

COMPLETION OF UNIVEN CAMPUS WATER UPGRADE PHASE 2 (including intalation of tanks per student residence)

PROJECT NUMBER: IN/022/2023

SCHEDULE 1 : PRELIMINARY AND GENERAL

					IN/02/2023	
ITEM NO.	PAYM. REF.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	<b>SABS 1200 A</b>	<b><u>PRELIMINARY AND GENERAL</u></b>				
1.1	8.3	<b><u>FIXED CHARGE AND VALUE RELATED ITEMS</u></b>				
1.1.1	<b>PSA 4.1</b>	Contractual Requirements	Sum	1		
1.1.2	8.3.2	<b><u>Establish facilities on the site</u></b>				
1.1.2.1	8.3.2.1	i) <u>Facilities for Engineer</u>				
	<b>PSA 4.5</b>	a) Furnished offices (1x) and meeting facility	Sum	1		
		b) Contract Name board	Sum	1		
		c) Survey assistants and material	Sum	1		
1.1.2.2	8.3.2.2	ii) <u>Facilities for Contractor</u>				
		a) Offices and storage sheds	Sum	1		
		b) Workshops	Sum	1		
		c) Laboratories	Sum	1		
		d) Living accommodation	Sum	1		
		e) Ablution and latrine facilities	Sum	1		
		f) Tools and equipment	Sum	1		
		g) Water supplies, electric power & communications	Sum	1		
		h) Dealing with water	Sum	1		
		i) Access	Sum	1		
		j) Plant	Sum	1		
1.1.4	8.3.4	Removal of Employers Agent and Contractor's site establishment from site on completion of works.	Sum	1		
1.2	8.4	<b><u>TIME RELATED ITEMS</u></b>				
1.2.1	<b>PSA 4.2</b>	Contractual requirements	Sum	1		
1.2.2	8.4.2	<b><u>Operations and maintenance of facilities on site</u></b>				
1.2.2.1	8.4.2.1	Facilities for Employers Agent for duration of construction (SABS 1200 AB)				
	<b>PSA 4.6</b>	a) Employers Agent office (boardroom)	Sum	1		
		b) Telephone	Sum	1		
		c) Name board	Sum	1		
1.2.3	8.4.2	<b><u>Operations and maintenance of facilities on site</u></b>				
1.2.3.1	8.4.2.2	<u>Facilities for the Contractor for the duration of the Contract, except where otherwise stated</u>				
		a) Offices and storage sheds	Sum	1		
		b) Workshops	Sum	1		
<b>TOTAL CARRIED FORWARD</b>						

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ITEM NO.	PAYM. REF.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
		c) Laboratories	Sum	1		
		d) Ablution and latrine facilities	Sum	1		
		e) Tools and equipment	Sum	1		
		f) Water supplies, electric power & communications	Sum	1		
		g) Dealing with water	Sum	1		
		h) Access	Sum	1		
		i) Plant	Sum	1		
1.2.4	8.4.3	Supervision for duration of the construction	Sum	1		
1.2.5	8.4.4	Company and Head Office overhead costs for the duration of the Contract	Sum	1		
1.2.6	8.4.5	Other time related obligations	Sum	1		
1.2.7	<b>PSA 4.3</b>	Excavation by hand in all materials to expose existing services	m <sup>3</sup>	100		
1.2.8	<b>PSA 4.4</b>	<b><u>Occupational Health and Safety</u></b> Provision for the cost related to the Occupational Health and Safety Act, 85 of 1993, and the relevant Regulations:				
		a) Preparation of a Health & safety Plan	Sum	1		
		b) Compilation of a Risk Assessment prior to Construction	Sum	1		
		c) Health & Safety induction Training of employees	Sum	1		
		d) Compilation and keeping up to date the Health & Safety file which shall include all documentation required in terms of the act	Sum	1		
		e) Implementation of the Health and Safety Plan over the entire construction period	Sum	1		
1.3	8.5	<b><u>SUMS STATED PROVISIONALLY BY THE ENGINEER (NOT SUBJECTED TO ESCALATION OR RETENTION)</u></b>				
		a) Allow provisional sum for provission dismantling existingsteel Tank and provide a new side bottom pannel with outlet to be used for conneting with the new tank	Prov. Sum	1	200,000.00	R 200,000.00
	8.5 b) 2)	f) Overheads, charges and profit on 1.3 a) to e)	%	R 200,000.00		
<b>TOTAL SCHEDULE 1 CARRIED FORWARD TO SUMMARY</b>						

COMPLETION OF UNIVEN CAMPUS WATER UPGRADE PHASE 2 (including intalation of tanks per student residence)

PROJECT NUMBER: IN/02/2023

IN/02/2023

**SCHEDULE 2 : RESERVOIR EARTH WORKS**

ITEM NO.	PAYM. REF.	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
<b>2.1</b>	<b>SABS 1200C</b>	<b><u>SITE CLEARANCE</u></b>				
2.1.1	8.2.1	Clear and grub and spoil to approved areas off site a) Bulk Earthworks area	ha	0.38		
		b) Access road	ha	2.25		
2.1.2	8.2.2	Remove and grub large trees and tree stumps of girth: a) Over 1,0m and up to and including 2,0m	no	15.00		
2.1.3	<b>8.2.10</b>	Remove Topsoil to a nominal depth of 150mm and stockpile a) From Bulk Earthworks area	m <sup>3</sup>	10.67		
<b>2.2</b>	<b>SABS 1200 D</b>	<b><u>BULK EXCAVATION</u></b>				
2.2.1	8.3.2 a)	Excavate in all materials and use for backfill as ordered: (Material from Cut to fill Compacted to 95% Mod AASHTO density)	m <sup>3</sup>	640.03		
2.2.2	PSD 2.2	Excavate from stockpile and backfill to 95% Mod AASHTO density in layers not exceeding 150mm in terrace.	m <sup>3</sup>	115.97		
2.2.3	8.3.2 a)	Excavate in all materials and dispose off site identified by the Contractor	m <sup>3</sup>	670.80		
2.2.4		Extra over item 2.2.2 for disposing of spoil material on site provide by the Contractor	m <sup>3</sup>	524.07		
<b>2.3</b>		<b><u>SOIL RAFT</u></b>				
2.3.1	8.3.4	Extra over for importation of material for use for embarkment or backfill as ordered (150mm Layers) from: (G7 Material Compacted to 95% Mod AASHTO density) obtained from: a) Designated borrow pits (free haul = 8km) identified by the Contractor	m <sup>3</sup>	977.00		Rate Only
		b) Commercial sources (delivered on site)	m <sup>3</sup>	977.00		
2.3.2	8.3.3 b)	<u>Extra-over items 3.2.1 to 3.2.2 for excavation in:</u> a) Intermediate excavation (Designated borrow pit only)	m <sup>3</sup>	87.00		Rate Only
		b) Hard rock excavation (Designated borrow pit only)	m <sup>3</sup>	24.00		Rate Only
<b>2.4</b>	<b>PSD 2.1</b>	<b><u>RESTRICTED EXCAVATION</u></b>				
		a) Excavate against existing buildings/structures in all materials and dispose of site	m <sup>3</sup>	5.00		
<b>2.5</b>	<b>8.3.6</b>	<b><u>OVERHAUL</u></b>				
2.5.1		Long overhaul in excess of 5km (designated borrow pit)	m <sup>3</sup> .km	15632.00		Rate Only
<b>TOTAL CARRIED FORWARD</b>						

COMPLETION OF UNIVEN CAMPUS WATER UPGRADE PHASE 2 (including intalation of tanks per student residence)

PROJECT NUMBER: IN/02/2023

**SCHEDULE 2 : RESERVOIR EARTH WORKS**

						IN/02/2023	
ITEM NO.	PAYM. REF.		UNIT	QUANT.	RATE	AMOUNT	
<b>TOTAL BROUGHT FORWARD</b>							
2.6	8.3.8	<b><u>EXISTING SERVICES</u></b>					
	8.3.8.2	Dealing with services that are at risk because of the Construction of the earthworks. The rate should include for the relocation or dismantling					
		a) Electrical and Communication Cables (Under ground)	No	3.00		Rate Only	
		b) Electrical and Communication Cables (Over head)	No	1.00		Rate Only	
		c) sewer and water lines	No	3.00			
2.7	<b>SABS 1200 DM</b>	<b><u>TREATMENT OF PLATFORM BED</u></b>					
	8.3.3 a)	a) Platform bed preparation and compaction of material to 90% MOD AASHTO density as ordered	m <sup>3</sup>	162.00			
2.8	<b>SABS 1200 ME</b>						
	8.3.5 d)	Process Layerworks (150mm C4) by means of stabilisation	m <sup>3</sup>	977.00		Rate Only	
	8.3.8	Stabilizing agent:					
		a) Ordinary Portland Cement (CEM 1)	t	31.00		Rate Only	
2.9	<b>SABS 1200 DM</b>	<b><u>EARTHWORKS (ROADS,SUBGRADE)</u></b>					
2.9.1	8.3.3	<b>Treatment of roadbed:</b>					
		a) Road-bed preparation and compaction of material to (150mm depth):					
		i) Minimum of 90% of modified AASHTO maximum density	m <sup>3</sup>	376.2		0.00	
2.9.2	8.3.4	<b><u>Cut to fill, borrow to fill (Inclusive of overhaul)</u></b>					
		a) Compact to 90% modified AASHTO maximum density	m <sup>3</sup>	376		0.00	
2.9.3	8.3.7	<b><u>Cut to spoil or stockpile from (inclusive of overhaul):</u></b>					
		a) Soft excavation	m <sup>3</sup>	200		0.00	
2.9.4	<b>SABS 1200 ME</b>	<b><u>GRAVEL SURFACE LAYER</u></b>					
		a) Construct the 150mm gravel wearing course G7 with material excavated in all materials from borrow pits identified by the Contractor and Compacted to 93% MOD AASHTO (As per TRH20 Table 1)	m <sup>3</sup>	752.4		0.00	
2.9.5	8.3.13	<b><u>SURFACE FINISHING</u></b>					
		a) Top soiling	m <sup>2</sup>	250			
<b>TOTAL SCHEDULE 2 CARRIED FORWARD TO SUMMARY</b>							

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**SCHEDULE 3 : CONCRETE (STRUCTURAL) FOR RESERVOIR**

ITEM NO.	PAYM. REF.	DESCRIPTION	UNIT	TENDER	RATE	AMOUNT
<b>3.1</b>	<b>SABS 1200 G</b>	<b><u>CONCRETE WORK</u></b>				
3.1.1		<u>Concrete</u>				
	8.4.2	Blinding layer in class 15MPa/19mm to a minimum thickness of 50mm underneath structures	m <sup>2</sup>	0		Rate Only
3.1.2	8.4.3	<u>Strength concrete - class 35MPa/19mm</u>				
		i) Floor slabs and footings	m <sup>3</sup>	112	R	-
		ii) Walls	m <sup>3</sup>	39	R	-
3.1.3	8.4.3	<u>Strength concrete - class 15MPa/19mm Mass concrete to (provisional):</u>				
		i) All structures at reservoir	m <sup>3</sup>			
		ii) Areas too small for backfilling in soil raft to be filled with mass concrete	m <sup>3</sup>			
<b>3.2</b>	<b>SABS 1200 G</b>	<b><u>CONCRETE: Formwork</u></b>				
3.2.1	8.2.2	<u>Formwork - Smooth:</u>				
		a) <u>Vertical plane</u>				
		i) Walls	m <sup>2</sup>	410	R	-
3.2.2		b) <u>Normal Narrow widths (up to 300mm wide)</u>				
		i) Floor slabs and footings	m	81	R	-
<b>3.3</b>		<b><u>REINFORCEMENT</u></b>				
3.3.1	8.3.1	Reinforcement, high tensile steel	t	21.00	R	-
3.3.2	8.3.1	Reinforcement, mild steel	t	5.00	R	-
3.3.3	8.3.2	High tensile welded mesh - Ref No 395 (Provisional)	m <sup>2</sup>	20.00	R	-
<b>3.4</b>		<b><u>Unformed surface finish</u></b>				
	8.4.4	a) Wood floated finish	m <sup>2</sup>	294	R	-
		b) Steel floated finish	m <sup>2</sup>			Rate Only
<b>3.5</b>	<b>SABS 1200 HA &amp; PSHA</b>	<b><u>STRUCTURAL STEELWORK (Sundry Items)</u></b>				
3.5.1		<u>Flat bars</u>				
		a) 100 x 8mm thick flat bar	m	266	R	-
<b>TOTAL SCHEDULE 3 CARRIED FORWARD TO SUMMARY</b>						<b>R 0.00</b>

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PROJECT NUMBER: IN/02/2023

IN/02/2023

SCHEDULE 4 : RESERVOIR INTERCONNECTING PIPEWORK

ITEM NO.	PAYM. REF.	DESCRIPTION	UNIT	TENDER	RATE	AMOUNT
<b>SABS</b>						
<b>4.1</b>	<b>1200DB</b>	<b><u>EXCAVATION (PIPE LINE)</u></b>				
4.1.1	8.3.2a	<u>Excavate in all materials for trenches for 250 DN pipes and smaller. Rates to include backfill, compact and dispose of surplus material</u>				
		a) Up to 1,0 m deep	m	127		
4.1.2	8.3.2b	<u>Extra-over item 2.2 and 2.3 for:</u>				
		a) Intermediate excavation (Provisional)	m <sup>3</sup>	0		Rate only
		a) Hard rock excavation (Provisional)	m <sup>3</sup>	0		Rate only
4.1.3	8.3.2c	Excavate and dispose of unsuitable material from trench bottom (provisional)	m <sup>3</sup>	23		
4.1.4	8.3.3	<u>Excavation ancillaries:</u>				
4.1.4.1	8.3.3.1	Make up deficiency in backfill material (Provisional)				
		a) By importation from designated borrow pit identified by the Contractor	m <sup>3</sup>	11		
4.1.5	8.3.3.4	<u>Overhaul:</u>				
		a) Limited overhaul (0,5 to 1,0km) (Provisional)	m <sup>3</sup>	19		
		a) Long overhaul (Provisional)	m <sup>3</sup> /km	114		
<b>SABS</b>						
<b>4.2</b>	<b>1200LB</b>	<b><u>PIPE BEDDING</u></b>				
4.2.1		<u>Selected granular material for bedding cradle from:</u>				
	8.2.1	a) Trench excavation	m <sup>3</sup>	114		
4.2.2		<u>Provision of selected fill material from:</u>				
	8.2.1	a) Trench excavation	m <sup>3</sup>	34		
<b>SABS</b>						
<b>4.3</b>	<b>1200 L</b>	<b><u>MEDIUM PRESSURE PIPELINES</u></b>				
<b><u>uPVC PRESSURE PIPE</u></b>						
4.3.1	8.2.1	<u>Supply, lay, bed, test and sterilize the following uPVC pressure pipes (complete with coupling):</u>				
		a) 250 mm uPVC Class 12	m	55		
		b) 160 mm uPVC Class 12	m	35		
		b) 110 mm uPVC Class 12	m	37		
<b><u>uPVC Specials (class 16)</u></b>						
4.3.2	8.2.2	Extra over Item 3.1.1 supply, lay and bed specials, including cutting and machining of pipes:				
<b><u>Bends</u></b>						
4.3.2.1		a) 250 mm dia x 90 degrees	no	2		
		b) 250mm dia x 22.5 degrees	no	1		
		c) 160 mm dia x 90 degrees	no	1		
		d) 160 mm dia x 22.5 degrees	no	1		
<b>TOTAL CARRIED FORWARD</b>						

UNIVEN CAMPUS WATER UPGRADE PHASE 2 (including intalation of tanks per student residence)

PROJECT NUMBER: IN/03/2023

IN/02/2023

SCHEDULE 3 : RESERVOIR INTERCONNECTING PIPEWORK

ITEM NO.	PAYM. REF.	DESCRIPTION	UNIT	TENDER	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						<b>R 0.00</b>
4.3.2.2		e) 110 mm dia x 90 degrees	no	2		
		f) 110 mm dia x 22.5 degrees	no	1		
		<b><u>Equal Tee</u></b>				
		a) 250 mm dia	no	1		
		b) 160 mm dia	no	1		
		c) 110 mm dia	no	1		
4.3.3	<b>SABS</b>	<b><u>CONCRETE THRUST BLOCKS</u></b>				
4.3.3.1	1200L 8.2.11	<u>Concrete thrust block configuration</u>				
		a) Concrete thrust block up to 0.5 m <sup>3</sup>	no	6		
		b) Concrete thrust block up to 1.0 m <sup>3</sup>	no	2		
4.3.4	<b>SABS</b>	<b><u>STEEL PIPES, SPECIALS AND FITTINGS</u></b>				
4.3.4.1	1200 L 8.2.5	Supply, fabricate, deliver to site and install the following pipes and specials Refer also PSL 4.1: Wall thickness of steel pipe to be 4,5 mm minimum. Flanges to be drilled to SANS 1123 Table 1600/3.				
	<b>PSL 4.1</b>					
4.3.4.2		<b><u>Top Inlet pipework (Drawing L3142/C/8/003):</u></b>				
		a) Pipe item number 1.1 (150mm Ø MS Flanged Pipe=500mm Long)	no	1		
		b) Pipe item number 1.2 (150mm Ø MS Flanged Pipe=5000mm Long)	no	1		
		c) Pipe item number 1.3(150mmØ 90 <sup>0</sup> bend)	no	2		
		d) Pipe item number 1.4 (160 x 150mm Ø Reducing Flange adaptor)	no	1		
		e) Pipe item number 1.5(150mm Ø MS Flanged Pipe=1320mm Long)	no	1		
4.3.4.4		<b><u>Scour Outlet pipework (Drawing L3142/C/8/003):</u></b>				
		a) Pipe item number 2.1(100mmØ 90 <sup>0</sup> bend)	no	2		
		b) Pipe item number 2.2 (100mm Ø MS Flanged Pipe=500mm Long)	no	1		
		c) Pipe item number 2.3 (100mm Ø MS Flanged Pipe=600mm long)	no	1		
		d) Pipe item number 2.4 (100mmØ Long Radius bend)	no	1		
		e) Pipe item number 2. 5 (100mm Ø standard Flanged adaptor)	no	1		
		f) Pipe item number SC 6 (100mmØ Flanged RSV Gate Valve or similar approved)	no	1		
4.3.4.2		<b><u>Bottom Inlet pipework (Drawing L3142/C/8/003):</u></b>				
		a) Pipe item number 3.1 (150mm Ø Flanged RSV Gate Valve or similar approved)	no	1		
<b>TOTAL CARRIED FORWARD</b>						

UNIVEN CAMPUS WATER UPGRADE PHASE 2 (including intalation of tanks per student residence)

PROJECT NUMBER: IN/02/2023

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SCHEDULE 3 : RESERVOIR INTERCONNECTING PIPEWORK

ITEM NO.	PAYM. REF.	DESCRIPTION	UNIT	TENDER	RATE	AMOUNT
<b>TOTAL BROUGHT FORWARD</b>						
4.3.4.5		Pipe item number 3.2 (150mm Ø MS Flanged , Length to be determined on site)	no	1		
		c) Pipe item number 3.3 (150mm Ø standard Check Valve)	no	1		
		<b><u>Outlet pipework (Drawing L3142/C/8/003):</u></b>				
		a) Pipe item number 4.1 (250mmØ 90 <sup>o</sup> bend)	no	2		
		b) Pipe item number 4.2 (250mm Ø MS Flanged Pipe=1000mm Long)	no	1		
		c) Pipe item number 4.3 (250mm Ø MS Flanged Pipe=800mm long)	no	1		
		d) Pipe item number 4.4 (250mmØ Flanged RSV Gate Valve or similar approved)	no	1		
		e) Pipe item number 4.5 (250mm Ø standard Flanged adaptor)	no	1		
		f) Pipe item number 4.6 (250mm Ø MS Y-Junction piece)	no	1		
		g) Pipe item number 4.7 (250mm Ø long radius bend)	no	1		
4.3.4.3		<b><u>Overflow pipework (Drawing L3142/C/8/003):</u></b>				
		a) Pipe item number 5.1 (100mmØ 90 <sup>o</sup> bend)	no	2		
		b) Pipe item number 5.2 (100mm Ø MS Flanged Pipe=650mm Long)	no	1		
		c) Pipe item number 5.3 (100mm Ø MS Flanged Pipe=6100mm Long)	no	1		
		d) Pipe item number 5.4(100mm Ø MS Flanged Pipe=550mm Long)	no	1		
<b>TOTAL SCHEDULE 4 CARRIED FORWARD TO SUMMARY</b>						



**COMPLETION OF UNIVEN CAMPUS WATER UPGRADE PHASE 2 (including intalation of tanks per student residence)**

**PROJECT NUMBER: IN/02/2023**

**IN/02/2023**

**SCHEDULE 5 : STRUCTURAL STEEL TANK**

ITEM NO.	PAYM. REF.	DESCRIPTION	UNIT	TENDER	RATE	AMOUNT
5		<b>RESERVOIR</b>				
5.1	8.2.5	<b>SECTION STEEL TANK</b>				
5.1.1		Supply, design and erect new 1.5Ml sectional steel tank on concrete standcomplete with inlet, outlet, overflow and scour connections, access ladder (outside and inside) with protection, access cover, air vent and level indicator, complete as detailed. <b>Installed by the sub contractor.Drawing L/3142/C/8/001</b>	Prov Sum	1.00	2,208,230.00	R 2,208,230.00
5.1.2		Contractors mark up on item 5.1.1 up to 1.5.3, for making necessary payments and coordinating with nominated sub-contractor for the supply and installation of the tanks	%	2,208,230.00		
5.2	<b>SABS 1200 G</b>	<b>MISCELLANEOUS</b>				
5.2.1	<b>PSHA 2.1</b>	<b><u>Watertight testing of structures</u></b>				
		i) Structural Steel tank	Sum	1.00		
5.2.2	<b>PSHA 2.2</b>	<b><u>Disinfection of reservoir</u></b>				
		i) Disinfection and cleaning of Structural steel Tank	Sum	1.00		
<b>TOTAL CARRIED FORWARD TO SUMMARY</b>						

**UNIVERSITY OF VENDA**

**COMPLETION OF UNIVEN CAMPUS WATER UPGRADE PHASE 2 (including intalation of tanks per student residence)**

**PROJECT NUMBER: IN/022/2020**

**SUMMARY OF SCHEDULE OF QUANTITIES**

<b>SCHEDULE</b>	<b>DESCRIPTION</b>	<b>IN/02/2023</b>
SCHEDULE 1	PRELIMINARY AND GENERAL	R -
SCHEDULE 2	RESERVOIR EARTHWORKS	R -
SCHEDULE 3	CONCRETE WORKS	R -
SCHEDULE 4	RESERVOIR INTERCONNECTING PIPEWORK	R -
SCHEDULE 5	STEEL TANK	R -
<b>SUB TOTAL A</b>		R -
CONTINGENCIES ( 8.0% OF SUBTOTAL A) The sum provided here is under the sole control of the Engineer and may be deducted in whole or in part.		R -
<b>SUB TOTAL B</b>		R -
VALUE-ADDED TAX ( 15% ON SUBTOTAL B)		R -
<b>TOTAL TENDER AMOUNT ( C)</b>		R -