

MINISTRY OF SANITATION AND WATER RESOURCES

COMMUNITY WATER AND SANITATION AGENCY

Terms of Reference

PROVISION OF CONSULTANCY SERVICES FOR CONSTRUCTION SUPERVISION SERVICES OF WATER FACILITIES IN THE BRONG AHAFO REGION

A. BACKGROUND

1. In its desire to improve water and sanitation services for the people living in rural communities and small towns in a sustainable manner, the Government of Ghana (GoG) has adopted a Sector Policy for Community Water and Sanitation delivery and launched a National Community Water and Sanitation Program (NCWSP) which is coordinated and facilitated by the Community Water and Sanitation Agency (CWSA), a parastatal Agency set up by an Act of Parliament, Act 564, in 1998 under the then Ministry of Water Resources, Works and Housing (MWRWH).
2. In support of the continued implementation of the NCWSP, the GoG has secured an Additional Financing (AF) from the IDA (World Bank) for the works under the Sustainable Rural Water and Sanitation Project which is aimed at providing safe water, improved sanitation and hygiene services to rural communities and small towns in six regions of Ghana including the Brong Ahafo.
3. The Additional Financing Sustainable Rural Water and Sanitation Project (AF-SRWSP) is part of GoG's investment programme to increase access to water supply from the current level of about 76% to 79% by 2019.
4. The AF would finance the costs of completing the remaining contracts for works and services under SRWSP which could not be executed as a result of cost-overruns and some scale-ups.
5. This ToR covers the Sub-Projects component of the Project under which five piped water systems would be constructed as indicated under the scope of work.

B. OBJECTIVES OF ASSIGNMENT

The objective of the assignment is to provide Technical Assistance for the supervision of the Constructions of piped water systems in accordance with CWSA standards and guidelines towards sustainable water supply to beneficiary towns in the Brong Ahafo Region of Ghana

C. SCOPE OF WORK

The Consultancy Services will cover the construction supervision of 5 no. Piped Water Supply Systems in the Brong Ahafo Region as shown below:

No	District	Name of Town	Pop. (2017)	Status
1	Nkoranza South	Dotobaa	4,045	2no. BHs with total discharge of 800l/min
2	Tano South	Brosankro	3,403	3no. BHs with total discharge of 880l/min
3	Jaman North	Asiri	5,954	2no. BHs with total discharge of 325l/min
4	Jaman North	Jankufa	2,929	1no. BH with total discharge of 60l/min
5	Pru	Prang	10,518	3no. BHs with total discharge of 505l/min

The Consultancy Services to be provided shall cover mainly the supervision of construction works and related activities to be carried out in the five (5) towns as detailed below:

- i. Review designs and Bill of Quantities and make recommendations;
- ii. Supervise construction of the works as per the Working Drawings, Bill of Quantities and Specifications;
- iii. Manage and administer the construction contract in accordance with acceptable standards;
- iv. Measure and certify the works for payment;
- v. Prepare “As-Built” drawings for the completed works
- vi. Prepare O&M manual for all installed equipment and components;
- vii. Supervise Defects Liability obligations;
- viii. Plan and organize final inspection, testing and commissioning;
- ix. Liaise between the Contractor, Community and relevant stakeholders for smooth and successful execution and completion of the works and related activities;
- x. Ensure the implementation of ESMP:
 - o Compliance;
 - o Performance tracking;
 - o Document Environmental and Social Safeguard issues of each site;
 - o Report on ESMP.
- xi. Ensure compliance and adherence to Health and Safety Plan;
- xii. Develop Water Safety Plan (WSP).

Formats for the implementation of the ESHS management is attached as annex to the ToR.
(Safeguards Templates for Water Consultants' Bid)

Details of the works are as provided below:

No	District	Name of Town	Population 2017	Description of works
1	Nkoranza South	Dotobaa	4,045	1. Mechanization of 2 No. boreholes 2. Laying of 5,853m of transmission and distribution pipelines 3. Construction of 1 No. RC 80m ³ HLT height 12m. 4. Construction of 6 No. Public standpipes 5. Construction of Management Office
2	Tano South	Brosankro (Old & New)	6,343	1. Mechanization of 3 No. boreholes 2. Laying of 13,2174m of transmission and distribution pipelines 3. Construction of 2 No. RC Service Tanks 50m ³ for Old Brosankro and 80m ³ for New Brosankro on 12 high each. 4. Construction of 8 No. Public standpipes(5 No for New Brosankro and 3 No. for Old Brosankro) 5. Construction of Management Office
3	Jaman North	Asiri	5,954	1. Mechanization of 2 No. boreholes 2. Laying of 9,483m of transmission and distribution pipelines 3. Construction of 1 No. RC 100m ³ Service tank on 12 high. 4. Construction of 8 No. Public standpipes 5. Construction of Management Office
4	Jaman North	Jankufa	2,929	1. Mechanization of 1 No. borehole 2. Laying of 6,084m of transmission and distribution pipelines 3. Construction of 1 No. RC 50m ³ Service tank on 12 high. 4. Construction of 6 No. Public standpipes 5. Construction of Management Office
5	Pru	Prang	10,518	1. Mechanization of 2 No. boreholes 2. Laying of 18,846m of transmission and distribution pipelines 3. Construction of 1 No. RC 160m ³ Service tank on 12 high. 4. Construction of 10 No. Public standpipes 5. Construction of Management Office

D. ACTIVITIES

The following activities amongst others are to be performed under the consultancy services;

- i. Ensure Contractors adhere to terms and conditions of contracts, particularly with regard to specifications and standards;
- ii. In collaboration with relevant stakeholders, prepare environmental management plans for subprojects and ensure successful implementation and documentation;
- iii. Provide technical assistance in the coordination of construction and contract management for boreholes and pipe systems;
- iv. Ensure that all environmental and social safeguards, health and safety issues are identified, planned, addressed, properly documented and reported on;
- v. Ensure Water Safety issues are planned, properly documented and reported on;
- vi. Ensure a smooth communication among all stakeholders involved in the project activities
- vii. Ensure the contractor keeps proper site records;
- viii. Ensure that monthly site meetings are organized, records documented and circulated as agreed;
- ix. Lead in a team of stakeholders in joint measurement of all works to be invoicing;
- x. Ensure that variations and provisional sums are committed upon prior approval of CWSA;
- xi. Ensure that practical and final completion certificates are duly endorsed by relevant stakeholders;
- xii. Prepare operation and maintenance manuals for all the major components of the systems;
- xiii. Supervise the defects liability obligations of the contractor;
- xiv. Supervise the operation of the systems by the operators during the Contractor's liability period;
- xv. Provide hands on training to CWSA Engineers and DAs (DWSTs/DWDs) for the operation of special system components;
- xvi. The Consultant will discuss and agree with each Contractor on the working drawings provided for the construction of the systems;
- xvii. Advice and seek approval from the Client for any modification (s) to a component of the system (s).

D1. Additional Information

a) Review of Designs

The consultants is expected to carry out a quick review of available designs before commencement of construction. The expected activities include confirming pipe sizes and general distribution network, the specification of key system components as described in the Bill of Quantities, Confirming the adequacy and quality of sources, pump sizes and specification. Review the capacity and specification of concrete storage facilities recommended. All the water supply systems are ground water based

b) Community Development and Training

- i. The Consultant will assist relevant stakeholders at the community level to develop their capacity and skills to implement and sustain their water system
- ii. The Consultant will be responsible for building the capacity of community in understanding their roles and responsibilities as far as the project implementation is concerned in accordance to the specifications and terms and conditions of the contract.

c) Environmental Management /Health and Safety Plan

- i. The Consultant will collaborate with relevant stakeholders to prepare environmental management plan as well as health and Safety for all subprojects.
- ii. He will also draw-up an Environmental and Social Safeguard Framework based on the ESMF and RPF documents produced for the project.
- iii. Ensure the implementation ESMP:
 - a. Compliance
 - b. Performance tracking
 - c. Document environmental and social safeguard issues of each site
 - d. Report on ESMP
- iv. Ensure compliance and adherence to health and safety plan.
- v. Develop water safety plan (WSP)

d) Construction Supervision

Contract Management and Administration

- i. Manage the construction of the facilities in accordance with the terms of each of the Contracts
- ii. Follow all the rules of administration in the contract including certifying Interim Payment Certificates, correspondence, meetings, progress reports etc.
- iii. Issue appropriate site instructions to contractor (clearly stated in a site diary) and follow up on compliance by the contractor.
- iv. Ensure that all safeguards requirements are being implemented by contractor on site.
- v. Advise Client on matters of contractual nature.
- vi. Organize and preside over site meetings. These meeting will be organized at least once in a month and will bring together the representatives of contractors, DA, RCC, RWST and other relevant stakeholders as may be identified. The meeting will rotate among the project districts.
- vii. Advise and seek approval from the Client for any modification of a component of the systems.
- viii. Ensure a smooth communication among all parties involved in the project activities

Measurement and Certification of Works

- i. Lead the Team of Stakeholders in joint measurements of all works to be invoiced
- ii. Ensure that variations and provisional sums are committed upon prior approval of CWSA.
- iii. Ensure that monthly site meetings are organized, records documented and circulated as agreed.
- iv. Ensure that variations and provisional sums are committed upon prior approval of CWSA.
- v. Ensure that practical and final completion certificates are duly endorsed by the relevant stakeholders.

Final inspection, testing and acceptance

- i. Conduct inspection and testing as specified in the construction contract with the full participation of stakeholders.
- ii. Consultant will conduct inspection and testing of the systems under the lot and recommend for their acceptance by client
- iii. The consultant in consultation with the RWST/RCC shall design acceptance form which will have to be endorsed by the WSDBs of each system, the DA and RWST/RCC before acceptance certificate is issued.
- iv. Prepare all certificates including the final certificate and submit for payment to the contractor.
- v. Supervise the defects liability obligations of the contractor

Preparation of “As-built” Drawings

- i. Prepare and produce “as-built” drawings (originals and copies) of all the facilities.
- ii. Enclose copies of the ‘as-built’ drawings in the final reports and operational manuals prepared for the systems
- iii. Display copies of the ‘as-Built’ drawings of the layout of the systems in the office of the WSMOs.

Training and Preparation of O&M Manuals

The Consultant will:

- i. Prepare operation and maintenance manuals for all the major components of the systems.
- ii. In conjunction with the Contractor train the WATSANs & WSDBs and facility’s operators to gain the appropriate insight into the operation and maintenance of all the components of the facility.
- iii. Supervise the defects liability obligations of the contractor
- iv. Supervise the operation of the systems by the operators during the Contractor’s liability period
- v. Provide on- the- job training to CWSA Engineers and DAs (DWSTs/DWDs) to improve their capacity in project management.

Preparation of Final Report

- Prepare final completion reports (original and 5 copies) on each system. The report will include:
 - ✓ the 'as-built' drawings and other relevant documentations.
 - ✓ safeguards issues and monitoring by DAs and communities
 - ✓ lesson learnt and recommendations for future projects

Supervision of contractor's Defects Liability obligations

- Consultant will supervise the defects liability of the contractor for the period and ensure that defects detected are rectified.

E. EXPERTISE REQUIRED FOR THE CONSULTANCY ASSIGNMENT

The consultant will be required to field a team of personnel with the following qualification and experience;

Water Supply Engineer/Project Manager

The Project Manager will be the Team Leader for the assignment. A professional Civil Engineer with a minimum of B.Sc or its equivalent in Engineering with at least 15 years relevant experience in design and implementation of town or urban water supply schemes and at least 10 years of Project Management. Should have demonstrated experience in engineering design of piped water supply systems based on both groundwater and surface water sources. Specific experience must be in rural/small towns water supply and sanitation sector and should be familiar with the concept and practice of community participation.

Civil/Construction Engineer

A professional Civil Engineer with a minimum of B.Sc. or its equivalent in Civil Engineering with at least 10 years experience in civil works construction supervision with particular emphasis on urban/town water supply systems. Should have demonstrated experience in supervising multiple construction sites. Should also have experience in the design and construction of simple piped water supply schemes for rural communities and small towns. He/She will be expected to lead in the planning, documentation and reporting on water safety issues.

Quantity Surveyor (Short Term)

A professional Quantity Surveyor with a minimum of B. Sc. or its equivalent in Building Technology specializing in quantity surveying with at least 10 years general experience with strong emphasis in the water supply and sanitation sector.

Community Development Expert

Community Development Expert with degree in social sciences/social work or equivalent and relevant training in community development and at least 10 years post qualification relevant experience in community mobilization for rural water and sanitation schemes in developing countries, skills in the use of participatory planning techniques and must have demonstrated ability to train, especially beneficiary communities in tariff setting and operation and maintenance, .CLTS, social marketing.

Environmental and Social Safeguards Officer

An Expert in Environmental and Social Safeguards issues with minimum of First Degree in Social Sciences, Environmental Science, Engineering or other related fields and at least 3 years relevant experience in environmental and social safeguards.

Health and Safety Officer

An Expert in Health and Safety issues with minimum of First Degree in the related field and at least 3 years relevant experience.

Electro-Mechanical Engineer (Short-Term)

A professional electrical or mechanical engineer with a minimum of B.Sc. or its equivalent in electrical or Mechanical Engineering with at least 10 years experience in the design, installation and maintenance of submersible pumps for mechanized boreholes and electro-mechanical plants for surface water schemes.

Clerk of Works/Technician engineers

Clerk of works, one for each town with at least 5years experience in construction of water system

Other Experts inputs required as and when needed include:

- Water treatment processes and quality analysis
- Structural engineering for water retaining structures

F. Time Frame

The duration of the assignment is estimated to be Eight (8) calendar months and 12 calendar months for the maintenance liability period for the completed facilities

The estimated number of professional staff-months required for the assignment.

Personnel	No. Required	Man month Each	Man month Required
KEY STAFF			
Water Supply Engineer/Project Manager	1		
Civil/Construction Engineer	1		
Structural Engineer	1		
Quantity Surveyor	1		
Community Development Officer	1		
Environmental and Social Safeguard Officer*	1		
Health and Safety Officer*	1		
TOTAL			25
SUPPORT STAFF			
Hydrogeologist	1		
Electro-Mechanical Engineer	1		
Land Surveyor	1		
Clerk of Works (Piped system)	5		
AutoCAD Technician	1		
TOTAL			65

The consultancy is expected to be awarded **by 30th April 2018**, and take 8 calendar months for the construction and 12 months maintenance liability period.

G. Reporting

The Consultant will report to the **Chief Executive of CWSA**, or his representative for all activities and consultations.

- a) Monthly Progress Reports (3copies hardcopies and softcopies to relevant stakeholders) - Reports will contain progress since last report, schedule and budget reviews, and constraints to progress, if any, and recommendations to overcome such constraints. A separate monthly report should be prepared on environmental, social, health and safety issues.
- b) Draft Final Report (3copies hardcopies and softcopies to relevant stakeholders) - On completion of the assignment, the consultant will present a detailed Draft Final Report covering (i) each of the Towns, (ii) all activities in the scope of work, (iii) all procedures adopted with as built drawings, final capital costs, variations (if any). A separate draft final report should be prepared on environmental, social, health and safety issues.
- c) Final Report (4copies hardcopies and softcopies to relevant stakeholders) - Following review and comments of the Draft Final Report by the Client and the World Bank, the Final Report will be submitted within one month after receipt of all comments. A separate final report should be prepared on environmental, social, health and safety issues.
The report will include:
 - o The “As-Built” drawings and other relevant documentations.
 - o lesson learnt and recommendations for future projects

All reports will be submitted in English. The Draft Final and Final Reports will contain an Executive Summary. All reports will also be provided in softcopies (*not in pdf*).

H. Outputs

The following outputs are expected:

- (i) 5no Piped Water Supply Systems completed and operational;
- (ii) Complete Sets of As-built drawing completed and submitted;
- (iii) Operation and Maintenance manuals for the piped water supply systems compiled and submitted;
- (iv) Final construction Supervision report prepared and submitted.

I. Provision of Equipment and Services:

For the proper execution of the assignment, the Consultant will be expected to set up office at locations deemed strategic enough to facilitate consultations and coordination at each level.

The logistics to be provided by the Consultant shall include,

- a) Computing capability as required;
- b) Vehicles for the execution of the assignment;

- c) Facilities for day-to-day running, periodic maintenance services for these vehicles;
- d) All office facilities, accommodation and subsistence necessary for the Staff on the assignment.

J. Input from Client

The Client shall provide the following inputs to the Consultant:

- a) Facilitate free, unimpeded access to the project site for the performance of the services;
- b) Provide all relevant working drawings with respect of the sub-project for the services;
- c) Participate in meetings to facilitate the successful delivery of services