

**PROVISIONAL BILLS OF QUANTITIES**

**FOR**

**REFURBISHMENTS AND UPGRADES TO GROSVENOR TRAIN STATION**

**AT**

**SOWETO, JOHANNESBURG**

**June -22**

# **SECTION NO.1 : PRELIMINARIES**

Item No	Quantity	Rate	Amount R
<p><b><u>SECTION NO. 1</u></b></p> <p><b><u>PRELIMINARIES AND GENERAL</u></b></p> <p><b><u>BILL NO. 1</u></b></p> <p><b><u>BUILDING AGREEMENT AND PRELIMINARIES</u></b></p> <p>The <b>JBCC</b> Principal Building Agreement (Edition 6.2 - May 2018) prepared by the Joint Building Contracts Committee shall be the applicable building agreement, amended as hereinafter described</p> <p>The <b>JBCC</b> Principal Building Agreement <b>contract data</b> form an integral part of this <b>agreement</b></p> <p>The <b>JBCC</b> General Preliminaries (May 2018) published by the Joint Building Contracts Committee for use with the <b>JBCC</b> Principal Building Agreement (Edition 6.2 - May 2018) shall be deemed to be incorporated in these <b>bills of quantities</b>, amended as hereinafter described</p> <p>The <b>contractor</b> is deemed to have referred to the abovementioned documents for the full intent and meaning of each clause</p> <p>The clauses in the abovementioned documents are hereinafter referred to by clause number and heading only</p> <p>Where any item is not relevant to this <b>agreement</b> such item is marked N/A signifying "not applicable"</p> <p>Where standard clauses or alternatives are not entirely applicable to this <b>agreement</b> such amendments, modifications, corrections or supplements as will apply are given under each relevant clause heading and such amendments, modifications, corrections or supplements shall take precedence notwithstanding anything to the contrary contained in the abovementioned documents</p>			
<b>Carried to Collection</b>			R
Section No. 1 Preliminaries Contract Part C2: Pricing Data			

**SECTION A: PRINCIPAL BUILDING AGREEMENT**

**Interpretation (A1-A7)**

1 Clause 1.0 - Definitions and interpretation  
2 Clause 2.0 - **Law**, regulations and **notices**

Item

Item

3 Clause 3.0 - Offer and acceptance  
F:..... V:.....  
T:.....

Item

4 Clause 4.0 - Cession and assignment  
F:..... V:.....  
T:.....

Item

5 Clause 5.0 - Documents  
F:..... V:.....  
T:.....

6 Clause 6.0 - **Employer's agents**  
F:..... V:.....  
T:.....

7 Clause 7.0 - Design responsibility  
F:..... V:.....  
T:.....

Item

**Insurances and securities (A8-A11)**

8 Clause 8.0 - **Works** risk  
F:..... V:.....  
T:.....

Item

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

9	<p>Clause 9.0 - Indemnities</p> <p>F:..... V:..... T:.....</p>	Item	
10	<p>Clause 10.0 - Insurances</p> <p>F:..... V:..... T:.....</p>	Item	
11	<p>Clause 11.0 - <b>Securities</b></p> <p><b><u>Execution (A12 - A17)</u></b></p>		
12	<p>Clause 12.0 - Obligations of the <b>parties</b></p> <p>F:..... V:..... T:.....</p>	Item	
13	<p>Clause 13.0 - Setting out</p> <p>F:..... V:..... T:.....</p>	Item	
14	<p>Clause 14.0 - Nominated <b>subcontractors</b></p> <p>F:..... V:..... T:.....</p>	Item	
15	<p>Clause 15.0 - Selected <b>subcontractors</b></p> <p>F:..... V:..... T:.....</p>	Item	
16	<p>Clause 16.0 - <b>Direct contractors</b></p> <p><b>Attendance on direct contractors</b></p> <p>In respect of <b>direct contractors</b> the <b>contractor</b> shall:</p> <p>1. Designate an area for the <b>direct contractor</b> to establish a temporary office and workshop and storage of equipment and materials</p>		
	<b>Carried to Collection</b>		R
	<p>Section No. 1 Preliminaries Contract Part C2: Pricing Data</p>		

	<p>2. Allow the use of personnel welfare facilities, where provided</p> <p>3. Provide water, lighting and single phase electric power to a position within 50m of the place where the direct contract work is to be carried out, other than fuel or power for commissioning of any installation</p> <p>4. Permit the <b>direct contractor</b> to use erected scaffolding, hoisting facilities, etc provided by the <b>contractor</b>, in common with others having the like right, while it remains erected on the <b>site</b> [16.1]</p> <p>F:..... V:..... T:.....</p>			
17	<p><b>Clause 17.0 - Contract instructions</b></p> <p><b>Site instructions</b></p> <p>Instructions issued on <b>site</b> are to be recorded in a site instruction book which is to be supplied and maintained on <b>site</b> by the <b>contractor</b></p> <p>F:..... V:..... T:.....</p> <p><b><u>Completion (A18 - A24)</u></b></p>			
18	Clause 18.0 - Interim completion		N/A	
19	<p><b>Clause 19.0 - Practical completion</b></p> <p>F:..... V:..... T:.....</p>			
20	Clause 20.0 - Completion in <b>sections</b>			
21	Clause 21.0 - <b>Defects</b> liability period and <b>final completion</b>			
22	<p>Clause 22.0 - <b>Latent defects</b> liability period</p> <p>F:..... V:..... T:.....</p>			
	<b>Carried to Collection</b>			R
	<p>Section No. 1 Preliminaries Contract Part C2: Pricing Data</p>			

23	<p>Clause 23.0 - Revision of the date for <b>practical completion</b></p> <p><b>Substitution of materials and goods</b></p> <p>The removal or substitution of any <b>materials and goods</b> which do not conform to the specification or the <b>contract drawings</b> shall not constitute grounds for the extension of the <b>construction period</b> nor for the adjustment of the <b>contract value</b> [17.1.8; 23.1 &amp; 2]</p> <p>F:..... V:..... T:.....</p>	Item		
24	<p>Clause 24.0 - <b>Penalty</b> for late or non-completion</p> <p>F:..... V:..... T:.....</p> <p><b>Payment (A25 - A27)</b></p>	Item		
25	<p>Clause 25.0 - Payment</p> <p><b>Prices submitted</b></p> <p>Where prices are submitted by the <b>contractor</b> or <b>subcontractor</b> during the progress of the <b>works</b> in respect of <b>contract instructions</b> or in regard to a claim under the terms of this <b>agreement</b> and notwithstanding the fact that such prices may be used in an interim <b>payment certificate</b>, there is to be no presumption of acceptance. Should the <b>principal agent</b> wish to accept any such prices prior to the issue of the <b>certificate of final completion</b>, it shall be in writing</p> <p>F:..... V:..... T:.....</p>	Item		
26	<p>Clause 26.0 - Adjustment of the <b>contract value</b> and <b>final account</b></p> <p><b>Fluctuations in costs</b></p> <p>All fluctuations in costs, with the exception of fluctuations in the rate of Value Added Tax, shall be for the account of the <b>contractor</b> [26.9.5]</p>			
	<b>Carried to Collection</b>			R
	<p>Section No. 1 Preliminaries Contract Part C2: Pricing Data</p>			

27	<p>Clause 27.0 - Recovery of expense and/or loss</p> <p>F:..... V:..... T:.....</p>	Item	R
<b><u>Suspension and termination (A28 - A29)</u></b>			
28	<p>Clause 28.0 - Suspension by the <b>contractor</b></p> <p>F:..... V:..... T:.....</p>	Item	
29	<p>Clause 29.0 - Termination</p> <p>F:..... V:..... T:.....</p>	Item	
<b><u>Dispute resolution (A30)</u></b>			
30	<p>Clause 30.0 - Dispute resolution</p> <p>F:..... V:..... T:.....</p>	Item	
31	<p><b><u>Agreement</u></b></p> <p>The required information of the <b>parties</b> and the amount of the <b>contract sum</b> shall be inserted in the <b>agreement</b> for signature of the <b>agreement</b> by the <b>parties</b></p> <p>F:..... V:..... T:.....</p>	Item	
32	<p><b><u>Contract data</u></b></p> <p>F:..... V:..... T:.....</p>	Item	
<b><u>SECTION B: GENERAL PRELIMINARIES</u></b>			
<b><u>Definitions and interpretation (B1)</u></b>			
33	<p>Clause 1.1 - Definitions</p> <p>F:..... V:..... T:.....</p>	Item	
<b>Carried to Collection</b>			R
<p>Section No. 1 Preliminaries Contract Part C2: Pricing Data</p>			

34	Clause 1.2 - Interpretation F:..... V:..... T:.....	Item	
	<b><u>Documents (B2)</u></b>		
35	Clause 2.1 - Checking of documents F:..... V:..... T:.....	Item	
36	Clause 2.2 - Provisional <b>bills of quantities</b> F:..... V:..... T:.....	Item	
37	Clause 2.3 - Availability of <b>construction information</b> F:..... V:..... T:.....	Item	
38	Clause 2.4 - Ordering of <b>materials and goods</b> F:..... V:..... T:.....	Item	
	<b><u>Previous work and adjoining properties (B3)</u></b>		
39	Clause 3.1 - Previous work - dimensional accuracy F:..... V:..... T:.....	Item	
40	Clause 3.2 - Previous work - <b>defects</b> F:..... V:..... T:.....	Item	
41	Clause 3.3 - Inspection of adjoining properties F:..... V:..... T:.....	Item	
	<b>Carried to Collection</b>		
	Section No. 1 Preliminaries Contract Part C2: Pricing Data		R

	<b><u>The site (B4)</u></b>			
42	Clause 4.1 - Handover of <b>site</b> in stages F:..... V:..... T:.....	Item		
43	Clause 4.2 - Enclosure of the <b>works</b>	Item		
44	Clause 4.3 - Geotechnical and other investigations F:..... V:..... T:.....	Item		
45	Clause 4.4 - Encroachments F:..... V:..... T:.....	Item		
46	Clause 4.5 - Existing premises occupied F:..... V:..... T:.....	Item		
47	Clause 4.6 - Services - known F:..... V:..... T:.....	Item		
	<b><u>Management of contract (B5)</u></b>			
48	Clause 5.1 - Management of the <b>works</b> F:..... V:..... T:.....	Item		
49	Clause 5.2 - Progress meetings F:..... V:..... T:.....	Item		
50	Clause 5.3 - Technical meetings F:..... V:..... T:.....	Item		
	<b>Carried to Collection</b>			
	Section No. 1 Preliminaries Contract Part C2: Pricing Data		R	

**Samples, shop drawings and manufacturer's instructions (B6)**

51 Clause 6.1 - Samples of materials

F:..... V:.....  
T:.....

Item

52 Clause 6.2 - Workmanship samples

F:..... V:.....  
T:.....

Item

53 Clause 6.3 - Shop drawings

F:..... V:.....  
T:.....

Item

54 Clause 6.4 - Compliance with manufacturer's instructions

F:..... V:.....  
T:.....

Item

**Deposits and fees (B7)**

55 Clause 7.1 - Deposits and fees

F:..... V:..... T:.....

Item

**Temporary services (B8)**

56 Clause 8.1 - Water

F:..... V:.....  
T:.....

Item

57 Clause 8.2 - Electricity

F:..... V:.....  
T:.....

Item

58 Clause 8.3 - Ablution and welfare facilities

F:..... V:.....  
T:.....

Item

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

59 Clause 8.4 - Communication facilities  
F:..... V:.....  
T:.....

Item

**Prime cost amounts (B9)**

60 Clause 9.1 - Responsibility for **prime cost amounts**

**Attendance on subcontractors (B10)**

61 Clause 10.1 - General attendance

**User note**

*General attendance is defined as being the duties of the contractor in terms of clause 12.2 of the JBCC n/s subcontract agreement*

F:..... V:.....  
T:.....

Item

62 Clause 10.2 - Special attendance

63 Clause 11.1 - Protection of the **works**

F:..... V:.....  
T:.....

Item

64 Clause 11.2 - Protection/isolation of existing **works** and **works** occupied in **sections**

F:..... V:.....  
T:.....

Item

65 Clause 11.3 - Security of the **works**

F:..... V:.....  
T:.....

Item

66 Clause 11.4 - Notice before covering work

F:..... V:.....  
T:.....

Item

67 Clause 11.5 - Disturbance

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

68 Clause 11.6 - Environmental disturbance  
69 Clause 11.7 - **Works** cleaning and clearing

F:..... V:.....  
T:.....

Item

70 Clause 11.8 - Vermin

F:..... V:.....  
T:.....

Item

71 Clause 11.9 - Overhand work

F:..... V:.....  
T:.....

Item

72 Clause 11.10 - Tenant installations

F:..... V:.....  
T:.....

Item

73 Clause 11.11 - Advertising

F:..... V:.....  
T:.....

Item

**SECTION C: SPECIFIC PRELIMINARIES**

74 **Site instructions**

**Contract 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

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

75 **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 **final 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:.....

Item

76 **Co-operation of contractor for cost management**

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

F:.....V:.....T:.....

Item

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

77 **Propping of floors below**

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**

F:..... V:..... T:.....

Item

78 **Testing of windows for watertightness**

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

F:..... V:..... T:.....

Item

79 **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

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

**HIV/AIDS AWARENESS**

It is required of the Contractor to thoroughly study the HIV/AIDS Specification (C3.5) together with and is deemed to be incorporated under this Section of the Bills of Quantities. Provision for pricing of HIV/AIDS awareness is made under items hereafter and it is explicitly pointed out that all requirements of the aforementioned specification are deemed to be priced hereunder, as the said items represent the only method of measurement and no additional items or extras to the contract in this regard shall be entertained.

The **Contractor** must take note that compliance with the HIV/AIDS Specification is compulsory. In the event of partial or total non-compliance, the **Principal Agent**, notwithstanding the provisions of Clause A 31 of "Section 1: Preliminaries (Section A)" or any other clauses to the contrary, reserve the right to delay issuing any progress **payment certificate** until the **Contractor** provides satisfactory proof of compliance. The **Contractor** shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment.

80 **AWARENESS CHAMPION**

Selection, appointment, briefing and making available of an Awareness Champion including provision of all relevant services, all in accordance with the HIV/AIDS Specification.

F:..... V:..... T:.....

Item

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

81 **AWARENESS WORKSHOPS**

Selection and appointment of a competent Service Provider approved by the **principal agent**, provision of a Service Provider Workshop Plan and a suitable venue, conducting of awareness workshops by means of traditional and/or modern multimedia techniques, including follow-up courses, making available all tuition material and performing assessment procedures, all in accordance with the HIV/AIDS Specification.

F:..... V:..... T:.....

Item

82 **POSTERS, BOOKLETS, VIDEOS, ETC.**

Provision, displaying, maintaining and replacing when necessary of four plastic laminated posters, booklets and educational videos, etc. for the duration of the **construction period**, all in accordance with the HIV/AIDS Specification.

F:..... V:..... T:.....

Item

83 **ACCESS TO CONDOMS**

Provision and maintenance of condom dispensers fixed in position, including male and female condoms, replenishing male and female condoms on a daily basis as required for the duration of the **construction period**, all in accordance with the HIV/AIDS Specification.

F:..... V:..... T:.....

Item

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

84 **MONITORING**  
Monitoring HIV/AIDS awareness of workers, providing the **principal agent** with access to information including making available all reports, thoroughly completed and reflecting the correct information, for the duration of the construction period and close out, all in accordance with the HIV/AIDS Specification.

F:..... V:..... T:.....

Item

**SOCIO-ECONOMIC DELIVERABLES**

85 It is required that the contractor shall adhere to all Socio-Economic Deliverables.

F:..... V:..... T:.....

Item

**EMPLOYMENT OF SMME SUB-CONTRACTORS AS A CONDITION OF TENDER**

86 It is required that the contractor shall sub-contract 30% of the contract value (Excluding VAT, Escalation, Contingencies, HT equipment provisions and Socio-Economic provisions) of the contract including labour and material to EME's and QSE's (N/A)

F:..... V:..... T:.....

Item

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

**OCCUPATIONAL HEALTH AND SAFETY ACT**

87 The contractor shall comply with all the requirements set out in the Construction Regulations, 2014 issued under the Occupational Health and Safety Act, 1993 (Act no.85 Of 1993)

It is required of the contractor to thoroughly study the Health and Safety Specification that must be read together with and is deemed to be incorporated under this Section of the Bills of Quantities / lump sum document

The contractor must take note that compliance with the Occupational Health and Safety Act, Construction Regulations and Health and Safety Specification is compulsory. In the event of partial or total non-compliance, the principal agent, notwithstanding the provisions of clause A31.0 of Section A or any other clause to the contrary, reserves the right to delay issuing any progress payment certificate until the contractor provides satisfactory proof of compliance. The contractor shall not be entitled to any compensation of whatsoever nature, including interest, due to such delay of payment.

Provision for pricing of the Occupational Health and Safety Act, Construction Regulations and Health and safety Specification is made under this clause and it is explicitly pointed out that all requirements of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained.

F:..... V:..... T:.....

Item

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

**ENVIRONMENTAL HEALTH AND SAFETY**

88 The contractor shall comply with all the requirements set out in the Environmental Health and Safety Specification

It is required of the contractor to thoroughly study the Environmental Health and Safety Specification.

The contractor must take note that compliance with the Environmental Health and Safety is compulsory.

Provision for pricing of the Environmental Health and Safety is made under this clause and it is explicitly pointed out that all requirements of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained.

F:..... V:..... T:.....

Item

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

**SUMMARY OF CATEGORIES**

Category: Fixed R

Category: Value R

Category: Time R

**Carried to Collection**

R

Section No. 1  
Preliminaries  
Contract  
Part C2: Pricing Data

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

Section No. 1		
Preliminaries		
Bill No. 1		
Preliminaries		
<b><u>COLLECTION PAGE</u></b>		
	<b>Page No</b>	<b>Amount R</b>
Total Brought Forward from Page No.	1	
Total Brought Forward from Page No.	2	
Total Brought Forward from Page No.	3	
Total Brought Forward from Page No.	4	
Total Brought Forward from Page No.	5	
Total Brought Forward from Page No.	6	
Total Brought Forward from Page No.	7	
Total Brought Forward from Page No.	8	
Total Brought Forward from Page No.	9	
Total Brought Forward from Page No.	10	
Total Brought Forward from Page No.	11	
Total Brought Forward from Page No.	12	
Total Brought Forward from Page No.	13	
Total Brought Forward from Page No.	14	
Total Brought Forward from Page No.	15	
Total Brought Forward from Page No.	16	
Total Brought Forward from Page No.	17	
Total Brought Forward from Page No.	18	
Total Brought Forward from Page No.	19	
<b>Carried to Final Summary</b>		R
Section No. 1		
Preliminaries		
Contract		
Part C2: Pricing Data		

## **SECTION NO.2 : BUILDING WORK**

Item No	Quantity	Rate	Amount R
<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 1</u></b></p> <p><b><u>EARTHWORKS</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Nature of ground</u></b></p> <p>The nature of the ground is assumed to be loose sandy material, therefore "earth", but possibly interspersed with "hard rock" or "soft rock".</p> <p>The nature of the ground is assumed to be gravel, therefore "earth", but possibly interspersed with "soft rock".</p> <p>The nature of the ground is assumed to be silty clay with loose river boulders varying in size up to approximately 450mm diameter, therefore "earth", but possibly interspersed with "hard rock".</p> <p>Trial holes indicate that the nature of the ground is silty clay to a depth of approximately 500mm with fine to medium loose sandy material below, therefore "earth". The trial holes also indicate that the water table is at a maximum depth of approximately 1000mm.</p> <p>A soils investigation has been carried out on site by the engineer and the report is annexed to these bills of quantities. Descriptions of excavations shall be deemed to include all ground conditions classifiable as "earth" described in the above report and where conditions of a more difficult character are indicated these are separately measured</p>			
<b>Carried to Collection</b>			R
<p>Section No. 2 Earthworks Contract Part C2: Pricing Data</p>			

**Carting away of excavated material**

Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site

**Filling**

Notwithstanding the reference to prescribed multiple handling in clause 1 page 6 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any multiple handling of material

**Testing**

*Prices for filling are to include for all necessary density tests in accordance with SANS 1200D*

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**Carried to Collection**

R

Section No. 2  
Earthworks  
Contract  
Part C2: Pricing Data

**EXCAVATIONS**

**Excavation in earth not exceeding 2m deep**

1	Trenches	m <sup>3</sup>	4
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**EXCAVATIONS IN STRATA OF A MORE DIFFICULT CHARACTER**

**Extra over excavation in earth for excavation in**

2	Soft rock	m <sup>3</sup>	0.4
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3	Hard rock	m <sup>3</sup>	0.2
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**Extra over all excavations for carting away**

4	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the Contractor	m <sup>3</sup>	3
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**Risk of collapse of excavations**

5	Sides of trench and hole excavations not exceeding 1,5m deep	m <sup>2</sup>	12
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**Keeping excavations free of water**

6	Keeping excavations free of all water other than subterranean water		Item
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**FILLING ETC**

**Earth filling obtained from the excavations and/or prescribed stock piles on site compacted to 93% Mod AASHTO density**

7	Backfilling to trenches, holes, etc	m <sup>3</sup>	2
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**Compaction of surfaces**

8	Compaction of ground surface under strip footings and bases, etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m <sup>2</sup>	4
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**SOIL POISONING**

Carried to Collection

R

Section No. 2  
Earthworks  
Contract  
Part C2: Pricing Data

**Soil insecticide in accordance with SANS 5859**

9 To bottoms of trenches etc

m<sup>2</sup>

4

**Prescribed density tests on filling**

10 Modified AASHTO Density test

No

5

**Carried to Collection**

R

Section No. 2  
Earthworks  
Contract  
Part C2: Pricing Data

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

Section No. 2

Bill of Quantities

Bill No. 1

Earthworks

**COLLECTION PAGE**

Total Brought Forward from Page No.

**Page  
No**

21

**Amount  
R**

Total Brought Forward from Page No.

22

Total Brought Forward from Page No.

23

Total Brought Forward from Page No.

24

**Carried Forward to Summary of Section No. 2**

R

Section No. 2

Earthworks

Contract

Part C2: Pricing Data

Item No	Quantity	Rate	Amount R
<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 2</u></b></p> <p><b><u>CONCRETE, FORMWORK AND REINFORCEMENT</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p>Cost of tests The costs of making, storing and testing of concrete test cubes as required under clause 7 "Tests" of SABS 1200 G shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the architect. The testing shall be undertaken by an independent firm or institution nominated by the contractor and to the approval of the architect. (Test cubes are measured separately)</p> <p>Formwork Descriptions of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use. The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself.</p>			
<b>Carried to Collection</b>			R
<p>Section No. 2 Concrete, Formwork and Reinforcement Contract Part C2: Pricing Data</p>			

Formwork to soffits of (solid) slabs etc shall be deemed to be to slabs not exceeding 250mm thick unless otherwise described

Formwork to sides of bases, pile caps, ground beams, etc will only be measured where it is prescribed by the engineer for design purposes. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in "Earthworks"

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**Carried to Collection**

Section No. 2  
Concrete, Formwork and Reinforcement  
Contract  
Part C2: Pricing Data

R

<b><u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u></b>					
<b><u>25MPa/19mm concrete</u></b>					
11	Strip footings	m <sup>3</sup>	1		
<b><u>30MPa/19mm concrete</u></b>					
12	Slabs including upstand beams	m <sup>3</sup>	11		
<b><u>TEST CUBES</u></b>					
13	Making and testing 150 x 150 x 150mm concrete strength test cubes	No	5		
<b><u>CONCRETE SUNDRIES</u></b>					
<b><u>Finishing top surfaces of concrete smooth with a steel trowel</u></b>					
14	Top of slabs and beams	m <sup>2</sup>	67		
<b><u>SMOOTH FORMWORK (DEGREE OF ACCURACY I)</u></b>					
<b><u>Smooth formwork to soffits</u></b>					
15	Slabs not exceeding 250mm thick propped up exceeding 1,5m and not exceeding 3,5m high	m <sup>2</sup>	67		
<b><u>Smooth formwork to sides</u></b>					
16	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	41		
<b><u>MOVEMENT JOINTS ETC</u></b>					
<b><u>Isolation joints with 10mm "Jointex" filler between vertical concrete surfaces or between vertical concrete and brickwork surfaces</u></b>					
17	10mm joints not exceeding 300mm high	m	6		
<b><u>REINFORCEMENT</u></b>					
<b>Carried to Collection</b>					
Section No. 2 Concrete, Formwork and Reinforcement Contract Part C2: Pricing Data				R	

	<u>Mild and high tensile steel reinforcement to structural concrete work</u>			
18	All diameter bars	t	1.83	
<b>Carried to Collection</b>				R
Section No. 2 Concrete, Formwork and Reinforcement Contract Part C2: Pricing Data				

Section No. 2  
 Bill of Quantities  
 Bill No. 2  
 Concrete, Formwork and Reinforcement

**COLLECTION PAGE**

Total Brought Forward from Page No.  
 Total Brought Forward from Page No.  
 Total Brought Forward from Page No.  
 Total Brought Forward from Page No.

**Page  
No**

**Amount  
R**

26  
 27  
 28  
 29

**Carried Forward to Summary of Section No. 2**

Section No. 2  
 Concrete, Formwork and Reinforcement  
 Contract  
 Part C2: Pricing Data

R

Item No	Quantity	Rate	Amount R
<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 3</u></b></p> <p><b><u>MASONRY</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>BRICKWORK</u></b></p> <p><b><u>Sizes in descriptions</u></b></p> <p>Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick</p> <p><b><u>Hollow walls</u></b></p> <p>Descriptions of hollow walls shall be deemed to include leaving every fifth perpend of the bottom course of the external skin open as a weep hole</p> <p><b><u>Face bricks</u></b></p> <p>Bricks shall be ordered timeously to obtain uniformity in size and colour</p> <p><b><u>Pointing</u></b></p> <p>Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc</p> <p style="text-align: center;">-----</p> <p><b><u>BRICKWORK</u></b></p> <p style="text-align: right; margin-right: 50px;"><b>Carried to Collection</b></p> <p>Section No. 2 Masonry Contract Part C2: Pricing Data</p>			R

**FOUNDATIONS**

**Brickwork of NFX bricks (14 MPa nominal compressive strength) in class 1 mortar**

19	One brick walls	m <sup>2</sup>	6
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**SUPERSTRUCTURE**

**Brickwork of NFP bricks (7 MPa nominal compressive strength) in class 1 mortar**

20	Half brick walls	m <sup>2</sup>	1
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21	Half brick walls in beam filling	m <sup>2</sup>	2
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22	One brick walls	m <sup>2</sup>	16
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**BRICKWORK SUNDRIES**

**Brickwork reinforcement**

23	75mm Wide reinforcement built in horizontally	m	1
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24	150mm Wide reinforcement built in horizontally in foundations	m	22
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25	150mm Wide reinforcement built in horizontally	m	62
----	--	---	----

**Galvanised hoop iron cramps, ties, etc**

26	30 x 1,2mm Wall tie 500mm long with one end shot pinned to concrete and other end bent to form a right angle and built into brickwork	No	23
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Carried to Collection

R

Section No. 2  
Masonry  
Contract  
Part C2: Pricing Data

**GRANITE COUNTER TOPS AND VANITY SLABS**

**KITCHEN COUNTERS**

**30mm thick polished "Rustenburg" granite counters with all exposed edges large bevel edged, fixed to supports (elsewhere specified) using dabs of 100% black silicone adhesive along all supports with all joints filled with matching polyester resin glue. Granite surface to be sealed using an approved stone sealer, all in accordance with the manufacturer's recommendations.**

27

Kitchen counter 1200 long x 600mm wide including forming opening for single bowl sink

No

1

**Carried to Collection**

R

Section No. 2  
Masonry  
Contract  
Part C2: Pricing Data

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

Section No. 2

Bill of Quantities

Bill No. 3

Masonry

**COLLECTION PAGE**

Total Brought Forward from Page No.

**Page  
No**

31

**Amount  
R**

Total Brought Forward from Page No.

32

Total Brought Forward from Page No.

33

**Carried Forward to Summary of Section No. 2**

R

Section No. 2  
Masonry  
Contract  
Part C2: Pricing Data

Item No		Quantity	Rate	Amount R
	<b><u>SECTION NO. 2</u></b>			
	<b><u>BILL NO. 4</u></b>			
	<b><u>ALTERNATIVE TECHNOLOGY BUILDINGS</u></b>			
	<b><u>PREAMBLES</u></b>			
	Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities			
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	<b><u>MOBILE BUILDINGS</u></b>			
	<b><u>Supply and install movable/ container buildings including modification, delivery to site. All in accordance with the Contract drawings and specifications.</u></b>			
28	Ticket Checkpoint Building, unit size 6 x 2.40m wide	No	2	
29	Security Building, unit size 3.0 x 2.4m wide	No	1	
30	Cleaners Building, unit size 6.0 x 2.4m wide	No	1	
31	Ticket Office, unit size 15.0 x 2.4m wide	No	1	
32	Public Ablution Unit, unit size 9 x 2.4m wide	No	1	
	<b>Carried Forward to Summary of Section No. 2</b>			R
	Section No. 2			
	ABT Buildings			
	Contract			
	Part C2: Pricing Data			

Item No		Quantity	Rate	Amount R
	<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 5</u></b></p> <p><b><u>WATERPROOFING</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p>Waterproofing Waterproofing of roofs, basements, etc shall be laid under a ten year guarantee. Waterproofing to roofs shall be laid to even falls to outlets etc with necessary ridges, hips and valleys. Descriptions of sheet or membrane waterproofing shall be deemed to include additional labour to turn-ups and turn-downs</p> <p style="text-align: center;">-----</p> <p><b><u>DAMPPROOFING OF WALLS AND FLOORS</u></b></p> <p><b><u>One layer of 375 micron embossed damp proof course</u></b></p>			
33	In walls	m <sup>2</sup>	1	
	<p><b><u>WATERPROOFING TO FLAT SCREEDED ROOFS</u></b></p> <p><b><u>Two layers of 4mm thick Torch-on polyester based sheeting inclusive of additional membrane dressing around fullbores, pipes, etc</u></b></p>			
34	On flat roofs	m <sup>2</sup>	67	
	<p><b><u>JOINT SEALANTS ETC</u></b></p>			
	<b>Carried to Collection</b>			R
	<p>Section No. 2 Waterproofing Contract Part C2: Pricing Data</p>			

35	<p><u>Polysulphide sealing compound including backing cord, bond breaker, primer, etc</u></p> <p>10 x 10mm In vertical isolation joints</p>	m	6	
<b>Carried to Collection</b>				R
<p>Section No. 2 Waterproofing Contract Part C2: Pricing Data</p>				

Section No. 2

Bill of Quantities

Bill No. 5

Waterproofing

**COLLECTION PAGE**

Total Brought Forward from Page No.

Total Brought Forward from Page No.

**Page  
No**

36

37

**Amount  
R**

**Carried Forward to Summary of Section No. 2**

R

Section No. 2  
Waterproofing  
Contract  
Part C2: Pricing Data

Item No		Quantity	Rate	Amount R
	<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 6</u></b></p> <p><b><u>ROOF COVERINGS ETC</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Straight cutting</u></b></p> <p>Descriptions of all roof coverings are deemed to include for all straight cutting</p> <p style="text-align: center;">-----</p> <p><b><u>PROFILED METAL SHEETING AND ACCESSORIES</u></b></p> <p><b><u>0.58mm "Klip Lok 700" Z275 spelter galvanised ribbed sheet steel with "Chromadek" finish on one side in single lengths and accessories, fixed to steel purlins using SL 700 approved clips and fasteners all in accordance with manufacturer's recommendations and specifications.</u></b></p>			
36	Roof covering with pitch not exceeding 25 degrees	m <sup>2</sup>	45	
	<b>Carried Forward to Summary of Section No. 2</b>			R
	Section No. 2 Roof Coverings Contract Part C2: Pricing Data			

Item No	Quantity	Rate	Amount R
<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 7</u></b></p> <p><b><u>CARPENTRY AND JOINERY</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b>Plate nailed timber roof truss construction</b></p> <p>The following is applicable in respect of roof trusses:</p> <p>Trusses are at maximum 1,20m centres. Roof covering is 0,58mm Corrugated sheeting on 50 x 75mm purlins. Ceilings are 6,4mm skimmed gypsum plasterboard sheeting on 38 x 38mm brandering. The dimensions in the descriptions of the trusses are nominal and actual measurements shall be obtained from the architect and/or the site before design or fabrication commences</p> <p><b>Joinery</b></p> <p>Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc</p> <p>Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes</p> <p><b>Fixing</b></p> <p>Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete</p> <p><b>Decorative laminate finish</b></p> <p>Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish</p> <p style="text-align: right;"><b>Carried to Collection</b></p> <p>Section No. 2 Carpentry and Joinery Contract Part C2: Pricing Data</p>			R

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**JOINERY FITTINGS**

**General**

The following fittings have been measured as complete units i.e. the components of the units have not been separately measured. The descriptions, therefore, of such units shall be deemed to include all components, assembling, housing, notching, glueing, blocking, planting on and screwing with countersunk screws, edge strips, decorative plastic finish, glass, ironmongery, metalwork, paint or varnish finishes, etc

**KITCHEN CUPBOARDS**

**22mm Thick white melamine carcass base and shelves with masonite backing and black painted chipboard kickplates complete with and including timber bearers, melawood impact post formed wrapped doors fitted with appropriate hinges and all ironmongery**

37	Floor standing cupboard 1200m girth x 600mm wide x 900mm high complete with back, divisions, drawers, filler pieces etc for supporting counter (counter measured elsewhere)	No	1	
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**BUDGETARY ALLOWANCES**

**Joinery fittings**

38	Provide a sum of R30 000.00 (Thirty Thousand Rand) for staff counters, cupboard drawers, shelving etc		Item	
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**Carried to Collection**

R

Section No. 2  
Carpentry and Joinery  
Contract  
Part C2: Pricing Data

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

Section No. 2

Bill of Quantities

Bill No. 7

Carpentry and Joinery

**COLLECTION PAGE**

Total Brought Forward from Page No.

Total Brought Forward from Page No.

**Page  
No**

40

41

**Amount  
R**

**Carried Forward to Summary of Section No. 2**

R

Section No. 2  
Carpentry and Joinery  
Contract  
Part C2: Pricing Data

Item No		Quantity	Rate	Amount R
	<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 8</u></b></p> <p><b><u>CEILING, PARTITIONS AND ACCESS FLOORING</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Descriptions</u></b></p> <p>Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete</p> <p>Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 600mm centres, and where described as "bolted", the bolts are measured elsewhere</p> <p><b><u>Proprietary suspended ceilings</u></b></p> <p>Electric light fittings, diffusers, panels, etc generally are "lay in" units of the same dimensions as the suspension grid described and allowance shall 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 shall take cognisance thereof)</p> <p style="text-align: center;">-----</p> <p><b><u>CEILING, ETC</u></b></p> <p><b><u>Approved insulation</u></b></p>			
39	50mm Insulation closely fitted and laid on top of brander between roof timbers, etc	m <sup>2</sup>	83	
	<b>Carried to Collection</b>			R
	Section No. 2 Ceilings, Partitions and Access Flooring Contract Part C2: Pricing Data			

**NAILED UP CEILINGS**

**12.5mm Vinyl Faced Gypsum Ceiling Panels, face-covered with white embossed vinyl, size 1200 x 600mm, laid on fire rated Cliq system S3 exposed demountable suspension system including galvanised main tees, cross tees, etc., all suspended with galvanised hangers at centres not exceeding 1200mm, all installed to manufacturer's instructions.**

40	Horizontal ceilings, including 38 x 38mm sawn softwood branderling at 450mm centres	m <sup>2</sup>	23
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**SUSPENDED CEILINGS**

**1200 x 600 x 15mm OWAacoustic(R) Constellation Premium biologically absorbable mineral wool ceiling tiles, NRC - 0.70 & CAC 33db, fire rating REI 180 (EN13501 - 2) size 1200 x 600 x 15mm with Square-edge and white painted finish, laid on fire rated OWAconstruct(R) system S3 exposed demountable T24 suspension system, comprising galvanised main tees and cross tees with main tees suspended by means of galvanised hangers at centres not exceeding 1200mm with ceiling perimeter**

41	Horizontal ceilings suspended not exceeding 1m below concrete soffits	m <sup>2</sup>	60
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**Cornices to suspended ceilings**

42	Pre-painted cornices, nailed and plugged	m	96
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**PARTITIONS ETC**

**FIXED PARTITIONS**

Carried to Collection

R

Section No. 2  
Ceilings, Partitions and Access Flooring  
Contract  
Part C2: Pricing Data

**"Rhino Drywall" partition systems**

Partitions consisting of 63,5mm "Ultrasteel" steel studs inserted at 600mm centres into 63,5mm "Ultrasteel" steel track at top and bottom including additional studs as necessary at abutments, ends, etc, clad on both sides as described with wallboard screwed to studding with 25mm and 41mm drywall screws at maximum 220mm centres. Boards are to be butt jointed and finished with "RhinoTape" and "Rhinoglide" joint filler all in accordance with the manufacturer's instructions. Intersections and abutments are measured separately and descriptions shall be deemed to include any additional studs, corner beads, jointing compound, tape, etc

Where partitions are described as "with top track fixed to suspended ceiling tees" rates shall be deemed to include for standard U-section aluminium channel to top of walls

Rates for partitions are to include for penetrations of services and structures occurring in the ceiling void, and the sealing there off

Wall paper and/or paint and varnish finishes are measured elsewhere

**"GypRoc Standard System" steel stud partitions with both sides clad with one layer of 12,7mm "Taper-edge Rhino Board"**

43	Partitioning 2,60m high with bottom track plugged and top track fixed to suspended ceiling tees	m	32
44	Extra over partition 2,60m high for vertical abutment	No	19
45	Extra over partition 2,60m high for T-intersection	No	6
46	Extra over partition 2,60m high for corner	No	1

**Carried to Collection**

R

Section No. 2  
Ceilings, Partitions and Access Flooring  
Contract  
Part C2: Pricing Data

	<b><u>Extra over partitions for 40mm hollow core doors with masonite hardboard covering on both sides, hung to and including standard natural anodized aluminium door frame with one pair of 100mm nylon washed aluminium hinges to each hanging stile, including additional studding, trimming, etc to partitions</u></b>		
47	Door size 813 x 2032mm high	No	12
	<b><u>TOILET PARTITIONS</u></b>		
	<b><u>'Cubicle Solutions' 12mm Compact High Pressure Laminate (colour: White) modular, frameless system with overhead brace and hanging clamp, floor anchored with adjustable supporting feet and bracketed to walls and pilasters using stainless steel brackets. All fixings and ironmongery in 316 grade stainless steel as specified. Ironmongery to include hat and coat hook with buffer stopper, indicator bolt and rise and fall butt auto open hinge installed complete in strict accordance with the manufacturer's instructions</u></b>		
48	Partition 2210 x 1935mm high	No	2
49	Door size 750 x 1930mm high	No	2
50	End palister 125 x 1935mm high	No	4

Carried to Collection

R

Section No. 2  
Ceilings, Partitions and Access Flooring  
Contract  
Part C2: Pricing Data

Section No. 2  
 Bill of Quantities  
 Bill No. 8  
 Ceilings, Partitions and Access Flooring

**COLLECTION PAGE**

Total Brought Forward from Page No.  
 Total Brought Forward from Page No.  
 Total Brought Forward from Page No.  
 Total Brought Forward from Page No.

**Page  
No**

**Amount  
R**

43  
44  
45  
46

**Carried Forward to Summary of Section No. 2**

Section No. 2  
 Ceilings, Partitions and Access Flooring  
 Contract  
 Part C2: Pricing Data

R

Item No		Quantity	Rate	Amount R
	<b><u>SECTION NO. 2</u></b>			
	<b><u>BILL NO. 9</u></b>			
	<b><u>FLOOR COVERINGS, WALL LININGS, ETC</u></b>			
	<b><u>PREAMBLES</u></b>			
	Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities			
	<b><u>SUPPLEMENTARY PREAMBLES</u></b>			
	<b><u>Fixing</u></b>			
	Floor coverings, wall linings, etc shall, where applicable, be fixed with adhesive as recommended by the manufacturers of the flooring, linings, etc			
	-----			
	<b><u>FLOOR COVERINGS</u></b>			
	<b><u>Nexus "Metro" Nexbac Eco Tiles®, 100% Stainproof Miracle Fibre™ (Polypropylene) structured needlepunch Nexbac Eco™ SABS Class 3 fire rating grade heavy commercial carpet tiles, size 500 x 500 x 8,5mm thick, all installed by approved installer in accordance with SANS 10186:2010.</u></b>			
51	On floors	m <sup>2</sup>	1	
	<b><u>CORNER PROTECTORS, DIVIDING STRIPS, ETC</u></b>			
52	Natural anodised aluminium edge strips between different floor finishes	m	1	
	<b>Carried Forward to Summary of Section No. 2</b>			R
	Section No. 2 Floor Coverings and Wall Linings Contract Part C2: Pricing Data			

Item No	Quantity	Rate	Amount R
<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 10</u></b></p> <p><b><u>STRUCTURAL STEELWORK</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b>Descriptions</b></p> <p>Descriptions of bolts shall be deemed to include nuts and washers</p> <p>Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete</p> <p>Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete</p> <p>All structural steelwork to be fabricated and erected in accordance with SABS 1200 H, SABS 0162-1193 and the project specification.</p> <p>Welding shall conform to AWS D1.1-90 specifications.</p> <p>Butt-welds shall develop the full strength of the elements joined.</p> <p>All welding to be 6mm continuous fillet welds unless otherwise shown.</p> <p>Welding electrode to be E70 XX (unless otherwise noted).</p>			
<b>Carried to Collection</b>			R
<p>Section No. 2 Structural Steel Contract Part C2: Pricing Data</p>			

A complete set of shop drawings shall be submitted to the Engineer for approval before fabrication commences.

All structural steelwork shall be grade 350W except for cold-rolled purlins and girts where commercial quality steel may be used if approved by the Engineer

H-D Bolts to be hot-dipped galvanized and threads undercut after galvanizing.

All painting must comply with SANS 1200 HC.

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**THE FOLLOWING IN MILD STEEL ROOF, COLUMNS AND BEAMS**

**Welded roof trusses of angle rafters, tie beams, rails, struts, braces, cleats, etc and flat bearer, gusset and connection plates, bolted to steel**

53	Mono pitched roof including part trusses, jack rafters, permanent bracing, 50 x 76mm purlins at 1200mm centres for roof sheeting all in accordance to the Structural Engineer's Drawings.	m <sup>2</sup>	45	
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**Welded floors and staircase**

54	Steel staircase complete as per the Structural Engineer's design			Item
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**Carried to Collection**

R

Section No. 2  
Structural Steel  
Contract  
Part C2: Pricing Data

Section No. 2

Bill of Quantities

Bill No. 10

Structural Steel

**COLLECTION PAGE**

Total Brought Forward from Page No.

Total Brought Forward from Page No.

**Page  
No**

49

50

**Amount  
R**

**Carried Forward to Summary of Section No. 2**

R

Section No. 2  
Structural Steel  
Contract  
Part C2: Pricing Data

Item No		Quantity	Rate	Amount R
	<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 11</u></b></p> <p><b><u>IRONMONGERY</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Finishes to ironmongery</u></b></p> <p>Where applicable finishes to ironmongery are indicated by suffixes in accordance with the following list: BS Satin bronze lacquered CH Chromium plated SC Satin chromium plated SE Silver enamelled GE Grey enamelled AS Anodised silver AB Anodised bronze AG Anodised gold ABL Anodised black PB Polished brass PL Polished and lacquered PT Epoxy coated SD Sanded</p> <p><b><u>NOTE:</u></b></p> <p><b><u>ALL LOCKS TO BE ON A MASTER AND GRAND MASTER KEY SYSTEM</u></b></p> <p style="text-align: center;">-----</p> <p><b><u>HINGES, BOLTS, ETC</u></b></p> <p><b><u>Grade 304 Stainless steel</u></b></p>			
55	WC indicator bolt	No	2	
56	Disabled indicator bolt, fixed to surface with matching stainless steel screws.	No	2	
57	88 x 100mm High overall bush bearing butt hinge	No	2	
	<b>Carried to Collection</b>			R
	Section No. 2 Ironmongery Contract Part C2: Pricing Data			

**LOCKS**

**Grade 304 Stainless steel**

58	Euro profile Mortice sash lock with reversible latch and deadbolt. Fore end to be stainless steel	No	10
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**PUSH PLATES AND KICKING PLATES**

**Grade 304 Stainless steel plates counter sunk screwed along edges at not exceeding 200mm centres**

59	813 x 200mm Kick plate	No	12
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**HANDLES**

**Grade 304 Stainless steel**

60	Round D pull handle on 19 x 200 mm backplate	Pairs	10
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**DOOR CLOSERS**

**Approved**

61	Approved delayed action door closer	No	1
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**LETTERS, NAMEPLATES, ETC**

**Stainless steel**

62	152 x 152 x 2mm Thick engraved with female pictogram	No	1
63	152 x 152 x 2mm Thick engraved with male pictogram	No	1
64	152 x 152 x 2mm Thick engraved with paraplegic pictogram	No	2
65	152 x 152 x 2mm Thick engraved with Unisex pictogram	No	2
66	152 x 152 x 2mm Thick engraved with kitchen and breakroom pictogram	No	2
67	152 x 152 x 2mm Thick engraved with cleaning store pictogram	No	1

**Carried to Collection**

R

Section No. 2  
Ironmongery  
Contract  
Part C2: Pricing Data

**SUNDRIES**

**Approved**

68	Stainless steel door stop	No	10	
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69	Hat and coat hook	No	5	
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**BATHROOM FITTINGS**

70	Stainless steel jumbo toilet roll holders with refill indicator and cylinder lock , plugged and screwed to the wall with stainless steel screws.	No	2	
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71	Satin stainless steel recessed toilet roll holders for single or two rolls, plugged and screwed to the wall with stainless steel screws.	No	5	
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72	Satin stainless steel sanitary towel disposal bins with capacity of min 10 litres, free standing or wall mounted (plugged and screwed to the wall with stainless steel screws)	No	3	
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73	Satin stainless steel waste disposal bins with capacity of plus minus 40 litres and with a frame inside the dispenser to hold a liner, plugged and screwed to the wall with stainless steel screws.	No	2	
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74	Satin stainless steel waste disposal bins with capacity of plus minus 20 litres and with a frame inside the dispenser to hold a liner, plugged and screwed to the wall with stainless steel screws.	No	3	
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75	Satin stainless steel towel rings, plugged and screwed to the wall with stainless steel screws.	No	1	
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76	Satin stainless steel soap dispensers with a replaceable and refillable 1 litre container, cylinder lock , plugged and screwed to the wall with stainless steel screws.	No	5	
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77	Satin stainless steel paper towel dispenser with min 600 folded paper towels and cylinder lock, plugged and screwed to the wall with stainless steel screws.	No	5	
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**Carried to Collection**

R

Section No. 2  
Ironmongery  
Contract  
Part C2: Pricing Data

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

78	Satin stainless steel full automatic industrial hand dryer with 2 vandal proof lock screws and key wrench, plugged and screwed to the wall with stainless steel screws. 2500 W motor with automatic power cut off after 90 second and a 5 year warranty.	No	5
79	Bathroom Butler Paraplegic Rails dog leg grab rail with 3 supports (code: GRDG03B) or equal approved with brushed grade 304 stainless steel finish, overall size 750 x 750mm, plugged and screwed to wall with stainless steel screws.	No	2
80	Bathroom Butler Paraplegic Rails flush valve grab rail (code: GRFV01B) or equal approved with brushed grade 304 stainless steel finish, overall size 842mm long, plugged and screwed to wall with stainless steel screws.	No	2

**VERTICAL LOUVRE BLINDS**

**Budgetary allowance**

81	Provide a sum of R15 000.00 (Fifteen Thousand Rand) for window blinds		Item
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**Carried to Collection**

R

Section No. 2  
Ironmongery  
Contract  
Part C2: Pricing Data

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

Section No. 2

Bill of Quantities

Bill No. 11

Ironmongery

**COLLECTION PAGE**

Total Brought Forward from Page No.

**Page  
No**

**Amount  
R**

52

53

54

55

**Carried Forward to Summary of Section No. 2**

R

Section No. 2  
Ironmongery  
Contract  
Part C2: Pricing Data

Item No	Quantity	Rate	Amount R
<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 12</u></b></p> <p><b><u>METALWORK</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>Descriptions</u></b></p> <p>Descriptions of bolts shall be deemed to include nuts and washers</p> <p>Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete</p> <p>Metalwork described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described</p> <p style="text-align: center;">-----</p> <p><b><u>STEEL HANDRAILS, BALUSTRADES, ETC</u></b></p> <p><b><u>Stainless steel grade 304 brushed finish ballustrade and handrailing. Vertical posts fixed 150mm deep into concrete slab including all necessary core drilling, non-shrink cementitious grouting, plastic spacer plugs, stainless steel cover plates, etc.</u></b></p>			
<b>Carried to Collection</b>			R
<p>Section No. 2 Metalwork Contract Part C2: Pricing Data</p>			

	<p><b><u>1000mm high balustrading comprising 38,1mm diameter x 3mm thick hollow section posts/stanchions at 1000mm centres, each drilled four times to receive and including 25mm diameter x 3mm thick hollow section continuous intermediate rails at 170mm centres, 50mm diameter x 3mm thick hollow section continuous top rail fixed to post with and including 12mm diameter mechanical pin connector, installed in strict accordance with the manufacturer's specifications</u></b></p>			
82	Horizontal balustrading to landings of stairs and edges of slabs with and including all stopped ends, bends etc	m	41	
	<p><b><u>STEEL STRONGROOM DOORS, VENTILATORS, ETC</u></b></p>			
	<p><b><u>Level G3 bullet resistant Anti-bandit door, complete with 100 x 50 x 3mm gauge mild steel rectangular frame and 25 x 25 x 3mm MS angle rebates in powder coating and or galvanised cladding with peep hole, supplied with a 6 pin tumbler key system, mortice dead lock with an additional heavy duty magnetic lock and striker including key switch and surface mounted casing, 6 Amp power supply, push buttons and interlock system, heavy duty aluminium continuous hinge, aluminium slam bar with heavy duty door closer and D-style pull handles. Door to comply to SABS 1658-1996</u></b></p>			
83	Anti Bandit bullet resistant door and frame 920 x 2100mm high	No	1	
	<p><b><u>Level G2 bullet resistant Anti-bandit door, complete with 100 x 50 x 3mm gauge mild steel rectangular frame and 25 x 25 x 3mm MS angle rebates in powder coating and or galvanised cladding with peep hole, supplied with a 6 pin tumbler key system, mortice dead lock with an additional heavy duty magnetic lock and striker including key switch and surface mounted casing, 6 Amp power supply, push buttons and interlock system, heavy duty aluminium continuous hinge, aluminium slam bar with heavy duty door closer and D-style pull handles. Door to comply to SABS 1658-1996</u></b></p>			
84	Anti Bandit bullet resistant door and frame 920 x 2100mm high	No	1	
	<b>Carried to Collection</b>			R
	<p>Section No. 2 Metalwork Contract Part C2: Pricing Data</p>			

**SECURITY PAYROLL WINDOWS**

**"Mutual Safes" or similar approved Level G3 bullet resistant glazed & natural anodised aluminium transaction window with 30mm deep stainless steel dish tray and speech transfer posts (interior applications only), overall size to details, glazed in 38mm thick clear glass with 32mm post formed granite counter top.**

85	Bullet resistant glass transaction window 600 x 915mm high	No	2
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**STEEL ROLLER SHUTTERS ETC**

**Approved galvanised steel powder coated roller shutters fixed to brickwork or concrete**

86	Manual roll-up slatted roller shutter for 3900 x 2600mm high opening	No	1
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87	Manual roll-up slatted roller shutter for 2100 x 2600mm high opening	No	9
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**RECYCLING BINS**

**"Wilsonstone" or similar approved stainless steel furniture**

88	Recycling bin formed of GRC and stainless steel . Overall size 1010mm wide x 1140mm high.	No	1
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**Carried to Collection**

R

Section No. 2  
Metalwork  
Contract  
Part C2: Pricing Data

Section No. 2

Bill of Quantities

Bill No. 12

Metalwork

**COLLECTION PAGE**

Total Brought Forward from Page No.

Total Brought Forward from Page No.

Total Brought Forward from Page No.

**Page  
No**

**Amount  
R**

57

58

59

**Carried Forward to Summary of Section No. 2**

R

Section No. 2

Metalwork

Contract

Part C2: Pricing Data

Item No		Quantity	Rate	Amount R
	<b><u>SECTION NO. 2</u></b>			
	<b><u>BILL NO. 13</u></b>			
	<b><u>PLASTERING</u></b>			
	<b><u>PREAMBLES</u></b>			
	Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities			
	-----			
	<b><u>SCREEDS</u></b>			
	<b><u>Screeds on concrete</u></b>			
89	Average 50mm thick on floors with upper surface to falls	m <sup>2</sup>	67	
	<b><u>INTERNAL PLASTER</u></b>			
	<b><u>Cement plaster on brickwork</u></b>			
90	On walls	m <sup>2</sup>	32	
91	On narrow widths	m <sup>2</sup>	1	
	<b><u>Cement plaster on concrete</u></b>			
92	On ceilings	m <sup>2</sup>	31	
	<b><u>SPECIALIST FLOOR FINISH ON FLOORS</u></b>			
	<b><u>Prepare and apply 6mm thick self levelling screed all in strict accordance with the manufacturer's instructions:</u></b>			
93	Suspended floors	m <sup>2</sup>	113	
	<b>Carried Forward to Summary of Section No. 2</b>			R
	Section No. 2			
	Plastering			
	Contract			
	Part C2: Pricing Data			

Item No		Quantity	Rate	Amount R
	<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 14</u></b></p> <p><b><u>TILING</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p>Descriptions Unless described as "fixed with adhesive to plaster (plaster elsewhere)" descriptions of tiling on brick or concrete walls, columns, etc shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors etc shall be deemed to include 1:3 plaster bedding</p> <p style="text-align: center;">-----</p> <p><b><u>WALL TILING</u></b></p> <p><b><u>600 x 300mm x 12mm Thick matt full bodied porcelain tiles fixed to internal wall plaster backing with TAL tile adhesive mixed with TAL bonding liquid in lieu of water with joints continuous in both directions and grouted with TAL tile grout (Wall plaster measured elsewhere).</u></b></p>			
94	On walls in isolated panels, splashbacks, etc	m <sup>2</sup>	1	
	<p><b><u>FLOOR TILING</u></b></p>			
	<b>Carried to Collection</b>			R
	Section No. 2 Tiling Contract Part C2: Pricing Data			

**600 x 600 x 10mm Thick slip rated full Bodied Porcelain tiles, mineralised with 3mm grouting lines (PC amount R150.00 / m2, excluding VAT, but including delivery), bedded in and including waterproof tiling cement and waterproof tile grouting to joints and fixed to screeds (screeds measured elsewhere)**

95	On floors and landings	m <sup>2</sup>	113
96	Skirting 100mm high	m	6

**Carried to Collection**

R

Section No. 2  
Tiling  
Contract  
Part C2: Pricing Data

Section No. 2

Bill of Quantities

Bill No. 14

Tiling

**COLLECTION PAGE**

Total Brought Forward from Page No.

Total Brought Forward from Page No.

**Page  
No**

62

63

**Amount  
R**

**Carried Forward to Summary of Section No. 2**

R

Section No. 2

Tiling

Contract

Part C2: Pricing Data

Item No	Quantity	Rate	Amount R
<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 15</u></b></p> <p><b><u>PLUMBING AND DRAINAGE</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p>Descriptions of gutter outlets etc shall be deemed to include wire balloon gratings unless hailguards are allowed for in the bills of quantities</p> <p><b><u>Stormwater channels</u></b></p> <p>Descriptions of channels shall be deemed to include necessary excavation, surface preparation, compaction, etc, and disposal of surplus material on site</p> <p><b><u>Stainless steel basins, sinks, wash troughs, urinals, etc</u></b></p> <p>Stainless steel for economy basins, domestic sinks and worktops shall be Type 430 (17/0)</p> <p>Stainless steel for urinals, basins, quality sinks, wash troughs, institutional equipment, etc shall be Type 304 (18/8)</p> <p>Stainless steel for laboratory sinks, photographic equipment, etc shall be Type 316 (18/8)</p> <p>Units shall have standard aprons on all exposed edges and tiling keys against walls where applicable</p> <p><b><u>Waste unions</u></b></p> <p>Descriptions of waste unions shall be deemed to include rubber or vulcanite plugs and chains fixed to fittings</p>			
<b>Carried to Collection</b>			R
<p>Section No. 2 Plumbing and Drainage Contract Part C2: Pricing Data</p>			

**Sealing of edges**

Outer edges of sinks, basins, baths, urinals, etc are to be sealed against adjacent surfaces with approved silicone

**uPVC pipes and fittings**

Sewer and drainage pipes and fittings shall be jointed and sealed with butyl rubber rings

Soil, waste and vent pipes and fittings shall be solvent weld jointed or sealed with butyl rubber rings

**uPVC pressure pipes and fittings**

Pipes of 50mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings

Pipes of 63mm diameter and greater shall have sockets and spigots with push-in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints

Pipes shall be type IV and of the class specified with "Plasson" or "Alprene" compression fittings

**Copper pipes**

All copper pipework shall be half hard drawn copper tubing pipes class 2 (medium) to SANS 460 and SANS 1067 used in conjunction with capillary type soldered joints done in accordance with the manufacturer's specifications, and installed in accordance with SANS 10400: 2011 and SANS 10252-1:2012, including couplers along the running length, and all necessary supports, fixing, brackets, saddles, holderbats, etc, and flow direction arrows including colour-coded galvanised metal sheet strips painted and affixed to the pipes in accordance with SANS 10140-3:2003.

Copper pipes are to be installed in accordance with the latest revision of the Code of Practice for Copper Plumbing soldering techniques. Flux, solder, etc to be strictly in accordance with the manufacturer's requirements with special attention to copper flux composition

**Carried to Collection**

Section No. 2  
Plumbing and Drainage  
Contract  
Part C2: Pricing Data

R

All hot and cold water pipes are to be chased into walls except where pipes are to be surface-mounted on wall faces or run in ceiling voids or inside ducts, and fixed with standard type pipe saddles and brackets at 1000mm maximum

All pipes suspended from concrete slabs, roof, ceiling, etc, shall be deemed to include in the rates all necessary hanger brackets, threaded rod (irrespective of the suspension length), nuts, washers, anchors and drilling of holes in the concrete slab.

**Reducing fittings**

Where fittings have reducing ends or branches they are described as "reducing" and only the largest end or branch size is given. Should the contractor wish to use other fittings and bushes or reducers he may do so on the understanding that no claim in this regard will be entertained

**Fixing of pipes**

Unless specifically otherwise stated, descriptions of pipes shall be deemed to include fixing to walls, etc, casting in, building in or suspending not exceeding 1m below suspension level

**Paper wrapping to pipes**

Pipes chased into brickwork must be wrapped with two layers of stout brown paper tied with wire. Rates are to include for wrapping around joints and fittings

**Disinfection of water pipework**

Water pipework is to be disinfected at completion in accordance with SANS 1200L (provision for disinfection elsewhere)

**Carried to Collection**

Section No. 2  
Plumbing and Drainage  
Contract  
Part C2: Pricing Data

R

**Petrolatum anti-corrosion tape**

Pipes to be taped shall be coated with the appropriate primer and the tape shall be applied in the appropriate widths and with 30% overlaps

Couplings and fittings to pipes shall be taped in strict accordance with the manufacturer's instructions including mastic, tape, "Layflat" sheeting, securing of same, etc

Prices for wrapping of pipes shall include for all work as described to couplings in the length

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

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

Where no manufacturers' instructions exist, pipes shall be laid in accordance with Clauses 5.1 and 5.2 of each of the following:

- SANS 1200L : Medium-pressure pipelines
- SANS 1200LD : Sewers
- SANS 1200LE : Stormwater drainage

Pipe trenches, etc shall be backfilled in accordance with Clauses 3, 5.5, 5.6, 5.7 and 7 of SANS 1200DB : Earthworks (Pipe trenches)

Pipes shall be bedded in accordance with Clauses 3.1 to 3.4.1, 5.1 to 5.3 and 7 of SANS 1200LB : Bedding (Pipes)

Unless otherwise described bedding of rigid pipes shall be Class B bedding

**Carried to Collection**

R

Section No. 2  
Plumbing and Drainage  
Contract  
Part C2: Pricing Data

**General**

Descriptions of cast iron roof outlets shall be deemed to include joints to pipes and casting into concrete (adaptors for joints to uPVC pipes, etc are given separately)

Descriptions of overflow pipes where measured in number, shall be deemed to include joints to cisterns and splay cut ends

Descriptions of pipes laid in and including trenches and of inspection chambers, catch pits, etc shall be deemed to include excavation, bedding, backfilling, compaction to a minimum of 95% Mod AASHTO density and disposal of surplus material on site

Descriptions of service pipes and flexible connecting pipes shall be deemed to include connections to taps, cisterns, etc and to steel pipes (adaptors for connections to copper pipes, etc are given separately)

Descriptions of WC pans, slop hoppers, etc shall be deemed to include for joints to soil pipes (pan connectors are separately measured)

**Exposed concrete surfaces**

Exposed surfaces of concrete stormwater channels, cover slabs, inspection eye marker slabs, gully tops, cleaning eye tops, catchpits, inspection chambers, etc shall be finished smooth with plaster

**Excavations**

No claim for rock excavation will be entertained unless the contractor has timeously notified the quantity surveyor thereof prior to backfilling

"Soft rock" and "hard rock" shall be as defined in "Earthworks"

**Carried to Collection**

R

Section No. 2  
Plumbing and Drainage  
Contract  
Part C2: Pricing Data

**As-built drawings**

Where required, the contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer (provision for allowance of as-built drawings elsewhere)

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**RAINWATER DISPOSAL**

**0.9mm Galvanised steel sheet with chromadek finish one side and standard backing coat**

97	100 x 150mm Eaves gutters	m	18
98	Extra over 100 x 150mm eaves gutter for stopped end	No	6
99	Extra for outlet for 100mm pipe	No	6
100	100 x 75mm Rainwater pipes	m	36
101	Extra over 100 x 75mm pipe for angle	No	6
102	Extra over 100 x 75mm pipe for bend	No	6
103	Extra over 100 x 75mm pipe for shoe	No	6
104	Extra 100 x 75mm pipe for eaves or plinth offset	No	6

**SANITARY FITTINGS**

**1.6mm Stainless steel type 304 (18/10)**

105	Franke Projectline Model PLN611 Grade 304 18/10 polished stainless steel single end bowl inset sink (Code: 821047), overall size 800 x 460mm wide with one 340 x 370 x 150mm deep bowl, fitted onto cupboard (elsewhere measured) including 38mm waste fitting and PVC trap (trap elsewhere measured).	No	1
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**Carried to Collection**

R

Section No. 2  
Plumbing and Drainage  
Contract  
Part C2: Pricing Data

<b><u>White glazed vitreous china</u></b>					
106	Vaal Sanitaryware Hibiscus vitreous china close coupled suite colour White (Code: 772654), comprising 90° outlet open rim pan (Code: 772600) with matching 9 litre front single flush cistern (Code: 772402) including lid and fittings and Jazz Thermoset seat.	No	3		
107	Vitreous china sanitaryware "Whyte House" or equal approved security pan, Code 021643.	No	2		
108	Vaal Sanitaryware Orchid Paraplegic vitreous china wall hung paraplegic back inlet washdown suite colour White, fixed on and including floor bracket (Code: 8082Z0) comprising 90° outlet open rim back inlet pan (Code: 439016) with exposed back inlet flushvalve (elsewhere measured) and Orchid double flap wooden seat (Code: 8520Z0).	No	2		
109	Vaal Sanitaryware Hibiscus vitreous china lavatory basin, size 510 x 405mm with one taphole including integrated overflow and chainstay hole bolted to wall with two x 10mm bolts (Code: 8448Z0) and including Universal half pedestal with hanger springs (Code: 715221) and sealed with silicone sealant where basin meets wall.	No	2		
110	Vaal Sanitaryware Iceberg vitreous china drop-in vanity basin colour White (Code: 7034), size 420 x 420mm	No	3		
111	Vaal Sanitaryware Whyte House vitreous china lavatory basin, size 440 x 380mm with one taphole including integrated overflow and chainstay hole bolted to wall with two x 10mm bolts (Code: 030337 ) sealed with silicone sealant where basin meets wall.	No	2		
<b><u>WASTE UNIONS ETC</u></b>					
112	38mm Bath or sink waste union	No	1		
<b><u>TRAPS ETC</u></b>					
113	40mm Deep seal "P" or "S" trap	No	1		
114	Chromium plated bottle trap	No	5		
<b>Carried to Collection</b>					R
Section No. 2 Plumbing and Drainage Contract Part C2: Pricing Data					

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

**TAPS, VALVES, ETC**

115	15mm Angle valve	No	1
116	15mm Cobra watertech or equal approved ball type angle valve (Code: 832-10).	No	7
117	15mm "Cobra Noka" Chrome plated single lever basin mixer with square type handles and cast fixed spout. SANS 226	No	3
118	"Cobra" Chrome plated self-closing push button metering spout, pillar type with non-hold open feature for cold water only	No	2
119	Medical elbow action pillar tap with high waist or equal approved, chrome finish. SANS 226 TYPE 2.	No	2
120	Cobra Watertech Noka 15mm chrome plated deck mounted sink mixer with overarm swivel outlet and adjustable flanges (Code: NA-970), manufactured in accordance with SANS 226:2004 Type 1 (BS 5412).	No	1
121	GROHE 25mm diameter chrome flush valve for WC (code: 37 609) or equal approved for concealed installation with push button actuator, 1,2 - 5,0 bar flow pressure, flow rate adjustment, including 25mm supply pipe, stop valve, flush pipe and 300mm extension pipe to WC.	No	7

**Carried to Collection**

R

Section No. 2  
Plumbing and Drainage  
Contract  
Part C2: Pricing Data

Section No. 2

Bill of Quantities

Bill No. 15

Plumbing and Drainage

**COLLECTION PAGE**

Total Brought Forward from Page No.

**Page  
No**

65

**Amount  
R**

Total Brought Forward from Page No.

66

Total Brought Forward from Page No.

67

Total Brought Forward from Page No.

68

Total Brought Forward from Page No.

69

Total Brought Forward from Page No.

70

Total Brought Forward from Page No.

71

Total Brought Forward from Page No.

72

**Carried Forward to Summary of Section No. 2**

R

Section No. 2  
Plumbing and Drainage  
Contract  
Part C2: Pricing Data

Item No		Quantity	Rate	Amount R
	<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 16</u></b></p> <p><b><u>GLAZING</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p style="text-align: center;">-----</p> <p><b><u>GLAZING TO STEEL WITH PUTTY</u></b></p> <p><b><u>TOPS, SHELVES, DOORS, MIRRORS, ETC</u></b></p> <p><b><u>4mm Silvered float glass copper backed mirrors with polished edges holed for and fixed with chromium plated dome capped mirror screws with rubber buffers to plugs in brickwork or concrete</u></b></p>			
122	Mirror size 600 x 900mm high	No	6	
	<b>Carried Forward to Summary of Section No. 2</b>			R
	Section No. 2 Glazing Contract Part C2: Pricing Data			

Item No		Quantity	Rate	Amount R
	<p><b><u>SECTION NO. 2</u></b></p> <p><b><u>BILL NO. 17</u></b></p> <p><b><u>PAINTWORK</u></b></p> <p><b><u>PREAMBLES</u></b></p> <p>Tenderers are advised to study the GP ASC (General Specifications of materials and methods to be used for building contracts) before pricing this bill of quantities</p> <p><b><u>SUPPLEMENTARY PREAMBLES</u></b></p> <p><b><u>DESCRIPTIONS</u></b></p> <p>Descriptions of paintwork shall be deemed to include for all cutting in</p> <p><b><u>PREPARATORY WORK TO EXISTING WORK</u></b></p> <p>Previously painted plastered surfacesSurfaces shall be thoroughly washed down and allowed to dry completely before any paint is applied. Blistered or peeling paint shall be completely removed and cracks shall be opened, filled with a suitable filler and finished smooth</p> <p>Previously painted metal surfacesSurfaces shall be thoroughly rubbed and cleaned down. Blistered or peeling paint shall be completely removed down to bare metal</p> <p>Previously painted wood surfacesSurfaces shall be thoroughly cleaned down. Blistered or peeling paint shall be completely removed and cracks and crevices shall be primed, filled with suitable filler and finished smooth</p> <p style="text-align: center;">-----</p>			
	<b>Carried to Collection</b>			R
	<p>Section No. 2 Paintwork Contract Part C2: Pricing Data</p>			

<b><u>PAINTWORK, ETC TO NEW WORK ON</u></b>			
<b><u>FLOATED PLASTER SURFACES WITH</u></b>			
<b><u>One coat alkali resistant plaster primer and two coats PVA acrylic emulsion paint on</u></b>			
123	Internal walls	m <sup>2</sup>	31
124	Narrow widths	m <sup>2</sup>	1
<b><u>One coat alkali resistant plaster primer and two coats modified acrylic fine textured emulsion paint on</u></b>			
125	Ceilings and beams	m <sup>2</sup>	31
<b><u>ON PLASTER BOARD SURFACES</u></b>			
<b><u>One coat "Plascon Plaster Primer" and two coats "Plascon Super Acrylic Polvin"</u></b>			
126	On partitions	m <sup>2</sup>	165
127	Walls	m <sup>2</sup>	299
<b><u>METAL SURFACES WITH</u></b>			
<b><u>Spot priming defects in pre-primed surfaces with zinc phosphate metal primer, one coat universal undercoat and two coats super universal high gloss enamel paint on steel</u></b>			
128	Balustrades	m <sup>2</sup>	90
129	On structural steel members	m <sup>2</sup>	200
<b><u>WOOD SURFACES WITH:</u></b>			
<b><u>One coat pink wood primer, one coat universal undercoat and two coats super universal high gloss enamel paint on</u></b>			
130	Doors	m <sup>2</sup>	85
<b>Carried to Collection</b>			R
Section No. 2			
Paintwork			
Contract			
Part C2: Pricing Data			

Section No. 2

Bill of Quantities

Bill No. 17

Paintwork

**COLLECTION PAGE**

Total Brought Forward from Page No.

Total Brought Forward from Page No.

**Page  
No**

75

76

**Amount  
R**

**Carried Forward to Summary of Section No. 2**

Section No. 2  
Paintwork  
Contract  
Part C2: Pricing Data

R

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

Item No		Quantity	Rate	Amount R
	<b><u>SECTION NO. 2</u></b>			
	<b><u>BILL NO. 18</u></b>			
	<b><u>PROVISIONAL SUMS</u></b>			
	-----			
	<b><u>COMMUNITY LIASON OFFICER</u></b>			
131	Allow the amount of R27,000.00 (Twenty Seven Thousand Rand) for the employment of a Community Liaison Officer for the entire duration of construction activities on site, to be used at the discretion of the Project Manager and deducted in whole or in part if not required	Item		27 000.00
132	Allow for general attendance		%	
133	Allow for profit		%	
	<b><u>EPWP TRAINING</u></b>			
134	Allow the amount of R115,000.00 (One Hundred and Fifteen Thousand Rand for Expanded Works Programme Training, to be used at the discretion of the Project Manager and deducted in whole or in part if not required	Item		115 000.00
135	Allow for general attendance		%	
136	Allow for profit		%	
	<b>Carried Forward to Summary of Section No. 2</b>			R
	Section No. 2 Provisional Amounts Contract Part C2: Pricing Data			

Section No. 2

**SECTION SUMMARY: BUILDING WORK**

<b>Bill No</b>		<b>Page No</b>	<b>Amount R</b>
1	Earthworks	25	
2	Concrete, Formwork and Reinforcement	30	
3	Masonry	34	
4	ABT Buildings	35	
5	Waterproofing	38	
6	Roof Coverings	39	
7	Carpentry and Joinery	42	
8	Ceilings, Partitions and Access Flooring	47	
9	Floor Coverings and Wall Linings	48	
10	Structural Steel	51	
11	Ironmongery	56	
12	Metalwork	60	
13	Plastering	61	
14	Tiling	64	
15	Plumbing and Drainage	73	
16	Glazing	74	
17	Paintwork	77	
18	Provisional Amounts	78	
	<b>Carried to Final Summary</b>		R
	Section No. 2 Contract Part C2: Pricing Data		

**SECTION NO.3 : ELECTRICAL WORK**

**PRASA GROSVENOR STATION ELECTRICAL PROVISIONAL BOQ**

**LV Reticulation**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>QTY</b>	<b>Cost</b>	<b>Total Cost</b>
	<b>Distribution Boards</b>				
	Refurbish the following distribution boards, including all equipment, complete with all accessories. Installation shall include fixing, accessories and earthing.				
	The price shall include for all fixing materials, circuit terminations, lugs, cable straps and any other items necessary for the complete installation. The price shall also include liaison with the board manufacturer, obtaining shop drawings for approval by the engineer, and the preparation and provision of detailed legend cards, as per the specification.				
1	Site Kiosk DB - PC	Lot	1	R130 000,00	R130 000,00
2	Ticket Office - 18 Way - PC	Lot	0		
3	Security Office DB 18 Way - PC	Lot	0		
4	160A MDB Refurb - PC	Lot	1	R55 000,00	R55 000,00
5	Stall Distribution Boards refurb - PC	Lot	0		
6	Toilet Distribution Boards - PC	Lot	0		
7	Platform Distribution Boards - PC	Lot	2	R25 000,00	R50 000,00
	<b>Power Cabling</b>				
	Supply and install the following cables laid on cable tray, pulled in a sleeve or in a trench, including all fixings and accessories. The cables shall be 600/1000V/ PVC/SWA/PVC/ECC with copper conductors. Complete with terminations				
8	50mm <sup>2</sup> x 4 core ecc cable	m	150		
9	35mm <sup>2</sup> x 4 core ecc cable	m	0		
10	25mm <sup>2</sup> x 4 core ecc cable	m	0		
11	16mm <sup>2</sup> x 4 core ecc cable	m	120		
12	Joining Kits PC Sum	Lot	0	R20 000,00	
	<b>Standby Generator</b>				
	Supply, Rig and Install following Standby Generator, including all equipment, complete with all accessories. Installation shall include fixing, plinth, accessories and earthing.				
13	Containerized 100kVA complete with Day tank and Automatic Transfer Switch	Lot	1		
14	Full Tank of Diesel upon Commissioning	Lot	1		
<b>Total Ex VAT</b>					

**PRASA GROSVENOR STATION ELECTRICAL PROVISIONAL BOQ**

**LIGHTING**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>QTY</b>	<b>Cost</b>	<b>Total Cost</b>
<b>LIGHTING</b>					
1	16 Amp, single lever light Switch - white including wall box (Chased)	Lot	12		
2	5 Amp, 3 pin, unswitched socket outlet to fit deep round conduit boxes	Lot	25		
3	PRISMA LED panel Sidelift flicker free driver + PMMA LG + Prisma Diffuser - 4000 Lumens - 600x600 Recessed	Lot	20		
4	PRISMA LED panel Sidelift flicker free driver + PMMA LG + Prisma Diffuser - 4000 Lumens - 600x600 Recessed with Battery Backup	Lot	5		
5	Type: Nimbus 1578mm Surface Mounted fitting 53W LED complete with microwave sensor with 70'000hr operation warranty - Regent lighting	Lot	50		
6	Led Industrial Bulkhead fitting BEKANOVA or equivalent approved with die cast aluminium backing and high impact acrylic diffuser	Lot	35		
7	Pole Top LED Bekastar or equivalent approved	Lot	45		
8	Stair Lighting Solar type 40W LED Street Lamp	Lot	20		
9	Exit Sign/Running Man c/w battery backup including lamps	Lot	5		
10	2,5mm <sup>2</sup> x 3 (Red, Black & Green) - Housewire	m	5000		
11	25mm diameter PVC conduit	m	300		
<b>Total Ex VAT</b>					

**PRASA GROSVENOR STATION ELECTRICAL PROVISIONAL BOQ**

**SMALL POWER**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>QTY</b>	<b>Cost</b>	<b>Total Cost</b>
	<b>SMALL POWER</b>				
1	16 Amp, single Switched Socket Outlet - white	No	11		
2	16 Amp, single Switched Socket Outlet - white on Power Skirting	No	8		
3	20 Amp, DP Isolator - complete with conduit to outlet box below-	No	4		
4	4mm <sup>2</sup> x 3 (Red, Black & Green) - Housewire	m	2500		
5	25mm diameter PVC conduit	m	300		
6	2 compartment PVC Power Skirting	m	15		
7	500VA single phase UPS	Lot	2		
8	To provide the earthing and testing of the electrical installation in accordance with the General Specification, regulations and the requirements of the local authority. All circuits shall be earthed in accordance with the wiring code. Where the earth conductor is joined at the terminal block, the wires shall be soldered together so that removal of the equipment shall not result in an interruption of the earth continuity of the conductors.	Lot	1		
<b>Total Ex VAT</b>					

PRASA GROSVENOR STATION ELECTRICAL PROVISIONAL BOQ

SUMMARY

Item	Description	Cost
1	LV Reticulation	
2	Lighting	
3	Small Power	
Sub Total Ex VAT		
VAT @ 15%		
<b>Total Inc VAT</b>		

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

Item No		Quantity	Rate	Amount R
1	Electrical Work sub-total amount carried from final summary Section 3 (Excluding Value added Tax).	Item		
<b>Carried to Final Summary</b>				R
Section No. 3 Electrical Work Contract Part C2: Pricing Data				

## **SECTION NO.4 : MECHANICAL WORK**

ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<b>SECTION NO. 5</b> <b>BILL NO. 1</b> <b>HVAC INSTALLATION</b>				
1,0	Supply and install the following AC units ( <i>DX system</i> ), complete with matching refrigerant tubing, condensate drainage, mounting brackets, thermostats, remote controllers, electronic and electrical wiring upto isolator supplied by electrical contractor and ALL MOUNTING ACCESSORIES NECESSARY				
1,1	Inverter type Wall mounted units, cooling load 2.2kW, heating load 2.5kW with outdoor unit, refrigerant tubing, condensate drainage and all necessary accessories.				
		Supply	No	3	
		Install	No	3	
2,0	<b>General</b>				
2,1	Testing and commissioning of the above system to the complete satisfaction of the Mechanical engineer and client	item	1		
2,2	Preparation and supply of handover documents	item	1		
2,3	Production of shop drawings and schematics	item	1		
<b>TOTAL</b>					
VAT @ 15%					
<b>GRAND TOTAL</b>					

ITEM NO.	DESCRIPTION	UNIT	QTY	TOTAL RATE	AMOUNT R c
	<b><u>SECTION NO. 5</u></b> <b><u>BILL NO. 2</u></b> <b><u>FIRE INSTALLATION</u></b>				
<b>1.</b>	<b><u>General</u></b>				
1,1	Allow for Client instruction in the use and maintenance of all fire services equipment as required by the Manufacturers and the specification	Item	1		
1,2	Allow for the Production and submittal of Operation & Maintenance Manuals and record information, workshop drawings and 'As-Built" drawings.	Item	1		
<b>2</b>	<b><u>Fire Plan</u></b> Design, manufacture, works testing, supply and delivery to site, moving into position, erection, connecting up, site testing, witness testing, proving to the inspectors, demonstrating to the Employer and maintenance of the complete installation as per conditions of contract and the specification and on drawings.				
	<b><u>Fire Hydrants</u></b>				
2,1	65mm hydrant valve with handwheel opening mechanism & fittings.				
	Supply	No.	4		
	Install	No.	4		
	<b><u>Fire Hose Reels</u></b>				
2,2	Standard Wall Mounted Type Fire Hose Reel to comply with SANS 543 Fire hose reels shall be fitted with a 30m long reinforced red rubber hose of internal diameter of 20mm nominal bore, with a 4.8mm internal diameter chromium plated brass nozzle and isolating valve. Fire hose reel pipes above ground shall be colour coded signal red A11. Complete with double door hose reel cabinet				
	Supply	No.	2		
	Install	No.	2		
2,3	Galvanised mild steel pipe treated with galvafruid paint and two coats of firemen red signal paint A11. Pipework to be complete with supports,bends,unions to make a complete installation				
2.3.1	25mm	m	10		
2.3.2	50mm	m	20		
2.3.3	100mm	m	450		
<b>3,0</b>	<b><u>Fire extinguishers</u></b>				
3,1	Fire extinguishers complete with supports & fittings. 4,5kg DCP fire extinguishers				
	Supply	No.	4		
	Install	No.	4		
3,2	Fire extinguishers complete with supports & fittings. 5kg CO2 fire extinguishers				
	Supply	No.	2		
	Install	No.	2		

<b>4,0</b>	<b><u>Statutory Fire Signage</u></b> Supply and install photoluminescent signs (in Anodised aluminium frames) on all areas indicating the escape routes and equipment location. The installation shall comply to SANS 1186. The signs shall be mechanically fixed on walls and soffits.				
4,1	E1/E2 (190mm high)	No.	4		
4,2	E3 (190mm high)	No.	4		
4,3	E6 (190mm high)	No.	4		
4,4	E16/E17 (190mm high)	No.	5		
4,5	F5/F6 (190mm high)	No.	2		
4,6	F13 (190mm high)	No.	2		
4,7	F30 (190mm high)	No.	4		
<b>Total to Summary Page</b>					
<b>vat 15%</b>					
<b>Grand Total</b>					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<p><b>SECTION NO. 5</b>  <b>BILL NO. 3</b>  <b>PLUMBING AND DRAINAGE</b></p> <p>All rates supplied in this Bill of Quantities will be deemed to include scaffolding to any height and fixing of cold and hot water pipes up to and including roof height. All pipes suspended from concrete slabs, roof, ceiling, etc. shall be deemed to include in the rates, all necessary hanger brackets, threaded rod (irrespective of the suspension length), nuts, washers, anchors and drilling of holes in the concrete slab. For the complete supply, delivery and installation of supply piping, as specified, piping to include piping between geysers on roof. All cold and hot water pipes are to be chased into walls except where pipes are to be surface-mounted on wall face or run in ceiling voids or inside ducts, and fixed with standard type pipe saddlers and brackets at 1000mm maximum.</p> <p><b>HOT &amp; COLD WATER PIPING</b>  Hard drawn copper pipes to SANS 460 and SANS 1067 with capillary type soldered joints to SANS 1067 done in accordance with the manufacturer's specifications, and installed in accordance with SANS 10400 and SANS 10252-1:2004, including couplers in the running length, and all necessary supports, fixing, brackets, saddlers, holderbats, etc, and colour-coded in accordance with SANS 10140-3:2003: Straight hot water copper piping not chased in walls but surface-mounted fixed to walls, or in ceiling voids or in service ducts are to be insulated with thermaflex material, clad in 0,5mm galvanised muffs secured with 10mm galvanised strapping and seal, throughout the length of pipe inclusive of fittings. Valves, strainers and flanges will not be insulated.</p>				
1	<b>PIPING - COPPER</b>				
1,1	Ø22mm pipe	m	10		
1,2	Ø15mm pipe	m	30		
2	<b>FITTINGS</b>				
	Extra over copper pipework for capillary type soldered fittings				
2,1	Ø22mm Equal T-piece	No	2		
2,2	Ø22mm Elbow: 90°	No	8		
2,3	Ø15mm Elbow: 90°	No	15		
2,4	Reducer: Ø22mm x Ø15mm	No	4		
2,5	Pipe clamps and hangers	Sum	1		
2,6	Hot water pipe insulation	Sum	1		
3	<b>VALVES - COPPER</b>				
3,1	Ø20mm isolating ball valve with lever on cold and hot water main pipes	No	2		
3,2	Flexible connector to sanitary fittings	No	5		
3,3	15mm diameter stopcock/angle valve on cold and hot water pipe to sanitary appliance or sink	No	5		

4	<p>HydroBoil instant boiling water unit with White Epoxy Powder Coated outer case, and a two-way tap, complete with twin-chamber technology. Unit to be installed in accordance with manufacturer's installation instruction manual and (optional) equipped with Water Filtration Kit.</p> <p>Capacity: 15 litres Element Rating: 1.5 kW</p>	Set	2		
5	<p><b>STORAGE TANKS</b></p>				
5,1	<p>Supply and install a 1 000 litres vertical Jojo pvc tank mounted on a concrete plinth and install complete with all valve accessories.</p>	Sum	1		
5,2	<p>Allow for connection of the Jojo tank to the water reticulation for domestic use.</p>	Sum	1		
5,3	<p>1.5 l/s @ 4.5 bars domestic water pumps duty and standby are required to be installed complete with the necessary suction/ delivery pipework, valves, control equipment, pressure switches control panel and pressure vessel.</p>	Sum	1		
<p><b>SUBTOTAL</b></p>					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<p><b>SECTION NO. 5</b>  <b>BILL NO. 3</b>  <b>PLUMBING AND DRAINAGE</b></p> <p>These bills of quantities form part of and must be read in conjunction with the Technical Specifications and Drawings, which contain the full descriptions of the work to be done and material and equipment to be used. Unless otherwise described in these bills of quantities, reference should be made to the Technical Specifications for the full meaning of descriptions of work to be done and materials and equipment to be used in this service. All materials, equipment, fixings, brackets, etc, are to be supplied by the Contractor unless otherwise stated.</p> <p><b>SANITARY DRAINAGE PIPING</b></p> <p>Polyvinyl Chloride (PVC) pipe, as 'Marley Pipe Systems' or equal approved, including couplers in the running length, installed in accordance with SANS 10400 and SANS 10252-2:2004</p>				
1	<b>PIPING</b>				
1.1	Ø50mm uPVC pipe	m	6		
1.2	Ø110mm uPVC pipe	m	12		
2	<b>FITTINGS</b>				
2.1	Ø50mm fitting; 90°elbow	No	9		
2.2	Ø110mm fitting; 90°elbow	No	2		
2.3	Ø110mm x Ø110mm x Ø110mm fitting; 87.5° swept entry, lateral branch junction	No	2		
2.4	Ø50mm vent one way valve	No	4		
2.5	Ø110mm x Ø50mm fitting; concentric reducer	No	4		
3	<b>WASTE TRAPS</b>				
3.1	40mm 'Dutton' flexi rubber "P" trap complete with coupling clamps.	No	3		
4	<b>AS BUILT DRAWINGS</b>				
4.1	Submission of 3off 'As Built' drawings indicating the final positioning and layout of the entire sanitary drainage installation as installed on site by the Contractor	Sum	1		
5	Stripping of existing plumbing and drainage	Sum	1		
5	<b>OTHER</b>				
5.1	Any other items required for the successful completion of the work but not included in this bill of quantities. <i>Please specify:</i> (a) (b)				
	<b>SUBTOTAL</b>				
	<b>TOTAL CARRIED FORWARD TO SUMMARY</b>				

PRASA GROSVENOR STATION ELECTRICAL PROVISIONAL BOQ

SUMMARY

Item	Description	Cost
1	HVAC	
2	Fire Installation	
3	Plumbing and Drainage	
VAT @ 15%		
<b>Total Inc VAT</b>		

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

Item No		Quantity	Rate	Amount R
1	Mechanical Work sub-total amount carried from final summary Section 4 (Excluding Value added Tax).	Item		
<b>Carried to Final Summary</b>				R
Section No. 4 Mechanical Work Contract Part C2: Pricing Data				

## **SECTION NO.5 : ELECTRONICS**

**PRASA GROSVENOR STATION ELECTRONICS PROVISIONAL BOQ**

**FIRE DETECTION**

Item	Description	Unit	QTY	Cost	Total Cost
<b>Fire Detection</b>					
1	Ziton Z730 Addressable Smoke Detectors	Lot	11		
2	Ziton Z730 Addressable Smoke Detectors + Void LED	Lot	5		
3	Ziton Z720 Addressable Heat Detectors	Lot	2		
4	Ziton Z785 Addressable Manual Call Point (Breakglass)	Lot	3		
5	Ziton Addressable Relay Unit (A51E-1)	Lot	2		
6	Ziton Addressable Loop Beacon (ZP755V-P)	Lot	2		
7	Ziton Addressable Loop Sounder (ZP755B-2P)	m	2		
8	Power Supply 24V	Lot	1		
9	Cables PH30	m	520		
10	Cables PH120	m	50		
11	Ziton 4 Loop Fire Panel	Lot	1		
12	Installation & Commissioning	Lot	1		
<b>Total Ex VAT</b>					

**PRASA GROSVENOR STATION ELECTRONICS PROVISIONAL BOQ**

**EQUIPMENT**

Item	Description	Unit	QTY	Cost	Total Cost
<b>Equipment</b>					
1	AV Digital Voice Evac/PA System compliant with Prasa Railcom System complete with 32 x 30W Outdoor Speakers and all mounting Brackets. Include 43U Mounting Rack	No	1		
2	5M steel Mounting poles complete with 2 m Stubs for mounting of Voice Evac/PA System Speakers	Lot	16		
3	PH30 Voice Evacuation Cabling including IP66 Rated Junction Boxes	m	4200		
4	Integration of Detection System with other Services/System - Engineer AutoFill	No	1		
5	Alarm System complete with 6 x panic buttons - Ticket Office - Engineer Autofill	Lot	1		
6	Ticket Office Counter Inductive Loop complete with goose neck counter top microphone, driver, amplifier and signage in compliance with IEC60118-4:2014. Loop to be in PVC Conduit in floor screed under tiling where client stands	Lot	1		
7	Intrusion Detection System with Infrared Motion sensors in Ticket Offices complete with 8 zone control panel, Led Keypad with Battery Backup, 6 x panic Buttons and Internal Siren	Lot	1		
<b>Total Ex VAT</b>					

PRASA GROSVENOR STATION ELECTRONICS PROVISIONAL BOQ

SUMMARY

Item	Description	Cost
1	Fire Detection	
2	Equipment	
Sub Total Ex VAT		
VAT @ 15%		
<b>Total Inc VAT</b>		

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

Item No		Quantity	Rate	Amount R
1	Electronic Work sub-total amount carried from final summary Section 5 (Excluding Value added Tax).	Item		
<b>Carried to Final Summary</b>				R
Section No. 5 Electronics Contract Part C2: Pricing Data				

**SECTION NO.6 : ACCESS CONTROL**

**PROVISIONAL BOQ GROSVENOR STATION  
PRELIMINARY AND GENERAL**

<b>Item</b>	<b>Description</b>	<b>QTY</b>	<b>Cost</b>	<b>Total Cost</b>
1	Tansport - Supply separate breakdown	1		
2	Labour Monday -Friday- Rate Only	120		
3	Delivery of turnstile	1		
<b>Total Ex VAT</b>				

**PROVISIONAL BOQ GROSVENOR STATION**

**CABLING**

<b>Item</b>	<b>Description</b>	<b>QTY</b>	<b>Cost</b>	<b>Total Cost</b>
1	Connector - RJ 45 for CAT 5	100		
2	Connector Boot - RJ45 Grey	100		
3	Cable - CAT 6E U/UTP BC 500m	6		
4	Cable CAT6E UTP 0.57mm Solid Copper	2		
5	Server Racks Cabinets 42U - Lockable	1		
<b>Total Ex VAT</b>				

PROVISIONAL BOQ GROSVENOR STATION				
EQUIPMENT				
Item	Description	QTY	Cost	Total Cost
1	DAHUA 8MP WizSense AI IR Dome Network Camera,8MP, 1/2.8" CMOS image sensor, low illuminance, 8MP (3840 × 2160) @20 fps H.265 codec, high compression rate, low bit rate· Built-in IR LED, max. IR distance: 50m· ROI, SMART H.264+/H.265+, flexible coding, applicable to various bandwidth and storage environments· Rotation mode, WDR, 3D DNR, HLC, BLC, digital watermarking, applicable to various monitoring scenes· Intelligent detection: Intrusion, tripwire (Recognition of vehicle and human)· Supports max. 256 G Micro SD card, built-in Mic· 12V DC/POE power support· IP67 protection· SMD	62		
2	DAHUA Starlight 2MP 25x 100m IR PTZ Network Camera with Smart Video Analytics IVS + Alarm + Audio >1/2.8" 2Megapixel CMOS· Powerful 25x optical zoom· Starlight technology· Max. 50/60fps@1080P· Support PoE+· IR distance up to 100m· SMD· IP66	14		
3	NVR 32 Ch 16 PoE 4K AI+SMD+ANPR. Rack mounted complete with all relevant Software	3		
4	Seagate SkyHawk Surveillance Hard Drive 6GB	5		
5	Anti Vandal Bespoke Solid Steel Poles	16		
6	Rack Mountable 10KVA UPS complete with 1 hour full load capacity on non corrossive batteries - 1 duty and other standby	2		
7	55 Inch HD Monitor Wall Mounted	1		
8	UTEPO 16 Port 10/100 Managed PoE + 2GB TP	5		
9	Titan 4: Four height, bi directional single turnstile - Single turnstile - Polyester exterior grade powder cost - charcoal blue - Fail Secure	2		
10	Biometric/fingerprint reader mounting bracket - Polyester exterior grade powder coat - charcoal blue	4		
11	Battery backup 24 Volt DC with 12V rechargeable batteries	2		
12	LED indicator lights (red and green - 80mm diameter) for full height turnstile - 2 units, one for entry and one for exit	2		
13	Security gate 970mm wide x 2 125mm high - mortice lock (843mm clear opening) - Polyester exterior grade powder coat - charcoal blue	2		
14	ZKTeco - F16 Biometric Outdoor Fingerprint & RFID Outdoor Stand alone Reader	3		

15	ZKTeco - F12 RFID & Fingerprint Indoor Slave Reader	3		
16	ZKTeco - RFID card	30		
17	ZKTeco - Power Supply with Battery Leads, 12V 7Ah battery not included	3		
18	12V 7.2AH Sealed Lead Acid Battery	3		
19	ZKTeco - Maglock 280 kg With LED	3		
20	ZKTeco - Bracket for 280 kg Maglock	3		
21	ZKTeco - Access Control Silver Door Closer - medium duty	3		
	ZKTeco - Access Control Silver Door Closer - medium duty	3		
	ZKTeco - Emergency Green Call Point - Resettable	3		
	ZKTeco - USB Proximity RFID Enrollement Reader	3		
	ZKTeco - ZKBiosecurity software for Access control for 3 DOORS	1		
	<b>Total Ex VAT</b>			

**PROVISIONAL BOQ GROSVENOR STATION  
SUMMARY**

<b>Item</b>	<b>Description</b>	<b>Cost</b>
1	P & G	
2	Cabling - Building Cost	
3	Equipment	
Sub Total Ex VAT		
Vat @ 15%		
<b>Total Inc VAT</b>		

**Refurbishments and Upgrades to Grosvenor Train Station  
Prasa South Gauteng Region Corridor 3**

Item No		Quantity	Rate	Amount R
1	Access Control sub-total amount carried from final summary Section 6 (Excluding Value added Tax).	Item		
<b>Carried to Final Summary</b>				R
Section No. 6 Access Control Contract Part C2: Pricing Data				

<b>Section No</b>	<b>SUMMARY OF SECTION NO. 2: BUILDING WORK</b>	<b>Page No</b>		<b>Amount R</b>
1	Preliminaries	20		
2	Bill of Quantities Electrical Work	79		
3	Mechanical Work Electronics	80		
4	Access Control	81		
5	Sub Total	82		
6	ADD: Contingency at 10%	83		
	Sub Total		R	
	ADD: Value Added Tax at 15%		R	
			R	
			R	
	<b>TOTAL CARRIED TO FORM OF TENDER</b>		R	
	Contract			
	Part C2: Pricing Data			