

Item No	Quantity	Rate	Amount
<u>BILL NO. 1</u>			
<u>PRELIMINARIES</u>			
<u>NOTES:</u>			
<u>BUILDING AGREEMENT AND PRELIMINARIES</u>			
<p>The JBCC Series 2000 Principal Building Agreement (July 2007 edition) prepared by the Joint Building Contract Committee shall be the applicable building agreement, amended as hereinafter described</p> <p>The JBCC Principal Building Agreement Contract Data EC and the JBCC Principal Building Agreement Contract Data CE form an integral part of this agreement</p> <p>The ASAQS Preliminaries (November 2007 edition) published by the Association of South African Quantity Surveyors for use with the said JBCC Principal Building Agreement shall be deemed to be incorporated in these bills of quantities Contractors are referred to the abovementioned documents for the full intent and meaning of each clause thereof</p> <p>These clauses are hereinafter referred to by clause number and heading only. Where standard clauses or alternatives are not entirely applicable to this contract such modifications, corrections or supplements as will apply are given under each relevant clause heading and such modifications, corrections or supplements shall take precedence notwithstanding anything contrary contained in the abovementioned documents</p> <p>Where any item is not relevant to this specific contract such item is marked N/A, signifying 'not applicable'</p>			
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Bill No. 1 PRELIMINARIES D-FENCE FACTORY			

PRICING OF PRELIMINARIES

Should the contractor select Option A in terms of subclause 3.2.1 in the Contract Data - Contractor to Employer (CE) for the purpose of adjustment of these preliminaries, the amount entered into the amount column in these preliminaries is to be divided into one or more of the three categories provided namely Fixed (F), Value Related (V) and Time Related (T)

SECTION A - PRINCIPAL BUILDING AGREEMENT

Definitions

1 Clause 1.0 - Definitions and interpretation

F V T

Item

Objective and preparations

2 Clause 2.0 - Offer acceptance and performance obligations

F V T

Item

3 Clause 3.0 - Documents

F V T

Item

4 Clause 4.0 - Design responsibility

F V T

Item

5 Clause 5.0 - Employer's agents

F V T

Item

6 Clause 6.0 - Contractor's site representative

F V T

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1 Clause 7.0 - Compliance with laws and regulations

Without limiting the generality of the provisions of clause 7.0, the contractor's attention is drawn to the provisions of the Construction Regulations, 2003 issued in terms of the Occupational Health and Safety Act, 1993. It is specifically stated that the employer shall prepare a documented health and safety specification for the works (refer to Volume 1 of 2 C3.2 for a copy of the relevant specification) and that the employer shall ensure that the contractor has made provision for the cost of health and safety measures during the execution of the works. The contractor shall price opposite this item for compliance with the act and the regulations and the provisions of the aforementioned health and safety specification [7.1]

Construction Environmental Management Plan (C3)

The Construction Environmental Management Plan (CEMP) incorporates specifications derived from recommendations in the SEA, ELIDZ Rezoning Environmental Impact Assessment (EIA) and comments Report. Department of Economic Affairs, Environment and Tourism's Conditions of Approval for the rezoning EIA, together with specifications for good "environmental practice" for construction work.

The purpose of the CEMP is to translate the recommendations of the SEA and the Rezoning EIA into a contractual environmental management plan which will be strictly applied during the construction of the works.

A copy of the CEMP is attached (See 3.3 in Volume 1 of 2 of this document) and tenderers are to familiarize themselves with the provisions contained therein and allow for compliance with the same.

F V T

Item

2 Clause 8.0 - Works risk

F V T

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[illegible]

1	<p>Clause 18.0 - Setting out of the worksThe contractor shall notify the principal agent if any encroachments of adjoining foundations, buildings, structures, pavements, boundaries, etc. exist in order that the necessary arrangements may be made for the rectification of any such encroachments</p> <p>F V T</p> <p>Clause 19.0 - Temporary works and plant</p> <p>a) Site Enclosure</p> <p>The contractor will, throughout the entire contract period be responsible for the proper and adequate protection of all workers and visitors on the site from injury and damage resulting from the works and for the proper security of the site at all times. Furthermore, the contractor must allow for all necessary temporary hoardings, fans and walkways, overhead protection against falling objects and materials, security fences, etc. required by prevailing bylaws, the SHE Act and/or his own site requirements. Allowance must further more be made for periodic adjustment of any enclosure or protection and for their eventual removal. Other than the construction site itself, access is limited to the immediate area surrounding the works as enclosed by the entrance to the site. The limit of access and exist will be pointed out to the contractor by the Principal Agent at the pre-tender site inspection.</p> <p>b) Site Establishment</p> <p>All site establishment, offices and storage of materials will be strictly limited to an area outside the site (see attached drawing), which must be suitably fenced with 1,8m high steel mesh fencing covered with shadecloth to the satisfaction of the principal agent. The contractor must also allow in his price for clearing this site of vegetable matter, shrubs, small trees, etc to make way for his sheds, offices, plant, etc. The contractor shall be responsible for keeping such areas in a clean, sanitary and orderly condition. The containers shall be removed by the contractor and the area made good at the completion of the contract.</p> <p>Carried to Collection</p> <p>Bill No. 1 PRELIMINARIES D-FENCE FACTORY</p>	Item		
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The tarred roadway adjacent to the site is to be protected at all times and is to be cleaned on a regular basis. Any damage that may occur to this tarred roadway is to be made good by the contractor at his own expense.

19.1.2

The contractor shall provide, maintain and remove on completion, the following accommodation.

a) Meeting Room

The room is to be adequately sized and equipped with a sound working table and chairs to accommodate at least thirty (30) people for site meetings.

The room is to be well vented and fitted with two large white boards with markers and erasers.

b) Generally

The access and the areas around the offices and toilets shall be surfaced with clean crushed stone. Furthermore, an adequate level parking area shall be provided also surfaced with clean crushed stone. Both areas shall be well drained, kept free of mud and maintained throughout the contract period.

- 1 The contractor shall allow for the proper maintenance and regular cleaning of the all the above facilities during the contract period to ensure clean usable facilities at all times and shall clear away and make good on completion.

Furthermore, it is a requirement that this compound as with the contractors site establishment facility should be fenced with a 1.8m high gumpole and steel mesh fence covered with shade cloth.

F V T

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1	<p>Clause 20.0 - Nominated subcontractors</p> <p>Refer to the provisions on general attendance hereinafter</p> <p>F V T</p>	Item		
2	<p>Clause 21.0 - Selected subcontractors</p> <p>General attendance of n/s subcontractors for pricing by the contractor shall be in accordance with the n/s agreement. Notwithstanding this provision, general attendance shall be deemed to include for the contractor to provide free of charge to any n/s subcontractor such scaffolding as may reasonably be required by such n / s subcontractor for the execution of the relevant subcontract work</p> <p>F V T</p>	Item		
3	<p>Clause 22.0 - Employer's direct contractors</p> <p>F V T</p>	Item		
4	<p>Clause 23.0 - Contractor's domestic subcontractors</p> <p>F V T</p>	Item		
	<u>COMPLETION</u>			
5	<p>Clause 24.0 - Practical completion</p> <p>The contractor shall not receive any mark-up for overheads and profit on any omission of tenant installation work or tenant installation work by others. Claims of loss of profit shall not be entertained.</p> <p>F V T</p>	Item		
6	<p>Clause 25.0 - Works completion</p> <p>F V T</p>	Item		
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1	<p>Clause 26.0 - Final completion</p> <p>F V T</p>	Item	
2	<p>Clause 27.0 - Latent defects liability period</p> <p>F V T</p>	Item	
3	<p>Clause 29.0 - Revision of date for practical completion</p> <p>The removal and replacement of materials and/or workmanship which do not conform to specification or drawing shall not constitute grounds for the extension of the construction period nor for the adjustment of the contract value (Clause 29.3)</p> <p>F V T</p>	Item	
4	<p>Clause 30.0 - Penalty for late or non-completion</p> <p>F V T</p>	Item	
<p><u>PAYMENT</u></p>			
5	<p>Clause 31.0 - Interim payment</p> <p>The inclusion of materials and goods stored off site in the amount authorised for payment in terms of clause 31.4 shall be at the sole discretion of the principal agent and such inclusion shall only be considered upon the provision, by the contractor, of an approved guarantee issued by a registered commercial bank. Clause 31.6.5 is therefore not applicable.</p> <p>F V T</p>	Item	
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1	<p>Clause 32.0 - Adjustment to the contract value</p> <p>Where prices are submitted by the contractor or n/s subcontractor during the progress of the works in respect of contract instructions or in regard to a claim under the terms of the contract and notwithstanding the fact that such prices may be used in an interim payment certificate, there is to be no presumption of acceptance. Should the principal agent wish to accept any such prices prior to the issue of the final payment certificate, it shall be in writing.</p> <p>F V T</p>	Item		
2	<p>Clause 33.0 - Recovery of expense and loss</p> <p>F V T</p>	Item		
3	<p>Clause 34.0 - Final account and final payment</p> <p>F V T</p>	Item		
4	<p>Clause 35.0 - Payment to other parties</p> <p>F V T</p> <p><u>CANCELLATION</u></p>	Item		
5	<p>Clause 36.0 - Termination by employer - contractor's default</p> <p>F V T</p>	Item		
6	<p>Clause 37.0 - Termination by employer - loss and damage</p> <p>F V T</p>	Item		
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1	<p>Clause 38.0 - Termination by contractor - employer's default</p> <p>F V T</p>	Item
2	<p>Clause 39.0 - Termination - cessation of the works</p> <p>F V T</p> <p><u>DISPUTE</u></p>	Item
3	<p>Clause 40.0 - Settlement of disputes</p> <p>F V T</p> <p><u>CONTRACT AGREEMENT</u></p>	Item
4	<p>Clause 41.0 - Post tender provisions</p> <p>The required post tender information shall be inserted in the post tender provisions after consultation with the contractor</p> <p>F V T</p>	Item
5	<p>Clause 42.0 - Contractual agreement</p> <p>F V T</p> <p><u>SECTION B - PRELIMINARIES</u>1.0 Definitions and interpretation</p>	Item
6	<p>Clause 1.0 - Definitions and interpretation</p> <p>F V T</p> <p><u>Documents</u></p>	Item
7	<p>Clause 2.1 - Checking of documents</p> <p>F V T</p>	Item
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1	Clause 2.2 - Provisional bills of quantities F V T	Item
2	Clause 2.3 - Availability of construction documentation F V T <u>Previous work and adjoining properties</u>	Item
3	Clause 3.1 - Previous work - dimensional accuracy F V T	Item
4	Clause 3.2 - Previous work - defects F V T	Item
5	Clause 3.3 - Inspection of adjoining properties F V T <u>Samples, shop drawings and manufacturer's instructions</u>	Item
6	Clause 4.1 - Samples of materials F V T	Item
7	Clause 4.2 - Workmanship samples F V T	Item
8	Clause 4.3 - Shop drawings F V T	Item
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1	<p>Clause 4.4 - Compliance with manufacturer's instructions</p> <p>F V T</p> <p><u>Deposits and fees</u></p>	Item		
2	<p>Clause 5.1 - Deposits and fees</p> <p>F V T</p> <p><u>Temporary services</u></p>	Item		
3	<p>Clause 6.1 - Water</p> <p>F V T</p>	Item		
4	<p>Clause 6.2 - Electricity</p> <p>F V T</p>	Item		
5	<p>Clause 6.3 - Telecommunication facilities</p> <p>F V T</p>	Item		
6	<p>Clause 6.4 - Ablution facilities</p> <p>F V T</p> <p><u>Prime cost amounts</u></p>	Item		
7	<p>Clause 7.1 - Responsibility for prime cost amounts</p> <p>F V T</p> <p><u>Special attendance on n/s subcontractors</u></p>	Item		
8	<p>Clause 8.1 - Special attendance</p> <p>F V T</p>	Item		
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<u>General</u>			
1	Clause 9.1 - Protection of the works F V T	Item	
2	Clause 9.2 - Protection/isolation of existing/sectionally occupied works F V T	Item	
3	Clause 9.3 - Security of the works F V T	Item	
4	Clause 9.4 - Notice before covering work F V T	Item	
5	Clause 9.5 - Disturbance F V T	Item	
6	Clause 9.6 - Environmental disturbance F V T	Item	
7	Clause 9.7 - Works cleaning and clearing F V T	Item	
8	Clause 9.8 - Vermin F V T	Item	
9	Clause 9.9 - Overhand work F V T	Item	
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Schedule of Variables

Information necessary for making choices and completion of those clauses contained in the schedule which are necessary for tender purposes is given hereunder. Where no information is given it shall mean that either no details or specific requirements are available or that the clause is irrelevant for this specific contract.

10.1 Provisional Bills of Quantities (clause 2.2)

The quantities are provisional (Yes).

10.2 Availability of Construction documentation (clause 2.3)

Construction documentation is not complete (No).

10.3 Previous work - Dimesional acuracy (clause 3.1) (No).

10.4 Previous work - defects (clause 3.2) (No)

10.5 Inspection of adjoining properties (clause 3.3) (Yes).

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10.6 Water (Clause 7.2)

Option A (By Contractor) Yes.

Option B (By the Employer free of charge) No.

Option C (By the Employer metered) No.

10.7 Electricity (clause 7.3)

Option A (By Contractor) Yes.

Option B (By the Employer free of charge) No.

Option C (By the Employer metered) No.

10.8 Telecommunications (clause 7.4)

Telephone: Yes

Facsimile: Yes

E-Mail: Yes

10.9 Ablution facilities (clause 7.5)

Option A (By Contractor) Yes

Option B (By Employer) No.

10.10 Protection of the works. (clause 9.1)

10.11 Protection/ isolation of existing/ sectionally occupied works (clause 9.2)

Protection/ isolation is required. (Yes).

10.12 Disturbance (clause 9.5) (Yes)

10.13 Enviromental disturbance (clause 9.6) (Yes)

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PRELIMINARIES
D-FENCE FACTORY

SECTION C: SPECIFIC PRELIMINARIES
Specific Preliminaries:

1 Site instructions

Instructions issued on site are to be recorded in triplicate in a site instruction book which is to be maintained on site by the contractor

F V T

Item

2 Overtime

Should overtime be required to be worked for any reason whatsoever, the costs of such overtime are to be borne by the contractor unless the principal agent has specifically authorised in writing, prior to the execution thereof, that costs for such overtime are to be borne by the employer.

F V T

Item

Dayworks

Where in the opinion of the quantity surveyor any extra work cannot properly be measured or valued, the contractor will be allowed daywork prices therefor calculated upon the costs defined hereunder together with the stated percentages. The total thus arrived at shall be the total amount recoverable by the contractor for performing such work.

1. The cost to the contractor or sub-contractor of materials, being the net cost (at current market prices) actually paid for such materials after the deduction of cash discounts or if materials are supplied from the contractor's or sub-contractor's stock then the cost of such materials shall be based upon the current market price plus the cost of delivery to site; to which net cost 10 per cent thereof shall be added

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2. The cost of labour to the contractor or sub-contractor, being all items of direct cost of labour actually remunerated to the workmen concerned which shall include the cost of all allowances in terms of the Industrial Conciliation Act (where applicable) or any other wage determination applying in the area or any other charge or expense which is normally binding as well as all statutory levies to education and training funds as may be applicable relating to the class of labour concerned at the time when and in the area where the daywork is executed: to which labour costs 75 per cent in respect of shopfitting, wall and floor tiling, mosaic work and electrical work, 60 per cent in respect of plumbing, plastering, joinery and stone masonry and 40 per cent in respect of painting and decorating, general builders work and any other trade not specified herein, shall be added.

Hourly based rates for labour shall be the current market rates for labour based upon standard working hours and shall be applied in respect of the time spent by workers directly engaged on the particular dayworks including any operators operating mechanical plant and transport and erecting and dismantling other plant. If a claim is made that individual workmen have been paid wages and allowances in excess of the minimum legalised rates, then proof must be furnished that such workmen had been so paid prior to the commencement of the extra work referred to.

Time lost due to inclement weather shall be excluded from the time charged.

3. Other direct costs, being any related direct costs such as mechanical plant and transport, other than costs of material and labour shall be the net cost thereof to which net cost 10 per cent thereof shall be added.

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4. The rates for mechanical plant shall be commercial hire rates current at the time of executing the daywork and shall include fuel and insurance costs.

The above percentages shall cover head office charges; site staff including site supervision; third party and contractor's public liability insurance; contractor's workmen's compensation and unemployment insurance fund contributions; use, repair and sharpening of non-mechanical hand tools; use of erected scaffolding, staging, trestles and the like; use of tarpaulins, protective clothing, artificial lighting, safety and welfare facilities, storage and the like as may be available on the site; and profit.

- 1 Supporting vouchers reflecting the time spent and materials used each week shall be delivered for verification to the Quantity Surveyor not later than twenty one days after the end of the week concerned. Should the contractor fail to submit the vouchers within this time, the Quantity Surveyor shall determine a fair price for the work.

F V T

Item

- 2 Warranties for material and workmanship

Where warranties for materials and/or workmanship are called for, the contractor shall obtain a written warranty, addressed to the employer, from the firm supplying the materials and/or doing the work and shall deliver same to the principal agent on the certified completion of the contract. The warranty shall state that workmanship, materials and installation are warranted for a specified period from the date of final completion and that any defects that may arise during the specified period shall be made good at the expense of the firm supplying the materials and/or doing the work, upon written notice to do so. The warranty will not be enforced if the work is damaged by defects in the construction of the building in which case the responsibility for replacement shall rest entirely with the contractor

F V T

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Bill No. 1
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1	<p>Co-operation of contractor for cost management</p> <p>It is specifically agreed that the contractor accepts the obligation of assisting the principal agent in implementing proper cost management. The contractor will be advised by the principal agent of all cost management procedures which will be implemented to ensure that the final building cost does not exceed the budget. The principal agent undertakes to make available to the contractor all budgetary allowances and cost assessments/reports to enable the proper procedure to be implemented and the contractor shall attend all cost plan review and cost management meetings. The contractor undertakes to extend these procedures, as necessary, to all subcontractors</p> <p>F V T</p>	Item		
2	<p>Propping of floors below</p> <p>The contractor is advised that propping of floors below may be required if he wishes to use any areas of completed suspended reinforced concrete slabs for vehicle access, storage of materials and goods and location of plant, scaffolding, etc. The location of these areas and any necessary propping shall be approved by the principal agent and the cost thereof shall be borne by the contractor</p> <p>F V T</p>	Item		
3	<p>Testing of windows for watertightness</p> <p>Each window shall be tested for watertightness with water sprayed on using adequate pressure. If in the opinion of the principal agent, the pressure proves to be inadequate, then the pressure shall be boosted by means of compressed air or other approved means</p> <p>F V T</p>	Item		
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<p>Bill No. 1 PRELIMINARIES D-FENCE FACTORY</p>				

1 Testing of flat roof waterproofing for watertightness

Flat roof waterproof areas shall be prepared with small sand dykes around them of a size and enclosing an area approved by the principal agent, flooded with water and kept 'ponded' for at least 36 hours as a test to ensure the watertightness of the waterproofing and before any further construction work is carried out above the waterproofing

F V T

Item

2 Ingress of water

It is the Contractors responsibility to prevent ingress of water into the buildings whilst all work is being completed, and damage arising out of the above will be made good at the Contractors expense.

F V T

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Bill No. 1

PRELIMINARIES

D-FENCE FACTORY

Item No	Quantity	Rate	Amount
<p><u>BILL NO. 2</u></p> <p><u>FACTORY BUILDING</u></p> <p><u>ALL TRADES</u></p> <p><u>Note:</u></p> <p>For Preambles and Specifications refer to:</p> <p>1. "Model Preambles for Trades" as published by the Association of South African Quantity Surveyors (2008 Edition).</p> <p>2. Where a trade name is specified an equal or other approved trade name may be approved subject to the Client's approval.</p> <p><u>FOUNDATIONS</u></p> <p><u>Note:</u></p> <p>Soft rock means all rock excavation except "hard rock" including hard shale, white limestone, mudstone, etc.</p> <p>Hard rock means granite, quartzitic sandstone or rock of similar hardness and prices for excavation in hard rock are to include for blasting or by any other means.</p> <p>Quantities are measured nett - no allowance will be made for bulking.</p> <p><u>EARTHWORKS</u></p> <p><u>Trench, Etc. Excavations</u></p> <p><u>Excavate In Earth Not Exceeding 2.00m Deep Including Trimming Sides, Levelling And Ramming Bottoms And Deposit On Site In Spoil Heaps For:</u></p>			
1	Ground beams	m3	347
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<p>Bill No. 2</p> <p>FACTORY BUILDING</p> <p>D-FENCE FACTORY</p>			

1	Column bases	m3	47		
	<u>Excavate In Earth Exceeding 2.00m And Not Exceeding 4.00m Deep Including Trimming Sides, Levelling And Ramming Bottoms And Deposit On Site In Spoil Heaps For:</u>				
2	Column bases	m3	10		
3	Extra over trench, etc excavation in earth for excavation in soft rock	m3	70		
4	Ditto, in hard rock	m3	35		
5	Excavate back in earth for working space as necessary for the insertion and removal of formwork to ground beams not exceeding 0.50 deep including backfilling and compacting to 98% Mod AASHTO density	m2	1,962		
6	Extra over excavation in earth for working space for excavation in soft rock	m2	360		
7	Ditto, in hard rock	m2	180		
8	Risk of collapse to sides of trench, etc excavations not exceeding 1.50m deep	m2	1,962		
9	Ditto, exceeding 1.50m	m2	92		
10	Allow for keeping excavations free from water		Item		
11	Load surplus or unsuitable material from spoil heaps and cart away to a dumping site to be located by the contractor	m3	394		
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1	Earth filling using imported G7 material in backfilling to trenches,etc and compacted in layers not exceeding 150mm thick to 95% Mod AASHTO density	m3	31
2	150mm Thick sub-base course of G5 material supplied by the contractor and compacted under floors, etc to 95% Mod AASHTO density (Note: Quantity is measured in cubic metres)	m3	859
3	150mm Thick base course of G5 material supplied by the contractor and compacted under floors, etc to 98% Mod AASHTO density (Note: Quantity is measured in cubic metres)	m3	859
4	50mm Layer of approved river sand supplied by the contractor and compacted under floors to 93% AASHTO density	m2	5,724
5	Scarify in-situ material to a depth of 150mm and compact to 93% Mod AASHTO density	m2	5,724
6	Modified AASHTO density test on filling, etc	No	40

CONCRETENote:

For convenience test cubes and reinforcement are measured under concrete, formwork and reinforcement hereafter.

Cement Concrete 15MPa/19mm Stone In:

7	Blinding under ground beams, bases, etc cast against excavated surfaces	m3	75
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Bill No. 2
FACTORY BUILDING
D-FENCE FACTORY

	<u>Reinforced Cement Concrete 25MPa/19mm Stone In:</u>				
1	Bases	m3	15		
	<u>Reinforced Cement Concrete 30MPa/19mm Stone In:</u>				
2	Ground beams	m3	292		
3	Columns	m3	3		
	<u>FORMWORK</u>				
	<u>Close Rough Formwork (Use And Waste) As Per SABS 1200G 5.2.1.b (Degree Of Accuracy II) To Concrete To:</u>				
4	Sides of ground beams	m2	1,419		
	<u>Close Smooth Formwork (Use And Waste) As Per SABS 1200G 5.2.1.b (Degree Of Accuracy I) To Concrete To:</u>				
5	Sides of ground beams	m2	197		
6	Sides of rectangular columns	m2	19		
	<u>Sundries</u>				
7	Blocking in formwork to edge of beams, walls, columns, etc to form chamfer size 25 x 25mm high	m	50		
8	Boxing out formwork to top edge of ground beam to form splay size 100 x 100mm high	m	3,767		
9	Boxing out formwork to bottom edge of ground beam to form nib size 115 x 190mm high	m	51		
	<u>MASONRY</u>				
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<u>Note</u>					
Bricks to have a minimum compressive strength of 7MPa and are to be solid clay bricks, ie no openings.					
Mortar for brickwork to be Class 1 (28 days strength and 14.5MPa minimum)					
<u>Brickwork In (Class 1) Cement Mortar In:</u>					
1	Half brick wall in lining to concrete including wire ties	m2	29		
<u>Sundries</u>					
2	80mm Brick mesh reinforcement in walls	m	306		
<u>Facings</u>					
<u>Facings Formed Of Selected Face Bricks Pointed With Square Horizontal And Vertical Joints (Provide The Prime Cost Sum Of R 6000.00 (Six Thousand Rand)/1000 For Supply And Delivery Of Facebricks)</u>					
3	Extra over brickwork for faced brickwork	m2	29		
<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>					
<u>CONCRETE</u>					
<u>Testing</u>					
4	Allow for preparing and curing set of three concrete test cubes, each size 150 x 150 x 150mm and pay all cost of transport to an approved mechanical laboratory and all testing charges	No	120		
<u>Cement Concrete 25MPa/19mm Stone In:</u>					
5	Steps	m3	4		
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Bill No. 2 FACTORY BUILDING D-FENCE FACTORY					

<u>Reinforced Cement Concrete 30MPa/19mm Stone In:</u>				
1	Slabs including beams and inverted beams	m3	25	
2	Bund upstand beams	m3	48	
3	Columns	m3	3	
<u>Reinforced Cement Concrete 30MPa/19mm Stone With Low Water Cement Ratio Of Approximately 0.55 In:</u>				
4	Raft slab (ground beams included with foundations)	m3	1,145	
<u>Sundries</u>				
5	Average 40mm Thick SikaGrout 212 applied in strict accordance with product specifications under baseplate	m2	10	
6	Power floated finish to top of surface bed to FM3 finish including curing, etc	m2	5,724	
7	Extra over power floating for applying Sikafloor Curehard 24 transparent floor hardener including any grinding to concrete floors all applied in strict accordance with the manufacturers instructions	m2	5,724	
8	Allow for protecting top of power floated concrete raft slab against any damage that may occur during any construction work above ie structural steelwork, roof sheeting, etc including repairing any damage that may have occurred	m2	5,724	
9	300 x 3.5mm Thick Sika AR-20 surface water bar cast into edge of the concrete raft slab at construction joint (to be installed by a certified contractor)	m	226	
Carried to Collection				R
Bill No. 2 FACTORY BUILDING D-FENCE FACTORY				

1	PVC external waterstop as Durajoint E-250 Rearguard placed below the centre line of the construction joint in the raft slab (to be installed by a certified contractor)	m	226
2	6 x 40mm Saw cut joint in top of concrete raft slab	m	226
3	Sikaflex 11FC polyurethane sealant in filling to the above saw cut joint in strict accordance with the Manufacturers instructions	m	226
4	75mm Diameter PVC sleeve pipe 300mm long cast into concrete beam	No	2
5	1.60mm Galvanised hoop iron tie 30mm wide x 450mm long with one end embedded 200mm deep in concrete and other end tacked to formwork and later bent down and built into brickwork as the work proceeds	No	480
<u>FORMWORK</u>			
<u>Close Rough Formwork (Use And Waste) As Per SABS 1200G 5.2.1.b (Degree Of Accuracy II) To Concrete To:</u>			
6	Sides of steps	m2	6
7	Soffit of slab exceeding 3.50m and not exceeding 5.00m high	m2	78
8	Sides and soffits of beams exceeding 3.50 and not exceeding 5.00m high	m2	19
9	Side of beam above slab	m2	7
10	Sides of rectangular columns exceeding 3.50 and not exceeding 5.00m high	m2	32

Carried to Collection

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Bill No. 2
 FACTORY BUILDING
 D-FENCE FACTORY

1	Edge, riser, etc not exceeding 300mm high	m	244
	<u>Close Smooth Formwork (Use And Waste) As Per SABS 1200G 5.2.1.b (Degree Of Accuracy I) To Concrete To:</u>		
2	Sides of bund upstand beams	m2	478
3	Sides of rectangular columns	m2	9
	<u>Sundries</u>		
4	Blocking in formwork to edge of beams, walls, columns, etc to form chamfer size 25 x 25mm high	m	717
	<u>REINFORCEMENT</u>		
	<u>Mild Steel Rod Reinforcement To Structural Concrete Work</u>		
5	8mm Diameter bars	t	26
6	10mm Diameter bars	t	20
	<u>High Tensile Rod Reinforcement To Structural Concrete Work</u>		
7	10mm Diameter bars	t	26
8	12mm Diameter bars	t	26
9	16mm Diameter bars	t	24
10	20mm Diameter bars	t	24
11	25mm Diameter bars	t	22

Carried to Collection

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Bill No. 2
 FACTORY BUILDING
 D-FENCE FACTORY

1	32mm Diameter bars	t	4	
<u>MASONRY</u> <u>Note</u> Bricks to have a minimum compressive strength of 7MPa and are to be solid clay bricks, ie no openings. Mortar for brickwork to be Class 1 (28 days strength and 14.5MPa minimum) <u>Brickwork In (Class 1) Cement Mortar In:</u>				
2	One brick wall	m2	224	
3	280mm Hollow wall formed of two half brick skins including butterfly wire ties	m2	114	
<u>Sundries</u>				
4	Bag outer face of inner skin of brickwork and apply two coats bituminous paint	m2	114	
5	Cement mortar triangular fillet one course high in bottom of 50mm wide cavity wall including leaving open perpend at 1,00m centres	m	28	
6	Turning piece to half brick soffit	m	5	
7	Labour and material building 50mm cavity solid vertically for half brick width	m	14	
8	Labour and material building 50mm cavity solid horizontally for two courses	m	5	
9	75 x 110mm Prestressed fabricated lintol in lengths not exceeding 3,00m	m	7	
Carried to Collection				R
Bill No. 2 FACTORY BUILDING D-FENCE FACTORY				

1	80mm Brick mesh reinforcement in walls	m	684
2	155mm Ditto	m	672
3	2mm Galvanised hoop iron cramp 38mm wide x 450mm girth with one end fixed to back of timber door frame and other end built into brickwork as the work proceeds	No	40
4	1,60mm Galvanised hoop iron tie 30mm wide x 450mm long with one end built into brickwork and other end shot fixed to steel column	No	72
<u>Facings</u>			
<u>Facings Formed Of Selected Face Bricks Pointed With Square Horizontal And Vertical Joints (Provide The Prime Cost Sum Of R 6000.00 (Six Thousand Rand)/1000 For Supply And Delivery Of Facebricks)</u>			
5	Extra over brickwork for faced brickwork	m2	119
6	Facebrick soldier course cut lintol	m	5
<u>WATERPROOFING</u>			
<u>DAMPPROOFING OF FLOORS AND WALLS</u>			
<u>One Layer Of 250 Micron USB Green Waterproof Sheeting Sealed At Laps With Pressure Sensitive Tape</u>			
7	Under raft slabs, around ground beams, etc	m2	7,106
<u>One Layer Of 375 Micron Embossed Damp Proof Course</u>			
8	In walls	m2	24
<u>WATERPROOFING TO ROOFS, ETC</u>			
Carried to Collection			
Bill No. 2 FACTORY BUILDING D-FENCE FACTORY			

R

<u>4mm "Derbigum SP4" Fully Bonded Waterproofing</u>					
1	On flat roofs including turn-ups	m2	100		
2	Sealing edges to brickwork or concrete	m	42		
3	Dress waterproofing into "Fulbore" outlet and seal	No	2		
4	Prepare surface and apply two coats aluminium paint to waterproofing on flat roof	m2	100		
<u>ROOF COVERINGS, ETC</u>					
<u>0.8mm 'Hulett's Aluminium Hulaspan A7 Profile' Roof Sheeting And Accessories, With Stucco Embossed PVDF Finish (Colour Metallic Silver) On External Face And Standard Backing Coat On Internal Face, Fixed To Steel Cladding Rails In Single Lengths All In Strict Accordance With The Manufacturer's Instructions</u>					
<u>Note</u>					
Side cladding fixed with broad flute facing out.					
5	Side cladding including bitumen impregnated sealer strips to side laps and 'Cladseal 300' tape to cladding rails at approximately 1600mm centres	m2	2,456		
<u>0.8mm 'Hulett's Aluminium Hulaspan A7 Profile' Roof Sheeting And Accessories, With Stucco Embossed PVDF Finish (Colour Azure Blue) On External Face And Standard Backing Coat On Internal Face, Fixed To Steel Cladding Rails In Single Lengths All In Strict Accordance With The Manufacturer's Instructions</u>					
<u>Note</u>					
Side cladding fixed with broad flute facing out.					
6	Side cladding including bitumen impregnated sealer strips to side laps and 'Cladseal 300' tape to cladding rails at approximately 1600mm centres	m2	544		
Carried to Collection				R	
Bill No. 2 FACTORY BUILDING D-FENCE FACTORY					

1	Side cladding fixed diagonally on elevation including bitumen impregnated sealer strips to side laps and 'Cladseal 300' tape to cladding rails at approximately 1600mm centres	m2	294
	<u>Sundries</u>		
2	Cut and fit side cladding around steel I-beam	No	10
3	Narrow flute serrated closer including polybutton	m	290
4	Broad flute serrated closer including polybutton	m	308
5	Closure piece 110mm girth	m	244
6	Ditto, but 450mm girth	m	244
7	Drip flashing 231mm girth	m	344
8	Corner flashing 300mm girth	m	137
9	Corner/jamb flashing 462mm girth	m	156
10	Cap flashing 770mm girth	m	254

Carried to Collection

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Bill No. 2
 FACTORY BUILDING
 D-FENCE FACTORY

<u>0,9mm Thick 'Hulets Aluminium Hulamín Ziptech 420' Aluminium Sheeting And Accessories In Single Lengths With Stucco Embossed PVDF Colourtech Finish (Colour Metallic Silver) On External Face And Standard Backing Coat On Internal Face And Accessories Concealed Fixed To Steel Purlins Or Rails, With 'Ziptech' Aluminium Halts Fixed With Stainless Steel Self Tapping Screws In Strict Accordance With The Manufacturers Instructions:</u>			
1	Roof covering with pitch not exceeding 50 degrees including bitumen impregnated sealer strips at laps	m2	6,136
<u>Sundries</u>			
2	Narrow flute serrated closer including polybutton	m	719
3	Broad flute serrated closer including polybutton	m	719
4	Gable flashing 462mm girth	m	190
5	Gutter flashing 462mm girth	m	447
6	Headwall flashing 462mm girth	m	496
7	Apex flashing 462mm girth	m	460
8	100mm Diameter rainwater pipe fixed to walls	m	49
9	Extra for shoe/bend	No	22
10	Box gutter 700mm girth	m	49
11	Extra for stopped end	No	4
Carried to Collection			
Bill No. 2 FACTORY BUILDING D-FENCE FACTORY			
R			

1	Ditto, outlet for 100mm diameter rainwater pipe	No	5	
	<u>1.2mm Thick Modek Opal 50 Polycarbonate Sheeting To IBR Profile, Fixed To Steel Cladding Rails In Single Lengths To Suit High Wind Areas All In Strict Accordance With The Manufacturer's Instructions</u>			
2	Side cladding including sealing side laps with 8 x 5mm butyl seal	m2	693	
3	Labour only fixing vertical mounted fire ventilator in position (supplied by others) size approximately 6.00 x 1.90m high	No	17	
	<u>Roof Insulation</u>			
4	50mm "Isover Factorylite" non combustible light weight fibreglass insulation faced on one side with white metalised foil laid taut over purlins at approximately 1.00m centres and fixed concurrent with roof covering including PVC coated galvanised steel straining wires where required all in strict accordance with the manufacturers instructions	m2	6,136	
	<u>CARPENTRY AND JOINERY</u>			
	<u>DOORS</u>			
	<u>Wrot Meranti</u>			
5	44mm Framed batten door size 813 x 2032mm formed of 44 x 108mm styles and top rail, 22 x 108mm middle ledge and braces and 22 x 220mm bottom ledge filled in with 22 x 69mm V-jointed one side boarding and including 1.60mm galvanised sheet iron plate fixed on one face of door	No	5	
	<u>FRAMED FRAMES, ETC INCLUDING BUILDING IN</u>			
	Carried to Collection			R
	Bill No. 2 FACTORY BUILDING D-FENCE FACTORY			

	<u>Wrot Meranti</u>				
1	70 x 108mm Rebated frame bolted to steel support (elsewhere measured)	m	25		
	<u>Sundries</u>				
	<u>Wrot Meranti</u>				
2	19mm Quadrant bead	m	50		
3	38 x 50mm Rebated, splayed and grooved weather board including groove in door	m	4		
	<u>CEILINGS, PARTITIONS AND ACCESS FLOORING</u>				
	<u>FIRE WALLING</u>				
	<u>119mm Thick "Rhino Gypsum Two Hour Fire Rated" Drywall Partitioning Firewall System With 63mm Steel Studs At 400mm Centres Covered On Both Sides With One Layer Of 12.5mm Firestop Board And One Layer Of 15mm Firestop Board With Taped And Skimmed Joints On External Face, Fixed With Staggered Joints At 220mm Centres All In Strict Accordance With The Manufacturers Instructions</u>				
4	Firewall 6.60m high built off top of 3.00m high brick wall	m	13		
5	Extra for vertical abutment	No	1		
6	Ditto, corner	No	1		
7	Extra for cutting and fitting around steel angle irons	No	12		
8	Extra for cutting and fitting around steel truss	No	3		
	Carried to Collection			R	
	Bill No. 2 FACTORY BUILDING D-FENCE FACTORY				

1	Firewall average 9.00m high with raking top built off top of 3.00m high brick wall	m	24		
2	Extra for vertical abutment	No	1		
3	Extra for cutting and fitting around steel angle irons	No	20		
4	L-shaped on section firewall size approximately 0.80 x 0.80m and boxed around box gutter (box gutter fixed at a height of approximately 8.70m above floor level)	m	13		
5	Extra for cutting and fitting around steel angle irons	No	13		
<u>IRONMONGERY</u>					
6	102 x 75 x 3mm Two ball bearing butt hinge as Dorma DBB-SS-009	No	15		
7	One point locking panic bar suitable for single door as Dorma PHA1S-SD	Sets	5		
8	Door closer as Dorma TS83	No	5		
9	150mm Cabin hook and eye as Halstead 166SC including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged	No	5		
10	Approved break glass key box fixed to wall	No	5		
Carried to Collection				R	
Bill No. 2 FACTORY BUILDING D-FENCE FACTORY					

STRUCTURAL STEELWORKNOTE

All structural steelwork to be fabricated in accordance with SANS 14713 Part 2.

Dimensions and levels to be verified on site prior to manufacture.

Any discrepancies found during site measure to be reported to and resolved by the Engineer prior to manufacture.

All structural steel elements must be inspected by the Engineer prior to transporting to site.

All bolts must be grade 8.8 unless otherwise specified by the Engineer.

All welds to be with E700XX electrodes, according to AWS or similar approved by the Engineer.

All hot rolled structural steel members to be grade S355JR and plates to be grade 300WA.

Purlins and girts to be pre-galvanised.

All structural steelwork inclusive of bolts, nuts, washers, plates, connections, etc., other than purlins & girts to be hot dipped galvanised in accordance with SANS 121 or ISO 1461

All hot dipped members to be drilled, cut, welded, etc., prior to galvanising.

Prices to include for preparation of shop drawings for approval of the Engineer prior to manufacture. A minimum of 7 days must be allowed for checking of shop drawings.

Prices to include for fabrication, cutting, drilling, bending, welding, etc., delivery to site, and hoisting up and erecting into position.

Carried to Collection

Bill No. 2
FACTORY BUILDING
D-FENCE FACTORY

R

Note:

The following restrictions are applicable on ground floor slab during construction and erection of structural steel.

0-7 days: Concrete curing; no loading on ground floor slab permitted.

7-14 days: Light foot traffic permitted.

14-28 days: Light vehicles <5 ton.

28+ days: Maximum gross crane load during construction = 25 ton (excludes lifting load). Crane outrigger base footings to be on double cross layer of 50 x 228mm timber spreader supports over and area of 1,00 x 1,00m or similar approved by the Engineer to avert damage to concrete ground floor slab. Only tyre cranes permitted on slab. Slab to be cleaned after completion.

Pre-Galvanised Members

1	175 x 75 x 20 x 2,5 mm Cold formed lipped channel girts (pre-punched)	t	10.60
2	225 x 75 x 20 x 2,5 mm Cold formed lipped channel purlins (pre-punched)	t	40.00

Hot Dipped Galvanised Members

3	305 x 102 x 33kg/m I section girder beam	t	12.67
4	457 x 191 x 67kg/m I section crane beam	t	15.50
5	305 x 102 x 33kg/m I section column	t	3.95
6	406 x 140 x 39kg/m I section column	t	2.05
7	203 x 203 x 46kg/m H section column	t	4.15

Carried to Collection

R

Bill No. 2
FACTORY BUILDING
D-FENCE FACTORY

1	457 x 191 x 67kg/m I section column	t	29.40
2	230 x 90mm Parallel flange channel section door support member	t	3.40
3	Roof trusses comprising angle iron rafters, posts, diagonals, etc.	t	91.00
4	50 x 50 x 3mm Angle iron sag rods between roof members	t	4.07
5	50 x 50 x 3mm Angle iron sag rods to sides of structure	t	1.51
6	80 x 80 x 6mm Angle iron bracing between roof members	t	4.69
7	80 x 80 x 6mm Angle iron bracing to sides of structure	t	1.00
8	90 x 90 x 6mm Angle iron bracing to sides of structure	t	0.45
9	165 x 4mm Circular hollow section bracing	t	1.95
10	219 x 4,9mm Circular hollow section bracing	t	0.85
11	50 x 50 x 5mm Angle iron door support member	t	0.25
12	60 x 60 x 4mm Angle iron trimmer	t	0.75
13	60 x 60 x 6mm Angle iron knee braces	t	3.98
14	60 x 60 x 6mm Angle iron fly braces	t	0.53

Carried to Collection

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Bill No. 2
FACTORY BUILDING
D-FENCE FACTORY

1	120 x 120 x 12mm Angle iron member	t	0.54
2	219 x 4,9mm Circular hollow section strut between columns	t	3.40
3	IPE 120 Vertical girt support	t	0.27
4	IPE 140 In roof truss monitors	t	7.06
5	457 x 191 x 67 kg/m I section rafter beam	t	1.90
6	Plates, angles, cleats, brackets, connections, bolts (grade 8.8), washers, etc.	t	23.00
<u>Hot Dipped Galvanised Gutter Brackets</u>			
7	Eaves gutter bracket formed of 12mmmm thick x 200mm wide plate x 750mm girth, bent to radius, welded to top of and including a 219 x 4,9mm circular hollow section post 1000mm high (refer to eaves gutter bracket type A drawing)	No	68
8	Valley gutter bracket formed of 12mmmm thick x 200mm wide plate x 750mm girth, bent to radius, welded to top of and including two 12mm thick x 250mm wide x 175mm high tapered footing brackets (refer to valley gutter bracket type B drawing)	No	100
9	Plates, angles, cleats, brackets, connections, bolts (grade 8.8), washers, etc.	t	0.36
<u>Hot Dipped Galvanised Holding Down Bolts, Etc</u>			
10	M24 x 720mm Long holding down bolt (grade 8.8 threaded bar) complete with two nuts and two washers	No	288

Carried to Collection

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Bill No. 2
FACTORY BUILDING
D-FENCE FACTORY

1	Drill or core 28mm hole in exact position into top of reinforced concrete raft slab for a depth of 570mm, remove all dust and water from hole by blowing out with high pressure air hose, and grout M24 holding down bolt into place using Hilti RE-100 Epoxy in strict accordance with product specifications Hot Dipped Galvanised Walkways, Etc	No	288
2	4,5mm Vastrap walkway plate 1000mm wide	m	96
3	Plates, angles, cleats, brackets, connections, bolts (grade 8.8), washers, etc. Corrosion Protection Prepare Surface To Comply With Paint Manufacturers Specifications And Apply One Coat Primer And Two Liberal Coats Flintkote 3 Bituminous Coating In Strict Accordance With The Manufacturers Instructions, On:	t	0.60
4	Galvanised steel columns that are buried in the ground PLASTERING SCREEDS Cement Screeds On Concrete	m ²	5
5	Average 80mm thick to roof slab graded to falls to outlet Granolithic Untinted Granolithic On Concrete	m ²	83
6	30mm Thick on treads and risers of stairs	m ²	14
7	Set of stopped raised reedings 100mm wide	m	18
Carried to Collection			
Bill No. 2 FACTORY BUILDING D-FENCE FACTORY			

INTERNAL PLASTERCement Plaster On:

1	Walls including flush columns and beams	m2	561
2	Concrete ceilings	m2	78
3	Narrow widths	m2	11

EXTERNAL PLASTERCement Plaster On:

4	Concrete beams	m2	35
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PLUMBINGFULBORE OUTLETS

5	100mm "Fulbore" side outlet including joint to pipe	No	2
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PAINTINGON PLASTER, ETCPrepare Surface And Apply One Coat Primer And Two Coats Super Acrylic PVA Paint On:

6	Internal plastered ceilings and beams	m2	78
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Prepare Surface And Apply One Coat Primer And Two Coats Wall n All Paint On:

7	Internal plastered walls	m2	572
8	External internal plastered walls	m2	35

Carried to Collection

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Bill No. 2
FACTORY BUILDING
D-FENCE FACTORY

1	Gypsumboard firewalls	m2	622		
	<u>ON WOOD</u>				
	<u>Prepare Surface And Apply One Coat Primer On:</u>				
2	Backs of frames not exceeding 300mm girth	m	25		
	<u>Prepare Surface And Apply One Coat Primer And Two Coats Dulux Pearl glo Paint On</u>				
3	Doors	m2	17		
4	Door frames	m2	8		
Carried to Collection					
Bill No. 2 FACTORY BUILDING D-FENCE FACTORY				R	

Bill No. 2

FACTORY BUILDING

COLLECTION

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Bill No. 2

FACTORY BUILDING

D-FENCE FACTORY

Bill No. 2

FACTORY BUILDING

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Bill No. 2
FACTORY BUILDING
D-FENCE FACTORY

1	Extra over trench, etc excavation in earth for excavation in soft rock	m3	8		
2	Ditto, in hard rock	m3	4		
3	Excavate back in earth for working space as necessary for the insertion and removal of formwork to ground beams not exceeding 0.50 deep including backfilling and compacting to 98% Mod AASHTO density	m2	204		
4	Extra over excavation in earth for working space for excavation in soft rock	m2	40		
5	Ditto, in hard rock	m2	20		
6	Risk of collapse to sides of trench, etc excavations not exceeding 1.50m deep	m2	204		
7	Allow for keeping excavations free from water		Item		
8	Load surplus or unsuitable material from spoil heaps and cart away to a dumping site to be located by the contractor	m3	41		
9	150mm Thick sub-base course of G5 material supplied by the contractor and compacted under floors, etc to 95% Mod AASHTO density (Note: Quantity is measured in cubic metres)	m3	76		
10	150mm Thick base course of G5 material supplied by the contractor and compacted under floors, etc to 98% Mod AASHTO density (Note: Quantity is measured in cubic metres)	m3	76		
Carried to Collection				R	
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY					

1	50mm Layer of approved river sand supplied by the contractor and compacted under floors to 93% AASHTO density	m2	506
2	Scarify in-situ material to a depth of 150mm and compact to 93% Mod AASHTO density	m2	506
3	Modified AASHTO density test on filling, etc	No	10
<u>CONCRETE</u>			
<u>Note:</u>			
For convenience test cubes and reinforcement are measured under concrete, formwork and reinforcement hereafter.			
<u>Cement Concrete 15MPa/19mm Stone In:</u>			
4	Blinding under ground beams, bases, etc cast against excavated surfaces	m3	8
<u>Reinforced Cement Concrete 30MPa/19mm Stone In:</u>			
5	Ground beams	m3	32
<u>FORMWORK</u>			
<u>Close Rough Formwork (Use And Waste) As Per SABS 1200G 5.2.1.b (Degree Of Accuracy II) To Concrete To:</u>			
6	Sides of ground beams	m2	179
<u>Sundries</u>			
7	Boxing out formwork to top edge of ground beam to form splay size 100 x 100mm high	m	321

Carried to Collection

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Bill No. 3
ADMINISTRATION BLOCK
D-FENCE FACTORY

1	Boxing out formwork to bottom edge of ground beam to form nib size 115 x 190mm high	m	70		
	<u>MASONRY</u>				
	<u>Note</u>				
	Bricks to have a minimum compressive strength of 7MPa and are to be solid clay bricks, ie no openings.				
	Mortar for brickwork to be Class 1 (28 days strength and 14.5MPa minimum)				
	<u>Brickwork In (Class 1) Cement Mortar In:</u>				
2	Half brick wall in lining to concrete including wire ties	m2	39		
	<u>Sundries</u>				
3	80mm Brick mesh reinforcement in walls	m	490		
	<u>Facings</u>				
	<u>Facings Formed Of Selected Face Bricks Pointed With Square Horizontal And Vertical Joints (Provide The Prime Cost Sum Of R 6000.00 (Six Thousand Rand)/1000 For Supply And Delivery Of Facebricks)</u>				
4	Extra over brickwork for faced brickwork	m2	39		
	<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>				
	<u>CONCRETE</u>				
	<u>Testing</u>				
5	Allow for preparing and curing set of three concrete test cubes, each size 150 x 150 x 150mm and pay all cost of transport to an approved mechanical laboratory and all testing charges	No	22		
	Carried to Collection			R	
	Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY				

	<u>Reinforced Cement Concrete 30MPa/19mm Stone In:</u>				
1	Slabs including beams and inverted beams	m3	141		
2	Stairs including landings, beams and inverted beams	m3	8		
3	Isolated beams	m3	21		
4	Columns	m3	11		
	<u>Reinforced Cement Concrete 30MPa/19mm Stone With Low Water Cement Ratio Of Approximately 0.55 In:</u>				
5	Raft slab (ground beams included with foundations)	m3	101		
	<u>Sundries</u>				
6	Average 40mm Thick SikaGrout 212 applied in strict accordance with product specifications under baseplate	m2	2		
7	300 x 3.5mm Thick Sika AR-20 surface water bar cast into edge of the concrete raft slab at construction joint (to be installed by a certified contractor)	m	12		
8	PVC external waterstop as Durajoint E-250 Rearguard placed below the centre line of the construction joint in the raft slab (to be installed by a certified contractor)	m	12		
9	6 x 40mm Saw cut joint in top of concrete raft slab	m	12		
10	Sikaflex 11FC polyurethane sealant in filling to the above saw cut joint in strict accordance with the Manufacturers instructions	m	12		
	Carried to Collection			R	
	Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY				

1	1.60mm Galvanised hoop iron tie 30mm wide x 450mm long with one end embedded 200mm deep in concrete and other end tacked to formwork and later bent down and built into brickwork as the work proceeds	No	1,440		
2	Cast set of four holding down bolts (elsewhere measured) in exact position in top of concrete beam	No	8		
<u>Contraction And Expansion Joints</u>					
3	10mm Closed cell polyethelene pre-formed joint filler not exceeding 300mm wide with 10 x 10mm hinged blocking piece between concrete or brick surfaces	m	48		
4	Remove blocking piece and seal 10 x 10mm cavity with Sikadur 42ZA epoxy sealant	m	48		
<u>FORMWORK</u>					
<u>Close Rough Formwork (Use And Waste) As Per SABS 1200G 5.2.1.b (Degree Of Accuracy II) To Concrete To:</u>					
5	Soffit of slab not exceeding 3.50m high	m2	465		
6	Raking soffit of stairs	m2	24		
7	Sides and soffits of beams not exceeding 3.50m high	m2	364		
8	Sides of rectangular columns not exceeding 3.50m high	m2	167		
9	Edge, riser, etc not exceeding 300mm high	m	108		
10	Edge of slab not exceeding 300mm high	m	9		
11	Raking stepped outer edge of stairs 350mm wide extreme	m	37		
Carried to Collection				R	
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY					

Sundries

- 1 Blocking in formwork to edge of beams, walls, columns, etc to form chamfer size 25 x 25mm high

m

24

REINFORCEMENTMild Steel Rod Reinforcement To Structural Concrete Work

- 2 8mm Diameter bars

t

7

- 3 10mm Diameter bars

t

6

High Tensile Rod Reinforcement To Structural Concrete Work

- 4 10mm Diameter bars

t

7

- 5 12mm Diameter bars

t

6

- 6 16mm Diameter bars

t

5

- 7 20mm Diameter bars

t

5

- 8 25mm Diameter bars

t

3

- 9 32mm Diameter bars

t

1

MASONRYNote

Bricks to have a minimum compressive strength of 7MPa and are to be solid clay bricks, ie no openings.

Mortar for brickwork to be Class 1 (28 days strength and 14.5MPa minimum)

Carried to Collection

R

Bill No. 3
ADMINISTRATION BLOCK
D-FENCE FACTORY

<u>Brickwork In (Class 1) Cement Mortar In:</u>				
1	Half brick wall	m2	34	
2	Half brick wall in lining to concrete including wire ties	m2	85	
3	One brick wall	m2	889	
4	280mm Hollow wall formed of two half brick skins including butterfly wire ties	m2	462	
5	Half brick wall in shower kerb two courses high	m	2	
<u>Sundries</u>				
6	Bag outer face of inner skin of brickwork and apply two coats bituminous paint	m2	889	
7	Cement mortar triangular fillet one course high in bottom of 50mm wide cavity wall including leaving open perpendes at 1,00m centres	m	139	
8	Turning piece to half brick soffit	m	76	
9	Labour and material building 50mm cavity solid vertically for half brick width	m	106	
10	Labour and material building 50mm cavity solid horizontally for two courses	m	140	
11	75 x 110mm Prestressed fabricated lintol in lengths not exceeding 3,00m	m	263	
12	80mm Brick mesh reinforcement in walls	m	3,139	
Carried to Collection				R
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY				

1	155mm Ditto	m	2,667
	<u>Facings</u>		
	<u>Facings Formed Of Selected Face Bricks Pointed With Square Horizontal And Vertical Joints (Provide The Prime Cost Sum Of R 6000.00 (Six Thousand Rand)/1000 For Supply And Delivery Of Facebricks)</u>		
2	Extra over brickwork for faced brickwork	m2	471
3	Facebrick soldier course cut lintol	m	76
4	200mm Wide cut facebrick on edge sill set sloping and slightly projecting	m	64
	<u>Natural Grey Fibre Cement Sills In Single Lengths Bedded In Cement Mortar Including Metal Fixing Lugs, Etc</u>		
5	15 x 150mm Wide sill set flat and slightly projecting	m	65
6	15 x 175mm Ditto	m	64
	<u>WATERPROOFING</u>		
	<u>DAMPPROOFING OF FLOORS AND WALLS</u>		
	<u>One Layer Of 250 Micron USB Green Waterproof Sheeting Sealed At Laps With Pressure Sensitive Tape</u>		
7	Under raft slabs, around ground beams, etc	m2	633
	<u>One Layer Of 375 Micron Embossed Damp Proof Course</u>		
8	In walls	m2	147
	Carried to Collection		
	Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY		

R

4mm "Derbigum SP4" Fully Bonded Waterproofing

On screeds below ceramic floor tiles (elsewhere measured)

ROOF COVERINGS, ETC

0.9mm Thick 'Hulets Aluminium Hulamín Ziptech 420' Aluminium Sheeting And Accessories In Single Lengths With Stucco Embossed PVDF Colourtech Finish (Colour Metallic Silver) On External Face And Standard Backing Coat On Internal Face And Accessories Concealed Fixed To Steel Purlins Or Rails, With 'Ziptech' Aluminium Halts Fixed With Stainless Steel Self Tapping Screws In Strict Accordance With The Manufacturers Instructions:

Roof covering with pitch not exceeding 50 degrees
including bitumen impregnated sealer strips at laps

Sundries

Narrow flute serrated closer including polybutton

Broad flute serrated closer including polybutton

Gable flashing 462mm girth

Headwall flashing 462mm girth

Apex flashing 720mm girth

100mm Diameter rainwater pipe fixed to walls

Carried to Collection

Bill No. 3
ADMINISTRATION BLOCK
D-FENCE FACTORY

1	Extra for shoe/bend	No	21		
2	Box gutter 700mm girth	m	54		
3	Extra for stopped end	No	10		
4	Ditto, outlet for 100mm diameter rainwater pipe	No	7		
	<u>Roof Insulation</u>				
5	50mm "Isover Factorylite" non combustible light weight fibreglass insulation faced on one side with white metalised foil laid taut over purlins at approximately 1.00m centres and fixed concurrent with roof covering including PVC coated galvanised steel straining wires where required all in strict accordance with the manufacturers instructions	m2	655		
	<u>CARPENTRY AND JOINERY</u>				
	<u>Wrot Meranti</u>				
6	19 x 70mm Skirting including 19mm quadrant bead	m	103		
7	Ditto, but fixed to drywall partitions	m	166		
	<u>DOORS</u>				
	<u>Solid Flush Doors Faced Both Sides With Commercial Veneer With Two Hardwood Edges Hung To Timber Or Steel Frames</u>				
8	44mm Door size 813 x 2032mm	No	31		
9	44mm Door size 900 x 2032mm	No	2		
	Carried to Collection			R	
	Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY				

1	44mm Double door size 1614 x 2032mm with rebated meeting styles, the one leaf 813mm wide and the other leaf 450mm wide	No	6
2	Extra over last for forming 400 x 600mm opening rebated all round to receive glass (elsewhere measured) including 22 x 22mm splayed glazing beads mitred around	No	16
3	Extra for forming 450 x 300mm opening for and including natural aluminium louvre unit and frame	No	12

CEILINGS, PARTITIONS AND ACCESS FLOORING

SUSPENDED CEILINGS

Note

Electrical light fittings, diffusers, panels, etc generally are "lay in" units of the same dimensions as the suspension grid described and allowance must be made accordingly for their support inclusive of any flexibility in setting out that may be required (ceiling panels have not been deducted and pricing is to take cognisance thereof)

1200 x 600 x 4mm Thick Everite Embossed White Vinylclad Nutec Ceiling Panels On White Aluminium Pre-Painted Exposed Tee Suspension System Including Main And Cross Tees, Necessary Hangers, Grids, Etc.

4	Ceilings suspended not exceeding 1.00m below concrete slab	m2	77
5	Ceilings suspended below steel purlins 1.80m high extreme	m2	21

Carried to Collection

Bill No. 3
ADMINISTRATION BLOCK
D-FENCE FACTORY

R

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<u>"Gypwall Classic 63/F30S42" Or Other Approved Partitioning System With 63.5mm Steel Studs And Covered On Both Sides With 12.5mm Rhinoboard (Skirtings Elsewhere Measured)</u>					
1	Partitioning 3000mm high with bottom track plugged and top track fixed to suspended ceiling tee	m	155		
2	Extra over for end intersection with brick wall	No	27		
3	Ditto, corner	No	8		
4	Ditto, T-intersection	No	11		
5	Extra over partition for natural anodised aluminium door frame to suit door size 813 x 2032mm (door and ironmongery elsewhere measured) including one and a half pairs of 100mm aluminium butt hinges including additional studding, trimming, etc	No	15		
6	Ditto, but for double door size 1800 x 2032mm	No	5		
<u>Extra On "Gypwall Classic 63/F30S42" Partition For Forming Openings For Windows, Viewing Panels, Doors, Etc. (By Others) Note: The Partitions Have Been Measured Through/Over These Openings. Allowance Must Be Made For A Plain Opening Framed On All Sides With Studs</u>					
7	Opening for view window (by others) size 1800 x 1200mm	No	17		
<u>Pelican Systems Toilet Partitions Complete With Doors, Channel Sections, Ironmongery, Etc All In Strict Accordance With The Manufacturer's Instructions</u>					
8	Intermediate partition size 1800 x 1830mm	No	8		
9	End partition size 1800 x 1830mm	No	1		
Carried to Collection				R	
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY					

1	End pilaster size 115 x 1981mm	No	12		
2	Intermediate pilaster size 230 x 1981mm	No	7		
3	Door size 762 x 1762mm including indicator bolt, hat and coat hook, rubber buffers, special keeps, hinges, etc	No	13		
	<u>FLOOR COVERINGS, PLASTIC LININGS, ETC</u>				
	<u>FLOOR COVERINGS</u>				
	<u>Provide The Prime Cost Sum Of R 400.00/m2 Excluding VAT For Carpets Supplied And Fixed</u>				
4	To screeded floors	m2	321		
	<u>IRONMONGERY</u>				
5	153mm Manual flush bolt as Dorma DFB-SC-180	No	12		
6	Lever handle on rose as Dorma CR003-Latch-SS	Sets	17		
7	Lever handle on rose as Dorma CR003-Cyl-SS	Sets	21		
8	140 x 19mm Straight tubular pull handle as Dorma DPH301C-BT-SS	No	4		
9	200 x 22mm Ditto, as Dorma DPH209-BT-SS	No	6		
10	325 x 25mm Ditto, as Dorma DPH301B-SS	No	3		
11	140 x 19mm Straight tubular pull handle as Dorma DPH301C-BTB-SS	Pairs	2		
	Carried to Collection			R	
	Bill No. 3				
	ADMINISTRATION BLOCK				
	D-FENCE FACTORY				

1	200 x 22mm Ditto, as Dorma DPH209-BTB-SS	Pairs	5		
2	325 x 25mm Ditto, as Dorma DPH210-BTB-SS	Pairs	12		
3	Adjustable roller bolt as Dorma DBC-022-SS	No	3		
4	Bathroom WC indicator and turnknob as Dorma DWC-005-SS	Sets	13		
5	Disabled WC indicator and turnknob as Dorma DWC-006-SS	Sets	2		
6	Bathroom sash lock as Dorma D035-SS	No	9		
7	Bathroom deadlock as Dorma DMWC-008-SS	No	3		
8	Night latch as Dorma 55250-SS	No	2		
9	Cylinder sash lock as Dorma D0365-SS	No	26		
10	Cylinder deadlock as Dorma D037D-SS	No	12		
11	Narrow style hook lock as Dorma 781402352-SS	No	2		
12	42.5mm Five pin half cylinder as CISA-OG304-09-12 grand master keyed	No	2		
13	65mm Five pin knob cylinder as CISA-OG302-10-12 grand master keyed	No	6		
14	65mm Five pin double cylinder as CISA-OG300-10-12 grand master keyed	No	32		
Carried to Collection				R	
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY					

1	Master key	No	4		
2	Escutcheon as Dorma DCE-002-SS	Pairs	12		
3	Ditto, as Dorma DCE-105-SS	Pairs	2		
4	One point locking panic bar suitable for single door as Dorma PHA1S-SD	Sets	1		
5	Two point locking panic bar suitable for single door as Dorma PHA2S-SD	Sets	5		
6	Dust proof strike as Dorma DPS-032-SS	No	6		
7	Rebate conversion set as Dorma D038R-NP	No	6		
8	Door closer as Dorma TS73V	No	1		
9	Ditto, as Dorma TS73V PA	No	1		
10	Ditto, as Dorma TS73V PA DC	No	2		
11	Ditto, as Dorma TS73V DC	No	1		
12	Ditto, as Dorma TS83	No	2		
13	Ditto, as Dorma TS83 PA	No	6		
14	Ditto, as Dorma TS91B	No	4		
15	Ditto, as Dorma TS92B	No	4		
Carried to Collection				R	
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY					

1	Door stop as Dorma DDS-SS-017	No	37		
2	Ditto, as Dorma DDS-021-SS	No	1		
3	Hat and coat hook as Dorma DHC-SS-031B	No	17		
4	Wall buffer as Dorma DDH-020-SS	No	3		
5	150mm Cabin hook and eye as Halstead 166SC including 70 x 70 x 20mm chamfered hardwood block twice oiled and plugged	No	6		
6	Paraplegic grab rail as Chairman Industries DL2	No	2		
7	Ditto, as Chairman Industries SR2	No	2		
8	Toilet roll dispenser as Franke STRX671 fixed to wall	No	14		
9	Hand dryer as Franke STRX210 fixed to wall	No	9		
10	Soap dispenser as Franke STRX618 fixed to wall	No	16		
11	Paper dispenser as Franke STRX600 fixed to wall	No	8		
12	Sanitary towel disposal bin as Franke STRX611	No	3		
13	Wall mounted waste bin as Franke STRX605 fixed to wall	No	9		
14	150 x 150mm Sign as Dorma DSS-130M	No	3		
15	150 x 150mm Sign as Dorma DSS-131F	No	3		
Carried to Collection				R	
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY					

1	150 x 150mm Sign as Dorma DSS-132M/F	No	1		
2	150 x 150mm Sign as Dorma DSS-133P	No	2		
3	150 x 150mm Sign as Dorma DSS-135TC	No	2		
4	150 x 150mm Sign as Dorma DSS-138C	No	2		
5	150 x 300 x 1.2mm Blank push plate as Dorma DPP-SS-BL	No	8		
6	813 x 200mm Stainless steel kick/push plate counter screwed around perimeter as Dorma DKP-SS-200	No	22		
7	Windovert perforated silver aluminium horizontal venetian blinds with 25mm slats to suit window size 1.80 x 0.90m complete including fixing in position	No	31		
<u>STRUCTURAL STEELWORK</u>					
<u>NOTE</u>					
All structural steelwork to be fabricated in accordance with SANS 14713 Part 2.					
Dimensions and levels to be verified on site prior to manufacture.					
Any discrepancies found during site measure to be reported to and resolved by the Engineer prior to manufacture.					
All structural steel elements must be inspected by the Engineer prior to transporting to site.					
All bolts must be grade 8.8 unless otherwise specified by the Engineer.					
Carried to Collection				R	
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY					

All welds to be with E700XX electrodes, according to AWS or similar approved by the Engineer.

All hot rolled structural steel members to be grade S355JR and plates to be grade 300WA.

Purlins and girts to be pre-galvanised.

All structural steelwork inclusive of bolts, nuts, washers, plates, connections, etc., other than purlins & girts to be hot dipped galvanised in accordance with SANS 121 or ISO 1461

All hot dipped members to be drilled, cut, welded, etc., prior to galvanising.

Prices to include for preparation of shop drawings for approval of the Engineer prior to manufacture. A minimum of 7 days must be allowed for checking of shop drawings.

Prices to include for fabrication, cutting, drilling, bending, welding, etc., delivery to site, and hoisting up and erecting into position.

Note:

The following restrictions are applicable on ground floor slab during construction and erection of structural steel.

0-7 days: Concrete curing; no loading on ground floor slab permitted.

7-14 days: Light foot traffic permitted.

14-28 days: Light vehicles <5 ton.

28+ days: Maximum gross crane load during construction = 25 ton (excludes lifting load). Crane outrigger base footings to be on double cross layer of 50 x 228mm timber spreader supports over and area of 1,00 x 1,00m or similar approved by the Engineer to avert damage to concrete ground floor slab. Only tyre cranes permitted on slab. Slab to be cleaned after completion.

Carried to Collection

Bill No. 3
ADMINISTRATION BLOCK
D-FENCE FACTORY

R

Pre-Galvanised Members

1	225 x 75 x 20 x 2,5 mm Cold formed lipped channel purlins (pre-punched)	t	4.00
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Hot Dipped Galvanised Members

2	50 x 50 x 3mm Angle iron sag rods between roof members	t	0.50
3	76 X 3mm Circular hollow section bracing, strut, etc	t	0.30
4	127 X 3mm Circular hollow section bracing, strut, etc	t	0.50
5	305 x 102 x 25 kg/m Castellated I section rafter beam	t	3.50
6	Extra on last for rounded end to profile	No	9
7	Ditto, for tapered end 2500mm long to profile	No	9
8	Plates, angles, cleats, brackets, connections, bolts (grade 8.8), washers, etc.	t	1.50

Hot Dipped Galvanised Holding Down Bolts, Etc

9	Set of four M16 x 300mm girth holding down bolts (grade 8.8) with one end bent and welded into a cage for casting in (elsewhere measured)	Sets	18
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METALWORK

Carried to Collection

R

Bill No. 3
ADMINISTRATION BLOCK
D-FENCE FACTORY

<u>HOT DIPPED GALVANISED MILD STEEL</u>				
1	125 x 75 x 8mm Angle iron bearer bolted to concrete beam with and including bolts	m	76	
<u>GALVANISED PRESSED STEEL DOOR FRAMES INCLUDING BUILDING INTO POSITION</u>				
<u>1.6mm Double Rebated Frame For One Brick Wall With Three Butts Per Door Leaf</u>				
2	Frame for door size 813 x 2032mm	No	16	
3	Frame for door size 900 x 2032mm	No	2	
4	Frame for double door size 1614 x 2032mm	No	5	
<u>RECORD ROOM DOORS, ETC</u>				
5	"Chubb Phoenix" record room door and frame complete	No	1	
6	Double ended strongroom vents	No	2	
7	Heavy duty door stop bolted to floor	No	1	
<u>SHOWER DOORS</u>				
8	White powder coated aluminium shower pivot door size 900 x 2000mm as supplied by Eagle including fixing in position	No	3	
<u>PLASTERING</u>				
<u>SCREEDS</u>				
<u>Cement Screeds On Concrete</u>				
9	30mm Thick on floors	m2	863	
Carried to Collection				R
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY				

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1	Concrete ceilings	m2	19
2	Concrete raking ceilings	m2	8
3	Concrete beams	m2	18
4	Narrow widths	m2	7
<u>TILING</u>			
<u>WALL TILING</u>			
<u>Provide The Prime Cost Sum Of R 200.00/m2 Nett Supply Only For Ceramic Wall Tiles - Prices Are To Include For Laying, Tal Goldstar Adhesive, Pointing With Tal Tinted Epoxy Grout, Waste And Profit (Plaster Elsewhere Measured)</u>			
5	On walls	m2	453
6	On walls in splashbacks	m2	7
7	On narrow widths	m2	10
<u>Sundries</u>			
8	M Trim stainless steel (grade 304) tile trim as Kirk Marketing SRE100	m	109
9	White glazed ceramic recessed soap dish holder as Vaal 71511084 fixed to wall	No	3
<u>FLOOR TILING</u>			
			R
Carried to Collection			
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY			

<u>Provide The Prime Cost Sum Of R 200.00/m2 Nett Supply Only For Porcelain Floor Tiles - Prices Are To Include For Laying, Tal Goldstar Adhesive, Pointing With Tal Tinted Epoxy Grout, Waste And Profit (Screeds Elsewhere Measured)</u>					
1	On floors	m2	542		
2	On floors to falls	m2	39		
3	On floors to falls to outlet of shower	m2	2		
4	On treads and risers of stairs	m2	34		
5	Cut skirting tile 100mm high	m	343		
6	Ditto, fixed to drywall partitions	m	127		
<u>Sundries</u>					
7	M Trim stainless steel (grade 304) tile trim as Kirk Marketing SSE120	m	137		
8	Ditto, to outer edge of treads and risers of stairs	m	26		
9	M Trim stainless steel (grade 304) tile square edge trim as Kirk Marketing SQE120 (used as stair nosing)	m	82		
10	M Trim stainless steel (grade 304) movement joint with grey insert as Kirk Marketing SMJ120	m	60		
<u>GLAZING</u>					
Carried to Collection				R	
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY					

<u>GLAZING TO WOOD WITH BEADS (ELSEWHERE MEASURED)</u>					
1	4mm Clear safety glass and glazing in panes exceeding 0.10 and not exceeding 0,50m2	m2	4		
<u>MIRRORS</u>					
2	6mm Float glass silvered back mirror size 450 x 900mm with polished edged, four times holed for and screwed to plugs in wall with chromium plated dome headed screws and cork washers at back	No	16		
<u>PAINTING</u>					
<u>ON PLASTER, ETC</u>					
<u>Prepare Surface And Apply One Coat Primer And Two Coats Super Acrylic PVA Paint On:</u>					
3	Internal plastered ceilings and beams	m2	30		
4	External plastered ceilings and beams	m2	27		
5	Gypsumboard ceilings and bulkheads	m2	55		
<u>Prepare Surface And Apply One Coat Primer And Two Coats Wall n All Paint On:</u>					
6	Internal plastered walls	m2	1,685		
7	External internal plastered walls	m2	26		
8	Drywall partitions	m2	932		
9	Fibre cement sills	m2	27		
Carried to Collection				R	
Bill No. 3 ADMINISTRATION BLOCK D-FENCE FACTORY					

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Bill No. 3

ADMINISTRATION BLOCK

COLLECTION

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Bill No. 3

ADMINISTRATION BLOCK

D-FENCE FACTORY

Bill No. 3

ADMINISTRATION BLOCK

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Bill No. 3

ADMINISTRATION BLOCK

D-FENCE FACTORY

Item No		Quantity	Rate	Amount
	<u>BILL NO 4</u>			
	<u>PLUMBING AND DRAINAGE</u>			
	<u>Note:</u>			
	For Preambles and Specifications refer to:			
	1. "Model Preambles for Trades" as published by the Association of South African Quantity Surveyors (2008 Edition).			
	2. Where a trade name is specified an equal or other approved trade name may be approved subject to the Client's approval.			
	3. Drawings for civil services comprising stormwater drainage, sub soil drainage, sewer reticulation, water reticulation & fire main as prepared by ZNM Civil Engineers and included with the tender documents. The Contractor is to refer to these drawings and make themselves fully acquainted with them when pricing the relevant items in the Bill of Quantities as no extras arising out of their failure to do so will be entertained.			
	<u>STORMWATER DRAINAGE</u>			
	<u>UPVC Pipes And Fittings (Class 34) Including 100mm Selected Granular Bedding Layer And Selected Fill Material Layer Complying With SANS1200LB, Backfilling, Compacted In Layers To A Mod A.A.S.H.T.O Density Of 95%, Including Excavations In Earth, Risk Of Collapse, Shoring, Keeping Excavations Free From Water, Working Space, Filling In And Ramming, Carting Away Surplus Soil, Etc (Refer to ZNM Engineers drawing No E032/100/002)</u>			
1	355mm Pipe laid in and including trenches not exceeding 1.00m deep	m	20	
2	355mm Ditto, exceeding 1.00m and not exceeding .00m deep	m	5	
	Carried to Collection		R	
	Bill No. 4			
	PLUMBING AND DRAINAGE			
	D-FENCE FACTORY			

Reinforced Concrete Pipes (Class 100D) With Spigot And Socket joints Including 100mm Selected Granular Bedding Layer And Selected Fill Material Layer Complying With SANS1200LB, Backfilling, Compacted In Layers To A Mod A.A.S.H.T.O Density Of 95%, Including Excavations In Earth, Risk Of Collapse, Shoring, Keeping Excavations Free From Water, Working Space, Filling In And Ramming, Carting Away Surplus Soil, Etc (Refer to ZNM Engineers drawing No E032/100/002)

1	450mm Pipe laid in and including trenches not exceeding 1.00m deep	m	235
2	450mm Ditto, exceeding 1.00 and not exceeding 2.00m deep	m	200
3	450mm Ditto, exceeding 2.00 and not exceeding 3.00m deep	m	25
<u>Sundries</u>			
4	Excavate to expose side of existing manhole exceeding 2.00 and not exceeding 3.00m deep and connect up new 450mm pipe and make good to manhole after	No	1
5	Stormwater grid inlet catchpit size 720mm x 1120mm x not exceeding 1.00m deep internally complete (see ZNM Engineers drawing no E032/100/002)	No	2
6	Ditto, exceeding 1.00 and not exceeding 2.00m deep internally	No	1
7	Kerb inlet manhole suitable for 450mm pipe size 700mm x 950mm x not exceeding 1.00m deep internally complete (see ZNM Engineers drawing no E032/100/002A)	No	2

Carried to Collection

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Bill No. 4
PLUMBING AND DRAINAGE
D-FENCE FACTORY

1	Ditto, exceeding 1.00 and not exceeding 2.00m deep internally	No	2		
2	Stormwater relax tank size 1500mm x 3000mm x not exceeding 1.00m deep internally complete (see ZNM Engineers drawing no E032/100/002A)	No	2		
3	Ditto, exceeding 1.00 and not exceeding 2.00m deep internally	No	3		
<u>STORMWATER V-CHANNEL</u>					
4	Concrete V-drain 900mm wide formed of 300mm thick extreme 30Mpa/19mm stone concrete including excavation, 150mm layer G5 base course layer, formwork, surface finishing, joints, etc., in all trades complete (refer to ZNM Engineers drawing no E032/100/002)	m	28		
<u>SUB SOIL DRAINAGE</u>					
<u>Megaflow Geocomposite Panel Drain System</u>					
5	Megaflow MEG 170 drain system size 170 x 40mm laid to falls on top of platform level in herringbone pattern (refer to ZNM Engineers drawing no E032/100/004)	m	828		
6	Extra for joint to Meg 315 drain system	No	72		
7	Megaflow MEG 300 drain system size 315 x 40mm laid to falls on top of platform level (refer to ZNM Engineers drawing no E032/100/004)	m	740		
8	Extra for joint to junction box (elsewhere measured)	No	4		
Carried to Collection				R	
Bill No. 4 PLUMBING AND DRAINAGE D-FENCE FACTORY					

<u>Kaytech Flo-Drain System Complete</u>				
1	Composite sub soil drain laid in and including trenches not exceeding 1.00m deep formed of 150mm diameter Kaytech M150 Flow Drain with 600mm high Kaytech 525 Flownet above all covered with Bidem A4 including backfilling to trench with selected river sand compacted to 93% AASHTO density including excavations, carting away, etc (Refer to ZNM Engineers drawing no E032/100/004)	m	537	
2	Extra for bend	No	3	
3	Ditto, junction	No	1	
4	Connect Flow Drain into existing stormwater manhole	No	1	
5	Junction box size 1000mm x 1000mm x not exceeding 1.00m deep internally complete (see ZNM Engineers drawing no E032/100/004)	No	2	
6	Ditto, exceeding 1.00 and not exceeding 2.00m deep internally	No	2	
<u>SOIL AND WASTE WATER DRAINAGE</u>				
<u>UPVC Pipes And Fittings (Class 34) Including 100mm Selected Granular Bedding Layer And 460mm Selected Fill Material Layer Complying With SANS1200LB. Backfilling, Compacted In Layers To A Mod A.A.S.H.T.O Density Of 95%, Including Excavations In Earth, Risk Of Collapse, Shoring, Keeping Excavations Free From Water, Working Space, Filling In And Ramming, Carting Away Surplus Soil, Etc (Refer to ZNM Engineers drawing No E032/100/003)</u>				
7	110mm Pipe laid in and including trenches not exceeding 1.00m deep	m	40	
Carried to Collection				R
Bill No. 4 PLUMBING AND DRAINAGE D-FENCE FACTORY				

[illegible]

1	110mm Inspection eye reducing junction	No	2		
2	160mm Ditto	No	2		
	<u>Sundries</u>				
3	Cement Concrete 15MPa in encasing 110mm pipe to a minimum thickness of 100mm all round including any necessary formwork, etc	m	22		
4	Ditto, to 160mm pipe	m	82		
5	Ditto, to 110mm bend	No	11		
6	Ditto, to 160mm bend	No	3		
7	UPVC gulley trap complete with UPVC removable grating including encasing all round with cement concrete 15MPa and with standard precast concrete surround fitted on top including excavation, risk of collapse, fill in and ram, formwork, etc	No	6		
8	110mm Diameter UPVC ABC rodding eye cover and frame including joint to UPVC pipe and encasing in 500 x 500 x 250mm thick concrete	No	3		
9	160mm Ditto	No	1		
10	Excavate to expose side of existing manhole exceeding 2.00 and not exceeding 3.00m deep and connect up new 160mm pipe and make good to manhole after including altering existing benching, channelling, etc	No	1		
11	Sewer manhole size 1.00m diameter x not exceeding 1.00m deep internally complete (see ZNM Engineers drawing no E032/100/003A)	No	3		
	Carried to Collection			R	
	Bill No. 4 PLUMBING AND DRAINAGE D-FENCE FACTORY				

1	Ditto, exceeding 1.00 and not exceeding 2.00m deep internally	No	3
2	Grease trap size 1000mm x 2975mm x exceeding 1.00 and not exceeding 2.00m deep internally complete see ZNM Engineers drawing no EO32/330/007)	No	1
3	Extra over excavations for drain trenches, etc in earth for excavation in soft rock	m3	320
4	Ditto, in hard rock	m3	160

Note:

In remeasuring the cubic quantity of extra for excavations in soft, hard rock, etc for drain trenches, etc the following basis shall apply:

Drain Trenches, Water Supply, Etc - Trenches not exceeding 1,00m deep shall be taken 0,60m wider than the internal diameter of the pipe. This width shall be increased by 100mm for each successive depth of 1,00m to a maximum of 1,00m wider than the internal diameter of the pipe.

Inspection Chambers, Etc - Inspection chambers, etc shall be taken to the full extent in width and depth and no more.

SANITARY PLUMBINGUPVC Pipes And Fittings

5	40mm pipes	m	40
6	50mm Pipes	m	45
7	110mm Pipes	m	140

Carried to Collection

R

Bill No. 4
PLUMBING AND DRAINAGE
D-FENCE FACTORY

[illegible]

1	110mm Ditto	No	60		
2	40mm Junction	No	17		
3	50mm Ditto	No	15		
4	110mm Ditto	No	5		
5	40mm Inspection eye junction	No	13		
6	50mm Ditto	No	11		
7	110mm Ditto	No	40		
8	50mm Inspection eye reducing junction	No	6		
9	110mm Ditto	No	12		
	<u>Sundries</u>				
10	50mm UPVC vent valve	No	3		
11	110mm Ditto	No	3		
12	50mm PVC "P" trap including joint to pipe and outlet of fitting	No	1		
13	40mm Shower trap as Cobra COB-373SQ including joint to pipe	No	3		
14	32 x 40mm Chromium plated bottle trap as Cobra COB-385/35 including joint to pipe and outlet of fitting	No	17		
	Carried to Collection			R	
	Bill No. 4 PLUMBING AND DRAINAGE D-FENCE FACTORY				

1	40 x 40mm Ditto, as Cobra COB-365/40	No	7		
2	40mm Brass combination sink "P" trap including joint to pipe and outlet of fitting	No	2		
<u>SANITARY FITTINGS</u>					
3	Wash hand basin as "Vaal Lotus VAA-702603WH" or other approved with pedestal as "Vaal VAA-715222WH" complete with waste union, overflow tube attachment, plug and chain, brackets, etc (taps elsewhere measured)	No	15		
4	Wash hand basin as "Vaal Hibiscus VAA-702303WH" or other approved with pedestal as "Vaal VAA-715222WH" complete with waste union, overflow tube attachment, plug and chain, brackets, etc (taps elsewhere measured)	No	2		
5	WC suite comprising pan as "Vaal Afsan VAA-750600WH" and approved double flap seat complete (Flushmaster valve elsewhere measured)	No	7		
6	Paraplegic WC suite comprising pan as "Vaal Pearl Paraplegic VAA-730103WH", approved double flap seat", matching 9 litre cistern with side flush valve, flush pipe, etc complete	No	2		
7	Close couple WC suite comprising pan as "Vaal Entice VAA-772663WH", approved double flap seat", matching 6 litre cistern with pushbutton top dual flush back inlet, etc complete	No	6		
8	535 x 454 x 255mm Stainless steel drip sink as Franke 350950 or other approved complete with approved brackets, etc and fixing in position	No	1		
Carried to Collection				R	
Bill No. 4 PLUMBING AND DRAINAGE D-FENCE FACTORY					

1	"Vaal Sweetpea VAA-705127WH" or other approved fireclay wall urinal complete with waste union, brackets, chromium plated sparge pipe, etc	No	7		
2	Stainless steel double bowl sink unit as "Frankie Quinline FRA-1990019" or other approved size 1360 x 500mm complete with waste union, plug, chain, etc and fixing on top of timber fitting (elsewhere measured)	No	2		
<u>WATER SUPPLY</u>					
<u>UPVC Pipes And Fittings (Class 16 Including 100mm Selected Granular Bedding Layer And 375mm Selected Fill Material Layer Complying With SANS1200LB, Backfilling, Compacted In Layers To A Mod A.A.S.H.T.O Density Of 95%, Including Excavations In Earth, Risk Of Collapse, Shoring, Keeping Excavations Free From Water, Working Space, Filling In And Ramming, Carting Away Surplus Soil, Etc (Refer to ZNM Engineers drawing No E032/100/003)</u>					
3	50mm Pipe and laid in trenches not exceeding 1,00m deep	m	230		
<u>Extra For Cast Iron Fittings:</u>					
4	50mm End cap	No	1		
5	50mm Straight reducer	No	5		
6	50mm Bend	No	8		
7	50mm Tee	No	5		
8	50mm Reducing tee	No	2		
Carried to Collection				R	
Bill No. 4 PLUMBING AND DRAINAGE D-FENCE FACTORY					

	<u>Class II Copper Pipes</u>				
1	15mm Pipes	m	90		
2	22mm pipes	m	80		
3	28mm Pipes	m	80		
4	35mm Pipes	m	21		
5	15mm Pipes chased into walls including making good to plaster	m	110		
6	22mm Ditto	m	45		
7	28mm Ditto	m	18		
8	15mm Pipes fixed to underside of concrete slabs including purpose made brackets	m	12		
9	22mm Ditto	m	22		
10	28mm Ditto	m	7		
11	15mm Pipes laid in and including trenches	m	10		
12	22mm Ditto	m	8		
13	28mm Ditto	m	6		
	<u>Extra For Approved Brass Compression Fittings</u>				
14	15mm Fittings	No	160		
	Carried to Collection			R	
	Bill No. 4 PLUMBING AND DRAINAGE D-FENCE FACTORY				

1	22mm Fittings	No	98		
2	28mm Fittings	No	51		
3	35mm Straight connector	No	4		
4	35mm Straight reducing coupling	No	4		
5	35mm Bent coupling	No	6		
6	35mm Tee	No	3		
7	35mm Reducing tee	No	3		
	<u>Sundries</u>				
8	Cement concrete (15MPa) in thrust blocks at bends, tees, etc including necessary excavation, formwork, etc	m3	2		
9	Cement Concrete 15MPa in encasing 50mm pipe to a minimum thickness of 100mm all round including any necessary formwork, etc	m	20		
10	15mm Chromium plated angle regulating valve with 350mm flexi tube as Cobra 832/350 including joints to pipes	No	57		
11	15mm Brass stopcock including joints to pipes	No	3		
12	22mm Ditto	No	3		
13	28mm Ditto	No	2		
	Carried to Collection			R	
	Bill No. 4 PLUMBING AND DRAINAGE D-FENCE FACTORY				

1	35mm Ditto	No	1		
2	50mm Class 16 Waterworks type valve with gravity analog water pressure sensor complete with all couplings, etc and joining to HDPE pipes (see ZNM Engineers drawing no E032/100/003A)	No	3		
3	15mm Chromium plated stopcock including joints to pipes	No	15		
4	15mm Brass hose tap including joint to pipe	No	3		
5	15mm Chromium plated sink mixer as "Cobra COB-PA-870" or other approved including joints to pipes	No	3		
6	15mm Chromium plated basin mixer as "Cobra COB-PA-851" or other approved including joints to pipes	No	15		
7	15mm Chromium plated medical mixer as "Cobra COB-NM-851" or other approved including joints to pipes	No	2		
8	15mm Chromium plated shower mixer as "Cobra COB-PA-856" or other approved including joints to pipes	No	3		
9	15mm Chromium plated shower arm as "Cobra COB-027" or other approved and rose as "Cobra COB-076-NITRO" or other approved including joint to pipe	No	3		
10	Chromium plated metering tap as Cobra COB-KM2-301 including joints to pipes	No	7		
11	Chromium plated flushvalve and spargepipe as Cobra COB-FJ2-100 including joints to pipes	No	13		
12	22mm Brass vacuum breaker including joint to pipe	No	4		
Carried to Collection				R	
Bill No. 4 PLUMBING AND DRAINAGE D-FENCE FACTORY					

1	22mm Brass pressure control valve including joints to pipes	No	2		
2	22mm Brass relief valve including joints to pipes	No	2		
3	100 Litre 600KPa high pressure horizontal hot water geyser including fixing to wall and joints to pipes	No	1		
4	Ditto, but 200 litre	No	1		
5	Saint Gobian Isover geyser blanket to suit 100 litre geyser	No	1		
6	Ditto, to suit 200 litre geyser	No	1		
7	Galvanised sheet iron tray to suit 100 litre geyser	No	1		
8	Ditto, to suit 200 litre geyser	No	1		
9	50mm UPVC overflow pipe	m	8		
10	Saint Gobian Isover insulation to 15mm pipe all in strict accordance with the manufacturers instructions	m	20		
11	22mm Ditto	m	35		
12	28mm Ditto	m	36		
13	Valve chamber for 50mm valve complete (see ZNM Engineers drawing no E032/100/003A)	No	3		
<u>FIRE SERVICE</u>					
Carried to Collection				R	
Bill No. 4 PLUMBING AND DRAINAGE D-FENCE FACTORY					

UPVC Pipes And Fittings (Class 12) Including 100mm Selected Granular Bedding Layer And 375mm Selected Fill Material Layer Complying With SANS1200LB, Backfilling, Compacted In Layers To A Mod A.A.S.H.T.O Density Of 95%, Including Excavations In Earth, Risk Of Collapse, Shoring, Keeping Excavations Free From Water, Working Space, Filling In And Ramming, Carting Away Surplus Soil, Etc (Refer to ZNM Engineers drawing No E032/100/003)

1	110mm Pipe and laid in trenches not exceeding 1,00m deep	m	410
	<u>Extra For Cast Iron Fittings:</u>		
2	110mm End cap	No	1
3	110mm Straight reducer	No	1
4	110mm Bend	No	6
5	110mm Tee	No	1
6	110mm Reducing tee	No	3
	<u>Sundries</u>		
7	Cement concrete (15MPa) in thrust blocks at bends, tees, etc including necessary excavation, formwork, etc	m3	2
8	Cement Concrete 15MPa in encasing 110mm pipe to a minimum thickness of 100mm all round including any necessary formwork, etc	m	35
9	110mm Non return valve complete with VJ couplings, VJ flanged adaptors, puddle pipes, etc (see ZNM Engineers drawing no E032/100/003A)	No	3

Carried to Collection

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Bill No. 4
PLUMBING AND DRAINAGE
D-FENCE FACTORY

1	110mm Class 16 Waterworks type valve with gravity analog water pressure sensor complete with all couplings, etc and joining to HDPE pipes (see ZNM Engineers drawing no E032/100/003A)	No	3		
2	Valve chamber for 110mm valve complete (see ZNM Engineers drawing no E032/100/003A)	No	3		
3	Ditto, for non return valve (ditto)	No	3		
4	Allow for testing existing fire hydrant for 1500 L/min at 15m head	No	1		
5	Fire hydrant valve complete inclusive of all pipes and fittings, concrete anchor block, fire hydrant marker, painting, etc. (see ZNM Engineers drawing no E032/100/003A : price to include all items from the 110mm tee piece upwards)	No	3		
6	Twin booster connection point complete booster connection and pressure gauge and inclusive of all pipes and fittings, concrete concrete anchor block, etc. (pipework, etc to be similar as above drawing for fire hydrant : price to include all items from the 110mm tee piece upwards)	No	1		
	<u>TESTING</u>				
7	Allow for testing all stormwater drainage, sub-soil drainage, soil and waste water drainage, sanitary plumbing, sanitary fittings and water supply to the satisfaction of the architect and the Municipal Authorities, replace any defective work free of charge and leave perfect			Item	
	<u>BUILDERS WORK IN CONNECTION WITH PLUMBING INSTALLATION</u>				
8	Cut hole through facebrick wall for pipe not exceeding 100mm diameter and make good	No	10		
	Carried to Collection				R
	Bill No. 4 PLUMBING AND DRAINAGE D-FENCE FACTORY				

1 Prepare surface and apply one undercoat and two coats
gloss enamel paint to copper pipes not exceeding
300mm girth

m

45

Carried to Collection

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Bill No. 4
PLUMBING AND DRAINAGE
D-FENCE FACTORY

Bill No. 4

PLUMBING AND DRAINAGE

COLLECTION

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Bill No. 4

PLUMBING AND DRAINAGE

D-FENCE FACTORY

1	Load surplus or unsuitable material from spoil heaps and cart away to a dumping site to be located by the contractor	m3	4,496
2	Selected filling obtained from excavated material in making up levels over site, etc compacted to 93% Mod AASHTO density	m3	500
3	Earth filling using imported G7 material in making up levels over site and compacted to 93% Mod AASHTO density	m3	3,648
4	Scarify to a depth of 150mm and compact to 93% Mod AASHTO density.	m2	20,600
5	Modified AASHTO density test on filling	No	45
<u>PEDESTRIAN WALKWAYS</u>			
6	Trim and restore to original level, scarify in-situ material to a depth of 150mm and compact to 93% Mod AASHTO density	m2	1,426
7	150mm Thick sub-base course of G5 material supplied by the contractor and compacted under sidewalks, etc to 95% Mod AASHTO density (Note: Quantity is measured in cubic metres)	m3	214
8	150mm Thick base course of G5 material supplied by the contractor and compacted under sidewalks, etc to 98% Mod AASHTO density (Note: Quantity is measured in cubic metres)	m3	214
9	60mm Thick concrete (25MPa) natural grey interlocking pavers laid to approved patterns, margins, etc on and including a 20mm thick sand bed including grouting joints after laying all to comply with SABS 1058 and SABS 1200-MJ	m2	1,426

Carried to Collection

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Bill No. 5
EXTERNAL WORKS
D-FENCE FACTORY

1	Circular cutting and waste to last	m	60		
2	Precast concrete kerb (SABS 927 figure 2B) size 75 x 250mm finished smooth from the mould including excavation, backfilling, bedding and laying on a 15 MPa concrete bed, jointing, pointing, etc and continuous cement concrete haunching at back	m	55		
3	Ditto, circular on plan to a radius exceeding 4m	m	5		
4	Ditto, circular on plan to a radius not exceeding 4m	m	2		
<u>ROADWAYS AND PARKING AREAS</u>					
5	Trim and restore to original level, scarify in-situ material to a depth of 150mm and compact to 93% Mod AASHTO density	m2	7,093		
6	150mm Thick sub-base course of G5 material supplied by the contractor and compacted under roads, etc to 95% Mod AASHTO density (Note: Quantity is measured in cubic metres)	m3	1,064		
7	150mm Thick base course of G5 material supplied by the contractor and compacted under roads, etc to 98% Mod AASHTO density (Note: Quantity is measured in cubic metres)	m3	1,064		
8	Allow for preparing and curing set of three concrete test cubes, each size 150 x 150 x 150mm and pay all cost of transport to an approved mechanical laboratory and all testing charges	Sets	36		
9	Reinforced cement concrete 30MPa/19mm stone with low water cement ratio of approximately 0.55 in roads	m3	1,419		
10	Broom drag finish on top of concrete	m2	7,093		
Carried to Collection				R	
Bill No. 5 EXTERNAL WORKS D-FENCE FACTORY					

1	Form toggle joint to edge of 200mm thick concrete surface bed	m	1,337		
2	4 x 45mm Saw cut with top reamed out to 10 x 30mm in top of concrete	m	2,538		
3	Clean out above saw cut joint, install 10mm polyethylene backing chord, prime with Sika Primer and seal 10 x 10mm cavity with Sika Pro -3WF polyurethane sealant in strict accordance with manufacturers instructions	m	2,538		
4	10mm Closed cell expanded polyethelene pre-formed joint filler 200mm high with hinged blocking piece between concrete surfaces	m	380		
5	Remove hinged blocking piece and seal 10 x 10mm cavity with Sika Pro -3WF polyurethane sealant in strict accordance with manufacturers instructions	m	380		
6	Form construction joint 200 mm high using a diamond dowel system comprising 6mm thick x 115 x 115mm hot dipped galvanised plates at 450mm centres including all necessary formwork, temporary pegs, stays, supports, etc., (Note: Jointex joint former and sealant is elsewhere measured)	m	330		
7	Formwork to edge, riser, etc not exceeding 300mm high	m	22		
8	Precast concrete barrier kerb (SABS 927 figure 4) size 150 x 250mm finished smooth from the mould including excavation, backfilling, bedding and laying on a 15 MPa concrete bed, jointing, pointing, etc and continuous cement concrete haunching at back	m	887		
9	Ditto, circular on plan to a radius exceeding 4m	m	111		
Carried to Collection				R	
Bill No. 5 EXTERNAL WORKS D-FENCE FACTORY					

1	Ditto, circular on plan to a radius not exceeding 4m	m	12		
2	Precast concrete channel (SABS 927 figure 14) size 300 x 125mm high finished smooth from the mould including excavation, backfilling, bedding and laying on a 15 MPa concrete bed against channel, jointing, pointing, etc	m	360		
3	Ditto, circular on plan to a radius exceeding 4m	m	63		
4	Ditto, circular on plan to a radius not exceeding 4m	m	4		
5	Standard stop sign complete including pole, concrete base, excavation, etc	No	3		
6	Ditto, but yield sign	No	2		
7	Ditto, but speed restriction sign	No	2		
8	Ditto, but disabled parking sign	No	2		
9	Prepare surface and apply bitumen based roadmarking paint to top of tarmac or concrete roadways in the form of one numeral 75mm high	No	9		
10	Ditto, but two numerals each 75 mm high	No	30		
11	Prepare surface and apply bitumen based roadmarking paint to line on tarmac or concrete roadway 100mm wide	m	735		
12	Ditto, but 300mm wide	m	15		
13	Ditto, but 600mm wide	m	21		
Carried to Collection				R	
Bill No. 5 EXTERNAL WORKS D-FENCE FACTORY					

1	Ditto, but painted arrow sign facing one direction 4.00m long	No	5		
2	Ditto, but painted arrow sign facing two directions 4.00m long	No	5		
3	Ditto, but painted disabled parking bay sign 2.00m long	No	2		
4	Ditto, but painted sign 2.00m high to read "STOP"	No	3		
<u>PRECAST CONCRETE STACK BLOCK RETAINING WALLS</u>					
5	Excavate for surface trenches and bases not exceeding 2.00m deep	m3	74		
6	Extra over for excavation in soft rock	m3	14		
7	Ditto, in hard rock	m3	7		
8	Risk of collapse not exceeding 1.50m deep to trench excavations	m2	210		
9	Allow for keeping excavations free from water		Item		
10	Allow for any trimming to existing bank to the correct angle suitable to receive the stack block wall	m2	270		
11	Load surplus or unsuitable material from spoil heaps and cart away to a dumping site to be located by the contractor	m3	10		
12	Earth filling from excavations and/or stock piles in backfilling behind concrete stack block walls and compacted to 95% Mod AASHTO density	m3	64		
Carried to Collection				R	
Bill No. 5 EXTERNAL WORKS D-FENCE FACTORY					

1	Top soil supplied by the Contractor including placing and lightly compacting into concrete stack block walls	m3	68		
2	Cement concrete 20MPa/19mm stone in footings and bases cast against excavated surfaces	m3	45		
3	Ditto, in shear key block size 80 x 80 x 50mm laid between stack blocks (see ZNM Engineers drawing no E032/100/001)	No	1,800		
4	Retaining wall formed of "Terraforce S10" blocks 500mm high overall laid in close configuration (backfilling and trimming of banks elsewhere measured)	m2	225		
5	75mm PVC perforated pipe laid behind stack block wall in conjunction with backfilling including wrapping all round with Bidem U24 geotextile material	m	160		
6	Bidem U24 geotextile material laid behind stack block wall in conjunction with backfilling	m2	270		
Carried to Collection				R	
Bill No. 5 EXTERNAL WORKS D-FENCE FACTORY					

Bill No. 5

EXTERNAL WORKS

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Bill No. 5
EXTERNAL WORKS
D-FENCE FACTORY

Item No		Quantity	Rate	Amount
	<u>BILL NO. 6</u>			
	<u>PROVISIONAL SUMS</u>			
	The tenderer's attention is drawn to the fact that all Provisional Sums stated are nett and do not include builder's discount.			
	<u>Electrical Installation Including Bulk Supply</u>			
1	Provide the sum of R13 580 000-00 (thirteen million five hundred and eighty thousand rand) for Electrical Installation Including Bulk Supply	Item		13,580,000.00
2	Allow for profit	Item		
3	Allow for attendance	Item		
	<u>Air Conditioning And Ventilation</u>			
4	Provide the sum of R2 720 000-00 (two million seven hundred and twenty thousand rand) for Air Conditioning And Ventilation	Item		2,720,000.00
5	Allow for profit	Item		
6	Allow for attendance	Item		
	<u>Early Warning Detection And Alarm Installation</u>			
7	Provide the sum of R415 000-00 (four hundred and fifteen thousand rand) for Early Warning Detection And Alarm Installation	Item		415,000.00
8	Allow for profit	Item		
	Carried to Collection		R	
	Bill No. 6 PROVISIONAL SUMS D-FENCE FACTORY			

1	Allow for attendance	Item		
	<u>Access Control</u>			
2	Provide the sum of R400 000-00 (four hundred thousand rand) for Access Control	Item	400,000.00	
3	Allow for profit	Item		
4	Allow for attendance	Item		
	<u>Smoke Ventilators</u>			
5	Provide the sum of R3 500 000-00 (three million five hundred thousand rand) for Smoke Ventilators	Item	3,500,000.00	
6	Allow for profit	Item		
7	Allow for attendance	Item		
	<u>Hot Water Generation And Storage</u>			
8	Provide the sum of R250 000-00 (two hundred and fifty thousand rand) for Hot Water Generation And Storage	Item	250,000.00	
9	Allow for profit	Item		
10	Allow for attendance	Item		
	<u>Joinery Installation</u>			
11	Provide the sum of R150 000-00 (one hundred and fifty thousand rand) for Joinery Installation	Item	150,000.00	
12	Allow for profit	Item		
	Carried to Collection		R	
	Bill No. 6 PROVISIONAL SUMS D-FENCE FACTORY			

1	Allow for attendance Sun Louvres To Offices	Item		
2	Provide the sum of R400 000-00 (four hundred thousand rand) for Sun Louvres To Offices	Item	400,000.00	
3	Allow for profit	Item		
4	Allow for attendance Aluminium Windows, Louvres, Doors, Viewing Panels, Etc	Item		
5	Provide the sum of R640 000-00 (six hundred and forty thousand rand) for Aluminium Windows, Louvres, Doors, Viewing Panels, Etc	Item	640,000.00	
6	Allow for profit	Item		
7	Allow for attendance Turnstyles	Item		
8	Provide the sum of R175 000-00 (one hundred and seventy five thousand rand) for Turnstyles	Item	175,000.00	
9	Allow for profit	Item		
10	Allow for attendance Statutory Signage	Item		
11	Provide the sum of R30 000-00 (thirty thousand rand) for Statutory Signage	Item	30,000.00	
	Carried to Collection		R	
	Bill No. 6 PROVISIONAL SUMS D-FENCE FACTORY			

1	Allow for profit	Item		
2	Allow for attendance	Item		
	<u>Doors To Substation, Compressor, Etc</u>			
3	Provide the sum of R55 000-00 (fifty five thousand rand) for Doors To Substation, Compressor, Etc	Item	55,000.00	
4	Allow for profit	Item		
5	Allow for attendance	Item		
	<u>Roller Shutter Doors</u>			
6	Provide the sum of R180 000-00 (one hundred and eighty thousand rand) for Roller Shutter Doors	Item	180,000.00	
7	Allow for profit	Item		
8	Allow for attendance	Item		
	<u>Balustrading And Handrails</u>			
9	Provide the sum of R120 000-00 (one hundred and twenty thousand rand) for Balustrading And Handrails	Item	120,000.00	
10	Allow for profit	Item		
11	Allow for attendance	Item		
	<u>Access Flooring</u>			
12	Provide the sum of R40 000-00 (forty thousand rand) for Access flooring	Item	40,000.00	
	Carried to Collection		R	
	Bill No. 6 PROVISIONAL SUMS D-FENCE FACTORY			

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<u>Fire Protection Including Sprinkler Installation, Fire Hose Reels And Internal Hydrants</u>				
1	Provide the sum of R3 725 000-00 (three million seven hundred and twenty five thousand rand) for Fire Protection Including Sprinkler Installations, Fire Hose Reels And Internal Hydrants	Item	3,725,000.00	
2	Allow for profit	Item		
3	Allow for attendance	Item		
<u>Fibreglass Gutters And Geberit Pluvia Rainwater System</u>				
4	Provide the sum of R3 450 000-00 (three million four hundred and fifty thousand rand) for Fibreglass Gutters And Geberit Pluvia Rainwater System	Item	3,450,000.00	
5	Allow for profit	Item		
6	Allow for attendance	Item		
<u>Carports</u>				
7	Provide the sum of R90 000-00 (ninety thousand rand) for Carports	Item	90,000.00	
8	Allow for profit	Item		
9	Allow for attendance	Item		
<u>Paraplegic Stair Lift Rail and Framework</u>				
10	Provide the sum of R50 000-00 (fifty thousand rand) for Paraplegic Stair Lift Rail And Frame	Item	50,000.00	
Carried to Collection				
Bill No. 6 PROVISIONAL SUMS D-FENCE FACTORY			R	

1	Allow for profit	Item		
2	Allow for attendance	Item		
	<u>Landscaping</u>			
3	Provide the sum of R400 000-00 (four hundred thousand rand) for Landscaping	Item	400,000.00	
4	Allow for profit	Item		
5	Allow for attendance	Item		
	<u>Clearing Site Of Bush,Trees, Etc., Prior To Bulk Earthworks</u>			
6	Provide the sum of R200 000-00 (two hundred thousand rand) for Clearing Site Of Bush, Trees Etc., Prior To Bulk Earthworks	Item	200,000.00	
7	Allow for profit	Item		
8	Allow for attendance	Item		
	<u>Search And Rescue Requirements To The Site</u>			
9	Provide the sum of R 50 000.00 (fifty thousand rand) for Search And Rescue Requirements To The Site	Item	50,000.00	
10	Allow for profit	Item		
11	Allow for attendance	Item		
Carried to Collection			R	
Bill No. 6 PROVISIONAL SUMS D-FENCE FACTORY				

Temporary Hoardings

- 1 Provide the sum of R 80 000.00 (eighty thousand rand) for Temporary Hoardings Where Sectional Completion Has Occured

Item 80,000.00

- 2 Allow for profit

Item

- 3 Allow for attendance

Item

The Following Items To Be Measured Out And Priced At Bill RatesBudgetary Allowances

- 4 Provide the budgetary allowance of R740 000-00 (seven hundred and forty thousand rand) for Substation

Item 740,000.00

- 5 Provide the budgetary allowance of R550 000-00 (four hundred and fifty thousand rand) for Gate House and Truck Check In/Out Canopy

Item 550,000.00

- 6 Provide the budgetary allowance of R300 000-00 (three hundred thousand rand) for Refuse Enclosure

Item 300,000.00

- 7 Provide the budgetary allowance of R185 000-00 (one hundred and eighty five thousand rand) for builders work for electrical

Item 185,000.00

- 8 Provide the budgetary allowance of R160 000-00 (one hundred and sixty thousand rand) for galvanised framework to receive diagonal cladding

Item 160,000.00

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COLLECTION

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