THE COUNTY GOVERNMENT OF GARISSA

DIRECTORATE OF WATER, ENVIRONMENT, NATURAL RESOURCES AND CLIMATE CHANGE

TERMS OF REFERENCE FOR THE EXECUTION OF SEVEN (7) WATER SUPPLY SCHEMES UNDER THE KENYA WATER, SANITATION AND HYGIENE (K-WASH) PROGRAMME – GARISSA COUNTY

1. Background

The County Government of Garissa, through the Department of Water Services, is implementing water supply infrastructure under the Kenya Water, Sanitation and Hygiene (K-WASH) Programme to improve access to reliable, sustainable and climate-resilient water services.

The works under this assignment comprise pipeline extensions, borehole and surface-pump equipping, solarization, elevated water storage, water connections, valve chambers, metering, standby power, chlorination and associated civil, mechanical and electrical works.

The seven (7) schemes are:

1. Raya Water Supply Scheme
2. Masalani/Toraboral Water Supply Scheme
3. Modogashe Water Distribution Network Extension
4. Dagahley Refugee Camp Water Distribution Network
5. Bula Atheley Water Supply Scheme, Bura
6. Gurufa Water Supply Scheme
7. Sheldub Water Project

The works shall be executed in accordance with approved designs, drawings, Bills of Quantities (BoQs), technical specifications, environmental and social safeguard requirements, and instructions issued by the County Project Engineer.

2. Objective

The objective is to engage a suitably qualified contractor to execute, test, commission and hand over seven complete and functional water supply schemes.

The works shall:

- Improve access to reliable water supply;

- Extend water distribution networks;
- Equip and solarize boreholes and pumping systems;
- Provide elevated storage facilities;
- Improve transmission and distribution efficiency;
- Provide community and household connections where specified;
- Install valves, meters and associated fittings;
- Provide standby power and chlorination facilities where specified; and
- Ensure testing, commissioning and proper handover of completed works.

3. Scope of Works

The Contractor shall provide all labour, materials, plant, equipment, transport, supervision and technical expertise required to complete the works.

3.1 Bula Atheley Water Supply Scheme – Bura

The works shall comprise:

The proposed works comprise approximately 4 km of pipeline extension, including 1,000 m of 50 mm PVC Class D, 1,000 m of 25 mm PVC Class D, and 2,000 m of 20 mm PVC Class C pipelines. The works will also include construction of three (3) standard valve chambers and provision and installation of sluice/gate valves, water meters, tees, bends, sockets and other necessary connectors. In addition, the project will provide one community water point with six taps, one standpipe with two taps, and fifty (50) household tap stands.

3.2 Dagahley Refugee Camp Water Distribution Network

The works shall comprise:

The proposed works comprise approximately 10 km of pipeline extension, including 4,000 m of 75 mm HDPE PN 12.5 and 6,000 m of 50 mm HDPE PN 12.5 pipelines. The works will also include construction of eighteen (18) standard valve chambers, installation of nine (9) 25 mm air-release valves, and provision of associated valves, meters, tees, bends, couplings and connectors. In addition, the works will include the supply, installation, testing and commissioning of one 30 kVA diesel generator complete with control panel, battery, fuel tank, canopy, exhaust system and all necessary accessories.

3.3 Masalani/Torabora Water Supply Scheme

The works shall comprise:

The proposed works comprise the supply and installation of three (3) No. 15 kW surface pumps, Type 65/20, complete with all necessary accessories. The works will also include approximately 4.1 km of pipeline comprising 400 m of 110 mm HDPE PN 12.5, 2,500 m of 50 mm PVC Class C, and 1,200 m of 20 mm PVC Class C. In addition, the works will include construction of valve chambers, installation of sluice/gate valves and a master meter, provision of tees, bends, sockets, connectors and other associated fittings, as well as testing and commissioning of the completed system.

3.4 Modogashe Water Distribution Network Extension

The works shall comprise:

The proposed works comprise approximately 4.5 km of pipeline extension, including 2,500 m of 110 mm HDPE PN 12.5 and 2,000 m of 50 mm HDPE PN 12.5 pipelines. The works will also include construction of two (2) standard valve chambers and provision and installation of associated valves, meters, tees, bends, sockets, connectors and GI fittings. In addition, the works will include connection of the Kulan tank to the secondary distribution network, including all necessary fittings and appurtenances.

3.5 Gurufa Water Supply Scheme

The works shall comprise:

The proposed works comprise construction of foundations for the elevated tank, fabrication and erection of a 10 m high steel tower, and supply and installation of one 50 m³ sectional steel water tank. The works will also include provision of a tank access ladder, walkway, guard rails and associated structural works, together with inlet, outlet, overflow and scour pipework, valves, water meter and all necessary fittings. Approximately 200 m of pipeline connection and associated valve chambers will also be provided. The completed system shall be tested, cleaned, disinfected and commissioned in accordance with the applicable standards.

3.6 Sheldub Water Project

The works shall comprise:

The proposed works comprise borehole drilling to a potential depth of 250 m, subject to the approved design and actual hydrogeological conditions, including casing, gravel packing, sealing, grouting, well development, step-drawdown, 24-hour constant discharge and recovery tests, borehole completion and water-quality testing. Pumping and solarization works will include supply and installation of an 11 kW, 3-phase submersible pump and motor, rising main, cables and borehole headworks, an 11 kW solar pump inverter/controller, 32 No. 550 W monocrystalline solar PV modules, and associated PV support structures, protection, earthing and lightning protection, followed by testing and commissioning. Storage and water treatment works will comprise a 10 m high steel tower, two (2) No. 10,000-litre plastic tanks, associated tank pipework, and an inline chlorination chamber with dosing units. The pipeline works will include approximately 800 m of 50 mm HDPE PN 12.5 pipeline, valve chambers, valves, meters, tees, reducers, bends and other associated fittings, together with testing, flushing, disinfection and commissioning of the completed system.

3.7 Raya Water Supply Scheme

The works shall comprise:

The proposed works comprise equipping and solarization of the existing borehole, including installation of the pump, motor, rising main, cables, borehole headworks and control equipment. The works will also include installation of solar PV modules, inverter/controller, support structure, protection, earthing and lightning protection, as well as extension of the existing pipeline network. Additional works will include construction of valve chambers, installation of valves, meters and associated fittings, provision of community connections where specified, and pressure testing, flushing, disinfection and commissioning of the

completed system. Final quantities, equipment ratings, pipe sizes and solar PV capacity for Raya shall be as specified in the approved Raya design, drawings and Bill of Quantities.

4. General Contractor's Responsibilities

The Contractor shall:

1. Mobilize and provide all required labour, materials, equipment and transport.
2. Provide qualified technical and supervisory personnel.
3. Undertake setting out and execute works in accordance with approved designs.
4. Protect existing infrastructure and services.
5. Obtain approval for materials before installation.
6. Maintain proper site records and submit progress reports.
7. Comply with environmental, social, health and safety requirements.
8. Conduct all required testing and rectify defects.
9. Submit as-built drawings and completion documentation.
10. Train designated County/Water Management personnel where required.

5. Borehole Works

For Sheldub and any other borehole works, the Contractor shall:

- Drill and construct the borehole in accordance with the approved design;
- Provide casing, screens, gravel pack, seals and sanitary protection;
- Develop and disinfect the borehole;
- Conduct step, constant-discharge and recovery tests;
- Measure discharge and water levels;
- Collect water samples for laboratory analysis;
- Submit borehole completion and test-pumping reports; and
- Install and commission the approved pumping system.

No change in borehole depth, design or construction arrangement shall be undertaken without written approval from the County Project Engineer.

6. Solar, Electrical and Mechanical Works

The Contractor shall ensure that all pumping, solar, electrical and mechanical installations are:

- Properly sized and installed;
- Complete with necessary protection systems;
- Properly earthed;
- Protected against lightning and electrical faults;

- Tested before commissioning; and
- Handed over in safe and operational condition.

7. Environmental, Health and Safety

The Contractor shall comply with applicable environmental, health and safety requirements and shall:

- Provide appropriate PPE;
- Secure excavations and work areas;
- Control dust and waste;
- Protect water sources and existing infrastructure;
- Minimize environmental disturbance;
- Maintain safe access to communities; and
- Safely store fuel, lubricants and construction materials.

8. Testing and Commissioning

Before handover, the Contractor shall undertake all applicable:

- Pipeline pressure and leakage tests;
- Tank water-tightness tests;
- Pump performance tests;
- Borehole test pumping;
- Water-quality testing;
- Solar and electrical tests;
- Generator testing;
- Valve and meter testing;
- Flushing and disinfection; and
- Full system test-running and commissioning.

9. Tender Evaluation

Tender evaluation shall be undertaken in accordance with applicable procurement laws and the tender document and shall include:

9.1 Mandatory Requirements

- Certificate of incorporation/registration;
- Valid KRA Tax Compliance Certificate;
- KRA PIN/VAT certificate;
- Valid NCA registration and applicable practicing licenses;

- Valid business permit;
- Evidence of relevant experience;
- Qualified technical personnel; and
- Evidence of relevant plant and equipment.

9.2 Technical Evaluation

The technical evaluation shall consider:

- Relevant experience in water supply works;
- Pipeline construction experience;
- Borehole drilling/equipping experience;
- Solarization experience;
- Elevated tank construction;
- Mechanical and electrical works;
- Qualifications of proposed personnel;
- Methodology and work programme;
- Plant and equipment;
- Environmental, health and safety arrangements; and
- Capacity to implement multiple schemes concurrently.

The detailed scoring and minimum technical pass mark shall be as provided in the tender document.

10. Information to be Provided by the County

The County Government shall provide available:

- Approved designs and drawings;
- BoQs and technical specifications;
- Existing system information;
- Available borehole information;
- Environmental and social safeguard documentation;
- Site access information; and
- Relevant technical instructions.

Bidders are encouraged to visit all sites and verify existing conditions before tender submission.

11. Reporting and Documentation

The Contractor shall submit:

- Mobilization report;
- Work programme;
- Monthly progress reports;
- Material approval submissions;
- Testing and inspection reports;
- Environmental, health and safety reports;
- Photographic records;
- As-built drawings;
- Borehole completion and test-pumping reports;
- Water-quality reports;
- Equipment commissioning reports;
- Operation and maintenance manuals;
- Manufacturer warranties; and
- Final completion report.

Progress reports shall indicate the physical and financial status of each of the seven schemes separately.

12. Contract Period

The works shall be completed within (4) months from the date of site possession, in accordance with the approved programme of works and contract conditions.

The programme shall cover mobilization, procurement, construction, equipment installation, testing, commissioning and handover.

13. Payment

Payment shall be made in accordance with the contract based on:

- Approved mobilization provisions;
- Measured and certified works;
- Interim payment certificates;
- Successful testing and inspection; and
- Contractual retention and applicable deductions.

Defective or rejected works shall not be certified until satisfactorily rectified.

14. Insurance

The Contractor shall provide all insurance required under the contract, including workers' compensation, personal accident, third-party liability, plant and equipment and construction risks.

15. Defects Liability

The Contractor shall rectify, at its own cost, defects arising from defective materials, workmanship or installation during the applicable defect's liability period.

16. Supervision and Contract Administration

The works shall be supervised by the County Government of Garissa, Department of Water Services, through the appointed County Project Engineer.

The Engineer shall inspect and approve works and materials, verify measurements, witness tests, monitor quality and safeguards, issue technical instructions, certify payments and recommend practical completion and handover.

No substantial variation to the approved designs, BoQs or specifications shall be made without prior written approval.

17. Expected Outputs

The Contractor shall deliver:

1. Bura: Approximately 4 km pipeline network, valve chambers, community water points and 50 tap stands.
2. Dagahley: Approximately 10 km HDPE network, valve chambers, fittings and 30 kVA standby generator.
3. Masalani/Torabora: Three 15 kW surface pumps and approximately 4.1 km pipeline network.
4. Modogashe: Approximately 4.5 km HDPE network and Kulan tank connection.
5. Gurufa: One 50 m^3 elevated steel tank on a 10 m tower and approximately 200 m pipeline connection.
6. Sheldub: Greenfield borehole, pumping and solarization system, 10 m elevated storage, chlorination facility and approximately 800 m pipeline.
7. Raya: Equipped and solarized existing borehole, pipeline extension and associated fittings and connections as provided in the approved BoQ/design.

18. Conclusion

The assignment shall deliver seven complete, functional and sustainable water supply schemes in Garissa County.

All works shall comply with the approved designs, drawings, BoQs, technical specifications, applicable standards, environmental and social safeguards and instructions of the County Project Engineer.

The Contractor shall be responsible for the execution, testing, commissioning, completion and handover of all works within the approved contract period.