

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	<p><b><u>SECTION NO. 1</u></b></p> <p><b><u>BILL NO. 1</u></b></p> <p><b><u>PRELIMINARIES</u></b></p> <p>NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to be a fixed price for the duration of this project</p> <p>NOTE: Unless otherwise stated herein, all items in this Bill shall be deemed to be a fixed price for the duration of this project</p> <p>The Preliminaries are to be the Construction and management requirements for works contracts - Part 1: General engineering and construction works (SANS 1921-1: 2004 Edition 1) prepared by Standards South Africa and shall be deemed to be incorporated herein.</p> <p>Tenderers are referred to the abovementioned documents for the full intent and meaning of each clause thereof (hereinafter referred to by heading and clause number only) for which such allowance must be made as may be considered necessary.</p> <p>This Bills of Quantities is priced in South African rands (ZAR) and all amounts that are carried forward and brought forward shall be in ZAR</p> <p>The applicable method of measurement for these Bills of Quantities is the Standard System of Measuring Building Work (seventh edition)</p> <p><b><u>Preambles For Trades</u></b></p> <p>The Model Preambles for Trades 2008 as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained</p> <p>Supplementary preambles are incorporated in these bills of quantities to satisfy the requirements of this project. Such supplementary preambles shall take precedence over the provisions of the Model Preambles</p> <p>The contractor's prices for all items throughout these bills of quantities shall take account of and include for all of the obligations, requirements and specifications given in the said Model Preambles and in any supplementary preambles</p> <p><b><u>Abbreviated Specifications</u></b></p> <p>The items in these bills of quantities utilise abbreviated descriptions. It is the intention that the abbreviated descriptions when read in conjunction with the applicable measuring system and the relevant preambles and/or specifications, shall represent the full descriptions. However, should the full intent and meaning of any description not be clear, the contractor shall, before submission of his tender, call for a written directive failing which it shall be assumed that the contractor has allowed in his pricing for materials and workmanship in terms of international best practise</p> <p><b><u>Temporary works and plant</u></b></p>				

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	<p>The contractor shall protect, uphold and maintain all public utilities and services and shall not interfere with their operation without the consent of the service authorities and the Project Manager. The contractor shall notify the Project Manager of any damage to such services and shall make good same at his own cost to the satisfaction of the service authorities</p> <p>Fuel, power and water for commissioning of mechanical and other specialised equipment shall also include for the cost of all necessary reticulation and connections thereto</p> <p>The contractor shall provide noise and dust control to the approval of the Project Manager</p> <p>The contractor shall maintain the access roads, paths, buildings, etc, adjacent to the construction area etc, during the period of the works in a clean and rubble free condition</p> <p><b><u>Identity of employees</u></b></p> <p>All employees of the contractor and his sub contractors shall be identifiable at all times by means of ID cards, company name and logos imprinted on overalls. Any person found on site not complying with the abovementioned conditions the contractor shall be requested by Project Manager, to remove such person from the site</p> <p><b><u>Health and Safety</u></b></p> <p>The contractor is to comply with all requirements of the Health and Safety Specification as specified in Section B of this Bill</p> <p><b><u>Housekeeping and compliance with Project Manager site rules</u></b></p> <p>The contractor will be responsible for a high standard of housekeeping in his site establishment, delivery of materials and goods and removal of rubble, debris, etc, storage areas and construction working areas to the approval of the Project Manager</p> <p><b><u>Working Hours</u></b></p> <p>Should the contractor wish to work outside normal working hours or at weekends in order to maintain his building programme, he shall notify and obtain the approval from the Project Manager before doing so. The cost of this overtime will be for the contractor's account</p> <p><b><u>SECTION A: General Conditions of Contract</u></b></p> <p><b><u>Fixed, Time and Value Related Items</u></b></p>						
1	Contractual requirements for fixed,time and value charge items	Item	1	R	-	R	-
2	Contingency ( <b>Payable on approval only</b> )	Item	1	R	-	R	-
	<b><u>SECTION B: Specific Preliminaries</u></b>						
3	<p>Occupational Health and Safety Act</p> <p>The contractor shall comply with all the requirements set out in the Construction Regulations, 2003 issued under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993)</p> <p>It is required of the contractor to thoroughly study the Health and Safety Specification that must be read together with and is deemed to be incorporated under this Section of the bills of quantities</p>						



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	Provision for pricing of the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is made under this clause and it is explicitly pointed out that all requirements of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained					
	OHS requirements for fixed,time and value charge items	Item	1	R	-	R -
	Carried to Sectional Summary					R -

ITEM	DESCRIPTION	UNIT	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 "Model Preambles for Trades" published and issued by the Association of South African Quantity Surveyors, 2008</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>View site</u></b></p> <p>Before submitting his tender the contractor shall visit the site and satisfy himself as to the nature and extent of the work to be done and the value of the materials contained in the buildings or portions of the buildings to be demolished. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained</p> <p><b><u>Explosives</u></b></p> <p>No explosives whatsoever may be used for demolition purposes unless otherwise stated</p> <p><b><u>General</u></b></p> <p>The contractor shall carry out the whole of the works with as little mess and noise as possible and with a minimum of disturbance to adjoining premises and their tenants. He shall provide proper protection and provide, erect and remove when directed, any temporary tarpaulins that may be necessary during the progress of the works, all to the satisfaction of the principal agent</p> <p>Water supply pipes and other piping that may be encountered and found necessary to disconnect or cut, shall be effectually stopped off or grubbed up and removed, and any new connections that may be necessary shall be made with proper fittings, to the satisfaction of the principal agent</p> <p>Doors, fanlights, fittings, frames, linings, etc which are to be re-used shall be thoroughly overhauled before re-fixing including taking off, easing and rehanging, cramping up, re-wedging as required and making good cramps, dowels, etc, and easing, oiling, adjusting and repairing ironmongery as necessary, replacing any glass damaged in removal or subsequently and stopping up all nail and screw holes with tinted plastic wood to match timber, unless otherwise described. Re-painting or re-varnishing is given separately</p> <p>Prices for taking out of doors, windows, etc shall include for removal of all beads, architraves, ironmongery, etc</p> <p>Prices for taking out and removing doors and frames shall include for removing door stops, cabin hooks, etc and making good floor and wall finishes to match existing</p> <p>With regard to building up of openings in existing walls, cement screeds and pavings, granolith, tops of walls, etc, shall be levelled and prepared for raising of brickwork</p>				

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	<p>Making good of finishes shall include making good of the brick and concrete surfaces onto which the new finishes are applied, where necessary</p> <p>The contractor will be required to take all dimensions affecting the existing buildings on the site and he will be held solely responsible for the accuracy of all such dimensions where used in the manufacture of new items (doors, windows, fittings, etc)</p> <p><b><u>REMOVAL OF EXISTING WORK</u></b></p> <p><b><u>Taking out and removing piping, sanitary fittings, etc. including disconnecting piping from fittings and making good floor and wall finishes elsewhere:</u></b></p>				
1	Vitreous china wall hung urinal with flush valve	No	3		R -
2	Take out and remove from site seating unit for pit latrine/long drop toilet seat	No	15		R -
	<p><b><u>STRUCTURAL REPAIRS</u></b></p> <p><b><u>Apply one coat "durabond" or equal approved bonding liquid to exposed surfaces to be repaired in accordance with manufacturer's instructions:</u></b></p>				
3	Prepare, close & seal holes left on concrete floor with reinforced concrete including the use of formwork & prepared floor to received new toilet set	Item	1		R -
	Carried to Sectional Summary				R -

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 16</u></b></p> <p><b><u>PLUMBING AND DRAINAGE</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>For preambles refer to "Model Preambles for Trades" published and issued by the Association of South African Quantity Surveyors, 2008</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Wire gratings</u></b></p> <p>Descriptions of gutter outlets, etc shall be deemed to include wire balloon gratings</p> <p><b><u>Stormwater channels</u></b></p> <p>Descriptions of channels shall be deemed to include necessary excavation, surface preparation, compaction, etc, and disposal of surplus material on site</p> <p><b><u>French drains</u></b></p> <p>Descriptions of french drains shall be deemed to include excavation, stone filling graded from 300mm diameter at bottom to 75mm diameter at top, "?" geofabric filter blanket over stone, 300mm earthfilling over and disposal of surplus material on site</p> <p><b><u>Septic tanks</u></b></p> <p>Descriptions of proprietary type septic tanks shall be deemed to include excavation, bedding and jointing, concrete base slabs, jointing to drains and backfilling, compaction, etc, all in accordance with the manufacturer's instructions and disposal of surplus material on site</p> <p><b><u>Stainless steel basins, sinks, wash troughs, urinals, etc</u></b></p> <p>Stainless steel for economy basins, domestic sinks and worktops shall be Type 430 (17/0)</p> <p>Stainless steel for urinals, basins, quality sinks, wash troughs, institutional equipment, etc shall be Type 304 (18/8)</p> <p>Stainless steel for laboratory sinks, photographic equipment, etc shall be Type 316 (18/8)</p> <p>Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable</p> <p>Outer edges of sinks, basins, baths, urinals, etc are to be sealed against adjacent surfaces with approved silicone uPVC pipes and fittings</p> <p>Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings</p> <p>Soil, waste and vent pipes and fittings shall be solvent weld jointed or sealed with butyl rubber rings uPVC pressure pipes and fittings</p> <p>Pipes of 50mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings</p> <p>Pipes of 63mm 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</p>				

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	<p><b><u>High density polyethylene (HDPE) pipes and fittings</u></b></p> <p>Pipes shall be type IV and of the class specified with "Plasson" or "Alprene" compression fittings</p> <p><b><u>"Polycop" polypropylene pipes</u></b></p> <p>Polypropylene pipes 54mm diameter and smaller shall be seamless copper coloured Class 16 pipes jointed with "Fast-fuse" heat welded thermoplastic or where so described "Polylock" compression fittings</p> <p>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</p> <p><b><u>Copper pipes</u></b></p> <p>Pipes shall be hard drawn and half-hard "Maksal" pipes of the class described. Class 0 (thin walled hard drawn) pipes shall not be bent. Class 1 (thin walled half-hard), Class 2 (half-hard) and Class 3 (heavy walled half-hard) pipes shall only be bent with benders with inner and outer formers. Fittings to copper waste, vent and anti-syphon pipes, capillary solder fittings and compression fittings shall be "Cobra Watertech" type. Capillary solder fittings shall comply with ISO 2016</p> <p>Copper pipes are to be installed in accordance with the latest revision of the Code of Practice for Copper Plumbing soldering techniques. Flux, solder, etc to be strictly in accordance with the manufacturer's requirements with special attention to copper flux composition</p> <p><b><u>Reducing fittings</u></b></p> <p>Where fittings have reducing ends or branches they are described as "reducing" and only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained</p> <p><b><u>Fixing of pipes</u></b></p> <p>Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls, etc, casting in, building in or suspending not exceeding 1m below suspension level</p> <p><b><u>Paper wrapping to pipes</u></b></p> <p>Pipes chased into brickwork must be wrapped with two layers of stout brown paper tied with wire. Rates are to include for wrapping around joints and fittings</p> <p><b><u>Disinfection of water pipework</u></b></p> <p>Water pipework is to be disinfected at completion in accordance with SABS 1200L (provision for disinfection elsewhere)</p> <p><b><u>"Densyl" petrolatum anti-corrosion tape as manufactured by Denso SA (Pty) Ltd</u></b></p> <p>Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied in the appropriate widths and with 75% overlaps</p> <p>Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including mastic, tape, "Layflat" sheeting, securing of same, etc</p>				

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	<p>Prices for wrapping of pipes shall include for all work as described to couplings in the length</p> <p><b><u>Laying, backfilling, bedding, etc of pipes</u></b></p> <p>Pipes shall be laid and bedded in accordance with manufacturers' instructions and trenches shall be carefully backfilled</p> <p>Where no manufacturers' instructions exist, pipes shall be laid in accordance with Clauses 5.1 and 5.2 of each of the following:            SABS 1200L : Medium-pressure pipelines            SABS 1200LD : Sewers            SABS 1200LE : Stormwater drainage</p> <p>Pipe trenches, etc shall be backfilled in accordance with Clauses 3, 5.5, 5.6, 5.7 and 7 of SABS 1200DB : Earthworks (Pipe trenches)</p> <p>Pipes shall be bedded in accordance with Clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SABS 1200LB : Bedding (Pipes)</p> <p>Unless otherwise described, bedding of rigid pipes shall be Class B bedding</p> <p><b><u>General</u></b></p> <p>Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete (adaptors for joints to PVC pipes, etc are given separately)</p> <p>Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends</p> <p>Descriptions of pipes laid in and including trenches and of inspection chambers, catchpits, etc shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 95% Mod AASHTO density and disposal of surplus material on site</p> <p>Descriptions of service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to steel pipes (adaptors for connections to copper pipes, etc are given separately)</p> <p>Descriptions of WC pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors are separately measured)</p> <p><b><u>As-built drawings</u></b></p> <p>Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)</p> <p><b><u>SOLAR BOREHOLE INSTALLATION</u></b></p> <p>Survey, drilling test and supply and install Solar Borehole complete including necessary fittings.</p>				
1		Sum	1		R -
2	<p><b><u>Sundries:</u></b></p> <p>Excavation in earth for pipe trenches, backfill &amp; compact, etc for excavation in soft rock</p>	m3	41.9		R -



ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	<b><u>SITE WATER SUPPLIES</u></b>				
	<b><u>Class 16 HDPE pipes:</u></b>				
3	40mm Pipes laid in and including trench	m	200		R -
	<b><u>Extra over HDPE pipes for fittings:</u></b>				
4	40mm Bend	No	20		R -
5	40mm Tee	No	8		R -
	<b><u>SANITARY FITTINGS</u></b>				
	<b><u>Rates for sanitary fittings to include for silicone and sealing to walls, cupboards and floors as applicable</u></b>				
	<b><u>Vaal or equal approved vitreous china WC suites:</u></b>				
6	"Afsan" vitreous china or equal approved low level 90 degree outlet washdown pan (code 750100) with vandal proof cistern (code 7108CP) complete with double flap toilet seat lid (code DPEB 2)	No	14		R -
7	"Protea Paraplegic" vitreous china or equal approved low level suite (code 750246) consisting of 90 degree outlet pan (code 750200) and 9 litre cistern (code 710631) complete with lid, fittings, and purpose made chrome plated flush lever with two rails	No	1		R -
8	Urinary bowl large (390x390x590mm)	No	1		R -
9	Urinary bowl small (290x250x400mm)	No	2		R -
	<b><u>Vaal or equal approved vitreous china wash hand basins and pedestals:</u></b>				
10	510 x 400mm, 'Daisy' white vitreous china or equal approved lavatory basin (code 7008) with one taphole, including integrated overflow and chainstay, bolted to wall	No	6		R -
	<b><u>WASTE UNIONS, ETC</u></b>				
	<b><u>Cobra Watertech or equal approved:</u></b>				
11	32mm Chrome plated slotted basin waste union (no chain or stay) and joint to 40mm uPVC pipe	No	6		R -
	<b><u>TRAPS, ETC. uPVC:</u></b>				
12	40mm Deep seal "P" trap	No	6		R -
	<b><u>Cobra Watertech or equal approved:</u></b>				
13	38mm Chrome plated deep seal bottle trap with outlet for 50mm PVC (code 345/50)	No	3		R -
	<b><u>TAPS, VALVES, ETC</u></b>				
	<b><u>Brass:</u></b>				
14	15mm Stopcock	No	22		R -
	<b><u>Cobra Watertech or equal approved tap, etc:</u></b>				
15	15mm Chrome plated Star raised nose pillar-type tap (code 111-15)	No	6		R -
	<b><u>SANITARY PLUMBING</u></b>				
	<b><u>uPVC pipes:</u></b>				
16	40mm Pipe fixed to or chased into brickwork	m	24		R -

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
17	110mm Pipe fixed to wall or soffit	m	22.5		R -
	<b><u>Extra over uPVC pipes for fittings:</u></b>				
18	40mm Bend	No	21		R -
19	110mm vent bend with horn	No	15		R -
10	110x40mm strap saddle	No	9		R -
21	110mm Pan connector	No	15		R -
	<b><u>WATER SUPPLIES</u></b>				
	<b><u>Polycop Pipe and fittings</u></b>				
22	15mm Pipe	m	40		R -
23	15mm Fittings	No	27		R -
	<b><u>TESTING</u></b>				
	<b><u>Testing:</u></b>				
24	Test water pipe system, make good any defects and retest until found perfect (per location)	No	4		R -
	<b><u>CONNECTIONS:</u></b>				
25	Allow for the connection of new pipes to existing water supply network including all fittings and making good of walls, floors, etc (per location)	No	4		R -
	<b>Carried to Sectional Summary</b>				R -



ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	<u>SECTIONAL SUMMARY</u>				
1	ALTERATIONS				R -
2	PLUMBING AND DRAINAGE				R -
	Carried to Final Summary				R -



ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	<b><u>FINAL SUMMARY</u></b>				
1	PRELIMINARIES				R -
2	BUILDERS WORK				R -
	<b>SUBTOTAL</b>				<b>R -</b>
	<b>ESTIMATED CONTRACT VALUE</b>				<b>R -</b>