WATER UTILITIES CORPORATION

TERMS OF REFERENCE

FOR THE

DESIGN REVIEW, TENDER DOCUMENTATION AND CONSTRUCTION SUPERVISION OF BOTETI SOUTHERN AND CENTRAL CLUSTER VILLAGES WATER SUPPLY SCHEME

TENDER NO. WUC 028 (2017)

Contents

ABBREVIATIONS and ACRONYMS

CSO	Central Statistics Office
DLG	Department of Local Government
DSM	Department of Surveys and Mapping
DSWM	Department of Sanitation and Waste Management
DTRP	Department of Town and Regional Planning
DWA	Department of Water Affairs
ESMF	Environmental and Social Management Framework
E&M	Electrical and Mechanical
LDP	Letlhakane Development Plan
CDC	Central District Council
MLWS	Ministry of Land Management, Water and Sanitation Services
MLGRD	Ministry of Local Government and Rural Development
mamsl	Metre above mean sea level
NDP	National Development Plan
ToR	Terms of Reference
WUC	Water Utilities Corporation

1. INTRODUCTION

Botswana is a land locked country and a member of Southern African Development Community (SADC) (See Appendix 1, Map of Botswana). The surface area is approximately 582,000 km^2, roughly the size of France or Texas in the US. About two thirds of the country is covered by the Kalahari Desert, rainfall ranges from 200 mm per annum in the desert to about 600 mm per annum in the North and North Eastern parts of the country. The population is estimated to be 2.1 million (2011 census) and is sparsely spread across the country with the biggest villages along the South East – North East Corridor. Gaborone which is the capital city has a population of about 270,000 accounting for 11% of the county's population. Botswana has been hailed as one of the success stories of Africa with an annual per capita GDP of about US $ 14, 800, compared to US $ 70 at independence in 1966. The mining sector remains the main engine of growth for the Botswana economy. The sector contributes 40% of GDP, 75% of export earnings and over 55% of total government revenues.

Botswana is water stressed and has suffered from repeated droughts. The 2015-2016 El-Nino related drought has affected Botswana and its regional trade partners quite significantly. Lower export receipts and higher food import costs caused Gross Domestic Product (GDP) growth to turn negative in 2015 (-0.3%) and entailed large budgetary shortfalls (a fiscal deficit of 6.3% of GDP in 2015). Thus, Botswana has become increasingly resource constrained and funding is required to finance the infrastructure investments to increase the supply of water to areas affected by the drought. Substantial investments are required to align water security requirements with the growing demands of Botswana's increasingly prosperous population. Greater rainfall variability and declining groundwater availability suggest that additional investment in surface water infrastructure will be a priority, including: additional storage and transmission, interlinking surface and groundwater supplies and developing water transfer schemes. It should also be noted that many villages are small and scattered and water must be transported over long distances (often at high cost), thus the task of responding to recurrent droughts is further compounded.

Given the current low water security of Botswana, low service coverage and high water losses, the Government of Botswana has applied for a loan from the World Bank for implementing the Botswana Water Security and Efficiency Project. The project is to be implemented in the period 2017 to 2020. The project development objective is to improve availability of water supply in drought vulnerable areas, increase the efficiency of WUC, and strengthen wastewater management in selected systems. The project has three components being: Component 1: Improve availability of water supply and efficiency of services; Component 2: Improve wastewater and sludge management; and Component 3: Sector reform and institutional strengthening.

One of the sub-projects under Component 1 is the Boteti Southern and Central Cluster Village Water Supply Scheme. This sub-project was intended to be executed by the Ministry of Local Government and Rural Development through the Central District Council but was handed over to Water Utilities Corporation (WUC) during the Water Sector Reforms in 2009. Although the project designs were completed in 2008 it was subsequently shelved due to lack of funding. However, at its meeting held on the 14 November 2013, the WUC Board Tender Committee awarded ARUP

Botswana (Pty) Ltd, engineering consultancy tender, for the design review, Tender Documentation, and construction supervision of the project. The project was packaged as design audit stage, tender stage, construction supervision, and defect notification period. The design review and tender documentation for the project by ARUP Botswana (Pty) Ltd was completed in 2015 including the requisite environmental impact assessment. In view of the fact that there were no funds for execution of works, the Consulting Firm initiated discussions with WUC leading to suspension of the Contract. Since, WUC has now secured funds for execution of the project through the Botswana Water Security and Efficiency Project, there is therefore need to update the designs in light of the time that has elapsed since their review. Thus, this ToR is for the engagement of a Consulting Firm to carry out the design review and supervise the construction works.

CORPORATE PROFILE

Water Utilities Corporation (WUC) was established in 1970 through an Act of Parliament. The mandate of the Corporation is to provide potable and wastewater services throughout the country.

The Corporation is a parastatal organization wholly owned by the Botswana Government. A Board of Directors appointed by the Minister of Land Management Water and Sanitation Services is the overall authority responsible for policy formulation.

WUC has eight (8) Departments namely: Chief Executive's Office, Technical Services, Operations, Shared Services, Finance, Sustainability and Water Resources, Human Resource, Corporation Secretariat and Internal Audit. The departmental heads report to the Chief Executive Officer who in turn reports to the Board.

2. OBJECTIVES OF THE CONSULTANCY

The objective of this consultancy is to carry out design audit/review, verification, optimization and update of previously completed design for the Boteti Southern and Central Cluster Village Water Supply Scheme. The work should ensure the viability of the designs and take into account changes that have happened on the ground since the designs where completed in 2015.

The Consulting Firm will also be required to prepare tender documents and assist WUC in tender process management and construction supervision of the Boteti Southern and Central Cluster Village Water Supply Scheme.

3. BACKGROUND ON PROJECT AREAS

The eight (8) villages within the cluster are outlined below;

a) **Rakops** village is located in the central region of the Boteti District. This is the biggest village within the southern and central region of the district and has a population of 6,396 (2011 census). This village is accessible by tarred road either from Letlhakane or Maun.

b) **Mmadikola** village is located in the central region of the Boteti District. This village has a population of 1,048 (2011 census) and is accessible by tarred road either from Letlhakane or Maun.

c) **Toromoja** village is located in the central region of the Boteti District. This village has a population of 710 (2011 census) and is accessible by tarred road either from Letlhakane or Maun.

d) **Xhumo** village is located in the central region of the Boteti District. This village has a population of 1,684 (2011 census) and is accessible by tarred road either from Letlhakane or Maun.

e) **Xere** is located in the central region of the Boteti District. This is the smallest village within the southern and central region of the district and has a population of 432 (2011 census). This village is accessible by tarred road either from Letlhakane or Maun.

f) **Mopipi** village is located in the southern region of the Boteti District. This village has a population of 3,912 (2011 census) and is accessible by tarred road either from Letlhakane or Maun.

g) **Kedia** village is located in the southern region of the Boteti District. This village has a population of 1237 (2011 census) and is accessible by tarred road either from Letlhakane or Maun.

h) **Mokoboxane** village is located in the southern region of the Boteti District. This village has a population of 1,720 (2011 census) and is accessible by tarred road either from Letlhakane or Maun.

The afore-mentioned villages have been experiencing acute water shortages due to supply conditions in recent years. In addition, the villages have in recent years been experiencing high growth in both infrastructure and population due to their proximity to the Orapa, Letlhakane and Damtshaa mines. This growth has resulted in high water demands straining the current inadequate water supply sources as well as the old and inadequate water conveyance systems within the project area. The summary details for each village are presented in the table below.

Table 1: Summary details of the project villages

Village Name	Total population (Yr. 2011)	Potable Water source
Rakops	6,396	Boreholes
Mmadikola	1,048	Boreholes
Toromoja	710	Boreholes
Xhumo	1,684	Boreholes
Xere	432	Boreholes
Mopipi	3,912	Boreholes
Kedia	1,237	Boreholes
Mokoboxane	1,720	Boreholes

The sub-project therefore seeks to provide water efficiency and security within the project area.

4. SCOPE OF WORK AND DETAILED DESCRIPTION OF WORKS

4.1 SCOPE OF WORK

This section seeks to describe tasks the Consulting Firm needs to undertake in order to satisfactorily achieve each of the objectives of the assignment. The consultancy is therefore divided into two Phases namely: Phase 1 (Design review and tender documentation) and Phase 2 (Construction Supervision and Management). The detailed description of tasks are as follows;

The envisaged construction works under the sub-project seek to improve the water supply (through the equipping and electrification of 7 (seven) boreholes) and quality (through construction of an appropriate water treatment plant) to the southern and central cluster villages (Mokoboxane, Kedia, Rakops, Mopipi, Xhumo, Toromoja, Madikola and Xere) with a total estimated beneficiary number of 21,500 people. As per the proposed solution from the previous design, the sub-project seeks to equip and electrify 7 (seven) boreholes with a combined yield of 133m^3/hr, located to the south east of Mokoboxane village. The boreholes are then to be connected to a proposed 250m^3 raw water collection reservoir from which the water would be gravitated to a proposed treatment plant facility northwest of Mokoboxane at a distance of about 18km from the raw water reservoir via a 250mm uPVC pipe line. The water will then be supplied to the 8 (eight) village cluster via gravity transmission mains except for the supply to Xere. The gravity mains range from 1km to 67km and pipe diameters 90mm to 315mm uPVC. The clear water transfer scheme is as follows; (See Appendix 2, Map of Project Area).

i. From the Water Treatment Plant (WTP) to Kedia Reservoir with off-take to Mokoboxane Reservoir **(28km long 160mm uPVC gravity line)**
ii. From the WTP to Rakops Reservoir with off-takes to Mopipi, Xhumo, Toromoja and Madikola Reservoirs **(67km long 315mm uPVC gravity line)**
iii. From Rakops to Xere Reservoir **(17km long 90mm uPVC pump fed transmission line)**

4.2 DETAILED DESCRIPTION OF TASKS

This section covers the detailed description of the key tasks to be covered by the consultancy.

4.2.1 Phase 1 - Design review and tender documentation and management

Task 1: Review and update of existing designs

The Consulting Firm shall review the existing designs previously prepared by ARUP Botswana (Pty) Ltd in 2015 for the same project to check adequacy of the proposed infrastructure, water sources and provide water security in the project area.

The Consulting Firm shall carry out an initial assessment of the project both by visiting the villages concerned and studying the design for the purpose of Design Audit and other documents already available. At the end of this initial assessment the Consulting Firm will submit an “Appraisal report” to the employer detailing findings, or shortcomings in the existing documentation and suggestions for improvements. This report should also contain an estimate/proposal of the staff input required for suggested improvements and updating of the design, preparation of drawings and tender documentation along with the time lines for completion.

After receiving Client’s written approval of the Appraisal Report and / or modifications thereto if any, and after negotiation and approval of the staff input required for Design Review, the Consulting Firm shall proceed with the “Design Audit” and produce “Draft Final Design Report” and a “Final Design Report” including all requisite designs, drawings, tender documents etc, all to the Client’s satisfaction. The Consulting Firm must ensure that the designs take into account or comply with recommendations of social and environmental assessment studies and laws, and that the designs minimize social and environmental impacts.

It is also important that close consultation is maintained with relevant bodies such as the WUC, Ministry of Land Management & Water and Sanitation Services, Ministry of Local Government and Rural Development (MLGRD) and Department of Town and Regional Planning, Department of Water Affairs.

The Consulting Firm shall also produce operation and maintenance manuals for the scheme.

Task 2: Update tender documentation for engaging the Contractors

The Consulting Firm shall update draft Tender Documents after approval of the Final Design Review Report. The tender documents shall consist of: Instructions to tenderers, Conditions of Contract, Specifications, Bill of Quantities (BOQ), complete construction drawings.

Task 3 Tender assistance/management

The services to be provided in this stage shall include the following:

(i) Assist the client in tender process, including advertising, assistance in the evaluation of bids and preparation of tender evaluation reports

(ii) Prepare contract documents and assist in contract negotiation and contract signing with the winning bidder for construction.

4.2.2 Phase 2 - Construction supervision and management

4.2.2.1 Progression from Phase -1 to Phase -2

Progression from the Design Review and Tender documentation phase to the Construction Supervision and management phase by the consultant shall be upon Client's approval. The client is not obliged to progress to subsequent phase(s) if he is not convinced with the consultant's work on the previous phases.

Task 1 Provision of Construction Supervision services

The Consulting Firm shall carry out the day-to-day administration and co-ordination of the execution of the Works at site in accordance with the Contracts including the following:

i. Examine and approve the contractors' (design) proposals and (shop) drawings for compliance with the Contract (specifications). Also attend factory tests/ pre-shipment inspection for major equipment as required.

ii. Issue pre-shipment inspection certificate for major equipment.

iii. Approve specifications for items to be procured by the contractor as well as tracking progress of procurements.

iv. Organize and chair site meetings (on behalf of the client) along with preparation of minutes.

v. Undertake site supervision, inspection, approval and certification of construction, installation, testing and commissioning of the project components.

vi. Prepare detailed daily site reports, during the execution of the contract. The reports shall include on site/off site activities, weather conditions, ground and traffic conditions, number of contractor's staff on site including key staff, records of visitors to the site, status of procurement and key materials and equipment, construction materials delivered, plant or equipment used or idling at site, daily works recording, quality inspections, delays, photographic and video recording of important activities at site etc.

vii. In collaboration with the client and environmental expert, ensure that environmental and social safeguard mitigation measures in; (1) the project Environmental and Social Management Plan, (2) the Environment & Social clauses, (3) the contractor's Environmental and Social Management Plan, (4) IFC/WB EHS guidelines (both the general ones as well as those that are sector specific), (5) and locally required guidelines/laws, are being adequately implemented. Any additional and unexpected environmental incidences should be noted and necessary adjustments recommended and amended accordingly.

viii. Assess and incorporate confidential delay contingencies, should delays become unavoidable and advise the client with regard to the target practical completion dates for the Project components.

ix. Ensure that proper quality and quantity control is maintained. The Consulting Firm shall therefore monitor the quality and quantity of the works and the performance management of the contractor. The Consulting Firm shall maintain a daily record of work done and shall verify this through measurement.

x. Undertake cost management for the client. The Consulting Firm shall monitor details of breakdown of work items as in the Contract, variation and escalation contingencies within the budget, status of sub-packages, anticipated variations etc.

xi. Prepare actual and forecast monthly/yearly cash flows to assist the client in cash flow management.

xii. Maintain an updated programme of works based in the contractor's inputs.

xiii. Check contractor's invoice and recommend progress payment certificates and Final payment certificates.

xiv. Review and recommend any variation orders to the client if required.

xv. Ensure the contractor works within contract all the time and as appropriate evaluate and recommend any proposals of extension of time to be given to the contractor.

xvi. Evaluate and recommend substantial completion certificate to the contractor for each contract.

xvii. Ensure that conditions/ recommendations made by all statutory and approval authorities are met without incurring loss of time and money on the Project.

xviii. Prepare a comprehensive monthly report for the client which includes achievements during the month including work done, progress against program, current expenditures against expected cash flow, an analysis of any cost changes or variations, report on any significant problem areas and the action being undertaken to resolve them. The reports shall include a summary program showing the status, together with the trend graphs of key activities and a photographic & video record of work on site. The reports shall incorporate individual reports prepared by others as required. This report should also include status of payments and disbursement, status of procurement of key materials and equipment, contractor's key staff and equipment, challenges and proposed solutions. The report must report on the environmental and social safeguard status (the details on reporting and indicators will be found in the project ESMP under monitoring and evaluation). The report should also highlight the current expected completion date and cost. Plan for the next quarter along with program of works. Connections made in each sub-project area and estimated beneficiaries.

xix. Provide comprehensive Annual Report covering the same aspects as the monthly reports, but in a comprehensive format in particular for technical and financial matters including Consulting Firm's work plan for the next twelve months.

xx. Supervise the Project during Defects Liability Period stipulated in the Contract and ensure that all technical problems and defects are resolved.

xxi. Recommend final acceptance certificate at the end of the defects liability period.

xxii. Prepare a comprehensive final Project Completion Report at the end of the contract. This report shall summarize the methods of construction, targets versus achievements, lessons learnt and experience gained in project implementation, problems encountered and resolved, and environmental issues.

xxiii. The Consulting Firm shall be responsible for ensuring that the contractor maintains at the site a complete set of 'as-built' drawings for the contract as the work proceeds. To this end the contractor shall maintain a continuous reproducible 'as-built' record of the actual alignments, levels, dimensions etc. to which the works have been constructed. On completion of the construction of each structure, transfer all records changes to a CAD file, or prepare new CAD drawings as required. The Consulting Firm should ensure that the contractor submits as-built drawings for all works at the end of the construction.

xxiv. The Consulting Firm shall ensure the contractor provides all manufacturers operation manuals, instructions and technical details for the installations. The Consulting Firm shall also ensure that the contractor trains the client's relevant staff in operation of the infrastructure and equipment installed under the contract.

xxv. The Consulting Firm shall review any detailed Operation and Maintenance (O&M) manuals prepared by the contractor and shall be responsible for ensuring the manuals are complete and submitted to the client. The O&M manuals shall include at least-

a) Reference to all relevant design and other reports, specifications etc.;

b) Details of any problems encountered during construction which may have a bearing on the future safe operation and decommissioning of the facilities;

c) Full operating instructions for all systems including those supplied by the manufacturers; drawings, diagrams, charts, notices etc. to facilitate understanding of safe operation and maintenance including trouble shooting guide of electro-mechanical equipment.

d) A maintenance schedule and consumables required to give reliable operation of the facilities. The Consulting Firm shall prepare formats for reporting and record keeping of O&M activities.

Task 4: Provision of Services during Defects Liability Period

The Consulting Firm shall carry out inspections and/or tests including inspecting any necessary remedial works and produce Quarterly Progress Reports.

5. CONSULTING FIRM QUALIFICATION

5.1 Consulting Firm Experience

The Consulting Firm must have completed at least two (2) similar works in terms of scope, complexity and value. Previous or current assignments on projects of similar background in Botswana and/or other countries with similar characteristics for the past 10 years as lead Consulting Firm should be documented.

5.2 Key Personnel

All key staff required should be registered with relevant regulatory bodies from their countries or must be eligible to be registered by Engineers Registration Board (ERB) of Botswana before the start of the project.

Phase I - Design Services

The Consultant shall propose appropriate qualified and experienced full and part-time staff and time inputs for the assignment, but it is anticipated that the following key personnel and estimated time inputs will be required as well as draughtsman and technicians.

Phase I - Design Review/Audit Stage		***Estimated Time Input (months)***
Team Leader/Senior Water Engineer	BSc in Civil Engineering or equivalent and a Postgraduate qualification in engineering Should have at least 15 years' experience in design and supervision of water supply projects. He/she should have extensive proven experience in design and construction of large water supply schemes. He/she should have been a Team Leader for least two (2) projects of comparable magnitude and complexity.	3
Electrical & Mechanical Engineer	B. Eng. (E&M) or equivalent 10 years' experience in water supply design he/she should have been E&M engineer on at least two projects	3
Structural Engineer	B. Eng. (Civil/ Structural) or equivalent 5 years' experience in water retaining structures He/she should have been a structural engineer on at least two projects	3
Totals		9

Phase II – Construction Supervision

The Consultant shall propose appropriate qualified and experienced full and part-time staff and time inputs for the assignment but it is anticipated that the following key personnel including inputs for Defects Liability Period will be required:

Phase II - Construction Supervision Stage		
Team Leader/Senior Water Engineer	B. Eng. (Civil) or equivalent, Post Graduate 15 years' experience in water supply design He/she should have been a Senior engineer on at least two projects	4
Resident Engineer	B. Eng. (Civil) or equivalent 10 years' experience in water supply design He/she should have been a Senior engineer on at least two projects	36
Environmental Control Officer	B. Eng. (Civil) or equivalent, Post Graduate 7 years appropriate experience, good knowledge of national environmental legislation and environmental safeguard policies of the World Bank, including the resettlement rule.	36
Electrical & Mechanical Engineer	B. Eng. (Civil) or equivalent, Post Graduate in Electromechanical Engineering 7 years experience in design and supervision of installation of pumping systems. At least 5 years experience of construction in developing countries.	12

Totals		88

The Consulting Firm may propose additional staff to ensure successful completion of the task, and should ensure that the financial proposal includes these additional staff. The Consulting Firm must provide all required staff to carry out all the stated tasks and other duties in the project.

All key staff shall be able to communicate effectively in English. The supervisors, surveyor, assistant engineers (civil, concrete and steel) are not considered key staff. Their CVs should be approved before the start of Supervision part of the contract in order that they meet the minimum requirements for the assignment.

The Team leader, Resident Engineer and Environmental Control Officer should be full time on site during the construction period. Inputs for Senior Resident Engineer should include one month for supervision of the Defect Liability period.

The Consultant shall show clearly and separately in their technical and financial proposals, the inputs proposed for the 12-month Defects Liability Period.

6. DURATION AND TIME INPUT

The total project period is estimated to be **thirty (30)** months, including the time required for examination and approval of the different reports. This time excludes defect liability period of 12 months. The Consulting Firm shall commence work not later than one calendar month from the date of the notice to proceed. The Consulting Firm must deploy necessary manpower, logistics and all other necessary items to complete the consultancy services within the stipulated time period.

The assignment is in three stages. The estimated duration of each stage is suggested below.

Design Audit/Review (Stage 1):

(a) Design Audit/Review and Update shall be completed within 3 months from the date of contract signing.
(b) Tender Management shall be completed within 3 Months after approval of the Design Audit/Review Report.

Since there will be a number of parties involved in the project whose views and interests are to be considered and reflected in the study, the schedule must allow for sufficient time for the discussion and approval of the various reports.

Constructions Supervision (Stage 2):

The Construction period is estimated to be 24 months, subject to completion of the Works.

Defects liability Period (Stage 3):

The defect liability period for this project is 12 months.

7. DELIVERABLES

The Consulting Firm shall submit all deliverables in hard copy form (also in CD format) and make presentations to the client where required. All reports shall be in 'A4' format).

Table 3: Details of deliverable and time lines

Item	Deliverables	By When	No. of copies of hard copies
1.	Inception report	Within 2 weeks after contract signing	05
2.	Appraisal Report	Within 1 month after award	05
3.	Draft Design Audit/Review Report	1 month after approval of Appraisal Report	05
4.	Draft Design Drawings	1 month after approval of Appraisal Report	05
5.	Draft Bill of Quantities	1 month after approval of Appraisal Report	05
6.	Final Design Audit/Review Report including any re-designs	1 month after approval of draft design audit/review report	10
7.	Complete set of final Drawings in reproducible form for Employer's approval	1 month after approval of draft design audit/review report	10 and 1 CD
8.	Final Bill of Quantities	1 month after approval of draft design audit/review report	02
9.	Draft Tender documentation	1 month after approval of Final report	05
10.	Final Tender documentation	1 month after approval of Draft Tender Documentation	10
11.	Final Drawings to 'A3' size for tendering purposes	1 month after approval of Draft Tender Documentation	10
12.	Tender Adjudication Reports	1 month after receiving bids from Contractors	02
13.	Monthly Progress Reports	Monthly during construction	05
14.	Monthly Progress Meeting Minutes	Monthly	10
15.	Environmental Monitoring Report (Monthly)	Monthly during construction	05
16.	Final Network Model	1 month after the substantial completion of the project	1 CD
17.	As Built Drawings and Final P&ID	1 month after the substantial completion of the project	03 and 1 CD

18.	Operation and maintenance Manual	End of construction	03
19.	Final Account Report	1 month after the substantial completion of the project	02
20.	Final Completion Report (Close out Report)	1 month after the substantial completion of the project.	05

8. REPORTING

The Corporation shall be represented in the project by the Project Manager (PM) who shall be appointed by the Technical Service Director. The Project Manager shall maintain continuous and direct liaison with the WUC Project Team. The day-to-day running of the project will be coordinated by the Project Manager and all communication shall be done through the Project Manager. The Consulting Firming firm shall provide a Team leader, who will be their representative for the duration of the project. The Team Leader shall report to, consult and liaise with the Client's Project Manager on all matters. Water Utilities Corporation will form a Project Team comprising of relevant expertise to oversee the project up to its completion. The Consulting Firm shall report to the Project Manager and liaise with the Project Team on monthly progress and progress towards all deliverables.

9. PROJECT MEETINGS

Water Utilities Corporation will appoint a liaison or Project Manager who will assist the Consulting Firming firm in obtaining information required for the successful completion of the project. The Consulting Firm shall do likewise. The Consulting Firm will organize regular project meetings and such meetings will be held at WUC Offices in Gaborone and at the site when the need arises. During construction, progress and technical meetings will normally be held at the project site office. The Consulting Firm will meet costs of preparing minutes and reports, printing of reports and minutes and other associated expenses.

The Consulting Firm shall arrange for regular meetings on a monthly basis at the site of the works between the Contractor(s) and the Employer. On the occasions of such meetings the Engineer shall arrange for the Works in progress to be inspected in the presence of the Contractor(s) and the Client. The Client Project Manager shall chair all the meetings. The Consulting Firm will record proceedings of all the meetings and minutes must be made available to the Project Manager within one (1) week after the meeting.

10. OBLIGATIONS OF THE CLIENT

The Client shall:

(i) Supply free of charge all available pertinent data and information requested by the Consulting Firm that is in its possession. This will include reports of previous studies both for the Corporation and other organisations which are relevant to this assignment and are

stored in the Corporation Technical Library. The Client however, shall not be held responsible for their accuracy and correctness. The Consulting Firm, where necessary, shall verify the accuracy and correctness of such data supplied to him.

(ii) Assist the Consulting Firm to obtain required approvals, licenses and permits from central or local government departments or statutory authorities having any jurisdiction over or connection with the Works and services.

(iii) Give prompt consideration to all reports, proposals, recommendations, drawings sketches, specifications, tenders, contracts and any other documents relating to the Project submitted by the Consulting Engineer to the Client so as not to cause delay to the performance of the services of the Consulting Engineer.

(iv) Assist the Consulting Firm to obtain all necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in the Botswana.

(v) Assist in facilitation of prompt clearance through customs of any property required for the Services.

(vi) The Corporation will attach staff to the project that will assist the Consulting Firm on the assignment. The attached staff will be for assistance only, any failure or delays on the study the attached staff will not be held responsible, all risks remains on the hands of the Consulting Firm. The client also expects capacity building of the attached staff by the Consulting Firm.

(a) The Client shall make available to the Consulting Firm free of charge such professional and support counterpart personnel, to be nominated by the Client. However, the Client reserves the right to withdraw their services.

(b) Professional and support counterpart personnel shall work under the exclusive direction of the Consulting Firm. If any member of the counterpart personnel fails to perform adequately on any work assigned to such member by the Consulting Firm that is consistent with the position occupied by such member, the Consulting Firm may request the replacement of such member. The Client shall reserve the right to replace such personnel.

11. OBLIGATIONS OF THE CONSULTING FIRM

The obligations of the Consulting Firm shall be as follows:

(i) The Consulting Firm will be responsible for the application for work permits for all staff and all associated risks will remain with the Consulting Firm. None approval of work permits shall not attract costs to the client or relieve the Consulting Firm of the contractual obligations.

(ii) Health insurance of the Consulting Firm staff will be covered under the Consulting Firm’s expenses.

(iii) The Consulting Firm must make sure that all staff that require registration must be registered before commencement of the project e.g. technical personnel must be registered with Engineers Registration Board (ERB).

(iv) The Consulting Firm is liable to monitor the quality of the project. All quality controls must be set by the Consulting Firm and approved by the Client.

(v) The Consulting Firm must adhere to all the relevant standards and make sure that the designs meet the national standards or internal standards or best practices where there are no national standards.

(vi) The Consulting Firm will be responsible for the accommodation and transportation of their staff.

(vii) The Consulting Firm must include all activities to be covered by the assignment.

(viii) The Consulting Firm shall provide appropriate expert professional personnel and exercise all reasonable skill, care and diligence in the performance of the Services. The Consulting Engineer shall carry out all his responsibilities in accordance with the highest ethics and general practices of his profession.

(ix) The Consulting Firm shall in all professional matters act as a faithful adviser to the Client.

(x) The Consulting Firm shall arrange regular meetings with the Client to keep him abreast of the Consulting Firm's progress in the performance of his duties.

(xi) The Consulting Firm shall obtain Client's approval to engage specialist Consulting Firms or contractors directly to perform services necessary to enable the Consulting Firm to perform the services required of him

(xii) The Consulting Firm shall sign all drawings and other documents certifying to their correctness and bear responsibility for their work.

(xiii) The copyright of all documents prepared by the Consulting Firm in connection with this Assignment rests with the Client.

(xiv) All reports, maps, drawings, notes, calculations, computer software developed for this study, aerial photographs, specifications, statistics and other technical data compiled or prepared and other material used in performing the services shall be the property of the Client and shall be delivered to the Client before final payment can be made and shall not be used for any purpose not related to the services under this Agreement without the prior written approval of the Client.

(xv) The Consulting Firm shall establish an office in Botswana during the execution of the project.

12. PAYMENT TERMS

Payment shall be tied to the value of the works completed. This shall include completion of deliverables or execution of key activities e.g. payment shall be made after approval of the Final Reports and Monthly Reports. However, this is subject to any additions or deductions which may be due. The first payment shall be made after approval of the Inception Report. The proposed payment terms for Phase 1 are as in the table below. During Construction Phase (Phase 2), payment will be based on actual time input.

Table 4: Payment terms for Phase 1

Item	Deliverables	Payment (% of total for this phase)
1.	Inception report	10%
2.	Appraisal report	20%
3.	Final Design Audit/Review Report including Final Drawings, Final Bill of Quantities	40%
4.	Final Tender documentation	20%
5.	Tender Adjudication Reports	10%

Appendix 1- Map of Botswana

Appendix 2 – Map of the Project Area