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		Amount
	<div><div><div>SECTION NO. 3</div><div>EXTERNAL WORKS</div><div>SECTION SUMMARY</div></div></div>	
Bill No.		Page
1	EXTERNAL WORKS	3
		R
	Section No. 3 SECTION SUMMARY	

Item No.	Description	Unit	Quantity	Rate	Amount
SANS 8.3.2	<u>SECTION NO. 1</u>				
	<u>PRELIMINARIES</u>				
	<u>BILL NO. 1</u>				
	<u>PRELIMINARIES</u>				
	<u>FIXED CHARGE ITEMS AND VALUE RELATED ITEMS</u>				
	Contractual requirements	Sum	1		
	<u>Facilities for Engineer:</u>				
	Furnished offices	Sum	1		
	Telephone.	Sum	1		
	Nameboards.	Sum	1		
	<u>Facilities for Contractor:</u>				
	Offices and storage sheds.	Sum	1		
	Ablutions and latrine facilities.	Sum	1		
	Water supplies, electric power and communications.	Sum	1		
SANS 8.3.3	Tools and equipment.	Sum	1		
	Access.	Sum	1		
	Dealing with water.	Sum	1		
	<u>Other Fixed-charge obligations:</u>				
	Environmental management.	Sum	1		
	Occupational Health and Safety.	Sum	1		
	Items in terms of the Industrial Relations Act and Employment conditions for tender purposes.	Sum	1		
	Provide and service ablutions and latrine facilities for students as requested in works information	Sum	1		
	Clearing of existing vegetation	Sum	1		

Item No.	Description	Unit	Quantity	Rate	Amount
SANS 8.4.2	<u>Removal of site establishment:</u>				
	Removal of site establishment.	Sum	1		
	<u>TIME RELATED ITEMS</u>				
	<u>Contractual requirements:</u>				
	Contractual requirements.	Months	4		
	<u>Operation and maintenance of facilities on site for duration of construction except where stated</u>				
	<u>Facilities for the Engineer:</u>				
	Furnished offices.	Months	4		
	Telephone.	Months	4		
	Nameboards.	Months	4		
	<u>Facilities for the Contractor:</u>				
	Offices and storage sheds.	Months	4		
	Ablutions and latrine facilities.	Months	4		
	Water supplies, electric power and communications.	Months	4		
	Tools and equipment.	Months	4		
	Access.	Months	4		
	Dealing with water.	Months	4		
	<u>Supervision:</u>				
	Supervision for the duration of Construction.	Months	4		
	Company and Head office overhead costs for the duration of the contract	Months	4		
	<u>Other items:</u>				
	Environmental management.	Months	4		
	Occupational Health and Safety.	Months	4		

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Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 1</u> <u>ALTERATIONS</u></p> <p><u>TRADE PREAMBLES</u> <u>Trade Preambles:</u></p> <p>For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Proprietary items or materials:</u></p> <p>Proprietary items or materials where specified are to be of the brand specified - or other approved - by the Project Manager.</p> <p><u>View Site:</u></p> <p>Before submitting this 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><u>General:</u></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. 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 Project Manager.</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>				

Item No.	Description	Unit	Quantity	Rate	Amount
	<u>TEMPORARY BARRIERS, SCREENS, ETC</u>				
	<u>Temporary barriers, screens, etc including removal</u>				
	Drywall barrier 3200mm high of galvanized steel channel section rails (or similar approved) and studs covered on one side with 12,7mm gypsum plasterboard and finished with two coats interior quality PVA emulsion paint, including corners, ends, etc	m	40		
	Extra over for hollow core single door 813 x 2032mm high, including steel frame, two-lever mortice lock, hinges, primer and two coats paint	No	4		
	<u>REMOVAL OF EXISTING WORK</u>				
	Allow for watering, cleaning, protection, etc. of the works to prevent any nuisance of dust, noise, pollution, etc. and supply, erect and remove on completion all temporary dust screens, signs, etc. required for the working regulation compliances.	Item	1		
	Allow for protecting all existing work liable to suffer damage (i.e. Walls, doors, windows, roofs, finishes, floors, fittings, etc.) from damage during the building operations, alterations, etc., and make good all work damaged with new material to match existing to the approval of the Project Manager.	Item	1		
	<u>Breaking up and removing unreinforced concrete</u>				
	170mm Thick surface beds, walkways, etc.	m ²	10		
	<u>Digging up and removing earth filling material, etc</u>				
	Under floors, walkways, etc.	m ³	8		
	<u>Breaking down and removing brickwork, etc</u>				
	One brick walls	m ²	23		
	<u>Taking out and removing doors, windows, etc from brickwork:</u>				
	Timber single door and steel frame exceeding 2,5m ² and not exceeding 5m ²	No	40		

Item No.	Description	Unit	Quantity	Rate	Amount
	Glazed steel window not exceeding 2,5m ²	No	20		
	<u>Taking down and removing roofs, floors, panelling, ceilings, partitions, etc:</u>				
	Fibre Cement ceilings, including timber bandering, cornices, etc	m ²	147		
	<u>Hacking up/off and removing ceramic tiles together with timber skirting including removing mortar bed or adhesive from concrete or brickwork and preparing surfaces for new screed, plaster, tile finish, etc:</u>				
	Tiles to floors	m ²	147		
	Tiles to walls	m ²	7		
	Timber Skirting	m	138		
	<u>Taking out and removing sanitary fittings, tanks, geysers, etc, including disconnecting from pipes, traps, etc and making good floor and wall finishes (making good tiling and paintwork elsewhere):</u>				
	Stainless steel wash hand basin	No	24		
	Vitreous china WC pan with cistern	No	32		
	Stainless steel wall hung urinal with flush valve	No	20		
	Shower including plumbing complete	No	4		
	<u>PREPARATORY WORK TO EXISTING SURFACES</u>				
	<u>Strip and clean down existing walls, etc to receive new paint:</u>				
	Walls	m ²	127		
	Section No. 2			R	
	Bill No. 1				
	Alterations				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 2</u> <u>EARTHWORKS</u></p> <p><u>TRADE PREAMBLES</u></p> <p><u>Trade Preambles:</u></p> <p>For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Proprietary items or materials:</u></p> <p>Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Project Management.</p> <p><u>Carting away of excavated material:</u></p> <p>Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site.</p> <p><u>Working space:</u></p> <p>Working space for formwork to sides of all concrete, except columns, has been measured only where the concrete face is less than 600mm from the face of the measured excavation.</p> <p>Working space for formwork to sides of columns has been measured for the width of the column face only where both: the top of the column base is more than 1,5 m below the commencing level of the excavation, and the column face is less than 600 mm from the face of the measured excavation.</p>				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p>No claim will be considered for any working space for formwork to concrete other than as described above nor for working space beyond the sides of trench excavations for the building of brick or block walls.</p> <p>Descriptions of excavations for working space shall be deemed to include any additional risk of collapse so incurred and the returning and compacting of the excavated material as described.</p> <p><u>Filling:</u></p> <p>Notwithstanding the reference to prescribed multiple handling in clause 1 page 6 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any necessary multiple handling of material.</p> <p><u>EARTH FILLING, ETC.</u></p> <p>Filling with material obtained from the excavations and/or prescribed stock piles compacted to a density of at least 95% Mod. AASHTO maximum density:</p> <p>Under floors, walkways, etc.</p>	m ³	10		
					R
Section No. 2 Bill No. 2 Earthworks					

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 3</u> <u>CONCRETE, FORMWORK AND REINFORCEMENT</u></p> <p><u>TRADE PREAMBLES</u> <u>Trade Preambles:</u> For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u> <u>Proprietary items or materials:</u> Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Project Manager.</p> <p><u>Cost of tests:</u> The costs of making, storing and testing of concrete test cubes as required under clause 7 'Tests' of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the Architect. The testing shall be undertaken by an independent firm or institution nominated by the Contractor to the approval of the Architect. (Test cubes are measured separately).</p> <p><u>Formwork:</u> Descriptions of formwork shall be deemed to include use and waste only (except where described as left in or permanent), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use.</p> <p>The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.</p>				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p>Formwork to soffits of solid slabs etc., shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described.</p> <p>Formwork to sides of bases, pile caps, ground beams, etc., will only be measured where it is prescribed by the Engineer for design reasons. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in Earthworks.</p> <p><u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></p> <p><u>30Mpa/19mm Concrete:</u></p> <p>Concrete encasement</p> <p><u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></p> <p><u>30Mpa/19mm Concrete:</u></p> <p>Surface beds cast in panels on waterproofing all in accordance with the manufacturers instructions.</p> <p><u>REINFORCEMENT</u></p> <p><u>Fabric reinforcement</u></p> <p>Type 395 fabric reinforcement in concrete surface beds etc</p>	<p>m³</p> <p>m³</p> <p>m²</p>	<p>1</p> <p>2</p> <p>10</p>		
	<p>Section No. 2</p> <p>Bill No. 3</p> <p>Concrete, formwork + reinfmnt</p>			R	

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 4</u> <u>MASONRY</u></p> <p><u>TRADE PREAMBLES</u> <u>Trade Preambles:</u> For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u> <u>Proprietary items or materials:</u> Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Project Manager.</p> <p><u>BRICKWORK</u> <u>Sizes in descriptions:</u> Where sizes in descriptions are given in brick units, 'one brick' shall represent the length and 'half brick' the width of a brick.</p> <p><u>Hollow walls etc:</u> Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole.</p> <p>Walls in two skins described as 'bagged and sealed' shall be deemed to include having the outer face of the inner skin bagged with 1:6 cement and sand mixture and sealed with two coats 'Brixeal' bitumen emulsion waterproofing coating.</p> <p><u>Face bricks:</u> Bricks shall be ordered timeously to obtain uniformity in size and colour.</p> <p><u>Pointing:</u> Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc.</p>				

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Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 5</u> <u>WATERPROOFING</u></p> <p><u>TRADE PREAMBLES</u></p> <p><u>Trade Preambles:</u></p> <p>For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Proprietary items or materials:</u></p> <p>Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Project Manager.</p> <p><u>Waterproofing:</u></p> <p>Waterproofing of roofs, basements, etc shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs.</p> <p><u>DAMPPROOFING OF WALLS AND FLOORS</u></p> <p><u>One layer of 250 micron waterproof sheeting sealed at laps with Pressure Sensitive Tape:</u></p> <p>Under surface beds.</p>	m ²	11	R	
	Section No. 2 Bill No. 5 Waterproofing				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 6</u> <u>CARPENTRY AND JOINERY</u></p> <p><u>TRADE PREAMBLES</u> <u>Trade Preambles:</u> For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u> <u>Joinery:</u> Descriptions of frames shall be deemed to include frames, transoms, mullions, rails, etc. Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes.</p> <p><u>Fixing:</u> Items described as nailed shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete.</p> <p><u>Decorative laminate finish:</u> Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish.</p> <p><u>DOORS, ETC</u> <u>Hollow core flush doors with commercial veneer</u> 40mm Door 813 x 2032mm high (frame elsewhere measured)</p> <p><u>Solid flush doors with veneer, hung to steel frames:</u> 40mm Hardwood FLB door 813x2032mm high. (frame elsewhere measured)</p> <p>Section No. 2 Bill No. 6 Carpentry and Joinery</p>	No	32		
		No	8		
				R	

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 7</u> <u>CEILINGS PARTITIONS AND ACCESS</u> <u>FLOORING</u></p> <p><u>TRADE PREAMBLES</u></p> <p><u>Trade Preambles:</u></p> <p>For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Descriptions</u></p> <p>Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete</p> <p>Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres, and where described as "bolted", the bolts are measured elsewhere</p> <p><u>Proprietary items or materials:</u></p> <p>Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Project Manager.</p> <p><u>CEILING TIMBERS, BEADS, AND INSULATION</u> <u>NAILED-UP CEILINGS</u> <u>SUPPLEMENTARY PREAMBLES</u> <u>Openings</u></p> <p>Prices for openings for light fittings, ventilation grilles, air conditioning diffusers, etc are to include for any necessary additional support, trimming around, etc.</p> <p><u>6mm Thick "Fibre cement board" or similar approved with all screw heads to be stopped and seald with Silicone Sealant or similar approved:</u></p> <p>Ceilings including 38 x 38mm SA pine sawn softwood brandering at 760mm centres and cross brandering at 760mm centres</p>	m ²	147		

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Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 8</u> <u>IRONMONGERY</u></p> <p><u>TRADE PREAMBLES</u></p> <p><u>Trade Preambles:</u> For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Finishes to ironmongery:</u> Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered : CH Chromium plated : SC Satin chromium plated : SE Silver enamelled : GE Grey enamelled : AS Anodised silver : AB Anodised bronze : AG Anodised gold : ABL Anodised black : PB Polished brass : PL Polished and lacquered : PT Epoxy coated.</p> <p><u>HINGES, FLOOR SPRING HINGES, BOLTS, PANIC BOLTS, ETC.</u></p> <p>102 x 75x3mm stainless steel hinge.</p> <p><u>LOCKS</u></p> <p><u>Keys:</u> Unless otherwise described locks shall have two keys each</p> <p><u>"Union" or equal approved:</u></p> <p>3 Lever lockset</p> <p>Satin Stainless Steel Nickel indicator bolt</p>	<p>No</p> <p>No</p> <p>No</p>	<p>88</p> <p>32</p> <p>32</p>		

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Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 9</u> <u>METALWORK</u></p> <p><u>TRADE PREAMBLES</u> <u>Trade Preambles:</u></p> <p>For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u> <u>Proprietary items or materials:</u></p> <p>Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Project Manager</p> <p><u>Descriptions:</u></p> <p>Descriptions of bolts shall be deemed to include nuts and washers</p> <p>Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete.</p> <p>Metalwork described as holed for bolt(s) shall be deemed to exclude the bolts unless otherwise described.</p> <p>Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres</p> <p><u>STEEL GATES, SCREENS, ETC</u></p> <p><u>GALVANISED STEEL GATES, SCREENS, ETC</u></p> <p><u>Welded screens and gates to brickwork:</u></p>				

Item No.	Description	Unit	Quantity	Rate	Amount
	Single gate 900 x 2190mm high of 50 x 50 x 3mm hollow section frame with 50 x 50 x 3mm mid-rail section, filled in with 10mm round bars, predrilled and fixed to frame using self-taping hex screws with 100mm wide gap between bars and fitted with three pin-hinged to gate welded to frame and with barrel bolt welded on to gate frame. Steel burglar frame, filled with mesh to windows, to match existing PRESSED STEEL DOOR FRAMES <u>1.6mm Double rebated frames suitable for half brick walls</u> Frame for door 813 x 2032mm high	No No No	8 20 40		
	Section No. 2 Bill No. 9 Metalwork			R	

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 10</u> <u>TILING</u></p> <p><u>TRADE PREAMBLES</u></p> <p><u>Trade Preambles:</u> For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Descriptions:</u> Unless described as fixed with adhesive to plaster, descriptions of tiling on brick or concrete walls, columns, etc., shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors etc. shall be deemed to include 1:3 plaster bedding.</p> <p><u>WALL TILING</u></p> <p><u>150 x 150 x 7,8 "Shiny White" Ceramic tiles, or equal approved, of approved pattern or colour; fixed with adhesive to plaster and pointed in neat white cement as described, including PVC edge strips (elsewhere measure):</u></p> <p>On walls m² 132</p> <p>Fair exposed cutting and fitting around pipe not exceeding 100mm external diameter No 16</p> <p><u>300 x 300 x 7,8mm "Eros Grey EcoTec Matt" Porcelain tiles, or equal approved, of approved pattern or colour, fixed with adhesive on screed, and flush pointed waterproof grout, including trimming, etc.:</u></p> <p>On floors m² 147</p> <p>100mm high skirting m 138</p>				
				R	
	Section No. 2				
	Bill No. 10				
	Tiling				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 11</u> <u>PLUMBING AND DRAINAGE</u></p> <p><u>TRADE PREAMBLES</u></p> <p><u>Trade Preambles:</u></p> <p>For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Proprietary items or materials:</u></p> <p>Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Project Manager.</p> <p><u>uPVC pipes and fittings.</u></p> <p>Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings. Soil, waste and vent pipes and fittings shall be solvent weld jointed.</p> <p><u>uPVC pressure pipes and fittings:</u></p> <p>Pipes for water supply shall be of the class stated.</p> <p>Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings.</p> <p>Pipes of 50mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints.</p> <p>Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints.</p> <p><u>Concrete pipes:</u></p> <p>Pipes shall be jointed with ogee joints with rubber collars or socket and spigot joints with rubber rings.</p>				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>Fixing of pipes</u></p> <p>Unless specifically otherwise stated, descriptions of pipes shall be deemed to include for fixing to walls etc. casting in, building in or suspending not exceeding 1m below suspension level.</p> <p><u>Lead pipes and traps</u></p> <p>All soldered joints shall be wiped and brass unions shall be used for jointing lead to steel.</p> <p><u>Reducing fittings:</u></p> <p>Where fittings have reducing ends or branches they are described as 'reducing'. In the case of pipes with diameters not exceeding 60mm 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. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc. will be entertained</p> <p><u>Exposed concrete surfaces:</u></p> <p>Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gully tops, cleaning eye tops, catchpits, inspection chambers, etc. shall be finished smooth with plaster.</p> <p><u>Laying, backfilling, bedding, etc. of pipes:</u></p> <p>Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions.</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 1200 L : Medium pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc. shall be backfilled in accordance with clause 3, 5.5, 5.6, 5.7 and 7 of SAB</p>				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>Waste unions:</u></p> <p>Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings.</p> <p><u>Petrolatum anti-corrosion tape</u></p> <p>Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied with minimum 15mm lap per spiral unless otherwise described. Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including all mastic, tape, 'Layflat' sheeting, securing of same, etc. Prices for wrapping of pipes shall include for all work as described to couplings in the length.</p> <p><u>STORMWATER DRAINAGE</u></p> <p>Cleaning and shaping existing open drains</p> <p>Excavation in earth not exceeding 1m deep for pipe trenches</p> <p>Backfilling to pipe trenches compacted to 98% Mod AASHTO density</p> <p>Selected granular filling in bedding under and filling around pipes</p> <p>Sand filling in bedding under and filling around pipes</p> <p>20mm Crushed stone bedding under pipes</p> <p>Unreinforced concrete bedding under pipes</p> <p><u>Class 100D concrete pipes with interlocking joints</u></p> <p>300mm Pipes laid in and including trenches not exceeding 1m deep</p> <p>500 x 500mm Brick catchpit 420mm deep internally</p> <p><u>Cast iron gratings, covers, etc</u></p> <p>380 x 380mm x 3.5kg Stormwater grating and frame</p>				
		m ³	5		
		m ³	42		
		m ³	18		
		m ³	6		
		m ³	6		
		m ³	1.2		
		m ³	4.8		
		m	120		
		No	8		
		No	8		

Item No.	Description	Unit	Quantity	Rate	Amount
	<u>Municipal connection</u>				
	Provide for municipal connection	sum	1		
	<u>SEWERAGE DRAINS</u>				
	Cleaning and clearing existing blocked sewers within the school boundary.	sum	1		
	CCTV inspections of sewers	sum	1		
	Refurbishment/ replacement of damaged/broken sewer pipes	sum	1		
	<u>SANITARY FITTINGS</u>				
	<u>Wash hand basins:</u>				
	Washhand basin and pedestal size 800 x 240 x 550mm color white with one center taphole integrated overflow and chainstay hole, mounted to wall on and including two bolts	No	24		
	<u>Supply and installation of Urinals:</u>				
	Wall-hung back inlet urinal for concealed control rear entry color white with chromium plated back inlet spreader 38mm chromium plated domical grating hung on and including two hanger brackets	No	20		
	<u>Supply and installation of WC suites:</u>				
	White vitreous China wall hung washdown suite comprising 90° outlet open rim pan with back inlet with soft close toilet seat with metal hinges and element for wall hung wc, 108cm, 'Sigma' concealed cistern 12cm, dual flush 'Sigma 01' actuator plate in shiny chrome finish, fitments, etc., concealed flush valve, protection cover for service opening and flush pipe, fitted on and including bolt-through-the-wall bracket bolted to brick wall	No	32		
	<u>Supply and installation Shower:</u>				
	900x900x120mm acrylic shower tray with waste outlet, bedded in position	No	16		

Item No.	Description	Unit	Quantity	Rate	Amount
	<u>TRAPS ETC</u>				
	<u>Supply and installation of angle regulating valves:</u>				
	Chrome plated concealed trap and waste for wash hand basin	No	24		
	<u>TAPS, VALVES, ETC</u>				
	<u>Angle regulating valves:</u>				
	15mm Ball type angle regulating valve.	No	76		
	<u>Supply and installation of elbow action pillar taps:</u>				
	15mm Chrome plated décor care 70 basin mixer	No	24		
	Shower stoptaps	No	16		
	Shower head	No	8		
	<u>SANITARY PLUMBING</u>				
	<u>uPVC pipes:</u>				
	40mm Pipes.	m	100		
	50mm Pipes.	m	100		
	50mm Pipes laid in trenches not exceeding 1m deep	m	80		
	110mm Pipes.	m	40		
	110mm Pipes laid in trenches not exceeding 1m deep	m	160		
	40mm Pipes chased into brick walls.	m	56		
	<u>Extra over uPVC pipes for fittings:</u>				
	50mm Straight reducer	No	8		
	40mm Bend.	No	16		
	50mm Bend.	No	16		
	110mm Bend.	No	8		
	40mm Access bend	No	8		

Item No.	Description	Unit	Quantity	Rate	Amount
	50mm Access bend.	No	8		
	40mm Junction.	No	24		
	50mm Junction.	No	24		
	110mm Junction.	No	2		
	110mm Access bend.	No	8		
	40mm Access junction.	No	8		
	50mm Access junction.	No	8		
	110mm Access junction.	No	4		

Item No.	Description	Unit	Quantity	Rate	Amount
	110mm Double junction.	No	4		
	110mm Rodding eye.	No	4		
	110mm Access bend with anti-syphon horn.	No	4		
	50 x 40mm Access reducing junction.	No	8		
	110 x 50mm Access reducing junction.	No	8		
	110mm Pan connector.	No	8		
	50mm Air release vent valve.	No	32		
	110mm Air release vent valve.	No	32		
	50mm Vent cowl.	No	32		
	110mm Vent cowl.	No	32		
	<u>Sundries:</u>				
	Testing waste pipe system.	Item	1		
	<u>WATER SUPPLIES</u>				
	<u>High density black polyethylene (HDPE) pipes with and including compression fittings:</u>				
	25mm Piping laid in trenches not exceeding 1m deep.	m	80		
	<u>Extra over HDPE pipes for polypropylene compression fittings:</u>				
	25mm Fittings.	No	8		
	<u>Polypropylene pipes:</u>				
	15mm Pipes.	m	100		
	22mm Pipes.	m	100		
	28mm Pipes.	m	100		
	15mm Pipes chased into brick walls.	m	1		
	22mm Pipes chased into brick walls.	m	1		

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 12</u> <u>ELECTRICAL WORK</u></p> <p><u>TRADE PREAMBLES</u></p> <p><u>Trade Preambles:</u></p> <p>For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Switches, socket outlets, etc</u></p> <p>Rates for switches, socket outlets, etc are to include for screwing to outlet boxes, connecting up and cover plates</p> <p><u>Light fittings</u></p> <p>Rates for light fittings are to include for hanging, fixing and connecting and for lamp holders and fluorescent tubes and lamps of the type and wattage described</p> <p><u>CABLES</u></p> <p><u>Flat Twin Earth cables laid in trenches or drawn through sleeve pipes</u></p> <p>1.5mm² 3-Core m 200</p> <p><u>Cable joints</u></p> <p>1.5mm² 3-Core connector strip pack No 2</p> <p><u>Cable terminations</u></p> <p>1.5mm² 3-Core cable terminations No 48</p> <p><u>LIGHT SWITCHES, SOCKET OUTLETS, ETC</u></p> <p>16A Flush mounted one lever one-way switch unit No 8</p>				

[illegible]

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 13</u> <u>GLAZING</u></p> <p><u>TRADE PREAMBLES</u></p> <p><u>Trade Preambles:</u></p> <p>For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>TOPS, SHELVES, DOORS, MIRRORS, ETC</u></p> <p><u>6mm float glass copper backed mirrors with 10 mm bevelled and polished edges fixed with chrome plated dome head mirror screws to wall:</u></p> <p>Mirror 300 x 300mm high.</p>	No	24		
	<p>Section No. 2 Bill No. 13 Glazing</p>			R	

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 2</u> <u>BUILDING WORKS</u> <u>BILL NO. 14</u> <u>PAINTWORK</u></p> <p><u>TRADE PREAMBLES</u></p> <p><u>Trade Preambles:</u> For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>ON EXISTING FLOATED PLASTER</u></p> <p><u>One coat professional gypsum and plaster primer and two coats low sheen (colour to be selected) for interior use. Allow for deep colours as per specification</u></p> <p>On interior walls. m² 127</p> <p><u>One coat Primer and two coats brilliant white paint:</u></p> <p>On ceilings. m² 147</p> <p><u>ON METAL</u></p> <p><u>Clean down and Prepare surfaces, apply One coat undercoat and two coats white Egg Shell oil base enamel paint or equal approved. Light sanding between coats.</u></p> <p>Door frames m² 58</p> <p>Windows m² 38</p> <p>Gates m² 15</p> <p><u>ON WOOD</u></p> <p><u>Three coats superior quality clear gloss varnish</u></p> <p>Doors m² 132</p> <p>Section No. 2 Bill No. 14 Paintwork</p>				
				R	

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>SECTION NO. 3</u> <u>EXTERNAL WORKS</u> <u>BILL NO. 1</u> <u>WATER SUPPLY IN GROUND</u></p> <p><u>TRADE PREAMBLES</u></p> <p><u>Trade Preambles:</u></p> <p>For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p><u>Proprietary items or materials:</u></p> <p>Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Project Manager</p> <p><u>Note:</u></p> <p>Where items in this Bill are identical to those in the previous Bills, the descriptions have been shortened, and the full descriptions in the Trades concerned are to be referred to for the full meaning and intent of each item</p> <p><u>uPVC pressure pipes and fittings:</u></p> <p>Pipes for water supply shall be of the class stated.</p> <p>Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings.</p> <p>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.</p> <p><u>Copper pipes:</u></p>				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p>Pipes shall be hard drawn and half-hard pipes of the class stated. 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. Only compression fittings shall be used in walls or in ground.</p> <p><u>Reducing fittings:</u></p> <p>Where fittings have reducing ends or branches they are described as 'reducing'. In the case of pipes with diameters not exceeding 60mm 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. In the case of pipes with diameters exceeding 60mm all sizes are given and no claim for extra bushes, reducers, etc will be entertained.</p> <p><u>Laying, backfilling, bedding, etc of pipes:</u></p> <p>Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions.</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 1200 L : Medium pressure pipelines LD : Sewers LE : Stormwater drainage Pipe trenches etc shall be backfilled in accordance with clause 3, 5.5, 5.6, 5.7 and 7 of SAB.</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). Unless otherwise described bedding of rigid pipes shall be class B bedding.</p> <p><u>Excavations:</u></p>				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p>No claim for rock excavation will be entertained unless the Contractor has timeously notified the quantity surveyor thereof prior to backfilling.</p> <p>Soft rock' and 'hard rock' shall be as defined in 'Earthworks'.</p> <p>Descriptions of pipes laid in trenches:</p> <p>Descriptions of pipes laid in trenches shall be deemed to include for carting away all surplus excavated material to a dumping site located by the contractor.</p> <p>Descriptions of catchpits, junction boxes, manholes, etc:</p> <p>Descriptions of catchpits, junction boxes, manholes, etc, shall be deemed to include for compaction, disposal of surplus excavated material to a dumping site located by the contractor, risk of collapse and keeping excavations free from water.</p> <p><u>Thrust Blocks:</u></p> <p>Thrust blocks for pressure pipes to be formed of Class B concrete shaped for fittings with notchings of suitable size to take fittings and with sinkings and flanges of short collar detachable joints of suitable size to allow for removing of coupling when necessary including necessary formwork, excavation, etc</p> <p><u>Existing services:</u></p> <p>There are a number of existing services within the site boundaries, some of these are shown on the drawings. This information is not exhaustive and does not relieve the contractor of the responsibility of locating all existing services prior to construction. There are existing water, storm water, telephone, communications and electrical services on the site. Work is to be carried out without any disruption to existing services, this includes instances where newly constructed services are to be connected to existing 'live' services.</p>				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p><u>Corrosion Protection:</u></p> <p>All steel and cast iron fittings, specials and valves shall be fusion bonded epoxy lined and coated, film thickness 300 microns. Steel pipes and fittings shall be hot dipped galvanised and Fusion Bonded Epoxy coated and lined. The film thickness shall be 300 microns. Galvanising shall be in accordance with SABS 763. Fusion Bonded Epoxy lining and coating to be to SABS 1217, and strictly in accordance with the manufacturer's specifications. All pipes shall be inspected before and after laying, and any damage shall be made good with cold galvanising and the appropriate epoxy paint. Any on-site cutting and jointing of pipes shall be similarly treated.</p> <p><u>Corrosive Soil:</u></p> <p>All nuts, bolts, couplings, screwed threads and saddles are to be treated with a compatible primer, packed with a bitumen or tar based mastic and wrapped with 'Denso Tape'. The cost of this work shall be included in the rates tendered for supplying and fixing fittings, specials and valves.</p> <p><u>Bolts for Flanges:</u></p>				

Item No.	Description	Unit	Quantity	Rate	Amount
	<p>All cast iron valves are to be class 16 waterworks pattern with wedge gate to SABS 664 and 665, clock-wise closing with non-rising spindle, and fitted with a valve cap. Valves are to be embossed with the SABS mark, operating class and size. Flanged valves are to be drilled according to SABS 1123 (1977) table 16.</p> <p><u>Valves:</u></p> <p>Bolts and nuts shall comply with the standards of SABS 136 and shall be hot dipped galvanised to SABS 763 (1977)</p> <p><u>WATER SUPPLIES IN GROUND</u></p> <p><u>Excavation, etc. for water supplies:</u></p> <p>Carefully excavate by hand in small sections, to expose existing services, including backfilling to 90% Mod AASTHO density on completion.</p> <p>Excavation in earth not exceeding 2m deep for pipe trenches.</p> <p>Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock.</p> <p>Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock.</p> <p>Extra over excavation for pipe trenches, chambers, etc for carting away surplus material to a dumping site to be located by the Contractor.</p> <p>Backfilling to pipe trenches with material from the excavations including haulage of a maximum of 350m from perimeter of excavations or stock piles compacted to 90% Mod AASHTO density.</p> <p>Backfilling to pipe trenches, chambers, etc with G7 material supplied by the contractor compacted to 90% Mod AASHTO density.</p>				
		m ³	14		
		m ³	56		
		m ³	6		
		m ³	3		
		m ³	17		
		m ³	17		
		m ³	14		

Item No.	Description	Unit	Quantity	Rate	Amount
	Backfilling to pipe trenches, chambers, etc with G7 material supplied by the contractor compacted to 90% Mod AASHTO density and stabilised with 3 percent cement.	m ³	14		
	Granular material in bedding under and filling around pipes supplied by the contractor in accordance with SABS 1200 LB 3.1 and 3.4.2 (Bedding cradle)	m ³	3		
	Sand filling in bedding under and filling around pipes supplied by the contractor	m ³	3		
	<u>Class 10 High density black polyethylene (HDPE) pipes:</u>				
	32mm Pipes laid in trenches (trenches elsewhere).	m	40		
	50mm Pipes laid in trenches (trenches elsewhere).	m	40		
	63mm Pipes laid in trenches (trenches elsewhere).	m	40		
	<u>Extra over Class 10 HDPE pipes for plasson fittings:</u>				
	32mm to 22mm Reducer	No	2		
	32mm to 28mm Reducer	No	2		
	50mm to 32mm Reducer	No	2		
	63mm to 50mm Reducer	No	2		
	32mm 90 Degree elbow	No	2		
	50mm 90 Degree elbow	No	2		
	63mm 90 Degree elbow	No	2		
	32mm 45 Degree elbow	No	2		
	50mm 45 Degree elbow	No	2		
	63mm 45 Degree elbow	No	2		
	32mm Tee	No	2		

Item No.	Description	Unit	Quantity	Rate	Amount
	50mm Tee	No	2		
	63mm Tee	No	2		
	32mm Male adapter	No	2		
	50mm Male adapter	No	2		
	63mm Male adapter	No	2		
	32mm Female adapter	No	2		
	50mm Female adapter	No	2		
	63mm Female adapter	No	2		
	75 x 50mm Male adapter	No	2		
	<u>uPVC Class 9 pressure water supply pipe jointed with 'Lyng' mechanical rubber ring joints including short lengths and cutting and laid in pipe trenches as SABS 1200 LB of 1979 and SABS 1200 DB of 1982:</u>				
	75mm Pipes laid in trenches and including trenches not exceeding 1m deep	m	20		
	<u>Extra over Class 9 uPVC pressure pipes for uPVC socketed fittings:</u>				
	75mm 90 Degree bends	No	2		
	75mm 45 Degree bends	No	2		
	75mm 22.5 Degree bends	No	2		
	75mm 11.25 Degree bends	No	2		
	75mm x 32mm Saddle with threaded outlet including nuts and bolts and drilling boss and pipe	No	2		
	75mm x 50mm Saddle with threaded outlet including nuts and bolts and drilling boss and pipe	No	2		
	75mm Male adaptor	No	2		
	75 x 32mm Female adaptor	No	2		

Item No.	Description	Unit	Quantity	Rate	Amount
	75 x 50mm Female adaptor	No	2		
	<u>Extra over Class 9 uPVC pressure pipes for socketed Ductile Iron (SG) steel fittings:</u>				
	75 x 50mm Reducing tee	No	2		
	75 x 63mm Reducing tee	No	2		
	75mm Equal tee	No	2		
	75 x 63mm Reducer	No	2		
	<u>Galvanised steel pipes with screwed and socketed joints:</u>				
	20mm Pipes	m	20		
	100mm diameter galvanised steel flanged extension piece 1000mm long	No	12		
	<u>Extra over Galvanised steel pipes with screwed and socketed joints for malleable steel fittings:</u>				
	20mm Fittings	No	12		
	<u>Clean all surfaces with a high pressure waterwasher using a mixuture of water and aquasolve degreaser, apply two inner layers with a 50 percent overlay of wrapid tape and single outer wrap with a 50 percent overlay of corrosion protective coating:</u>				
	20mm Pipes	m	20		
	20mm Fittings	No	2		
	75 x 50mm Reducing tee	No	2		
	75 x 63mm Reducing tee	No	2		
	75mm Equal tee	No	2		
	<u>Valves, meters etc:</u>				
	20mm Plain rough brass bibtap	No	12		
	28mm Brass gate valve	No	12		

Item No.	Description	Unit	Quantity	Rate	Amount
	20mm Brass male/female Dole 10l/min flow controller	No	12		
	Kent Helix 4000' 100mm Water meter with flanged couplings to 110mm uPVC pipe	No	1		
	<u>Sundries:</u>				
	Unreinforced concrete in thrust blocks in trenches at bends, tees, etc., including extra excavation, formwork, etc	m ³	2		
	Cut into and temporarily stop off 75mm diameter water pipe, insert reducing tee and joint to new 50mm uPVC pipe	Item	1		
	<u>Prescribed tests on filling:</u>				
	Modified AASHTO Density test	No	1		
	DCP test	No	1		
	Compactibility test	No	1		
	<u>Testing:</u>				
	Testing water pipe system	Item	1		
	<u>WASTE BINS</u>				
	Concrete round bin (500mm Dia) or similar approved waste bins with stone chip finish and weeping hole at base, Weight, 165kg, Capacity - 70Lt, must be able to take standard refuse bag:				
	Waste Bins	No	4		
	<u>EXISTING WATER ACCESS</u>				
	Servicing, cleaning, repair damaged and replace all missing elements, pipes, traps, etc. including wrapping of pipes and reinstatement of damaged surfaces:	Sum	1		
	Section No. 3			R	
	Bill No. 1				
	External Works				