Buriganga including sheet piling & dewatering works. **b.** Design, supply & laying of 800mm DCI pipe on river bed from Intake Structure to the existing Pump Station including sheet piling works and construction of valve chambers. **Detailed Description of Actual Services Provided by your Staff :** The work has been executed by the Bengal Development Corporation Ltd. (BDC) as a Turnkey Project in which SARM was responsible for necessary site survey, detailed engineering design, preparation of drawings and specifications only.