



## **Terms of Reference:**

### **Consultancy Service**

#### **Title of the Consultancy: Pipeline Layout Profile and Design**

**Geographical Location:** FUNAN QUMBI VILLAGE, URAN WARD, MARSABIT COUNTY.

**Organization:** Strategies for Northern Development (SND)

### **Job Description.**

#### **1.0 Introduction:**

The Strategies for Northern Development (SND) is a local non-governmental organization working with nomadic pastoralist communities in Northern Kenya and Southern Ethiopia. SND was registered in Kenya with the NGO coordination board as a fully-fledged NGO on 6<sup>th</sup> December 2007. The Organization is driven by a vision to see a society where all pastoralist communities are resilient and live a dignified life and a mission to empower and transform pastoralist communities to be self-resilient in life. Key areas of focus are (i) Peacebuilding and governance, (ii) Food Security, Sustainable Livelihoods and Resilience, (iii) Child Protection and Education, (iv) Water, Sanitation, and Health, and (v) Humanitarian assistance. In partnership with Oxfam, SND is implementing a project titled ***Horn of Africa Extreme weather Response***. The overall objective of the response is to save lives, mitigate resource-based conflicts, and improve the resilience of vulnerable drought-affected households to meet basic needs through (i). Multi-purpose cash transfers, (ii). WASH assistance, and (iii). Gender and Protection support.

#### **2.0 Objective of the Consultancy Service**

The Overall objective of the assignment is to develop a map of Funan Qumbi village, including mapping of the water points and 7.5km pipeline extensions. Besides, showing details of the existing water supply infrastructure, the service provider should use a pattern, including other associated features and attributes, as well as prepare GIS mapping of 7.5km pipe networks, elevated storage tanks, and upgrading of the existing pump and solar powered system.

SND has proposed to transfer the skills on data collection and utilization of hand-held GPS, transfer data from GPS to appropriate software, and mapping of the points and lines. Proposed

maps may be considered to assist in strategic planning, resource utilization management, planning, and management of day-to-day operations, and identification of the area which are not covered by the existing water system from the borehole to the village, approximately 7.5km. This will help SND to design and implement a GIS-based management system and to operate the distribution network more smartly and efficiently

## **2.1. SPECIFIC OBJECTIVES ARE:**

### **2.1.1. Mapping the water facilities**

- Develop overall GIS-based map of water supply system (Locate all water points, water reservoirs, water sources BHs, pipeline layout, boosting station, and pumping station If any.
- Develop the GIS based map for the Village HHs, and elevated storage tank
- Also Map major facilities (health centers and schools)
- Calculate water demand for the surveyed area
- Get the current BH data and upgrade the existing pump and solar system factoring in the discharge per hour and the pipeline extension.

## **3.0 METHODOLOGY**

The service provider will be responsible to capture all necessary information but not limited to, detail survey and primary observations but also walking the network, document review, interview, field observations, and taking of GPS location.

- Service provider will provide all necessary data collection equipment GPS tools\_ RTK equipment or total station.
- Confirm borehole data and pump details (BH depth, water rest level, pump specification)
- Service provider use appropriate soft wares to develop the Mapping and profile
- Service provider will print with appropriate papers, cover the costs related to stationaries materials and any other related stationeries and soft copies of the report and data

## **4.0 RESPONSIBILITIES OF SND**

- Provide and Reviews of relevant documents but the service provider is responsible for collecting primary data.
- Support the service provider during field visit and community consultation
- Establish linkage between SND and consultant for field movement and support
- Provide timely inputs and comments on reports
- Necessary coordination with the relevant stakeholders within the project site

- The service provider will be responsible to cover and arrange flights or vehicles from Nairobi to Moyale and within the project sites.

## **5.0 OUT PUT OF THE ASSIGNMENT**

The output of the GIS mapping will be: -

- Identify water supply system coverage areas, water points in relation to the Funan Qumbi village.
- Mapping of existing system detailing with all its components in GIS Platforms and pipe networks, water points and HH or Blocks
- Mapping of the facilities schools, elevated storage tank and Health facilities
- Mapping of community's clusters those are not yet reached by water supply operation coverage in Funan Qumbi village and locating/recommending the areas for potential production points, and another required component
- Mapping of existing/under construction/planned piped water supply system coverage area and their components in GIS Platforms and pipe networks
- Design the Funan Qumbi water supply project to deliver water to Funan Qumbi village including determining the pumping requirements and designing the pumping system.
- Prepare a detailed pipe profile -should include all pipe components (air valves, washouts, control valves inspection chambers, marks etc.)
- Prepares the Bill of quantities for the pipe extension from the borehole to Funan Qumbi village which is approximately 7.5km and the elevated tanks
- Prepares and share the design and drawing for the water facilities.

## **6.0 KEY DELIVERABLES**

- A design reports.
- A pipe profiles
- Drawings and designs for all the projects components (marker posts, water points, tanks, elevated tower, inspection chambers etc.)
- Take the village HHs numbers from the current/updated statistics calculate the water demand both domestic and livestock (map HHs and institutions to be served)
- On-site processing of GPS data and conversion to GIS data format;
- Collection of data related to water facilities (BH, water points, pipelines, reservoirs, and boosting stations if any)
- The GIS Data must be geo-referenced in respect of Kenya's coordinate system

- A draft report of the findings 7 days after completion of the work schedule and presentation on it before SND and Oxfam WASH team
- A final report to SND from one week after receiving comments from SND and Oxfam with PDF soft copies, hard color printed copies of three A0, A2, and A4 size with quality paper

## **7.0 REPORTING LINE**

The consultant shall report to the SND WASH Engineer based in Moyale office.

## **8.0 TIME FRAME**

Work should start immediately upon signing the contract

Data collection including topographical survey, analysis, deigning and draft report, and final report submission should be completed in 3 weeks

ALL WORKS SHOULD BE COMPLETE IN 3 WEEKS

## **9.0 JOB REQUIREMENT**

SND will recruit a service provider firm represented by technical expertise on GIS, Water Engineer, and Survey specialist. SND will guide the service provider firm to ensure the quality of the study. The consulting firm interested in this work is required to have the following qualifications:

- Experience in GIS, RTK and EPANET or any other modelling software on water supply system with sound knowledge on principles and SPHERE standards
- Minimum degree in respective disciplines
- Good working experience in detail survey, mapping of similar works
- Good data analysis skills and report writing skills
- Similar experiences on pipeline profile and mapping
- At least with an experience of 5 years and above.

## **10. TERMS AND CONDITIONS**

- SND reserves the right to accept or reject any proposal without providing any verbal and /or written rationale
- This assignment shall be undertaken in full consultation with SND
- The service provider shall submit the team involved in the assignment

## **11.0 SELECTION CRITERIA**

The applicant is required to submit a proposal outlining methodology, detailed budget and CV of proposed resource persons that clearly highlights previous similar work experience. The proposal

should demonstrate sound knowledge, technical skills and capability as required by the nature of the work of the assignment and understanding the requisite tasks set forth in the scope of work. The necessary documents such as – renewed registration, tax clearance, PAN/VAT, latest audit report, tax exemption (if relevant), and related experiences etc. are also required to be submitted.

#### **12.0 BUDGET**

<b>No</b>	<b>Activity Description</b>	<b>Qty</b>	<b>Amount</b>	<b>Total Amount</b>
1	Pipe layout mapping and profiling. Preparation for the design, drawing and BOQs for all water facilities involved in these activities			

#### **13.0 PAYMENTS SCHEDULE**

SND will facilitate the payments once the work is completed and report shared.

#### **14.0 APPLICATION**

Qualified and interested applicants to submit Technical and Financial proposals electronically in PDF formats, addressed to “The Selection Committee”, with subject line clearly marked *Pipeline layout profile and design* via email on or before 31/12/2022 at 1700 hrs. (EAT) to: [procurement@sndafrica.org](mailto:procurement@sndafrica.org)