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## CONSTRUCTION OF TWO WATERYARDS IN WARAP (TONJ NORTH) (REF IRSS-WP-05/006-22)

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### **BACKGROUND/INTRODUCTION**

Islamic Relief is an independent humanitarian and development UK-based organization, with an active presence in over 40 countries across the globe, we strive to make the world a better and fairer place for people still living in poverty. Islamic relief began its humanitarian operation in South Sudan in 2004 focusing on providing lifesaving aid and implementing developmental Programmes to support people affected by the flood, drought, and Conflict establishing three sub-offices in Narus (Kapoeta East), Wau, Warrap. A satellite office in Yei and the Main office in Juba.

### **Our vision:**

Inspired by our Islamic faith and guided by our values, we envisage a caring world where communities are empowered, social obligations are fulfilled and people respond as one to the suffering of others.

### **Our mission:**

Exemplifying our Islamic values, we will mobilize resources, build partnerships, and develop local capacity, as we work to:

Enable communities to mitigate the effect of disasters, prepare for their occurrence and respond by providing relief, protection and recovery.

Promote integrated development and environmental custodianship with a focus on sustainable livelihoods.

Support the marginalized and vulnerable to voice their needs and address root causes of poverty.

We allocate these resources regardless of race, political affiliation, gender or belief, and without expecting anything in return.

## INTRODUCTION

Islamic Relief South Sudan received funding from IR Canada to implement two (2) years Project titled; “WASH, Protection and Nutrition for Tonj North Crisis Affected Populations (WAPNUT)” to be implemented in Tonj North in the 5 Payams of; Awul, Alabek, Kirik, Rualbet, Akop respectively.

**The project strives to achieve 3 outcomes namely:** a) Improved use of safe and gender-sensitive WASH services and culturally appropriate hygiene practices among IDPs and Host communities including women, men, girls and boys in Tonj North, South Sudan. B) Strengthened community led protection services and resources for IDPs, HCs, particularly women and girls, in Tonj North, South Sudan. C) Enhanced provision of quality nutritional services for IDPs, HCs, 50% particularly children under 5 and pregnant and lactating women with acute malnutrition, in Tonj North, South Sudan

Under outcome the one of this project which encompasses WASH components, IRSS intends to construct two solarized water yards in Farasika and Tonj North Town Council with an objective of increasing access to clean and safe water source and improving broader health outcomes. Therefore, this Terms of reference highlights general scope of work, technical details in terms of Bill of Quantity (BoQ) and terms and conditions involved during and after the construction project.

### **1. Scope of Work:**

The Construction work of the water mini yard is expected to be implemented in the two targeted locations of Farasika and Tonj North Town Council in Tonj North County, Warrap state. The general work involved in the construction of 2 solarized water yard includes; drilling of new borehole, construction of water tank stands, installation of solar system including the control system, installation of submersible pump, plumbing work, construction of concrete water distribution points having 05 outlets, and construction of fence & spread of selected quality of aggregate in the tank tower fence for the two sites. This ToR has also taken in to account the component of **Protection- GBV prevention** through **installation of solar lights** at each of the public water collection points to prevent WASH-GBV related cases such as rape at water collection points and also the aspect of environmental protection is covered through proper waste disposal/management during and after construction work completion. All cost of work should also include the cost of local materials, labour, transportation and any other related costs inclusive.

The activities are;

**Geophysical survey:** Conduct a thorough geophysical survey by professional geologists using recommended equipment, to identify sites with high ground water potentials for successful drilling.

**Drilling of new borehole.** Thorough assessment for good yield site, drill the borehole, flash, pump test until the pump recovery of up to 80% after completion of the test in 30 minutes, Installation of Indian MK II pedestal.

**Installation of metallic tank stand:** Install a strong tank stand that will resist all the forces and bear 10,000litres weight of water. Installation of two plastic water tank capacity of 5,000litres on one stand.

**Construction of concrete tap stand:** There are five (05) tap stands for each water yard with 05 outlet taps, provide and fix the taps (3/4 Pegler taps). Construct a drainage channel and soak away pit for the spilling waste water from the tap stand.

**Solar system:** Installation of solar power system and the control panel system to supply power to the submersible pump that will lift water from the borehole to the tank.

**Submersible pump:** Installation of submersible power pump to pump water from the borehole to the tank inclusive of provision for cable wires.

**Plumbing work:** Connection of all the plumbing system from the borehole to the tank and up to the tap stand. Provision of 2" dia. HDP PVC pipe as main supply to the tap stand of length 500 meter each for the 2 water yards. 1 1/4" GI pipe, Connectors, coupling, T-coupling, sockets, elbow, nipple, reducing bush, thread tape both GI and PVC plumbing materials.

**Fence:** There will be provision of fencing the area around the water tank with chain link, dimension of 6.0mx5.0m. Aggregates of selected quality 15-20mm diameter size to be spread in the fence to avoid mud and stagnant water under the tank in case of spilling water.

## **2. Objectives:**

To construct 01 Water mini yards to supply clean and safe water for consumption and domestic use to increase the resilience, livelihood and protection and reduce the vulnerability to the pastoral communities of the selected areas of Kapoeta North.

## **3. Tasks and expected days of work**

The contractor is expected to carry out the job accordingly, while assigning specific and clear task of jobs to specific team group e.g. Technicians and masons. The work is expected to take maximum 40 days including mobilization.

## **4. Roles and responsibilities**

### **The contractor:**

- Is solely responsible for provision of all the materials, services, transportation and personnel needed for the work, ensure that all materials/spare parts, services and personnel conform to approved grade, skills and standards.
- Responsible for the team deployed for the work, all their basic needs are catered for, should not interfere with the work.
- Regular update to WASH officer/technician in the field office, Challenges and constraints should be reported and challenges addressed.

### **IRSS:**

- Responsible for coordination with authorities, communities and other stake holders in all matters pertaining to the construction work.
- Conduct regular monitoring visits, inspection of all materials and services involved in the work.
- Will provide guidance and advice and support as deemed necessary.

### **6 Interface**

- Ensure there is very good line of communication and coordination between Islamic relief and the contracted company, is well established.
- All communication and coordination should be done through the company focal person assigned for that and the organization's officer in the field office.
- No direct communication between any company staff and IRSS, unless an informal one.
- IRSS engineer can be directly contacted any time for consultation and advice.

## 7. Reporting

- Contractor to report on each phase of work successfully completed, this includes: Phase Geophysical survey, drilling, pump testing, water quality testing, Installation of pedestal, construction of tank stands, Installation of solar and submersible pump, construction of tap stands, Inspection, decommissioning and handing over.

## 8. Handing over

- Final inspection will be jointly conducted with the ministry and directorate of water resources including the representative from the respective communities. Various components of the facility will be inspected and verified, according to the check list. In case of defaults in any component, has to be rectified before final handing over is done.
- After the facility is handed over, IRSS will carry out post construction monitoring for a period of three months for any defect liability that may show up.
- Each water yard will be branded with visibility having IRW logo as specified in the BOQ.

### DELIVERY DETAILS

SITE	LOCATION	PAYAM	DISTANCE FROM KAPOETA SOUTH TOWN
Site 01	Akop	Akop	85 km
Site 02	Tonj North Town	Awul	01 km

All tenders are required to be submitted before **Wednesday 15<sup>th</sup> June 2022, 4.00 pm Local time** pursuant to the attached guidelines for submitting a quotation and be returned to; **HAND DELIVERY TO IRSS TENDER BOX** Hai Cinema, 2nd class, Plot no 52, Block B-XVI, South Sudan upon registration on the bid receipt form.

For any issues relating to the tender or its contents please email directly to; [IRSS.Tender@islamic-relief.com.ss](mailto:IRSS.Tender@islamic-relief.com.ss)

**All quotation providers are requested to fill in Appendix 1 and 2 below when submitting their proposal to IRSS**  
**BILL OF QUANTITY FOR CONSTRUCTION OF WATER YARD:**

### **Lot 01: DRILLING AND INSTALLATION OF BOREHOLE**

S/no	Item description	Quantity	Unit	Unit cost-USD	Amount - USD
<b>1.00</b>	<b>Preliminary.</b>				
1.1	Mobilization of resources and site visit, transportation of all equipment, personnel, materials to project site and decommissioning at completion of job	job	sum		
Sub total					
<b>2.0</b>	<b>Borehole drilling</b>				

2.1	Conduct detailed geophysical survey using recommended equipment, resistivity meter to identify the most promising site for drilling successful borehole	01	Survey		
2.2	Carryout drilling 8-10" borehole to minimum 80-120 meters depth using air and DTH hammer or with form, mud rotary with form or polymer depending on the nature of the formation for that site.	100	meters		
2.3	Supply and install 125mm(5 inch) nominal internal diameter UPVC casing	90	meters		
2.4	Supply and install 125mm (5 inch) nominal internal diameter slotted UPVC casing including UPVC end cup	10	meters		
2.5	Supply and install permanent casing 8 inch nominal internal diameter UPVC plain casing up to hard formation	06	meters		
2.6	Supply and insert filter gravel packing 2-4mm size of round and clean siliceous materials	2.5	M <sup>3</sup>		
2.7	Insert sanitary seal 1:1:2 grout cement ne 1.5m deep from ground level	1.5	M <sup>3</sup>		
Sub total					
<b>3.0</b>	<b>Borehole development</b>				
3.1	Allow for borehole development work surging by air until the water is clear	03	hours		
3.2	Pump test the completed well until the pump recovery is around 80% after removal	06	hours		
3.3	Allow for water quality test based on the recommended parameters both physical chemical and bacteriological	01	test		
Sub total					
<b>4.0</b>	<b>Apron construction</b>				
4.1	Provide and place BRC mesh as apron reinforcement, reinforced concrete on the platform, Construct apron elevated foundation in 1:4 cement to sand mortar well blinded and finish.	2.0	M <sup>3</sup>		

4.2	Provide and install Indian MKII hand pump pedestal	01	set		
4.3	Provide and install Indian MKII water tank with dual outlets	01	set		
Sub total					
<b>General total</b>					

## Lot 2: CONSTRUCTION AND INSTALLATION OF WATER YARD

S/no	Item description	Quantity	Unit	Unit cost-USD	Amount - USD
<b>1.0</b>	Preliminary.				
1.1	Mobilization of resources and site visit.	job	sum		
1.2	Allow for site clearance	job	sum		
1.3	Excavate vegetable soil n.e 150mm deep, level and dispose offsite not less than 5m distance away	job	sum		
Sub total					
<b>2.0</b>	<b>Base/Concrete Footing</b>				
2.1	Excavate column foundation of length 0.8 by 0.8m width and 1.0m deep from the leveled site, screed to receive the column.	06	columns		
2.2	Provide and cast 800mmx800mmx300mm high footing from the ground level in 1:2:4 cement sand aggregate RC to receive the tower columns. 400mmx400mm main reinforcement, Y-12mm standard reinforcement bars, Y-12mm standard main rebar and R8 stirrups	06	columns		
Subtotal					
<b>3.0</b>	<b>Steel Tower</b>				
3.1	Provide and Install a metallic tank stand of 6" diameter square and 6.0m high column from the concrete base, well braced to resist wind and axial loads.	06	Columns		
3.2	Provide and fix 50mmx50mm hollow section pipes in joist/trusses/ ties. Guard rails all round, 800mm high to prevent	01	set		

	fall off of the tank. Fix hand rail to 6000mm height				
3.3	Provide and fix 200mmx120mm, 2 in no 'H' steal bar as primary bearer	12	meters		
3.4	Provide and fix 50mmx50mm hollow section pipe in secondary barrier	27	meters		
3.5	Provide and fix 3mm thick iron plate on the secondary barrier to receive 2 water tanks of capacity 5000litres each.	18	M <sup>2</sup>		
Sun total					
<b>4.0</b>	<b>Water tank</b>				
4.1	Provide and fix plastic water tanks 5000litres capacity, 2 in number with all the fittings to receive water and discharge to tap stands.	02	pc		
Sub total					
<b>5.0</b>	<b>Concrete Tap stands/Distribution point infrastructure</b>				
	Construct concrete tap stands 05 in no of 05 outlets each, fix taps ready to distribute water.	05			
	Provide and fix 2" PVC pipe as main, connecting to the tap stands from the tank	500	meters		
Sub total					
<b>6.0</b>	<b>Solar pump system</b>				
6.1	Provide and install solar panel infrastructure/mounting.	01	mounting		
6.2	Provide and fix solar panel kit 150watts 6 panels	06	panels		
6.3	Provide and install 01 control panel system and accessories	01	panel		
6.4	Provide and fix submersible motor cable 4mm	140	meters		
6.5	Provide and fix solar powered submersible pump (Grandfos SQF 1.4Kw IHP DC IPC.	01	pc		
6.6	Provide 2/3 PPR pipe and connectors	80	meters		
Sub total					
<b>7.0</b>	<b>Fittings/Connectors</b>				
7.1	Provide 1 1/4 GI pipe, connectors and fittings, dual gate valves, sockets, nipples, elbows, reducing bushes, coupling, reducing	01	set		

	socket, thread tape, tank connectors both PVC and GI.				
Sub total					
<b>8.0</b>	<b>Fence</b>				
8.1	Provide fencing with chain link 6.0mx5.0m all-round with concrete base of 1:2:4, and door provided	01	item		
8.2	Provide 15-20mm size diameter well graded clean aggregates on the floor under the tank and all over the fence.	2.0	M <sup>3</sup>		
8.3	Visibility sign posts-one to be fixed up at the tank tower and 5 to be fixed at the different water collection points. Note: see detail attached.	07	pieces		
8.4	Decommissioning- allow for removal and safe disposal of all wastes generated from concrete work.	01	Sites		
8.5	Supply and fix 06 solar lights installed with metallic poles- 01 at the tank tower, and 5 at public water collection points, one each.	06	Pieces		
Sub total					
<b>General total</b>					
<b>Total x2</b>					

**Note: this Bill of quantity is for one solarized water yard. Therefore, multiply by two to come up with the overall total for the 2 water yards.**

S/No	Item	Total cost
Lot 01	Drilling and installation of borehole	
Lot 02	Water yard Installation	
<b>General total</b>		
<b>Total x2</b>		



**Note:**

- The contractor is deemed to have allowed in the rates and prices inserted in the bill of quantities for all charges in providing labour, equipment, materials, transport, supervision, profits and other related costs in carrying out and completing the work.

**SIGNPOST DESIGN FOR PUBLIC WATER COLLECTION POINTS**

WASH, Protection and Nutrition for Tonj North Crisis Affected Population  
(WAPNUT)

Improved use of safe and gender-sensitive WASH services and culturally appropriate  
hygiene practices among IDPs and Host communities

PUBLIC WATER COLLECTION POINT .....BOMA IN AKOP

PROJECT FUNDED BY: ISLAMIC RELIEF CANADA IMPLEMENTED BY: IRSS



180cm

## SIGNBOARD ARTWORK FOR THE WATER YARDS (AKOP AND TONJ NORTH TOWN CONCIL)

WASH, Protection and Nutrition for Tonj North Crisis Affected Population  
(WAPNUT)

Improved use of safe and gender-sensitive WASH services and culturally appropriate  
hygiene practices among IDPs and Host communities

WATER YARD: AWUL BOMA TONJ NORTH TOWN COUNCIL

PROJECT FUNDED BY: ISLAMIC RELIEF CANADA IMPLEMENTED BY: ISLAMIC RELIEF SOUTH SUDAN



### Summary of Bid Prices

No.	Description	Total Price in USD (\$)
1	Grand Total Bid Price	
2	Discount Ratio (if any) ... % and the amount	

<b>3</b>	<b>Grand Total after Discount</b>	
<b>4</b>	<b>Delivery time scales (in days)</b>	
<b>5</b>	<b>Quotation Validity</b>	

We have carefully checked and examined all bid documents and we are offering the costs above on a fixed basis and they are not subject to any changes or alterations including those due to currency fluctuations.

Total Price **USD (\$)**

**In words**

[\_\_\_\_\_]

Bidder's Signature

Stamp

Date

**Bidder is required to stamp this document with their legal company stamp no bid will be accepted without a genuine company stamp**

## APPENDIX 2 BILL OF QUANTITIES

Please also use our table when filling the prices. If you do not have the item just keep it empty. Your offer should be for the quantity that we request, not less and not more.

Please only use USD (\$) as the currency for your offers as per the guidelines.

### Supplier Code of Conduct

#### 1 Islamic Relief's Supplier Code of Conduct

#### 2 Islamic Relief Worldwide requires all suppliers to adhere to:

The Modern Slavery Act 2015

The International Labour Standards as defined by the ILO (International Labour Organisation).

The United Nations Global Compact's 10 principles as stated below:

#### Human Rights

**Principle 1:** Businesses should support and respect the protection of internationally proclaimed human rights;

and

**Principle 2:** Make sure that they are not complicit in human rights abuses.

#### Labour

**Principle 3:** Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

**Principle 4:** The elimination of all forms of forced and compulsory labour;

**Principle 5:** The effective abolition of child labour;

and

**Principle 6:** The elimination of discrimination in respect of employment and occupation.

**Environment**

**Principle 7:** Businesses should support a precautionary approach to environmental challenges;

**Principle 8:** Undertake initiatives to promote greater environmental responsibility;  
and

**Principle 9:** Encourage the development and diffusion of environmentally friendly technologies.

**Anti-Corruption**

**Principle 10:** Businesses should work against corruption in all its forms, including extortion and bribery.