

CONSTRUCTION OF WATER SUPPLY SYSTEM AT NTYUKA CHIMALAA

TENDER NO. AE/HQ/2021-2022/W/06

PROJECT COMPLETION REPORT

Prepared By:

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JUNE 2022

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1.0 CONTRACT DETAILS

1.1 SUMMARY OF WORKS EXECUTED UNTIL, 30th JUNE 2022.

Contract Name:	Excavation of trenches, installation of pipes and construction of 200 m ³ on ground water tank for extension of water supply system at Ntyuka Chimalaa.
Contract No.	AE/HQ/2021-2022/W/06
Location	Dodoma
Employer	The Managing Director, DUWASA
Contractor	M/S BAHAJ CONSTRUCTION WORKS LIMITED
Contract Amount Tsh.:	Tsh. 177,970,000.00
Revised contract amount:	Tsh. 180,815,000.00
Date of Letter of Acceptance	26 th November 2021
Contract start date:	7 th January 2022.
Intended Date of Completion:	30 th June. 2021
Contract duration:	06 months
Extension granted:	NIL
Time elapsed:	06 Months
Time remained:	NIL
Retention	10%
Performance Guarantee	Submitted
Advance payment security	Submitted
Percentage of progress attained:	100%

2.0 BACKGROUND, OBJECTIVES, AND SCOPE OF THE PROJECT.

2.1 BACKGROUND

DUWASA received fund from Central Government for excavation of trenches, installation of pipes and construction of a 200 m³ on ground water tank for extension of water supply system at Ntyuka Chimalaa – Dodoma city.

During the financial year 2021/2022 DUWASA applied part of proceeds of these funds to cover eligible payments under the contract AE/HQ/2021-2022/W/06.

The procurement procedures were followed through National Competitive Bidding and the tender was awarded to M/S BAHAJ CONSTRUCTION WORKS LIMITED, P. O. Box 368, DODOMA TANZANIA.

Layout for Water supply network at Ntyuka Chimalaa.

2.2 OBJECTIVE

The main objective of this project is to supply water from storage tank to other streets in Ntyuka Chimalaa which are; Chimalaa, Nyerere and Bwawani located at Ntyuka ward.

This is to be achieved mainly through the following:

- ◆ Construction of water storage tank of 200 m³ capacity.
- ◆ Construction of panel house.
- ◆ Construction of transmission line from two water wells in the vicinity to the storage tank.
- ◆ Construction distribution line from storage tank.
- ◆ Construction of anchors to support pipes
- ◆ Construction of chambers on air valves, washout valves and installation of marker posts.

2.3 EXECUTIVE SUMMARY

This report covers all activities carried out from January to May 2022 under including excavation of trenches, installation of pipes and construction of 200 m³ on ground water tank for extension of water supply system at Ntyuka Chimalaa.

The overall progress of works is good and is as summarised in the table below:

S/NO	Contract. No	% Works completed up to June.	Time Elapsed
1.	AE/HQ/2021-2022/W/06	100	100%

2.4 SUMMARY OF FINANCIAL PROGRESS (Tsh.)

Contract sum	: 177,970,000.00
Advance Payment	: 26,695,500.00
Interim Payment up to 30 th June 2022	: 163,018,000.00
Revised Contract price	: 180,815,000
Claims	: Nill
Variation order	: Nill
Summary of costs forecasts in disputes	: Nill
Range of probable financial outcomes	: Within Budget

2.5 SUMMARY OF FINANCIAL MATTERS AND STATUS.

CERT. NO.	CERTIFICATE DATE	AMOUNT (Tsh.)	CUMULATIVE PAYED TO DATE (Tsh.)
Advance payment	06/01/2022	26,695,500.00	26,695,500.00
1	17/05/2022	118,207,200.00	144,902,700.00
2	26/05/2022	18,115,300.00	163,018,000.00

2.6 UTILITY FINANCIAL CONTRIBUTION

Since the funds allocated for the project was not enough to cover all the activities, DUWASA also contributed **TZS 112,087,000** from the collection to cover excavation of 3 boreholes and construction of one Panel house as follows.

Sno.	Description	Amount (TZS)
1	Geophysical Survey for Drilling points	4,655,000.00
2	Drilling of 3 Boreholes	99,932,000.00
3	Construction of Panel House	7,500,000.00
	Total	112,087,000.00

3.0 SCOPE OF TECHNICAL WORKS

- ◆ The scope of works included:
 - ◆ Route Identification
 - ◆ Topographical surveying
 - ◆ Hydraulic calculations for the pumping main
 - ◆ Procurement of steel pipes DN 75 (for raising main) and DN 150 (for gravity main)
 - ◆ Site clearance,
 - ◆ Trench excavation and backfilling
 - ◆ Pipe laying
 - ◆ Welding and pipe joinery
 - ◆ Construction of Panel house
 - ◆ Construction of mark post blocks.
 - ◆ Construction of water storage tank and fence around.

3.1 LOCATION

The project is located at Dodoma city, at Chimalaa street, Ntyuka ward and aimed to serve the population within Dodoma city.

3.2 SPECIFICATIONS OF THE PIPES USED

Diameter (mm)	Material	Pressure (PN)
63 mm	PE	10
75 mm	uPVC	10
75 mm	GS	10
150 mm	uPVC	10
150 mm	GS	10

3.3 DETAILS OF TECHNICAL WORK PROGRESS

Up to 20th May 2022, the contractor has performed various work as elaborated below.

3.4 MOBILISATION

These were the contractors works which involved mobilization of all necessary equipment required under contract. The major contractor's equipment is as summarised in the table below.

Item	Machine	Quantity	Remarks
1	Excavator	1	On site
2	Toyota Hilux	1	On site
3	Tipper truck	1	On site
4	Diesel generator for welding	1	On site
5	Concrete mixer	2	On site
6	Water bowser	1	onsite
Total		7	

3.5 TRENCH EXCAVATION

The trench excavations were done to the whole pipe line route/ stretch as specified on the design, i.e., 1.2 m for depth and 1.0 m for width. The total length of earth excavated trench is 5300 meters linear length.

3.6 PIPE LAYING:

The works involved laying two pipeline sections (Transmission and distribution) in which the transmission line of diameter 75 mm and 63 mm diameter from Borehole number one (BH1) and Borehole number two (BH2) respectively and distribution line of diameter 150 mm, 75 mm and 63 mm which cover a total length of 5300 meters linear length.

3.7 CONSTRUCTION OF WATER STORAGE TANK 200m³

Up to 30th June 2022, the water storage tank was 100% where the tank structures and fence have ready constructed. As per attached picture.

3.8 CONSTRUCTION OF REINFORCED ANCHOR BLOCKS AND CHAMBERS

The Anchor blocks support and chambers are ready constructed.

3.9 CONSTRUCTION OF PANEL HOUSE

This house has been constructed at Borehole number two (BH2) specifically for pump panel. This involves civil works which are foundation excavation, building of foundation, concreting, wall masonry works, roofing, plumbing and construction of sewerage system. The panel house is about 100% completed.

3.10 WELDING PIPE JOINERY AND FABRICATION.

This is the key activity faced in project implementation which involved joining of GS pipes where pipe joining by using of man jack puller was impossible, the main points were especially at the corners, joining of spigot, washout and air valves. This activity is 100% completed.

4.0 PROJECT MANAGEMENT

The project is administered by the Technical Department of DUWASA represented by the Technical Manager and other supporting staff of DUWASA. The Technical Department team carried out day to day supervision of works on behalf of Authority - Dodoma Urban Water Supply and Sanitation Authority (DUWASA).

4.1 TECHNICAL STAFFS AND TASKS DURING PROJECT EXECUTION

Name	Title	Participation/Position
Eng. Emmanuel C. Mwakabole	Technical Manager	Project Manager
Eng. Norbert Mwombeki	PDC Engineer	Project Supervisor
Eng. Orest John	Env. Engineer	Project Supervisor
Eng. James Ryoba	Project Engineer	Site engineer
Eng. David Kasanja	Project Engineer	Site engineer
Mr. Mathayo S John	Technician	Site Supervisor
Mr. Faustine Manyama	Technician	Site supervisor
Fitina Juma	Driver	Driver
Samson Lazaro	Ass. technician	Welder

4.2 CONTRACTORS PERSONNEL

Description	Number	Participation
Site Engineer	1	On site
Labourer (Skilled)	4	On site
Labourer (un skilled)	9	On site
Operator	5	On site
Drivers	9	On site

4.3 WEATHER CONDITIONS

The weather has been moderate sunny throughout the project implementation period until 31st May 2022.

4.4 QUALITY ASSUARANCE

Checklist were in use to ensure quality is maintained and controlled throughout the project and the test were conducted at LOGITREC Lab located at TARURA CCD Office.

4.5 SITE MEETINGS,

The site meeting was held at Ntyuka Chimalaa at 18th May 2022 where contractor and client were discussed various issue on project implementation progress.

S/N.	ACTIVITIES	UNIT	QTY	PROGRESS	COMMENTS
1	ELEMENT NO.1 EARTH WORKS				
1.1	Clear site of trees, hedges, bushes and undergrowth including grubbing up their roots, 2.5m wide. 2300m long	M	50	100%	Completed
1.2	Excavate and backfill trenches on rocky formations for distribution and transmission main 1.0m wide and 1.2m deep, 1100m long	M	918	100%	Completed
1.3	Excavation and backfill trenches on normal soil for distribution and transmission main 1.0m wide and 1.2m deep 3000m long.	M,	4,382	100%	Completed
2	ELEMENT NO.2 CIVIL WORKS				
2.1	Construction of 200m ³ tank on ground	No	1	100%	Completed
	CHAMBERS CONSTRUCTION				
2.2	Construction of sluice valve, Bulkmeter and control valve chambers size 1500x1500x2000m for newly constructed chambers.	No	4	100%	Completed
	MARKER POST				
2.1	Precast concrete grade 30 standard marker posts size 75x750x1050mm high, including excavation, backfill, spreading surplus materials to make levels, 600x600x400mm concrete base, formworks, reinforcements, finishing, painting and lettering as shown on drawing for new lines constructed.	No	45	100%	Completed
	PANEL HOUSE				
2.2	Construction of pump house 2.5mx2m plan, 230mm wall thickness and installation of doors, window and installation of doors, window and sanitary accessories as per drawing or Engineer instruction, for new boreholes.	LS	1	100%	Completed

	Construction of fence for borehole protection and tank protection covering a total area 750m2, fencing with chain link 2m high properly anchored to the ground by concrete strip and poles including gates as per drawing and Engineering instruction	LS	1	100%	Completed
	Total Overall Progress			100%	Completed

5.0 ANNEXES.

Annex 1. Progress photo records.

Trench excavation

Trench excavation

Bottom slab preparation

Bottom slab preparation

Tank wall section

Concrete truck on site

Top slab

Top slab

Tank wall finishing

Tank at final stage

5.1 CONCLUSION

The overall work progress is satisfactory. And the contractor has obeyed site safety up to the attained percentage.

Client part

Contractor part

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DUWASA Site engineer

.....
Bahaj Construction works Ltd