



**IN/28/2022**

**APPOINTMENT OF PANEL OF THREE SERVICES PROVIDERS TO UNDERTAKE PLUMBING AND DRAINAGE AT UNIVERSITY OF VENDA VARIOUS BUILDINGS FOR THE PERIOD OF THREE (3) YEARS.**

**PROCUREMENT DOCUMENT**

(Based on NEC3 Engineering and Construction Short Contract)

Date of Issue: 01 September 2022

**Issued by:**

Director Facilities Management

**University of the Venda, Thohoyandou**

**Name of tenderer:** .....

**Telephone Number:** .....

**Email Address:** .....

**Fax Number:** .....

**Cellphone Number:** .....

**Closing date: AS PER TENDER INVITATION**

**BILLS OF QUANTITIES**

**SECTION 1:**  
**PRELIMINARIES & GENERAL**

**N1078 - PLUMB  
PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

Item No	Quantity	Rate	Amount
<b><u>SECTION NO. 1</u></b>			
<b><u>BILL NO. 1</u></b>			
<b><u>PRELIMINARIES</u></b>			
<b><u>PRELIMINARIES</u></b>			
i) The NEC3 Engineering and Construction Short Contract (Second edition of June 2005 with amendments of April 2013) in conjunction with the Contract Data is taken to be incorporated herein			
ii) The tenderer is deemed to have taken cognizance of the above mentioned documents for the full intent and meaning of each clause. These clauses are referred to by clause number and heading only			
iii) The amount of Preliminaries to be included in each monthly payment certificate shall be assessed as an amount prorated to the value of the work duly executed in the same ratio as the preliminaries bears to the total of prices excluding any contingency sum and the amount for Preliminaries			
iv) Where the initial contract period is extended, the monthly charge shall be calculated on the basis as set out in (iii) but taking into account the revised period for completing the works			
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Section No. 1 PRELIMINARIES Bill No. 1 PRELIMINARIES AND GENERAL			

**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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v) The amount or the items of the Preliminaries are adjusted to take account of the theoretical financial effect which changes in time or value (or both) have on this section. Such adjustments shall be based on adjustments in the following categories as recorded in the Bills of Quantities:

- a) an amount which is not varied, namely fixed
- b) an amount which is varied in proportion to the contract value, namely value related; and
- c) an amount which is varied in proportional to the construction period as compared to the initial construction period excluding revisions to the construction period for which the contractor is not entitled to adjustment in terms of the contract, namely Time Related

Where no provision is made in Bills of Quantities to indicate which of the three categories in (v) apply or where no selection is made, the adjustments shall be based on the following breakdown:

- a) 10 percent is Fixed
- b) 15 percent is Value related
- c) 75 percent is Time Related

The adjustments of the Preliminaries shall apply notwithstanding the actual employment of resources in the execution of the works. The contract value used for the adjustment of the Preliminaries shall exclude any contingency sum and the amount for Preliminaries

**CONDITIONS OF CONTRACT**

**GENERAL**

**Action (clause 10)**

Actions (clause 10.1)

Fixed Related

Item

Value Related

Item

**Carried to Collection**

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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

	Time Related	Item		
<b><u>Identified and defined terms (clause 11)</u></b>				
Condition of contract (clause 11.1)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Defined terms (clause 11.2)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
<b><u>Law (clause 12)</u></b>				
Law (clause 12.1 - 12.4)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
<b><u>Communications (clause 13)</u></b>				
Communications (clause 13.1 - 13.2)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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**The Employer's authority and delegation (clause 14)**

The Employer's authority and delegation (clause 14.1 - 14.4)

Fixed Related

Item

Value Related

Item

Time Related

Item

**Access to the site and provision of services (clause 15)**

Access to the site and provision of services (clause 15.1 - 15.2)

Fixed Related

Item

Value Related

Item

Time Related

Item

**Early Warning (clause 16)**

Early Warning (clause 16.1 - 16.6)

Fixed Related

Item

Value Related

Item

Time Related

Item

**THE CONTRACTOR'S MAIN  
RESPONSIBILITIES**

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**Providing the Works (clause 20)**

Providing the Works (clause 20.1 - 20.2)

Fixed Related

Item

Value Related

Item

Time Related

Item

**Subcontracting and people (clause 21)**

Subcontracting and people (clause 21.1 - 21.3)

Fixed Related

Item

Value Related

Item

Time Related

Item

**Access for the Employer (clause 22)**

Access for the Employer (clause 22.1)

Fixed Related

Item

Value Related

Item

Time Related

Item

**TIME**

**Starting and Completion (clause 30)**

Starting date (clause 30.1)

Fixed Related

Item

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**Searching for and notifying Defects (clause 40)**

Searching for and notifying Defects (clause 40.1 - 40.2)

Fixed Related

Item

Value Related

Item

Time Related

Item

**Correcting Defects (Clause 41)**

Correcting Defects (Clause 41.1 - 41.4)

Fixed Related

Item

Value Related

Item

Time Related

Item

**Uncorrected Defects (clause 42)**

Uncorrected Defects (clause 42.1)

Fixed Related

Item

Value Related

Item

Time Related

Item

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**Repairs (Clause 43)**

Repairs (Clause 43.1)

Fixed Related	Item
Value Related	Item
Time Related	Item

**PAYMENT**

**Assessing the amount due (clause 50)**

Assessing the amount due (clause 50.1 - 50.7)

Fixed Related	Item
Value Related	Item
Time Related	Item

**Payment (clause 51)**

Payment (clause 51.1 - 51.2)

Fixed Related	Item
Value Related	Item
Time Related	Item

**COMPENSATION EVENTS**

**Carried to Collection**

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**Compensation events (clause 60)**

Compensation events (clause 60.1 - 60.2)

Fixed Related                      Item

Value Related                      Item

Time Related                      Item

**Notifying compensation events (clause 61)**

Notifying compensation events (clause 61.1 - 61.5)

Fixed Related                      Item

Value Related                      Item

Time Related                      Item

**Quotation for compensation events (clause 62)**

Quotation for compensation events (clause 62.1 - 62.6)

Fixed Related                      Item

Value Related                      Item

Time Related                      Item

**Carried to Collection**

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**Assessing compensation events (clause 63)**

Assessing compensation events (clause 63.1 - 63.10)

Fixed Related

Item

Value Related

Item

Time Related

Item

**TITLE**

**Objects and materials within the site (clause 70)**

Objects and materials within the site (clause 70.1 - 70.2)

Fixed Related

Item

Value Related

Item

Time Related

Item

**INDEMNITY, INSURANCE AND LIABILITY**

**Limitation of liability (clause 80)**

Limitation of liability (clause 80.1)

Fixed Related

Item

**Carried to Collection**

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	Value Related	Item		
	Time Related	Item		
<b><u>Indemnities (clause 81)</u></b>				
Indemnities (clause 81.1- 81.3)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
<b><u>Insurance cover (clause 82)</u></b>				
Insurance cover (clause 82.1)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
<b><u>TERMINATION AND DISPUTE RESOLUTION</u></b>				
<b><u>Termination and reasons for termination (clause 90)</u></b>				
Termination and reasons for termination (clause 90.1 - 90.5)				
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	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
<b><u>Procedures on termination (clause 91)</u></b>				
Procedures on termination (clause 91.1)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
<b><u>Payment on termination (clause 92)</u></b>				
Procedures on termination (clause 92.1 - 92.3)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
<b><u>Dispute Resolution (clause 93)</u></b>				
Dispute Resolution (clause 93.1)				
	Fixed Related	Item		
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	Value Related	Item	
	Time Related	Item	
The Adjudicator (clause 93.2)			
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
The Adjudication (clause 93.3)			
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
Review by the Tribunal (clause 93.4)			
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
<b><u>ADDITIONAL CONDITIONS OF CONTRACT CLAUSES</u></b>			
Tax invoices (clause Z1)			
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
Communications (clause Z2)			
	Fixed Related	Item	
	Value Related	Item	
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	Time Related	Item		
Notification of a compensation event (clause Z3)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Acts or omissions by mandatorys (clause Z4)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Insurance claims (clause Z5)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Insurance cover taken out by the contractor (clause Z6)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Transfer of rights (clause Z7)				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Retention (clause Z8)				
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	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
Price-Adjustment for inflation - Based on date of Tender Submission (clause Z9)			
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
<b><u>Priced contract with bill of quantities - This contract is based on priced contract with Bills of Quantities (clause Z10)</u></b>			
Priced contract with bill of quantities - This contract is based on priced contract with Bills of Quantities (clause Z10.1 - Z10.5)			
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
Damages to existing services (clause Z11)			
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
Performance bond (clause Z12)			
	Fixed Related	Item	
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	Value Related	Item	
	Time Related	Item	
<b><u>CONTRACT DATA</u></b>			
Contractual Requirements as stated elsewhere in the document			
<b><u>ESTABLISHMENT OF FACILITIES ON THE SITE</u></b>			
<b><u>Facilities for Project Manager</u></b>			
Furnished offices (In no 1)			
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
Name boards (In no 1)			
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
Offices and storage sheds			
	Fixed Related	Item	
	Value Related	Item	
	Time Related	Item	
<b><u>Facilities for the contractor</u></b>			
Living accommodation			
	Fixed Related	Item	
	Value Related	Item	
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	Time Related	Item		
Ablution and latrine facilities				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Tools and Equipments				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Water supplies, electric power, communication, dealing with water and access				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Other fixed charge obligations				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
Removal of site establishment				
	Fixed Related	Item		
	Value Related	Item		
	Time Related	Item		
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AT THE UNIVERSITY OF VENDA**

**Occupational Health and safety**

Allow for compliance to Occupational Health and safety specifications including, OHS testing of personnel before commencement and after completion of project, safety equipment and safety officer.

Fixed Related

Item

Value Related

Item

Time Related

Item

Allow for compliance with all COVID 19 Regulations and Requirements

Fixed Related

Item

Value Related

Item

Time Related

Item

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## **SECTION 2: ALTERATIONS**

**N1078 - PLUMB  
PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

Item No		Quantity	Rate	Amount
	<p><b><u>SECTION NO.2</u></b></p> <p><b><u>BILL NO. 1</u></b></p> <p><b><u>ALTERATIONS</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>For Preambles refer to "Department of Public Works: Specification of material and methods to be used - PW371"</p> <p><b><u>REMOVAL OF EXISTING WORK:</u></b></p> <p><u>Note:</u></p> <p>NATURE OF WORK Tenderers are advised to visit the site and to satisfy themselves as to the nature and extent of the work to be done and provide in their tenders for any items not specifically mentioned which they may deem necessary for the proper completion of the work. Tenderers are advised that the adjacent existing buildings will be in occupation during the progress of the work and due allowance must be made for the work being carried out at such times and in such manner as will least interfere with the routine of the occupants and as may be directed by the Principal Agents</p> <p>DIMENSIONS The Contractor is advised to take all dimensions affecting the existing buildings on the site, as he will be held solely responsible for all new work being of the correct sizes.</p> <p>CLEANING OF SITE: The Contractor should allow for removing of rubble from site on daily basis, failing which the client might stop the construction until the site has been cleaned. None of the old stock bricks from the pulling down are to be re-used for any new work.</p>			
	<b>Carried to Collection</b>			R
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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

PIPES, ETC. Special care is to be taken not to interfere unnecessarily with any water supply pipes or other piping that may be met with and found necessary to disconnect or cut, are to be effectively stopped off and any new connections that may be necessary are to be made with proper fittings and to the satisfaction of the Principal Agents to whom due notice must be given of any alterations to the existing services.

PROTECTION In taking down and removing existing work the utmost care is to be observed to avoid any structural or other damage to the remaining portions of the buildings. The Contractor must also protect all work not removed such as walls, floors, doors, windows or other joinery, loose and fixed fittings and electrical appliances, etc., from damage during the progress of the work and provide all necessary materials for so doing. The Contractor will be held solely responsible for any damage to persons or property and for the safety of the structure throughout the whole of this Contract and must make good at his own expense any damage that may occur.

CREDITS, ETC. Old materials from the pulling down (except such as are described to be re-used or handed over) are to become the property of the Contractor who shall allow credit as provided for in the summary at the end of these Bills of Quantities. Old materials for re-use are to be carefully removed, stored and protected from injury including making good any damaged or defective parts as required before re fixing. Old materials described to be handed over are to be carefully removed and neatly stacked on site where directed. The remainder of the old materials and all rubbish to be immediately carted away and the site left clean and unencumbered. None of the old stock bricks from the pulling down are to be re-used for any new work.

MATERIALS, ETC. The materials to be used and work to be done to be similar in all respects to that described for new work insofar as they concur. All work in making good is to be properly jointed to the existing.

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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

Unless otherwise stated, all materials from the alterations and demolitions will belong to the builder.

The builder should allow for the removal of all debris from site

Taking out and removing piping, sanitary fittings, etc including disconnecting piping from fittings and making good floor and wall finishes (making good tiling and paintwork elsewhere)

1	9kg DCP fire extinguisher	No	1
2	4,5kg DCP fire extinguisher	m	1
3	15mm Copper piping including fittings and brackets	m	15
4	20mm Copper piping including fittings and brackets	m	20
5	28mm Copper piping including fittings and brackets	m	25
6	50mm PVC pipes including fittings and brackets	m	30
7	110mm PVC pipes including fittings and brackets	m	25
8	80mm Galvanised steel piping including fittings and brackets	m	12
9	110mm Cast iron piping including fittings and brackets	m	35
10	Cobra watertech Tap	No	2
11	Vitreous china basin	No	11
12	Fire horse reel complete	No	2
13	Vitreous china WC pan with cistern	No	11
14	Vitreous china urinal	No	6
15	Stainless steel single sink	No	4

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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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**SERVICE EXISTING SURFACES**

16	Servicing of 4,5kg DCP fire extinguisher (Servicing price by specialists = R92-00/each Excl. Vat)	No	6
17	Servicing of 9kg DCP fire extinguisher (Servicing price by specialists = R92-00/each Excl. Vat)	No	10

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## **SECTION 3: PLUMBING & DRAINAGE**

PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA

Item No		Quantity	Rate	Amount
<b><u>SECTION NO. 3</u></b>				
<b><u>BILL NO. 1</u></b>				
<b><u>SANITARY FITTINGS ETC</u></b>				
<b><u>PREAMBLES</u></b>				
For Preambles refer to "Department of Public Works: Specification of material and methods to be used - PW371"				
<b><u>SANITARY FITTINGS</u></b>				
<b><u>"Vaal"</u></b>				
1	Vaal Sanitaryware Hibiscus Elite vitreous china close coupled suite colour White (Code: 772401WH), overall size 643 x 355 x 830mm high with Hibiscus Jazz thermoset seat (Code: 8531Z000), comprising 90° outlet open rim pan (Code: 772300WH) with matching 6/3 litre top dual flush cistern (Code: 7373DT) including lid and fitments (Material price = R1 259-00/no Vat excl. supplied)	No	10	
2	Vaal Sanitaryware Protea Paraplegic vitreous china floor mounted paraplegic washdown suite colour White (Code: 750246WH), comprising 90° outlet pan (Code: 750202WH) and matching 9 litre cistern, including lid, fitments and purpose-made chromium plated side flush lever (Code: 7100LLWH) (Material price = R4 299-00/no Vat excl. supplied).	No	12	
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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

3	Vaal Sanitaryware Hibiscus vitreous china wall hung basin colour White (Code: 702303WH) with Classic floor mounted pedestal (Code: 715000WH), overall size 510 x 405mm with one taphole including integrated overflow and chainstay hole(basin waste text)(basin waste code prefix)(basin waste code)(basin waste code suffix), bolted to wall with 2No.10mm bolts (Code: 8448Z000) and sealed with silicone sealant where basin meets wall (Material price = R694-99/no Vat excl. supplied).	No	14	
4	Vaal Sanitaryware Cameo ceramic fireclay drop-in vanity basin colour White (Code: 702803WH), overall size 595 x 455 x 205mm with one taphole including chainstay hole and flexible overflow tube attachment (Code: 8784Z000)(basin waste text)(basin waste code prefix)(basin waste code)(basin waste code suffix), fitted into opening in vanity top and sealed with silicone sealant where basin rim meets vanity top (Material price = R254-00/no Vat excl. supplied).	No	8	
5	Vaal Sanitaryware 600 x 385 x 380mm Lavatera top inlet white vitreous china wall mounted urinal (Code: 705426WH) including 38mm chromium plated domical grating and chromium plated top inlet spreader (Code: 8542Z000), flush valve (by others - Recommended: Cobra FJ6000), fixed on and including two hanger brackets (Code: 8127Z000) (Material price = R1 799-00/no Vat excl. supplied).	No	12	
<u>"Franke"</u>				
6	Franke Neptune Model NEX621 Grade 304 18/10 polished stainless steel double end bowl inset sink with left hand drainer (Code: 310073), overall size 1160 x 510mm with two 360 x 420 x 200mm deep bowls, fitted onto cupboard (elsewhere specified) including PVC traps (traps elsewhere specified) with 90mm waste fitting with overflow (Material price = R6 239-06/no Vat excl. supplied).	No	2	
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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

7	Franke 0,9mm Grade 304 18/10 stainless steel LDS drip sink (Code: 2630026), size 600 x 500 x 258mm with pressed drip sink bowl, 40mm waste, hinged bucket grid fitted over drip sink, fixed to wall on pair of stainless steel Eagle brackets and bolted to wall with 4 No. anchor bolts 600mm from finished floor level (Material price = R6 529-00/no Vat excl. supplied).	No	2		
<b><u>WASTE UNIONS ETC</u></b>					
<u>"Cobra Watertech"</u>					
8	"Cobra Ref. 316" sink waste with 70mm diameter flange, 45mm long shank, backnut, plug and chain (Material price = R178-00/no Vat excl. supplied).	No	6		
9	Cobra Watertech 32mm chrome plated anti-theft plug with spindle (Code: 309-32) (Material price = R174-98/no Vat excl. supplied).	No	22		
10	Cobra Watertech 32mm chrome plated slotted basin waste union (no chain or stay) (Code: 303) (Material price = R214-99/no Vat excl. supplied).	No	22		
<b><u>TRAPS ETC</u></b>					
<u>"Marley"</u>					
11	40 x 300mm Sink combination for double bowl with deepseal "P" trap (Material price = R62-99/no Vat excl. supplied).	No	2		
<u>"Cobra Watertech"</u>					
12	Cobra Watertech 40mm chrome plated bottle trap (Code: 365-50) with 75mm deep re-seal, adjustable telescopic pipe and 50mm outlet (Material price = R404-98/no Vat excl. supplied).	No	36		
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Section No. 3 PLUMBING & DRAINAGE Bill No. 1 SANITARY FITTINGS					



**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

Section No. 3

PLUMBING & DRAINAGE

Bill No. 1

SANITARY FITTINGS

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PLUMBING & DRAINAGE  
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SANITARY FITTINGS

**N1078 - PLUMB  
PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

Item No	<b><u>SECTION NO. 3</u></b>	Quantity	Rate	Amount
	<b><u>BILL NO. 2</u></b>			
	<b><u>SANITARY PLUMBING</u></b>			
	<b><u>PREAMBLES</u></b>			
	For Preambles refer to "Department of Public Works: Specification of material and methods to be used - PW371"			
	<b><u>SANITARY PLUMBING</u></b>			
	<u>uPVC, soil and vent pipes</u>			
1	50mm Pipes (Material price = R29-83/m Vat excl. supplied).	m	19	
2	110mm Pipes (Material price = R88-33/m Vat excl. supplied).	m	15	
3	50mm Pipes chased into brickwork (Material price = R29-83/m Vat excl. supplied).	m	112	
4	110mm Pipes chased into brickwork (Material price = R88-33/m Vat excl. supplied).	m	32	
5	50mm Pipes laid in and including trenches not exceeding 1m deep below surface beds (Material price for pipe = R29-83/m Vat excl. supplied).	m	22	
6	110mm Pipes laid in and including trenches not exceeding 1m deep below surface beds (Material price for pipe = R88-33/m Vat excl. supplied)	m	24	
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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

<u>Extra over uPVC, soil and vent pipes for fittings</u>					
7	50mm BSP adaptor (Material price = R19-13/no Vat excl. supplied)	No	34		
8	50mm Reducer (Material price = R19-13/no Vat excl. supplied)	No	8		
9	50mm Bend (Material price = R8-69/no Vat excl. supplied)	No	3		
10	110mm Bend (Material price = R58-25/no Vat excl. supplied)	No	1		
11	110mm P-trap (Material price = R19-13/no Vat excl. supplied)	No	2		
12	110mm Pan connector (Material price = R86-95/no Vat excl. supplied)	No	22		
13	50mm Junction (Material price = R18-25/no Vat excl. supplied)	No	2		
14	110mm Junction (Material price = R121-73/no Vat excl. supplied)	No	1		
15	50mm Access bend (Material price = R17-35/no Vat excl. supplied)	No	2		
16	110 x 50 x 110mm Reducing junction (Material price = R139-12/no Vat excl. supplied)	No	2		
17	110mm Access bend (Material price = R73-90/no Vat excl. supplied)	No	1		
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Section No. 3 PLUMBING & DRAINAGE Bill No. 2 SANITARY PLUMBING					

**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

18	50mm Access junction (Material price = R17-39/no Vat excl. supplied	No	2		
19	110mm Access junction (Material price = R208-69/no Vat excl. supplied	No	3		
20	110mm Access bend with anti-syphon horn (Material price = R108-69/no Vat excl. supplied	No	2		
21	110 x 110 x 50mm Access reducing junction (Material price = R139-12/no Vat excl. supplied	No	2		
22	110 x 50 x 110mm Access reducing junction (Material price = R139-12/no Vat excl. supplied	No	2		
23	110mm Eccentric reducer (Material price = R143-47/no Vat excl. supplied	No	3		
24	110 x 50 x 50mm Double reducing access junction (Material price = R178-25/no Vat excl. supplied	No	1		
25	110 x 50 x 50mm Double reducing junction (Material price = R113-03/no Vat excl. supplied	No	2		
26	110mm Access double junction (Material price = R581-74/no Vat excl. supplied	No	1		
27	110mm Air vent cowl (Material price = R40-86/no Vat excl. supplied	No	1		
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**N1078 - PLUMB  
PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

28	110mm GI vent valve (Material price = R113-03/no Vat excl. supplied)	No	3		
	<u>Floor drains, etc.</u>				
29	Rofo Engineering grade AISI 304 stainless steel RO 200 NW 100 floor drain with round top flange and round cover plate with holes (Code: RO200HNW100RND - holes), suitable for tiled floor covering, overall size 240mm diameter x 270mm deep, with 110mm diameter horizontal waste outlet with mitred bend connected to waste pipe (Material price = R2 017-76/no Vat excl. supplied)	No	2		
	<b><u>Sundries</u></b>				
30	Unreinforced concrete encasing to 50mm horizontal pipe	m	8		
31	Unreinforced concrete encasing to 110mm horizontal pipe	m	8		
	<b>Carried to Collection</b>				R
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**N1078 - PLUMB  
PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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PLUMBING & DRAINAGE

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PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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**SECTION NO. 3**

**BILL NO. 3**

**WATER SUPPLIES**

**PREAMBLES**

For Preambles refer to "Department of Public Works:  
Specification of material and methods to be used -  
PW371"

**SUPPLEMENTARY PREAMBLES**

**"Polycop" polypropylene pipes:**

Polypropylene pipes 54mm diameter and under shall be  
seamless copper coloured class 16 pipes jointed with  
"Fast-fuse" heat welded thermoplastic or brass  
compression fittings as designed for use with copper  
pipes as stated

Pipes shall be firmly fixed to walls etc with coloured  
nylon snap-in pipe clips with provision for  
accommodating thermal movement and jointed and  
fixed strictly in accordance with the manufacturer's  
instructions

All pipe diameters are nominal external

**"Polylink" polypropylene pipes:**

Polypropylene pipes 63mm diameter and over shall be  
class 12 pipes jointed with cast iron "Supraclamp"  
running joints

Fusion welded bends, once or twice mitred as  
necessary, and tees shall be factory manufactured

Fusion welded bends and tees shall include jointing to  
pipes with PVC rubber ring double Z joint couplers

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WATER SUPPLIES

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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

Branch tees shall include flanged and bolted joints to "Polycop" branch pipes in addition and for brass compression male iron to copper straight couplers

Reducers shall include jointing to pipes with PVC rubber ring double Z joint couplers and reducers shall be of sufficient overall length to accommodate same

All pipes shall be jointed and fixed strictly in accordance with the manufacturer's instructions

All pipe diameters are nominal external

**WATER SUPPLIES**

The following in trenches for pipes (pipes e/m)

1	Excavation not exceeding 2m deep	m3	48
2	Extra over trench and hole excavations in earth for excavation in soft rock	m3	2
3	Extra over trench and hole excavations in earth for excavation in hard rock	m3	5
4	Risk of collapse to sides of trench and hole excavations not exceeding 1,5m deep	m2	136
5	Backfilling to trenches, holes, with materials obtained from excavations compacted in 150mm layers to 90% Mod AASHTO density	m3	12
6	Backfilling to trenches, holes, with selected materials supplied by the contractor compacted in 150mm layers to 90% Mod AASHTO density to form fill blanket (Material price = R85-00/m3 Vat excl. supplied)	m3	14

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**N1078 - PLUMB**  
**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS**  
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7	Backfilling to trenches, holes, with selected granular supplied by the contractor materials compacted in 150mm layers to 90% Mod AASHTO density to form bedding cradle (Material price = R110-00/m3 Vat excl. supplied)	m3	21		
8	Extra over all excavations for carting away surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	36		
9	Keeping excavations free of water		Item		
	<u>Class 12 black HDPE high density polyethylene pipes with and including "Plasson" compression fittings</u>				
10	20mm Pipes laid in trenches not exceeding 1m deep (trenches e/m) (Material price for pipe = R8-00/m Vat excl. supplied).	m	13		
11	32mm Pipes laid in trenches not exceeding 1m deep (trenches e/m) (Material price for pipe = R12-00/m Vat excl. supplied).	m	13		
12	110mm Pipes laid in trenches not exceeding 1m deep (trenches e/m) (Material price for pipe = R150-00/m Vat excl. supplied).	m	21		
	<u>Extra over class 12 HDPE pressure pipes for fittings with solvent welded joints</u>				
13	32mm Bend (Material price = R35-00/no Vat excl. supplied).	No	2		
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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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14	32mm Elbow (Material price = R30-00/no Vat excl. supplied).	No	2		
15	32mm Tee (Material price = R50-00/no Vat excl. supplied).	No	2		
16	32mm Junction (Material price = R50-00/no Vat excl. supplied).	No	2		
17	110mm Flange adaptors (Material price = R117-39/no Vat excl. supplied).	No	1		
18	110mm Bend (Material price = R57-38/no Vat excl. supplied).	No	1		
19	110mm Elbow (Material price = R57-38/no Vat excl. supplied).	No	1		
20	110mm Tee (Material price = R121-73/no Vat excl. supplied).	No	1		
21	110mm Junction (Material price = R121-73/no Vat excl. supplied).	No	1		
22	110 x 32 x 110mm Reducing junction (Material price = R130-00/no Vat excl. supplied).	No	2		
23	110 x 50mm Reducer (Material price = R120-00/no Vat excl. supplied).	No	1		
24	110 x 32mm Reducer (Material price = R110-00/no Vat excl. supplied).	No	1		
25	110 x 32 x 110mm Reducing junction (Material price = R125-00/no Vat excl. supplied).	No	2		
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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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<u>Galvanised steel pipes</u>					
26	15mm Pipes (Material price = R70-00/m Vat excl. supplied).	m	2		
<u>Extra over galvanised steel pipes for steel fittings</u>					
27	15mm Fittings (Material price = R15-00/no Vat excl. supplied).	No	19		
<u>Class 0 copper pipes with capillary couplings</u>					
28	15mm Pipes (Material price = R65-00/m Vat excl. supplied).	m	50		
29	22mm Pipes (Material price = R110-00/m Vat excl. supplied).	m	22		
30	28mm Pipes (Material price = R125-00/m Vat excl. supplied).	m	12		
<u>Extra over class 0 copper pipes for capillary fittings</u>					
31	15mm Fittings (Material price = R5-00/no Vat excl. supplied).	No	120		
32	22mm Fittings (Material price = R12-00/no Vat excl. supplied).	No	21		
<b><u>TAPS, VALVES, ETC</u></b>					
<u>"Cobra Watertech"</u>					
33	Cobra Watertech 15mm MI x FI x 50mm long extension piece (Code: 057-15) (Material price = R113-04/no Vat excl. supplied).	No	6		
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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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34	Cobra Watertech 15mm chrome plated pillar tap (Code: 503-21B) with blue indice and elbow action lever, manufactured in accordance with SANS 226:2009 Type 2 (BS 5412) (Material price = R1 355-65/no Vat excl. supplied).	No	12		
35	Cobra Watertech 15mm BSPT stub taper threaded FI x FI cast brass heavy duty fullway gate valve with non-blowout, non rising spindle, non-asbestos gland packing, guided wedge and red pressed steel hand wheel (Code: 1001-125-15mm). (Material price = R111-30/no Vat excl. supplied).	No	2		
36	Cobra Watertech Chrome Slimline Junior Flushmaster exposed flush valve (Code: FJS6-000), installed in accordance with the manufacturer's recommendations (Material price = R3 900-00/no Vat excl. supplied).	No	12		
37	Cobra Watertech Metering Chrome pillar tap (Code: KM2-100), manufactured in accordance with SANS 1808-9, installed in accordance with the manufacturers recommendations (Material price = R1 460-00/no Vat excl. supplied).	No	10		
38	Cobra Watertech Star 15mm chrome plated sink mixer (Code: 266-041-10) with aerated swivel spout and concealed connections, manufactured in accordance with SANS 226:2009 Type 1 (BS 5412) (Material price = R1 268-67/no Vat excl. supplied).	No	2		
39	Cobra Watertech 22mm C x C cast brass heavy duty fullway gate valve with non-blowout, non rising spindle, non-asbestos gland packing, guided wedge and red pressed steel hand wheel (Code: 1002-125-20mm) (Material price = R384-35/no Vat excl. supplied).	No	2		
40	Cobra Watertech 32mm C x C cast brass heavy duty fullway gate valve with non-blowout, non rising spindle, non-asbestos gland packing, guided wedge and red pressed steel hand wheel (Code: 1002-125-32mm) (Material price = R639-13/no Vat excl. supplied).	No	2		
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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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41	Cobra Watertech 15mm angle regulating valve with 10mm bendable copper outlet tube service connection (Code: 232/350) (Material price = R108-69/no Vat excl. supplied).	No	44		
42	Cobra Watertech Star Chrome bib tap (Code: 206-15), manufactured in accordance with SANS 226 Type 2, installed in accordance with the manufacturers recommendations (Material price = R267-83/no Vat excl. supplied).	No	2		
43	Cobra Watertech 15mm rough brass demand bibtap (Code: KM2.203-15), manufactured in accordance to SANS 1808-66:2005 (Material price = R862-61/no Vat excl. supplied).	No	4		
<b><u>FIRE APPLIANCES ETC</u></b>					
<u>"Chubb"</u>					
44	"Everyway" hose reel complete with 30m plastic hose, chromium plated stopcock, shut-off nozzle and wall bracket (Material price = R3 900-00/no Vat excl. supplied).	No	2		
45	4,5kg CO2 fire extinguisher, including standard hard wood backing plugged and backing finished with one coat dark stain and two coats clear suede polyurethane varnish (Material price = R450-00/no Vat excl. supplied).	No	1		
46	9kg Dry chemical powder fire extinguisher, including standard hard wood backing plugged and backing finished with one coat dark stain and two coats clear suede polyurethane varnish (Material price = R600-00/no Vat excl. supplied).	No	1		
<b><u>WATER SUPPLIES TO FIRE APPLIANCES</u></b>					
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**N1078 - PLUMB**  
**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS**  
**AT THE UNIVERSITY OF VENDA**

<u>Class 12 black HDPE high density polyethylene pipes with and including "Plasson" compression fittings</u>				
47	25mm Pipes laid in trenches under floors (trenches e/m) (Material price for pipe = R7-79/m Vat excl. supplied).	m	2	
48	25mm Pipes laid in trenches not exceeding 1m deep (trenches e/m) (Material price for pipe = R7-79/m Vat excl. supplied).	m	4	
49	110mm Pipes laid in trenches under floors (trenches e/m) (Material price for pipe = R73-90/m Vat excl. supplied).	m	5	
50	110mm Pipes laid in trenches under floors (trenches e/m) (Material price for pipe = R73-90/m Vat excl. supplied).	m	5	
51	110mm Pipes laid in trenches not exceeding 1m deep (trenches e/m) (Material price for pipe = R73-90/m Vat excl. supplied).	m	10	
<u>Extra over class 12 uPVC pressure pipes for fittings with solvent welded joints</u>				
52	25mm Fittings (Material price = R19-99/no Vat excl. supplied).	No	2	
53	110mm Bend (Material price = R91-30/no Vat excl. supplied).	No	1	
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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

54	110 x 25 x 110mm Reducing junction (Material price = R85-50/no Vat excl. supplied).	No	1		
	<u>Galvanised steel pipes</u>				
55	25mm Pipes (Material price = R137-54/m Vat excl. supplied).	m	2		
	<u>Extra over galvanised steel pipes for steel fittings</u>				
56	25mm Fittings (Material price = R25-21/no Vat excl. supplied).	No	2		
	<b><u>AS-BUILT DRAWINGS</u></b>				
57	Allow for an updated set of as-built drawings to be handed to the architect at completion of the contract		Item		
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PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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**BILL NO. 4**

**SOIL DRAINAGE**

**PREAMBLES**

For Preambles refer to "Department of Public Works:  
Specification of material and methods to be used -  
PW371"

**SUPPLEMENTARY PREAMBLES**

**uPVC pipes and fittings:**

Soil, waste and vent pipes and fittings shall be solvent  
weld jointed

**uPVC pressure pipes and fittings:**

Pipes for water supply shall be of the class stated

Pipes of 40mm diameter and smaller shall be plain  
ended with solvent welded uPVC loose sockets and  
fittings

Pipes of 50mm diameter and greater shall have sockets  
and spigots with push in type integral rubber ring joints.  
Bends shall be uPVC and all other fittings shall be cast  
iron, all with similar push-in type joints

**Laying, backfilling, bedding, etc. of pipes**

Pipes shall be laid and bedded and trenches shall be  
carefully backfilled in accordance with manufacturers'  
instructions

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SOIL DRAINAGE

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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

Where no manufacturers' instructions exist pipes shall be laid in accordance with clauses 5.1 and 5.2 of each of the following: SABS 1200 L : Medium-pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200 DB : Earthworks (Pipe trenches) Pipes shall be bedded in accordance with clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200 LB : Bedding (Pipes). Unless otherwise described bedding of rigid pipes shall be class B bedding

**SOIL DRAINAGE**

The following in trenches for pipes (pipes e/m)

1	Excavation not exceeding 2m deep	m3	14
2	Excavation exceeding 2m deep	m3	80
3	<b><u>Extra over trench and hole excavations in earth for excavation in soft rock</u></b>	m3	1
4	Extra over trench and hole excavations in earth for excavation in hard rock	m3	1
5	Risk of collapse to sides of trench and hole excavations not exceeding 1,5m deep	m2	124
6	Risk of collapse to sides of trench and hole excavations exceeding 1,5m deep and not exceeding 3m deep	m2	64
7	Backfilling to trenches, holes, with materials obtained from excavations compacted in 150mm layers to 90% Mod AASHTO density	m3	36
8	Backfilling to trenches, holes, with selected materials obtained from excavations compacted in 150mm layers to 90% Mod AASHTO density to form fill blanket (Material price = R85-00/m3 Vat excl. supplied)	m3	30

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**N1078 - PLUMB**  
**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS**  
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9	Backfilling to trenches, holes, with selected granular supplied by the contractor materials compacted in 150mm layers to 90% Mod AASHTO density to form bedding cradle (Material price = R110-00/m3 Vat excl. supplied)	m3	28	
10	Extra over all excavations for carting away surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	58	
11	Keeping excavations free of water		Item	
<u>uPVC Underground drain pipes including couplings in the running lengths</u>				
12	110mm Pipes vertically or ramped to cleaning eyes etc (no excavation) (Material price = R31-88/m Vat excl. supplied).	m	3	
13	110mm Pipes laid in trenches not exceeding 1m deep (trenches e/m) (Material price for pipe = R31-88/m Vat excl. supplied).	m	14	
14	110mm Pipes laid in trenches exceeding 1m and not exceeding 2m deep (trenches e/m) (Material price for pipe = R31-88/m Vat excl. supplied).	m	32	
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**N1078 - PLUMB**  
**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS**  
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	<u>Extra over uPVC pipes for fittings</u>				
15	110mm Bend (Material price = R57-38/no Vat excl. supplied).	No	5		
16	110mm Junction (Material price = R121-73/no Vat excl. supplied).	No	4		
	<u>uPVC gulleys</u>				
17	110mm Gully not exceeding 750mm deep, incl of pre-cast concrete surround, excavation etc. (Material price = R250-53/no Vat excl. supplied).	No	2		
	<u>Precast concrete circular inspection chambers, with and including manhole cover and frame, excavations, backfilling etc.</u>				
18	Inspection chamber 1000mm diameter and exceeding 750mm and not exceeding 1000mm deep internally (Material price = R1 650-00/no Vat excl. supplied).	No	1		
19	Inspection chamber 1000mm diameter and exceeding 1000mm and not exceeding 2000mm deep internally (Material price = R2 880-00/no Vat excl. supplied).	No	1		
	<b><u>SUNDRIES</u></b>				
20	Concrete encasing to 110mm horizontal pipe	m	1		
21	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock	m3	4		
22	Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock	m3	3		
23	110mm "ABC" cleaning eye end of pipe (Material price = R95-64/no Vat excl. supplied).	No	3		
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**N1078 - PLUMB**  
**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS**  
**AT THE UNIVERSITY OF VENDA**

24 Cutting into existing 110mm soil drainage pipe for and forming junction with 160mm pipe

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**PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
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SOIL DRAINAGE

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Section No. 3  
PLUMBING & DRAINAGE  
Bill No. 4  
SOIL DRAINAGE

**N1078 - PLUMB  
PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

Item No		Quantity	Rate	Amount
	<b><u>SECTION NO. 3</u></b>			
	<b><u>BILL NO. 5</u></b>			
	<b><u>WORK IN CONNECTION WITH SECTION BILL 2 TO 4</u></b>			
	<b><u>TESTING</u></b>			
1	Provide all necessary water, etc., for and test the whole of the plumbing services, sanitary fittings, pumps, etc., and in stages as deemed necessary, including chlorination, complete to the satisfaction of the architect and the local authority, replace any defective work free of charge, including any necessary re-testing and leave in perfect condition upon completion			
		Item		
2	Allow for testing and commisioning the whole of the plumbing services, sanitary fittings, pumps, etc., including any necessary re-setting, etc., for optimal performance of the entire system to duration of the contract, maintenance and guarantee period			
		Item		
	<b>Carried Forward to Summary of Section No. 3</b>			
	Section No. 3 PLUMBING & DRAINAGE Bill No. 5 WORK I.C.W BILLS 2 TO 5			R

**N1078 - PLUMB  
PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

Section No. 3

PLUMBING & DRAINAGE

**SECTION SUMMARY - PLUMBING & DRAINAGE**

Bill No		Page No	Amount
1	SANITARY FITTINGS	28	
2	SANITARY PLUMBING	33	
3	WATER SUPPLIES	43	
4	SOIL DRAINAGE	49	
5	WORK I.C.W BILLS 2 TO 5	50	

**Carried to Final Summary**

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Section No. 3  
PLUMBING & DRAINAGE



# **FINAL SUMMARY**

**N1078 - PLUMB  
PLUMBING AND DRAINAGE AT VARIOUS BUILDINGS  
AT THE UNIVERSITY OF VENDA**

Section No	<u>FINAL SUMMARY</u>	Page No	Amount
1	PRELIMINARIES	19	
2	ALTERATIONS	24	
3	PLUMBING & DRAINAGE	51	
	Sub total (VAT EXCL.)		R
	Tax		R
	Sub Total (VAT INCL.) CARRIED TO TENDER FORM		R
	<b>Carried to Form of Tender</b>		R